

AGRO-INPUTS PROJECT IN BANGLADESH

Second Gender Assessment Report
November 2016



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USAID Agro-Inputs Project in Bangladesh

SECOND GENDER ASSESSMENT REPORT

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USAID Cooperative Agreement No. AID-388-A-12-00005
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Cover photo: Swapna Begum, an AIRN retailer, sells agro-inputs to a local farmer. Credit: USAID's Agro-Inputs Program

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ACRONYMS

AIP	Agro Inputs Project
AIRN	Agro Inputs Retail Network
BFS	Bureau for Food Security (USAID)
BRAC	Building Resources Across Communities (NGO)
BRAC TUP	BRAC Targeting the Ultra-Poor (program)
DAE	Department of Agricultural Extension (Bangladesh)
FGD	Focus Group Discussion
FQS	Farmer Query System
FTF	Feed the Future (USAID)
GLC	Gender Lens Committee
GoB	Government of Bangladesh
ICT	Information and Communication Technologies
IFPRI	International Food Policy Research Institute
IGA	Income Generating Activity
KII	Key Information Interview
NGO	Non-governmental organization
PNGO	Partner non-governmental organization
SDD	Sex-Disaggregated Data
SGA	Second Gender Assessment
SOW	Scope of Work
USAID	United States Agency for International Development
WEAI	Women's Empowerment in Agriculture Index
ZOI	Zone of Influence (FTF programming)

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EXECUTIVE SUMMARY

In 2013, CNFA conducted an initial gender assessment as part of the design process for the Agro-Inputs Project (AIP), which began in September 2012. AIP is a \$14 million USAID-funded Feed the Future (FTF) program in Bangladesh. AIP established the Agro-Input Retailers Network (AIRN) that contributes to the improvement of quality and availability of agricultural inputs to farmers in the FTF zone, through a network of 3,000 agro-input retailers (AIRN members) who receive training and technical assistance on the safe handling, storage, and application of quality inputs, business ethics and other related topics. Over the life of the project, AIRN members are expected to serve about 1 million smallholder farmers, generating more than \$100 million in sales. The project ends in August 2017.

A major element for success in this project is the effective engagement of women, who make up a significant proportion of agricultural workers along the entire value chain. The goal of the initial gender assessment conducted in 2013 was to identify specific actions AIP might take to effectively address gender equity constraints in the agricultural inputs sector within the scope of AIP.¹ As per the Scope of Work (SOW, Annex 8), the primary goal of this follow-up gender assessment was to measure the processes and results through a similar research agenda, with a comprehensive review of existing project activities within the women's empowerment framework.

The findings from the second gender assessment are intended to assist CNFA in evaluating vital components of AIP implementation in the pivotal final year of the project, as well as guide CNFA and partner implementers in the future design of programmatic activities. Furthermore, USAID/Bangladesh has expressed interest in the findings to inform the current strategy design exercise as they prepare the next phase of Feed the Future actions.

¹At the time of the 1st Gender Assessment, no target catchment area had been identified, thus the survey population did not constitute a baseline cohort, and no direct comparisons can be made.

I. INTRODUCTION

Women in Bangladesh are typically the primary caregivers and leaders in household food production, yet have little decision making power over how household income is spent. In addition, women often lack input into production decisions, have little ownership of land or assets, and lack opportunity and/or support to join community groups or hold leadership positions. As women have limited access to earned income, either through employment in the formal sector or informal income generating activities, AIP recognized the need to facilitate gender integration activities into program mandates to ensure women were elevated to the level of business and financial competency necessary to succeed as entrepreneurs.

AIP's goal of creating and supporting at least 225 new women-run retail shops has been successful due to ancillary activities designed to support women retailers via community and family support, technical assistance and grant funding, while also integrating women retailers into the mostly male AIRN. The primary goal of this second gender assessment (SGA) was to review project successes and challenges to allow AIP to assess the success of its gender activities, primarily through qualitative data. Entering the final year of the project, discussions between AIP Senior Personnel and the consultant highlighted the issues facing the creation of a SGA that would act as a suitable succeeding exercise avoiding duplication of the initial gender assessment (GA) in scope and methodology. The initial GA involved three NGOs that conducted 312 household surveys, key informant interviews, focus group discussions, and a case study spanning 78 villages and six districts. Furthermore, the catchment area for the AIP grants program at that time had not been delineated, so the responses could not be utilized as a baseline. Multiple constraints, such as time and budget limitations, and security restrictions eliminated a repeat household survey and the 90-respondent assessment.

Whereas the findings from the initial GA were intended to inform the design of AIP, the SGA was intended to identify areas of progress for program beneficiaries, both anecdotally as well as through the lens of the WEAI domains. The results of the assessment are intended to assist CNFA in assessing AIP activities, as well as guide CNFA and partner implementers in the future design of programmatic activities. Furthermore, USAID/Bangladesh expressed interest in the findings to inform the current strategy design² as USAID prepare the next phase of Feed the Future actions.

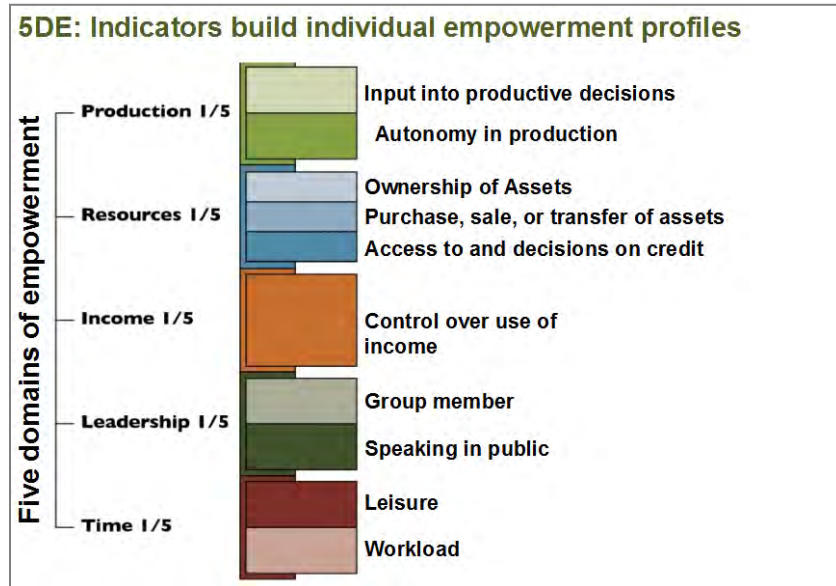
II. METHODOLOGY

Please refer to *Annex 5. Work Plan: 2nd Gender Assessment* for the detailed methodology outline. The exercise reviewed AIP deliverables to USAID and the operational documentation for grants activities, conducted focus group discussions (FGD), key informant interviews (KII), as well as some non-traditional inquiry activities, such as a Checklist, an Empowerment Circle exercise with women retailers, and Agree/Disagree activity with male and female farmers. All tools and instruments can be found in *Annex 3. Tools and Instruments*.

A. Analytical Framework

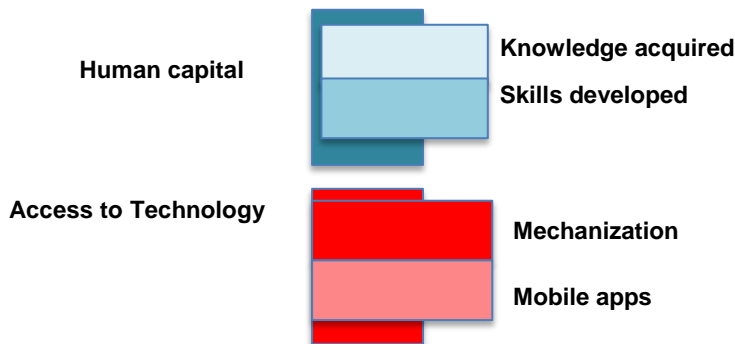
² Conversation on 4/11/2016 with Anar Khalil, Senior Agriculture Private Sector Advisor, USAID/Bangladesh.

The assessment framed the inquiry around the WEAI domains and indicators as the matrix to define change. AIP adapted Domain 1 to read ‘Business’ rather than ‘Production’, to more accurately align with AIP indicators. As noted above, the initial gender assessment conducted a quantitative WEAI assessment among a cohort of women (and men), based on the five domains.³



USAID, IFPRI, based on Kabeer, 2012.

The Bureau of Food Security (BFS) Feed the Future Gender Unit in Washington, DC has unofficially added two new domains to the WEAI⁴:



³ Please see the ‘Methodology’ chapter of *Agro-Inputs Project: First Gender Assessment. Dec. 2013*, for the formula composed by IFPRI.

⁴ Author illustration, unofficial, 2016.

The input from the 2nd gender assessment respondents was organized in a manner to align with the WEAI Domains and with supporting authoritative research:

Domain	FGD/KII	Question Areas	FGD/KII: references/trends	Supporting Research

In addition to the WEAI domains, other related arenas that have significant impact on women’s empowerment were examined and compared to authoritative research. They included:

- Religion and women’s empowerment
- Mobility
- Gender-based violence

B. Document Review

The consultant reviewed all AIP deliverables to USAID through June 2016, including the revised Program Description executed in July, 2015. The consultant also reviewed the report and analysis from the first gender assessment. *Annex 4. Observations on 1st Gender Assessment*, identified some revised data interpretations, as well as some missed opportunities in data interpretation and recommendations that may have altered some aspects of the subsequent project design. Finally, the consultant read a body of research, studies, and reports on Bangladesh, not only specific to the gender context. This information provides a valuable setting in which to frame the gender assessment, as a means to integrate the findings into greater context. See *Annex 6. Summaries of Selected Research*, and *Annex 7. CNFA Gender Assessment Bibliography*.

C. AIP Program Staff Assessment

In order to assess the program staff’s knowledge of AIP’s gender components, 31 AIP Program staff (23 males, 8 females) completed an 11-question checklist verifying their familiarity with key gender-oriented elements of the Agro-Inputs Project. Respondents gave their input on sex-disaggregated monitoring mechanisms, the WEAI domains, and gender references in training modules, among other elements. Overall, AIP staff was found to be knowledgeable about the underpinning gender concepts that drive the actions of the grants program. This is an important feature of any project, as staff comprehension and engagement in the principles translate down through implementation channels. Staff also volunteered opinions as to what might be areas of future growth for female retailers. For a detailed report on staff responses, see *Annex 2. AIP Program Staff- checklist analysis*.

Discussions with members of the grants program staff over the course of the field work revealed a commitment to empowering female entrepreneurs, specifically as agro-inputs retailers. There was an overriding perception among both the project staff and partner non-government organizations that the women are valued for their newly enhanced financial contribution to the household, and not necessarily for the growth in self-agency.

D. Focus Group Discussions

Over the course of 10 days, the consultant conducted 23 FGDs with farmers and female inputs retailers.

- Female farmers: 7 FGDs for a total of 73 women
- Male farmers: 7 FGDs for a total of 108 men
- Female agro-inputs retailers: 9 FGDs for a total of 44 retailers (including 2 men)

All FGDs were recorded on a dicta-phone with the verbal permission from each respondent. The audio files are archived with CNFA for reference as needed. For a detailed listing of each FGD by location, gender, and age please see *Annex 1. List of FGD and KII Participants*.

E. Key Informant Interviews

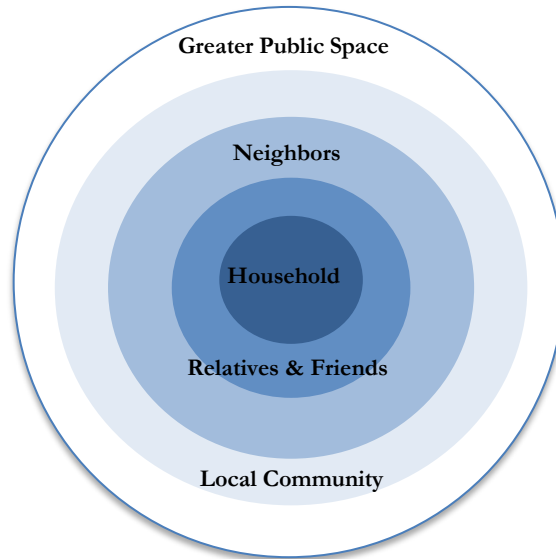
24 individuals were interviewed to obtain their perspective on the achievements, challenges and prospects of the women's empowerment grants program. Of these:

- 5 AIP senior program staff
- 4 Partner NGO senior staff
- 2 Government of Bangladesh (GoB) Agriculture Extension service officers
- 12 Women Agro-input retailers
- 1 USAID official

Most interviews were audio-recorded. For a full list, please see *Annex 1. List of FGD and KII Participants*.

F. Empowerment Circles

The female retailers participating in the FGDs were given the opportunity to gauge their sense of self-expression and empowerment since joining the AIP initiative. The circle was drawn out as seen below, each respondent was given a small female figure cutout, and after explanation and discussion, was instructed to place her figure cutout in the circle range that reflected her sense of empowerment and comfort level with different levels of society. The results are discussed in IV. Findings.



G. Agree/Disagree Statements

In the FGDs with farmer groups, four statements were shared that reflected potential future directions for women participants:

- 1) *In one year from now, women in this community will be going to the market unaccompanied by a male.*
- 2) *In one year from now, women in this community will have [smart] cell phones of their own for information and services.*
- 3) *In two years from now, women in this community will have bank accounts in their own name.*
- 4) *In five years from now, women in this community will have land in their own name.*

Each statement was read aloud, and the respondents demonstrated agreement by stepping forward or disagreement by stepping backward. Individuals were then invited to explain their choice. This exercise provided a summary measure of the respondents' perceptions in addition to reporting from the FGDs. The results are discussed in IV. Findings.

III. PROFILE OF WOMEN AGRO-INPUT RETAILERS

A. Requirements to participate in AIP

During the development of the grants program, AIP established criteria that was intended to set standards for participants based on predictors for success. The criteria included:

- 1) Possession of a valid trade license;
- 2) Has a formal 'bricks and mortar' business space (or access to, through a spouse);
- 3) Ability to deliver a matching investment of up to US \$1,000 in-kind;
- 4) Has a minimum Grade 8 education;
- 5) Is willing (and has family approval) to participate in trainings.

The first and second requirements above ensured that the program could begin with participants who were already established in the Bangladeshi business sector. At the same time, the requirements excluded women who were successful in the informal business sector, which makes up 88.5% of the total number of jobs in the labor market. The incidence of informal employment among female-held jobs is 92.6%.⁵

The first gender assessment identified low literacy and education as a potential constraint to a successful program. A re-examination of the data from the first assessment found that 81% of the female survey population had at least a primary school education. During the 2nd gender assessment FGDs, of the 181 farmers that participated, illiteracy rarely appeared^{6,7}.

A factor that would emerge as having a high influence on the applicants' chances for successful participation in the grants program was the ability and desire for women to participate in related trainings. All women indicated that they were willing and eager to take part in the trainings, however the inability to participate due to social and/or family constructs hindered the success of some applicants, according to project staff.

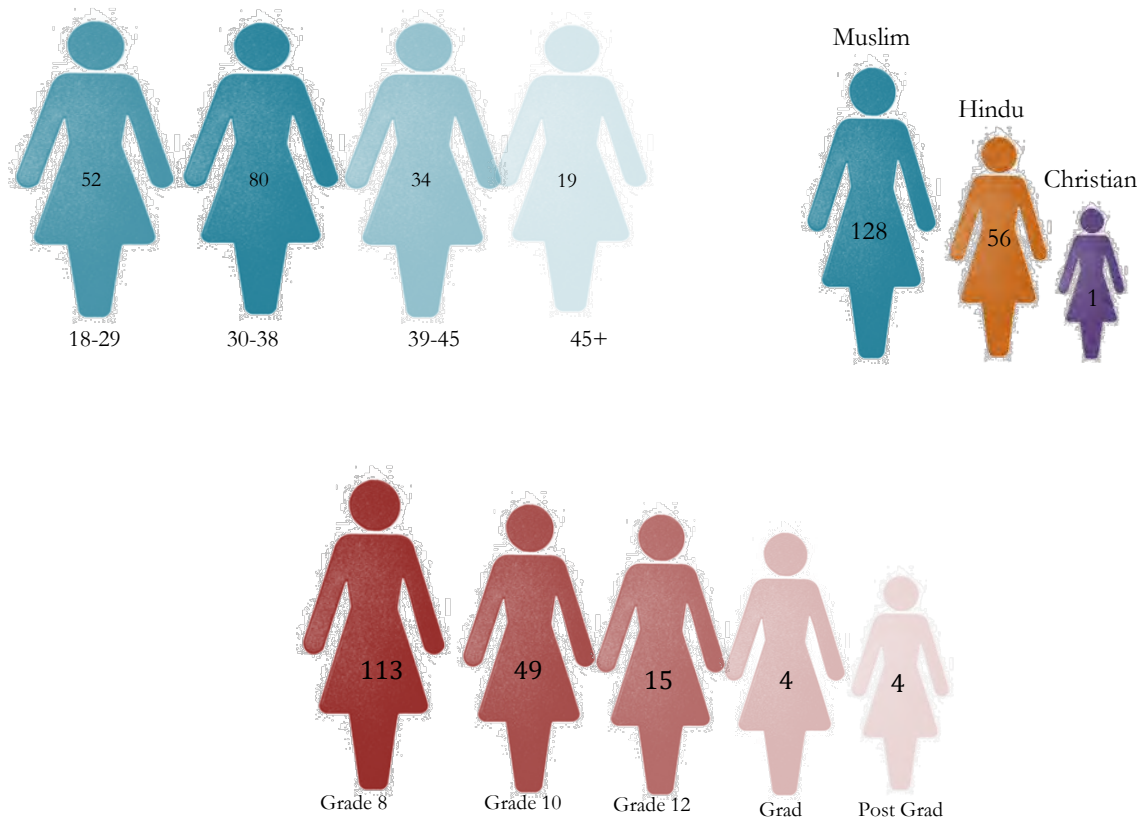
B. Profile: Age, Education, Religion

AIP records the age, education, and religious orientation of the women retailers. This assessment did not have the mandate to examine in detail whether a particular profile was more or less conducive to success, however there might be lessons to draw from such an analysis that could help refine approaches and tools for expansion. A rapid sketch shows the age range, religious inclination, and education level of the retailers:

⁵ The Informal Sector and Informal Employment in Bangladesh. Asian Development Bank, Country Report 2010.

⁶ By way of a random 'test', a nutrition poster was held up and respondents read it aloud. The vast majority of participants were able to read all the elements.

⁷ "The Feed-the-Future Zone of Influence in Bangladesh Changes in Selected Indicators 2011-2015 identifies a primary school education as a factor that contributes to reduction of poverty, and bi-laterally to women's empowerment.



The religious affiliation is consistent with the general population of Bangladesh. Anecdotal comments from program staff suggest that Hindu women are more successful in business due to a perceived liberal family/social construct. AIP established a cadre of women ‘Champions’, who serve as supportive mentors to groups of ten retailers. Out of eleven Champions established as of the time of this assessment, eight were Muslim and three Hindu, with an average age of 40 years, and education level ranging from Grade 8 (five persons) to one bachelor’s degree and one master’s degree.

C. Business Challenges for Women Retailers

The AIP women retailer ‘Champions’ utilize a checklist designed by AIP to quantitatively gauge the progress of the female retailers and identify trends in the challenges they face. A rapid collation of the main challenges after two months of monitoring revealed the following issues:

- Women often face difficulty in obtaining fertilizer licenses, losing clientele to retailers who had licenses;
- Farmers themselves are often unable to accurately describe the name or symptoms of crop diseases, which then limits the retailers’ ability to advise on products and dosage;
- Despite reported public support during sessions introducing the grant program to applicants and their families, aversion to women in the agro-inputs business arena remains;

- Some women retailers have capital limitations, and are thus unable to stock the variety of products that customers request.

These challenges are addressed through training and capacity-building from AIP and partner non-governmental organization (PNGO) staff.

IV. FINDINGS- PROGRAM OPERATIONS

A. Operational elements of the grants program

The SOW directed the assessment to look at challenges, opportunities, and lessons to be learned specifically regarding the AIP grants program. The most salient points are captured in the reporting deliverables, and are highlighted here, along with some additional observations based largely on comparison with general grants-making models. In addition, program staff responded in writing to procedural and design questions, which are archived with CNFA.

- 1. The choice of partner NGOs (PNGO) is a critical operational and programmatic factor.*

Whilst the assessment was not designed to evaluate the performance of all partners involved in the grants program, it did find elicited opportunities to highlight best practices that can enlighten future activities. A USAID-commissioned study on women in non-production roles in agriculture (Leveraging Economic Opportunities, 2016) highlights the importance of gender capacity for staff and partners: “*Of the [reviewed] projects that did report challenges or lessons learned, one common sticking point was issues related to planning and implementation, including gender mainstreaming issues such as a lack of staff gender capacity or coherent gender approaches in design.*” AIP partnered with three local NGO’s, the Ashroy Foundation, the Association of Voluntary Actions for Society (AVAS), and Banchte Shekha, all of which were founded by women, under the direction of female leadership. The NGO’s were chosen on the basis of their established reputation at the community level as well as their prior performance implementing programs with gender dimensions.

- 2. The tools and components of the program appear to be performant, after revisions.*

Four tools were developed to guide the operationalization of the grants program. These include a Grants Manual, Grants Application, Grants Agreement, and an internal tool called a Grants Tracker. In addition, as mentioned above, a new tool has been rolled out for use by the retailer “Champions” which provides front line information from the retailer’s sales log book as well as personal observations. The first three products are fairly standard USAID models. Both AIP staff and a PNGO director felt the original Grants Manual was overly dense and filled with non-applicable information (sections of the US Federal Register account for almost 95 pages). The AIP team has since drafted an updated and more applicable version. The Grants Tracker is a spreadsheet used internally that keeps a record of the progress of all retailers as they move through the program.

In April 2016, AIP began a new initiative to help women retailers become ‘bKash’ (mobile money) vendors for additional revenue generation which holds promise, per a market analysis conducted in advance to test the competition/saturation climate. The principle advantage for the retailers is the low level of investment required. Another hidden potential gain is that women retailers will be associated with the mobile technology industry, a new arena increasingly linked to women’s empowerment, as recently discussed in the mobile industry and in the IFPRI summary.⁸

AIP prioritizes new avenues for capital investment to grow the women-owned businesses. The program seeks to link retailers to women-friendly loan products (such as that of BRAC, which offers a 10% interest rate to women entrepreneurs), which would be consistent with empowering women in Domain 2: Control over Resource, which includes access to and decisions on credit. The assessment learned there is a strong perception, particularly from men, that the micro-finance industry (understood to mean NGO-run programs) is only open to women. Further casual inquiry found that loan terms under these programs are not conducive to the larger capital investment and longer re-payment times that may be needed by women in the formal business sector. The renown BRAC Bank has a number of loan products that may be suitable for women retailers, however the consultant did not pursue this area as AIP staff have been in discussion with BRAC for a number of months. AIP will assist in the direct facilitation of services between BRAC and AIRN in order to create a partnership that will outlast the project.

3. Gender is woven through all project activities and products.

Although the main directive for AIP is the creation of AIRN, there is impressive attention to gender messaging across multiple arenas of the project. The AIRN Business Code of Conduct has a direct reference to women’s inclusion⁹, and a Gender Lens Committee meets regularly to review the AIP activities specifically in relation to gender. The Gender Lens Committee (GLC) functions as a project steering committee for integration and implementation of gender activities throughout the program. The GLC is comprised of representatives from partner NGO’s. The GLC creates a space to discuss ongoing activities, as well as springboard new ideas for improved gender integration.

The AIP communications component has produced a particularly informed campaign through multi-media outlets. Language in print products is gender-inclusive, photos in print products feature mixed gender images, and the Call Center has recently started disaggregating callers by sex. The Call Center is managed by a female receptionist, which alleviates the potential barrier a woman farmer would face if they felt discomfort speaking to male staff.

While the assignment did not involve an examination of the Agro-Inputs Retailers Network (AIRN), the network was cited by every respondent group as being a highly performant and successful endeavor. Two agricultural extension officers noted that AIRN is an especially useful forum for women retailers to ‘legitimize’ their businesses and gain credibility. Women retailers

⁸ *The Digital Divide: Mobile’s Gender Gap*. Wall Street Journal, September 2016. See Domain 7, and the research summaries.

⁹ “Will promote the cause of AIRN and support all its members (male and female) through upazila committees”

also cited AIRN as a space to be formally engaged as committee members, echoing WEAI Domain 4: Leadership – being a group member, and speaking in public.

4. *The Gender Action Plan is satisfactorily on target for achievement.*

It should be noted that delays in making the grants program operational have been one of AIP's most persistent challenges. This, along with budget constraints in the final year, have meant that the quantitative target of 300 businesses established or strengthened through the grants program is capped at 225 for end- of-project results. As of this assessment, 226 retailers are officially engaged in the program. Male mentors paired with women retailers have also been reduced from a target of 750 overall to correspond to the number of female retailers; three mentors per female retailer. The number of women champions will also be adjusted according to the total number of female retailers. One activity that is significantly behind its target is: “*Organize 20 lessons learned sessions with successful couples at upazilla level.*” As of September 2016, only one session had been held¹⁰. Reasons given for the low achievement are that businesses need time to accumulate lessons learned. One activity – “*Identify 30 women retailers to establish demo plots with high value nutritious crops*” – has been dropped due to time and budget constraints. It should also be pointed out that this additional task on top of the reportedly full-time burden of running the business may have impinged on progress in WEAI Domain 5: leisure and workload.

5. *Training and capacity-building for women retailers garners positive feedback.*

Farmers consistently cited the quality of service offered by the women retailers as a strong feature of their business. The retailer is always at her shop, offers quality goods, and takes time to explain products and offer agronomic advice as needed.

6. *Some design considerations for final evaluation and future planning.*

A Return on Investment (ROI) exercise at the time of the final evaluation for AIP might be useful to calculate the question of the value of the grants program, taking into consideration the in-kind value, dedicated human resources, materials and equipment, etc. Such an exercise would add quantitative depth to the more qualitative conclusions of the Gender Assessment.

As noted earlier, the requirement to have a formal business license does limit the pool of applicants, as intended by the project to achieve replicable successes. While it was noted that many more applicants applied than could be accepted, there is still merit in offering the opportunity to the many talented entrepreneurial women who do business in the informal sector. Informal sales of inputs are illegal in Bangladesh, so it is in the best interest of this, and other donor-funded initiatives to work with the GoB to ensure fixed-shop retailers can access needed licenses.

Finally, spokespersons in the PNGOs observed that other retailers are mimicking actions demonstrated by the AIP grants program to improve other retail shops. This modeling effect could be explored in a final evaluation.

¹⁰ As of March 2017, 12 had been held with remaining to be completed before project's end.

V. FINDINGS – THE WEAI DOMAINS

The following analysis focuses primarily on the empowerment journey of the women retailers, with highlights from other respondent groups (farmers, government officials, project staff) that may confirm or challenge the assertions or reality of the retailers. While qualitative information drawn from group discussions cannot be presented as representative or even definitive, there was remarkable consistency in the perceptions and responses across all groups. Where relevant, research and evidence from other sources is used to reinforce the findings.

A. Domain 1: [Production] Business Development

Definition: Input on decision-making in the agro-inputs business; autonomy in business development.

With few exceptions, the consensus among retail respondents was that business decisions made by women are discussed and decided upon jointly with family members – in most cases, with a husband. However, this may be masking a more singular process whereby the woman, who is closest to the dynamics of her business, will independently formulate an action and then present this to her husband for ‘discussion’. Women confirmed that this is how they operate. It reflects another phenomenon mentioned throughout the FGDs – the degree of self-confidence these women now have in managing their business affairs.

“If I expand or make changes in my shop, I will consult my husband – but I will decide.”

-Sawpana Mondal, retailer, Batiaghata

Nevertheless, women seem to balance a strong sense of internal autonomy on business management with an acute awareness of the prevailing social constructs. Men are still the dominant force in the household and are considered responsible for the social and economic welfare of the family. Women appear to be sensitive to how their male family members may be perceived socially if they, the women, are ‘too independent’. Yet, these societal complexities may be unravelling, as the greater influence of the woman’s financial contributions displace strict hierarchies. Both government officials from the Agricultural Extension Services (both are male) remarked on this spontaneously: *“It doesn’t matter what your gender is, the main issue is whether you earn or not. More education, experience, and skills means more power in decision making. Although the weight of tradition still reigns depending on the scale and type of decision. Where land and large equipment are concerned, it is a gender-tinted question,”* Nazrul Islam, Agriculture Extension Officer, Khulna.

In counterpart, many women emphasized the need to *maintain harmony* at home, and *balance kinship dynamics* as reasons for consulting other family members on business development or other types of decisions. Supporting research states that women in rural Bangladesh value contributing to the household, potentially more than having individual rights within the household. There may be a

“When I first began this business, I was in a dire social situation already. As a widow, I had married my brother-in-law. My personal decision to take up the agro-inputs business was perceived as the last straw – I was going to be ‘selling poison.’ Now, I am consulted by people, and I’m invited to join community groups”.

-Najma Begum, retailer, Jessore, Churamonkat

perceived tradeoff between asserting individual rights and maintaining family support. The benefits of creating conflict within the household to assert individual rights may be outweighed by costs of losing family support.¹¹

There is an underlying current of concern in the way women position themselves vis-à-vis subsuming their autonomy in decision-making in the quest for domestic harmony. The fear of creating conflict, and experiencing violence issuing from that conflict, is a reality in Bangladesh. This may be an underlying factor in the IFPRI Report on “The Feed-the-Future Zone of Influence in Bangladesh Changes in Selected Indicators 2011-2015 showing **no change** in autonomy in production (disempowerment factor 16/16). More discussion on this will follow.

B. Domain 2: Control of Resources

Definition: Ownership of assets, purchase, sale or transfer of assets. Access to and decisions on credit.

Of all the domains that constitute women’s empowerment, women’s ownership of assets – in particular land or a house property, is considered the most influential by FAO, CGIAR, the UN Special Rapporteur, and the Millennium Development Goals, having far reach within the household, and possibly beyond. It directly contributes to, or detracts from, livelihood development. Again, the FTF Bangladesh - Changes in Selected Indicators 2011-2015 concluded:

“The following factors tend to prevent households from backsliding into poverty:

- More years of schooling of the head of household
- Higher share of income from nonfarm sources
- Higher value of asset holding and increase in savings
- Increase in owned land.”

Programs such as AIP facilitate women’s generation of off-farm income, ownership of assets, and may position some women to own land in the future, although as discussed further in detail below, there are still cultural barriers inherent in owning land in Bangladesh. In fact, the lack of ownership of assets as a **disempowering**

factor on the WEAI changed dramatically from 2011-2015, from 31 down to 12. Purchase, sale or transfer of assets saw a smaller decline, from 40 in 2011 to 33 in 2015.

“Control of resources in the public space [e.g., business assets], is transferable to the private space.”

-Banasree Bhandury, Ashroy Foundation (AIP partner NGO)

Women retailer respondents spoke of different ‘asset’ models. When asked if they ‘own’ their shop, meaning the physical space, most indicated that they own a business license and they own all the products in their shop. Just under half of the shops are rented space, and the shops that are owned are mostly legally owned by the husband or father. Thus, being a ‘business owner’ may not directly correlate with physically owning valuable assets such as large property and land. There are major factors that go well beyond the scope of this project’s ability to help women

⁹ “Flypaper effects” in Transfers targeted to Women: Evidence from BRAC’s “Targeting the Ultra Poor” program in Bangladesh. IFPRI 2014.

advance toward empowerment in Domain 2. Land ownership is a very contentious issue in Bangladesh. The law may be on the side of women, but the reality is quite different: “In Bangladesh, notwithstanding the 1986 Government ordinance that provided for equal distribution of certain lands between spouses, in practice land is most commonly titled only in the name of the male household head and woman rarely purchase land because of prevailing gender norms. [Furthermore], notwithstanding that statutory laws provide men and women the equal right to purchase and own land, in practice this is limited by inheritance rules that are governed by Sharia Law and which disadvantage women and girls”.¹²

“Men buy large assets. Where there is a disagreement about what to purchase, the man’s opinion rules”.

-Male farmer, Jessore, Rajgonj Bazar.

The most recent Global Gender Gapⁱ Index Report for Bangladesh, 2016, shows that women's access to land use, control and ownership is at 0.50 on a global index of 1.0. The same holds for women's access to non-land assets use, control and ownership at 0.50. The Global Gender Gap index is designed to measure gender-based gaps in access to resources and opportunities in countries.¹³

Nonetheless, the social dynamic appears to rely on trust and understanding about shared responsibilities. When presented with a hypothetical scenario wherein a husband might decide to take over the business or convert it to something else for other purposes, all women retailer respondents were unanimous that this could never happen. No one claimed to know of any such situation. Among farmer groups, the ability to sell or transfer assets is largely governed by the type of asset. At the household level, decisions on the sale or transfer of higher value assets (livestock, land, equipment) rest with the men. This may carry over if a woman retailer finds herself able to sell her business, although this is hypothetical.

As for access to credit, farmer and retailer groups alike indicated that there are no gender-based barriers regarding access to credit for women. Indeed, men and women had the same observation that women have easier access to credit via micro-finance mechanisms run by NGOs. In fact, there appeared to be a note of resentment among male farmer respondents on this point, although they all agreed with the general impression that women are more trustworthy. Over half of the women retailers had taken a loan at some point, often prior to participation in AIP. In every case, a male family member had to co-sign.

“I took a loan to start my agro-inputs business, but it was in my husband’s name”.

-Sirina Begum. Retailer, Khulna, Jamira.

When asked if a female family member would have could co-sign, no one could say if this arrangement would be legitimate. If a loan requires collateral, women would likely not be able to co-sign. All in all, though, it appears that credit is a barrier women have whittled down. The FTF

¹⁰ Women and Land rights: legal barriers impede women’s access to resources. 9/2013. World Bank, Trust Law Connect.

¹³ World Economic Forum (Measuring the Global Gender Gap, 2017) <http://reports.weforum.org/global-gender-gap-report-2016/measuring-the-global-gender-gap/>

Bangladesh- Changes in Selected Indicators 2011-2015 WEAI recorded a change in the **disempowering** factor on access to and decisions on credit from 49 down to 34.

"Our wives have special access to NGO loans. We get a loan through them".

-Male farmer, Jessore, Churamonkati.

C. Domain 3: Control over Income

Definition: Sole or joint control over income and expenditures.

The FTF Bangladesh- Changes in Selected Indicators 2011-2015 WEAI saw a remarkable plunge in the **disempowering** factor of control over use of income from 29 down to 4. In this assessment, the discussions on control over use of income among male and female farmer groups provided a bit of context for understanding the same question among women retailers. Farmers made clear distinctions as to what men and women use income for, and this was the basis for how control was assigned. In almost all groups, women farmers claimed their priority for the use of income revolved around their children's education, clothing, and then savings. Women did not mention food purchase. Men said they prioritize paying down debt, and livestock and land purchases. Some men indicated that women use the income at their disposal to buy *"fancy things – dresses and ornaments, sometimes small furniture"*. This could suggest that the size of that discretionary income is quite small, and thus its use is uncontroversial, or could also suggest that men may downplay the importance of women's purchases.

DOE officers, some PNGO staff, and male farmers all expressed the opinion that women's financial contribution to the household is what gives them value and the right to contribute to decisions on how income/expenditures are managed. This undermines the value of women's unpaid work, which averages 4.5 to 6 hours per day, according to the UN and other sources. The concept that women's value is tied to the material remuneration she can bring in also minimizes the value of knowledge and skills – Domain 6. *"In the household, financial contribution determines the weight of one's decision-making role..."* Nitya Bizwas – Director, DAE Khulna.

The consultant had learned that men are the market purchasers of food,¹⁴ however no men mentioned this as part of their prioritization of income use. AIP produced a poster for display in retailer shops that educated viewers on economical purchase of nutritious foods. Given that men control the use of income for food, it begs the question as to whether women feel the poster's messages are addressed to them.

"It's my business decision, but I discuss with my husband. I have never been overruled by him. My capital goes back into my business".

-Nasima Masarof Hossain, Fozorganj Bazar

When women retailers spoke of control over the use of their income, it was first established that in no case was the income from their business the primary revenue stream for the family. Thus, as it was a supplementary revenue, they all said they had principle control in the use of the income. All of the retailers had business bank accounts, and all said they banked a portion of their income immediately without consulting their family members.

¹² "Market Purchase Motivations among Rural Men in the Khulna District of Bangladesh: A Qualitative Study, July 2014. SPRING Project, JSI.

Women retailers all displayed a mature grasp of money management, as expressed in references to debt, capital investment, operating costs, revenue generation, etc. The fact that the women

"I alone decide how to use my income. I don't need to consult my family".

Male Retailer, Barguna, Armgachia

retailers are generating income in a formal business outside the home adds to their ability to decide how to use the income. Other research observes that home-based income generating activities (IGA) which limit a woman's mobility reduce her involvement in how the income she generates is used: "A shift to working

exclusively inside the home may translate to no longer having the mobility to make use of income independently (e.g., going to the market), but rather giving the money earned to another household member who will leave the home and deciding jointly what to do with it."¹⁵

D. Domain 4: Leadership

*Definition: Group member: (whether an active member in social/economic group)
Speaking in public: Comfortable speaking in public concerning various issues such as intervening in a family dispute, ensuring proper payment of wages for^[SEP] public work programs, etc.*

Once again, women in the FTF ZOI made real progress in minimizing their **disempowered** status related to leadership. In 2011, the disempowerment headcount on group membership was 58, decreasing in 2015 to 21, and for speaking in public from the decrease was 28 points, from 58 to 30. A variety of factors, including donor-funded projects with gender components, can likely account for this progress.

As of the time of this assessment, AIRN had 152** female members, and in some chapters, women are committee leaders. Women retailers in Dumuria said that being involved in AIRN meetings and other community actions brings recognition, confidence, and status [FGD #3, Shovna]. A handful of retailers observed that in their previous businesses, they were alone. Now they participate in what they feel is a collective power, and can seek solutions to problems together. Some stated that they are now also active in other types of civic groups. While women farmers also mentioned belonging to groups, these were largely self-help models, centered on IGAs. Women retailers spoke of the empowering networking opportunities they have through AIRN and agro-business company affiliations. The women retailers stated that before becoming involved in AIP, they did not know one another. Now, they are a tight knit group of women that consult with each

"AIRN now has 152 female members... in some cases/chapters, women are leading. Women's empowerment is linked to being involved as group members. Women's empowerment is linked to being involved as group members".

-Nitya Ranjan Biswas, Director, DAE, Ext. services

"AIRN has been the best thing for the women retailers".

-Islam Nazrul, DAE, Upazilla Ag. Officer

¹³ "Flypaper effects" in transfers targeted to women: Evidence from BRAC's "Targeting the Ultra Poor" program in Bangladesh. IFPRI. 2014.

** This number is lower than the 185 engaged in the grants program as of 12/2016; the discrepancy represents the difference between signed grant agreements and shops which have already gone through procurement.

other regularly. Some mentioned the valuable role that their male mentors played in connecting them to AIRN.

As per the Bangladesh WEAI, men are **disempowered** in leadership, meaning little active involvement in groups. Whether this is by preference or due to lack of access to groups is unclear. This was borne out in the group discussions with male farmers, where it was rare to find any man who was an active member of any kind of group. One or two were part of a savings and loan scheme, however these entities had no other range of activities, and collective meetings were rare. Some male farmers had reservations about their wives being involved in group activities. They felt it took them away from their household responsibilities, and had mixed results in terms of bringing benefit to the home [FGD #4 Phultala, Khulna].

Other research confirms the importance of group membership as a pillar of women’s empowerment. In Cultivating Women’s Empowerment, USAID/FTF, Stories, 8/2016, a cross-country analysis of the WEAI baseline data from 13 of the 19 focus countries found constraints vary by region; for example, a lack of group membership is the primary constraint for women in Asia. This makes the progress in AIP and in FTF Bangladesh ZOI all the more significant. The LEO Report 38: Literature Review of Women in non-production roles in Agriculture found that *“it is safe to say that [different project] interventions have successfully generated social and economic gains for women by working through producer groups of varying sizes”*.

E. Domain 5: Time and Workload

*Definition: Time: Allocation of time to productive and domestic tasks.
Leisure - satisfaction with the available time for leisure activities.*

Studies looking at women’s involvement in IGAs note that small increases in income are at the cost of heavier workloads, increased stress, and diminished health.¹⁶ Probing on this domain offered little in terms of meaningful appreciation of what it means for women’s empowerment. Most women in both farmer groups and retailer groups did not distinguish between ‘productive and domestic tasks’, all work being equal whether it ‘produced’ or just consumed time. According to the FTF Bangladesh- Changes in Selected Indicators 2011-2015 WEAI, women did make headway in reducing the disempowerment range on workload and leisure. From 2011 to 2015, disempowerment due to workload factors declined from 26 to 13, and the leisure disempowerment factor went from 26 to 16. There are correlational studies which suggest some of the workload relief is due to new labor-saving technologies, and not necessarily because women have fewer tasks. The PNGO Banchte Shekha produced a poster which illustrates at least sixteen regular tasks that a woman works at daily.

“Time is really a problem. I still have to cook, prepare the kids, do the family chores...sometimes I ask my husband to manage the shop so I can do the other things. But all the family members do help”.

-Mina Parvin, retailer, Jessore, Rajgonj bazar.

Nearly all the women retailers stated they are busier now with their agro-inputs business than prior to AIP participation. The women implied that the rigor of business within the parameters of AIP is more intense than their previous commercial pursuits. They have to maintain regular store hours. Their

¹⁴ “The Evidence-based story of Savings Groups: A synthesis of 7 random control trials”. The SEEP Network.

time is also taken up with trainings, meetings, etc. Most the respondents stated that they still maintain the same number and type of household tasks, and time management is a real challenge. One woman noted she gets by on less sleep now. Another retailer explained that she purchased a freezer, and she makes meals in advance then freezes them for her family.

On the positive side, because it appears that these women are now engaged in ‘legitimate, professional work’, family members are breaking with traditional gender kinship constructs to help out. Mothers-in-law are doing the cooking in some cases, and even one or two husbands. One retailer said her ‘elder’ daughter helps with the newborn baby; however, the consultant saw that this ‘elder’ daughter was no more than six or seven years old herself. No one mentioned having any leisure time, culturally, the perception is that Bangladeshi women do not place a high value on having leisure time. Planning for growing the business was how they spent their ‘off-time’.

What, then, is the purpose of being so occupied? In most cases, growing the business in search of financial gain offsets the increased demand on time. Among farmers, women offered that all women’s work and time should be directed to the development of the family, whereas one man offered that a woman’s work and time should be directed toward personal development, which would then benefit the family. Much has been written about the ‘double burden’, wherein women work full time in the formal labor market and then do a ‘second shift’ at home. The double burden is cited as one of the key obstacles to women’s advancement. Development programs that feature IGAs for women have been criticized for exacerbating women’s work load. Programs that take a serious look at labor saving practices for women are to be supported, according to the LEO Report 38: “[...Additionally], technology provision addressed the issue of women’s drudgery, especially in relation to post-harvest handling and processing. A review of the current data demonstrates that the impacts of these technologies on women’s empowerment can be impressive”.

“I have longer days now, as I still have my household burdens. I get help for child care from my family. But it’s worth it for the praise I receive from my in-laws”.

-Woman retailer, Madaripur, Kendua.

In the context of AIP for women retailers, the key is more likely to lie with management training, and possibly interpersonal communication skills for negotiating double burden trade-offs with family members.

F. Domain 6: Human Capital.

Definition: Acquiring knowledge and skills.

As noted earlier, this domain is still being defined and filled out. However, the logic of gauging women’s acquisition of knowledge and skills as a contributor to empowerment is not debatable. The linkages to building business acumen are clear. In LEO Report 38, it found that: “Capacity-building efforts have had notable impacts on women’s skills, knowledge, and ability to effectively run their businesses”. Some deceptively simple barriers have limited women’s access to training and the acquisition of new knowledge and skills. AIP had to make a special effort to include child care in the budget for training events.

Women farmers as well as women retailers all advocated for women to have greater access to mechanization and technologies, which logically requires new knowledge and skills (see Domain 7). Male farmers inadvertently reinforced the need for women to acquire new knowledge and skills when they expressed reservations about women input retailers.

Another dimension that Domain 6 will capture in the future is the application of training to work opportunities. A USAID report, Cultivating Women’s Empowerment. USAID/FTF, Stories. 8/2016, reported: “Women farmers like Monowara comprised more than a third of the 56,000 farmers who took advantage of trainings offered through this Feed the Future-supported program in 2015 alone. Yet fewer—only around 12 percent in 2015—were able to apply the new skills they learned, representing an ongoing challenge and persistent gender gap”.

“Most farmers are male; we aren’t sure that a woman knows enough about farming [to serve us]. Maybe women have an inferiority complex”.

-Male farmer, Dumuria, Shovna 2.

G. Domain 7: Access to and Use of Technology

Definition: Focusing initially on mechanization and mobile applications.

The need for, and use of technology and mechanization in agriculture and business is supported by evidence from numerous sources and global studies. As per the LEO Report 38 Literature Review of women in non-production roles in Agriculture/July 2016: “Many projects also included technology or equipment provision in their approach, which served to close some of the gender gaps in access to resources and enabled women to be more effective in post-harvest handling, processing, or marketing activities. Additionally, technology provision addressed the issue of women’s drudgery, especially in relation to post-harvest handling and processing. A review of the current data demonstrates that the impacts of these technologies on women’s empowerment can be impressive.”

-and-

“A case study in the aquaculture sector in Bangladesh shows why social and gender integration is relevant to technology adoption and its outcomes.”¹⁷

Input from the respondents addressing women’s access to and use of mechanization was unanimously in favor of garnering greater support and resources, whereas input on women’s access and use of mobile applications revealed surprising attitudes. The DAE officers set the context by emphasizing how technology and mechanization are the direction of agriculture extension: “The theory of extension depends on the uptake of technology and mechanization... as it accelerates, women will catch up, it is critical mass”. Nazrul Islam, DAE, Ag Extension Officer.

¹⁵ The Role of Gender Transformative Approaches in Agricultural Research; Asian Institute of Technology/SAGE, 2015.

Farmer groups (male and female) acknowledged the huge strides made in agricultural production over the past 10-15 years due to mechanization (among other innovations). Furthermore, farmer groups all voiced the need for input retailers across the board to include low-tech implements such as spray fertilizers, roto-tillers, sower machines, pumps, etc. in their product and service line. One farmer observed that younger farmers are more ‘intellectually’ capable of embracing mechanization and technologies, and they really need these tools to be successful in today’s agro-business world. Another farmer said he had seen women using some of the simple farm implements, so gender wouldn’t be a barrier. A very salient argument for rapid access and uptake of mechanization mentioned in at least three group discussions is the cost of day labor for the manual tasks of weeding, seeding, etc. Farmers hire others to help with these tasks and complain that labor costs and time cut into their return on the harvest.

“As for women-friendly technologies, it’s up to the women to make the adaptations”.

-Abu Taher, Senior Marketing Officer, ACI

“I’d like to stock some appliances – tiller, sower, etc”.

-Rupa Khatun, retailer, Khulna, Fultala

Despite the clear trend for mechanization, AIP’s sustainability plans and the Gender Action Plan do not include any actions to help women retailers address mechanization or technology prospects. The women retailers may be ahead of AIP on this track. A number of them have purchased spray machines to rent or sell, and others are considering taken loans to purchase larger equipment.

It is especially important to deliberately focus on women’s access to agricultural mechanization, as stated here: “*Wherever new technologies are adopted, men become the dominant actor, even in [tasks] that were formerly in the hands of women.*”¹⁸ It stands to reason that if women retailers are going to be the frontline source in agro-business for women farmers, they must be able to offer them all range of products and services, including access to mechanization, meaning training and equipment.

Bangladesh in general is quite ‘connected’. According to the Global Gender Gap Index’s ‘Access to Technology’ indicator, use of a mobile phone is 0.90 on a scale of 1.00, and use of internet is 0.62. During each group discussion, cell phones were present and active, although very few were smart phones.

The previously cited report FTF Changes in Selected Indicators 2011-2015 for Bangladesh also found that household-level diet quality improves if households:

- Have access to electricity (solar panel or national grid)
- Use mechanized irrigation
- Own a cell phone

For some, mobile phone usage is considered the new gender gap. Groups that work to bring women into the mobile technology playing field note that: “In today’s increasingly connected

¹⁶ Is gender equality a technical or political question? Professor Marjorie Mbilinyi, Gender and Development Analyst, referencing THE STATE OF EAST AFRICA Report: Consolidating misery? The Political Economy of Inequalities in East Africa, Dar es Salaam, Aug. 2016.

world, women are being left behind. A significant gender gap in mobile phone ownership and usage in low-and middle-income countries is hindering growth for the mobile industry and means women are missing out. Successfully targeting women not only advances women’s digital and financial inclusion, but unlocks significant growth potential for the mobile industry. In fact, closing the gender gap in mobile phone ownership and usage could unlock an estimated \$170 billion market opportunity for the mobile industry in the period from 2015 to 2020.”¹⁹

With regard to findings about mobile technology and applications, the assessment has some observations from AIP partners. A Senior Marketing Officer from ACI remarked on how application technologies are geared towards users who are already equipped with a smart phone, or able to read English, which is a clear disadvantage to many. Among the women retailers interviewed, almost all have at least a cell phone, and roughly half work with a smart phone. They all believe that mobile technology is good for their business, and their communication network is large – companies, suppliers, clients.

“The uptake of mobile technologies [for ag] will accelerate. Women need to catch up”.

-Nazrul Islam, Agriculture Extension Officer, Khulna

“I now have much more interaction via my mobile. It’s business!”

-Gouri Halder, retailer, Jalalhati, Nobogram

It isn’t possible for women to use mobile technology – it’s too complicated”.

-Male farmer, Fultala

One woman is already using The Farmer Query System (FQS) app (created by mPower under the USAID/Agricultural Extension Support Activity, an associated FTF project) that allows her to take a snapshot of a troublesome crop or pest, send it off to a call center service. Nonetheless, the majority of the retailers in the FGDs practiced limited use of mobile technology, receiving SMS texts from AIRN and companies, and intermittently using the AIRN Call Centre for either themselves or on behalf of clients. The introduction of the bKash money transfer activity for some may broaden their technology reach in addition to adding a revenue stream. However, whilst they all feel mobile technology is good for agro-business, none seemed to grasp the magnitude of the mobile app sphere for agriculture.

Farmer groups weighed in on the use of mobile technology by women. For many, the consequences of access to mobile technology are different for men and women. While men may benefit from information and services, women are positioned as victims or intellectually unprepared. People frequently voiced concerns about women being exposed to sexual predation and harassment, moral degradation, and temptations toward extra-marital affairs information and communication technologies (ICT). There were suggestions that the perceived uptick in violence against women as recorded in local newspapers* is a result of easy access to pornography via the internet. There is also research that indicates that women may be more susceptible than men to “invisible barriers” which limit women’s and girls’ participation in ICT.²⁰

H. The Empowerment Circles, and ‘Agree/Disagree’

¹⁷ Connected Women Programme - Accelerating digital and financial inclusion for women, 2016 www.gsma.com/mobilefordevelopment/programmes/connected-women

* The consultant kept clippings of such articles over the course of the field work.

¹⁸ Digital security concerns and threats facing women entrepreneurs. Alexandra Michota *Journal of Innovation and Entrepreneurship*. A Systems View Across Time and Space. 2013 2:7;

After the enthusiastic and generally ‘empowering’ discussions, women retailers were given the opportunity to ‘place’ themselves and their voice on a scale that represented their sense of self-confidence and ability to engage in the public space. During the discussions, there appeared to be unanimous agreement that all felt fully empowered. While 10 women were in the ‘greater public space’, 16 were still somewhere on the road to greater empowerment.

The exercise ‘Agree/Disagree’ was conducted at the close of discussions with some farmer groups, and served to informally take the measure of the group after lively debate. Among farmer FGDs**, the ‘Agree/Disagree’ responses were fairly consistent, by region, religion, and by gender. The statements and their majority responses are below:

1) *In one year from now, women in this community will be going to the market unaccompanied by a male.*
AGREE – “It’s already happening”.

2) *In one year from now, women in this community will have [smart] cell phones of their own for information and services.*
AGREE – “Some women already have them”.

3) *In two years from now, women in this community will have bank accounts in their own name.*
AGREE – “But we need money to put in them!”

4) *In five years from now, women in this community will have land in their own name.*
DISAGREE – “the law will not change”. This shows that people confuse ‘customary’ law, or tradition, with civil law, which guarantees a woman’s right to own land.

VI. OTHER ARENAS

Topics came up in the discussions touching on related arenas that may have significant impact on women’s empowerment. This section gives a brief overview with an eye for future investigation as relevant.

A. Religion and women’s empowerment

As noted in the demographic profile, most of the women retailers are Muslim, followed by Hindu. During discussions, the assessment translator often identified a speaker to the consultant by her religion, implying that the consultant might draw conclusions relative to the woman’s response. In discussions with project and partner staff, observations were often made that the Hindu women have more freedom of movement and decision-making latitude than Muslim women. At the time of the assessment, there was an ongoing debate in the public and legislative setting regarding laws in Bangladesh governing Hindu Married Woman’s Rights (1946), dowry

** Not all farmer groups did this activity, due to time constraints. Out of 19 FGDs, only 8 participated, for a total of 119 responses.

malpractice, and other repressive customs acting upon Hindu women. These are juxtaposed with larger civil laws governing all Bangladeshi women's land inheritance, property rights, etc.

In the farmer group discussions, two comments were offered at different times by men, that foreign NGOs were conducting such programs as AIP to pit [Muslim] women against men and convert Muslim women to Christianity. Three recent studies address the issue of religion and gender politics in Bangladesh, touching on the 'NGO' question above, and debating the influence of Islam on women's empowerment. They appear on the publication portal of the Women's Studies International Forum.

B. Mobility

World-wide, there is evidence that the lack of mobility keeps women limited to a small, low-return enterprise model. Mobility for women in Bangladesh has direct bearing on progress toward empowerment. In the first gender assessment, it was identified as a constraint both for potential women inputs retailers and more acutely for women farmers as clients. Mobility appears to influence a) access to markets b) access to training events, and c) ability to transport bulk inputs. The justification for confining and silencing women resorts to personal security and safety concerns over unwanted sexual attention.

For women farmers, *autonomy in making production decisions* such as which seeds to purchase is undercut when the woman cannot travel to a distant seed shop and must rely on someone else to make the choices, and bring back information and advice on planting, etc. As noted in an analysis of the BRAC TUP program: "Less movement outside the home may imply less ability to physically control resources — for example, to visit markets and purchase goods using income earned from the assets". Evidence from BRAC's "Targeting the Ultra Poor" program in Bangladesh. *Journal of Development Economics* (117-2015).

When farmer groups were asked about the benefits of having a woman retailer in their locale, in every case all respondents cited the close proximity for women farmers as primary. Women can visit her store, choose their own products, and speak one on one for advice about their crops. Respondents said that at the nearby shop, women retailers extend credit, and this *access to credit* facilitates women farmers' ability to initiate the production cycle, and be less dependent on a male family member for funds. The ability or inability to travel a distance to attend a training, a meeting, or to purchase/sell products enhances or limits a woman's *participation as a group member* in a public space. Conversely, attendance at meetings, trainings, and gatherings translates into *new knowledge and skills acquisition*. Women retailers make visits to farmers' fields, often using some form of *mobile technology* (Call Centre, smart phone apps, SMS, etc.) to obtain assistance in diagnosing problems. Women retailers described how they are able to move about more freely because it is known that they are doing business, and thus are spared social condemnation for being unaccompanied and for having encounters

"Actually women should be more involved in home-based projects, such as sewing, small IGAs...things to keep her home due to mobility issues".

-Nazrul Islam, Upazila Agriculture Officer

"Mobility for women farmers is an issue. Male retail shop logbooks show few women clients... with female shops closer to home this reduces fears for security in travel, and fear of meeting/talking to a strange man."

-Banasree Bhandury, Ashroy Foundation

with males who are not members of the family. A dialogue that took place during one of the discussions demonstrates that people struggle to balance perceived (and perhaps outdated) social norms with the reality of daily necessities:

Man: *It's still a bit of a stigma for a woman to go out alone.*

Woman: *But we don't have time to listen to these kinds of things; we have to help our families.*

Man: *It was hard to accept, but now it's normal that she's helping me. It's not immoral.*

Man: *Yes, it was hard, but now we have to move about, for the household; we have to accept that times are changing.*

Woman: *That's it. My husband is not around; I have to talk to other men for business purposes.*

Mobility for women has geographical and infrastructure dimensions as well. Participatory action research conducted in Tanzania documented how important rural feeder roads are for women. They enhance access to markets, farm inputs, extension and financial services, and they increase the safety and security of women, reducing vulnerability to gender-based violence.²¹

C. Gender-based violence/violence against women.

Gender equality in work operates in a virtuous cycle with gender equality in society, which is manifested directly by the social attitude toward gender-based violence. Women's empowerment is inseparable from women's physical security, which is linked to autonomy. Violence against women weighs in at 6 on a scale of 1 to 10 as a factor that impacts for or against gender equality, regardless of education, income, or age.²²

"There is the perception that if a woman goes to the market where she will inevitably have to talk to unknown men, the status of her husband is diminished".

-Nitya Bizwas – Director, DAE Khulna.

At no time during the many discussions and interviews did anyone bring up gender-based violence in relation to women's business involvement and/or empowerment. Yet it seemed to hover above as women talked about maintaining 'harmony' in the home by allowing men to have the last word on decision-making. It was understood when men talked about the importance of patriarchy to preserve the social order in the household. It is one of the principle factors operating against women having more freedom of movement due to personal safety concerns. As noted earlier, some respondents see mobile technology as an 'open door' to victimization of women. An article in one English-language newspaper wrote the following: *"Violence against women and children shoots up. The country in the last three months has experienced a wave of sexual abuse, rape, and other forms of violence which rights activists blame on impunity, perception about women, and the ubiquity of uncensored web content."*²³

The USAID Bangladesh Gender Assessment of 2010 reported: *"One in two women experience violence in the home. There is an increase in dowry-related violence against women. "Violence against women is a stark marker of inequality in power relations, with important implications for human rights and gender equality"*.

¹⁹ "Is gender equality a technical or political question?" Professor Marjorie Mbilinyi, The Citizen newspaper, Dar es Salaam, Aug. 2016.

²⁰ OECD Gender, Institutions and Development database 2014.

²¹ The Daily Star, October 31, 2016.

Five years on, the statistics have not improved. “The Violence Against Women Survey 2015”, conducted by the Bangladesh Bureau of Statistics found that 50% of women were ‘physically tortured’ while 27% experienced sexual abuse. During assessment discussions, one male retailer mentioned that women operating businesses in areas traditionally thought of as the reserve of men could expect to encounter aggression in the future if competition becomes too stiff. At least two women retailers voiced this concern as well. Some experts in Bangladesh discern a conflation of violence against women with the advancement of women in other arenas.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

In the larger context, there is independent, data-based evidence at the impact level that this project has contributed to moving the needle on women’s empowerment in Bangladesh, if within a small population base. As a setting for this discussion, we turn to a meta-analysis conducted by IFPRI in March 2016: “The Feed-the-Future Zone of Influence in Bangladesh Changes in Selected Indicators 2011-2015”. This report documents the ‘*remarkable progress*’ made by FTF projects in reducing poverty. There are indications that this progress is due to the results produced by the USAID Implementing Partners, which includes CNFA/AIP. The report singled out women’s empowerment gains: “Only 23% of women in the FTF ZOI were empowered at the baseline [2011]. In 2015, half in the ZOI were empowered. Women’s empowerment in agriculture improves dietary diversity, increases farmers’ income, and helps households move out of poverty. Therefore, promoting women’s empowerment should remain paramount to the FTF agenda to attain complementary development goals”.

Program Operations

- 1) ***The grants model succeeds as an entry point*** to bring selected women participants into the formal agricultural inputs sector. The criteria for qualification to the program minimized the risk of low achievement or failure among the corps of retailers. Surrounding the participants with multiple and diverse assistance networks reinforced their existing support foundations. It also closed gaps in the participants’ business and agricultural experience. Time will reveal the solidity and sustainability of the assistance, and whether independently the mentoring cascades and is replicated among all players.
- 2) ***Value for money remains to be proven*** as it is too early in the business life of most retailers to predict long-term success. The \$1,000.00 equivalent in-kind contribution represents only part of the overall investment, in terms of personnel, training, coaching, etc. The scope and scale of the businesses in a few years’ time will bear witness to the investment.
- 3) ***The establishment of women retailer outlets has facilitated women farmers’ access to agricultural inputs, credit, and advice.*** From a basic mobility perspective, the proximity of a women-run shop in the local community appears to have increased the number of women now purchasing their own inputs. The client monitoring logs should provide evidence of this

over time. Furthermore, women farmers are getting first-hand answers and advice on questions concerning their crops.

- 4) ***The nature and scale of the project model limits expansion.*** The agro-inputs retail sector has a saturation point based on market forces and trends. Competition is stiff, whether male or female, and success may not be an indicator or a result of ‘empowerment’ per se. Success may lie more in diversification of product lines, expansion into other businesses. If women endeavor into another arena, utilizing the skills they learned in their initial business ventures, this may signify real empowerment.

The WEAI Domains

- 5) ***The demonstration of ‘women’s empowerment’ through business achievement is clearly proven*** in this project, however, it appears to be singularly tied to the financial dimension of the women’s success. The value of women’s evolved self-agency is yet to be appreciated at the household level, which is where tradition still dictates gender and kinship constructs.
- 6) ***The program model addresses some WEAI domains*** more successfully than others. Access to credit, both for and by women retailers, certainly enhanced their ability to do business. Likewise, because they are seen as generating the revenue, they seem to have more control over this income insofar as they put some of it back into the business. Without a doubt, leadership and belonging to a group have significantly empowered these women, at least in the public space. Finally, the acquisition and application of new knowledge and skills in the agro-inputs realm has built a sense of self-confidence, as well as respect in their communities that could serve them well in other aspects of their lives.
- 7) ***Some WEAI domains present greater challenges.*** Bangladesh societal complexities and kinship constructs weigh in heavily where autonomy in decision-making, use and ownership of assets is concerned. As noted in the findings, women prefer to ‘maintain harmony’ as a trade-off to conflict and possible GBV were they to assert a prerogative on business decisions that may be counter to the collective household opinion. There is also little evidence that workload and leisure balance has evolved. These women are in a higher socio-economic bracket from women farmers, however their workload and stress level may be the same.
- 8) ***Greater freedom of movement*** is enjoyed by the women retailers, although it is yet to be tested outside of the necessities of business travel and interaction. Mobility is a critical factor in advancing along the continuum of empowerment for women.

A. Recommendations

This assessment was not intended to evaluate the program; rather it was to gauge the suitability of the agro-inputs model as a platform for promoting women’s empowerment, based on the domains of the WEAI. Recommendations were requested that give ideas for future grants programs and interventions in Bangladesh. The consultant qualifies these as within the context of the WEAI, given that the assessment did not do a full examination of the Agro-Inputs Project, or

of CNFA's complete portfolio and comparative advantages. The recommendations are formulated as *Do's and Don'ts*, with some intended to be beneficial during the life of the project.

Program Operations

- 1) Rigorously monitor and analyze the data on clients and purchases in the Champion Monitoring Logs, pushing for more depth of information from the retailers.
- 2) Orient the Champions and Mentors more overtly on the domains of women's empowerment; they will find suitable ways to incorporate this into their work with their mentees.
- 3) Promote greater use of mobile technologies by the women retailers. Encourage them to see the purchase and use of a smart phone as a business investment.
- 4) Actively promote and encourage women retailers to expand into mechanization products and services.
- 5) Conduct a Return on Investment (ROI) exercise at the time of the final evaluation, as a means of assessing value for money and how to increase that in other models. Include a way to find 'copy-cat' ventures in the ZOI or elsewhere.
- 6) Do more to track and document the network-building between DAE, private sector agro-business companies, and the women retailers. There may be potential for future PPP initiatives here.
- 7) If a duplicate project is under consideration, a different geographic area should be chosen to avoid market saturation.
- 8) Reduce the degrees of separation in daily operations – e.g., CNFA program staff through PNGO staff to beneficiaries. A tighter, more direct approach would return faster information for course correction, and generate faster results.
- 9) Avoid an overly prescriptive approach in a future grants model; allow for more creative business modelling.

Program Themes: Mobility, Mechanization, Money, and Mobile Technologies

- 1) **Mobilize the retailers, and expand the customer base.** Women constitute a large portion of small shareholder farmers in Bangladesh, and they represent a big untapped customer base for women retailers. Access to these customers remains a challenge. A program to cultivate this base would include networking skills, outreach, product diversification, and co-marketing with other types of services and organizations that have access to the customer base (health centres, micro-finance institutions, etc.). Activities would include regular and multiple field visits to women farmers, distributing sample products, suitable information materials, and 'mobile sales' right in the field. Retailers could also sell their bKash products in the field. To do this and be effective, freedom of movement must be promoted as a basic

requirement for economic success. Social and practical barriers to women's mobility should be examined and minimized – including child care options and flexible working arrangements.

- 2) **Introduce mechanization to diversify the product and services range and respond to demand.** Assist women retailers to identify and introduce a range of mechanized farm tools and implements for sale and/or rent. This would entail some market surveys, cost analysis, financing options, purchase, and delivery procedures. It could also include a repair service or partnering with a repair service. Women retailers would be trained to use the mechanized implements, so that they are able to train customers, in particular women farmers.
 - 3) **Link women retailers to loan services,** or possibly another round of grants making. Access to funds will result in have tangible results in business growth.
 - 4) **Develop and expand mobile technologies for agri-business** as an entry point for reducing the gender gap in access to mobile internet services overall. Explore partnerships with programs such as Connected Women/ Mobile for Development, mPower, and mAgri. Position women retailers as promoters and model users.
-

1. List of FGD and KII Participants



Agro-Inputs Project In Bangladesh
2nd Gender Assessment; October 2016

RECORD OF FGDS

Date: 25.10.16	FGD # 1	District: Batiaghata	Upazilla: Sukhdara Bazar
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 8	Age Range: 60+, 1(m)
	<i>Women farmers</i>	Number: 16	45-60, 25% 35-45, 35% 25-35, 38%

Date: 25.10.16	FGD # 2	District: Dumuria	Upazilla: Shovna
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 15	Age Range: 45-60, 33%
	<i>Women farmers</i>	Number: 6	35-45, 36% 25-35, 24%

Date: 25.10.16	FGD # 3	District: Dumuria	Upazilla: Shovna
Respondents	<i>Women retailers</i>	Number: 10	Age Range: over 25
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 26.10.16	FGD # 4	District: Khulna	Upazilla: Phultala
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 16	Age Range: 60+, 15% (m)
	<i>Women farmers</i>	Number: 4	45-60, 25% 35-45, 30% 25-35, 30%

* Age is significantly associated with women's empowerment: a greater percentage of women aged 26-55 were empowered, compared with those in younger or older age groups. *Bangladesh Development Studies*, Vol. XXXVII, September 2014, No. 3.

Date: 26.10.16	FGD # 5	District: Phultala	Upazilla: Jamira
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 7	Age Range: 60+, 21%
	<i>Women farmers</i>	Number: 12	45-60, 16% 35-45, 16% 25-35, 37%

Date: 26.10.16	FGD # 6	District: Dumuria	Upazilla: Shovna 2
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 14	Age Range: 60+, 17% (m)
	<i>Women farmers</i>	Number: 9	45-60, 30% 35-45, 35% 25-35, 17%

Date: 27.10.16	FGD # 7	District: Jessore	Upazilla: Rajgonj Bazar
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: @ 15	Age Range:
	<i>Women farmers</i>	Number: @ 5	<i>n/a – group grew and collapsed constantly.</i>

Date: 27.10.16	FGD # 8	District: Jessore	Upazilla: Rajgonj Bazar
Respondents	<i>Women retailers</i>	Number: 5	Age Range: over 25
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 27.10.16	FGD # 9	District: Jessore	Upazilla: Churamonkati
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 20	Age Range: under 50 all...
	Women farmers	Number:	Age Range:

Date: 27.10.16	FGD # 10	District: Jessore	Upazilla: Churamonkati
Respondents	<i>Women retailers</i>	Number: 4	Age Range: over 25
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 30.10.16	FGD # 11	District: Madaripur	Upazilla: Kendua
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 13	Age Range: 60+, 3 45-59, 5 35-45, 1 25-35, 3
	Women farmers	Number:	Age Range:

Date: 30.10.16	FGD # 12	District: Madaripur	Upazilla: Kendua
Respondents	<i>Women retailers</i>	Number: 5	Age Range: over 30
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 30.10.16	FGD # 13	District: Madaripur	Upazilla: Charbador Pasa
Respondents	<i>Women retailers</i>	Number: 4	Age Range: Under 30, 1
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 31.10.16	FGD # 14	District: Jalakhati	Upazilla: Nobogram
Respondents	Women retailers	Number: 5	Age Range: over 25
	Men farmers	Number:	Age Range:
	<i>Women farmers</i> (all Hindu)	Number: 21	Age Range: 45-60 = 4 35-45 = 5 25-35 = 3

Date: 31.10.16	FGD # 15	District: Jalakhati	Upazilla: Nobogram
Respondents	<i>Women retailers</i>	Number: 5	Age Range: over 25
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 01.11.16	FGD # 16	District: Agailjhara	Upazilla: Moddha Bakal
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 15	Age Range: 60+ = 5 45-60 = 8 25-35 = 2
	Women farmers	Number:	Age Range:

Date: 01.11.16	FGD # 17	District: Agailjhara	Upazilla: Moddha Bakal
Respondents	Women retailers	Number:	Age Range:
	<i>Men farmers</i>	Number: 15	Age Range: 60+ = 5 45-60 = 8 25-35 = 2
	Women farmers	Number:	Age Range:

Date: 01.11.16	FGD # 18	District: Agailjhara	Upazilla: Moddha Bakal
Respondents	<i>Women retailers, one Male</i>	Number: 4	Age Range: @ 30-45
	Men farmers	Number:	Age Range:
	Women farmers	Number:	Age Range:

Date: 01.11.16	FGD # 19	District: Agailjhara	Upazilla: Ashkor
Respondents	Women retailers	Number:	Age Range:
	Men farmers	Number:	Age Range:
	<i>Women farmers</i>	Number: @ 22	Age Range: 50+, 3 35-45, @ 9; < 35 @ 10

Date: 01.11.16	FGD # 20	District: Agailjhara	Upazilla: Ashkor
Respondents	<i>Women retailers</i>	Number: 3	Age Range: @ 35-45
	Men farmers	Number: 15	Age Range:
	Women farmers	Number:	Age Range:

Date: 02.11.16	FGD # 21	District: Amtoli, Barguna	Upazilla: Amargachia
Respondents	Women retailers	Number:	Age Range:
	Men farmers	Number:	Age Range:
	<i>Women farmers</i>	Number: 11	Age Range: 45-55, 4 35-45, 5 25-30, 2

Date: 02.11.16	FGD # 22	District: Amtoli, Barguna	Upazilla: Amargachia
Respondents	<i>Women retailers one Male</i>	Number: 4 women, 1 man	Age Range: @35-50
	Men farmers	Number: 15	Age Range:
	Women farmers	Number:	Age Range:

RECORD OF KIIs

#	Date	Name/Position	District	Upazilla
1	23.10.16	Alexis Ellicot, Director CNFA	Dhaka	Dhaka
2	23.10.16	Arpona Rani Ghosh, Comms Director, CNFA	Dhaka	Dhaka
3	23.10.16	Farhana Alam, Comms and PR Specialist	Dhaka	Dhaka
4	23.10.16	Zunaed Rabbani, AIRN Capacity Building, CNFA	Dhaka	Dhaka
5	24.10.16	Nazrul Islam, BDoA, Ag Extension Officer	Khulna	Dumuria
6	24.10.16	Nitya Ranjan Biswas Director, BDoA, Ext. services	Khulna, Bag/Sat.Khira, Nakail	Khulna
7	24.10.16	Banasree Bhandury Ashroy Foundation	Khulna	Khulna
8	24.10.16	Himel Sanjib Banchte Shekha	Khulna	Khulna
9	25.10.16	Shahanaz, Parveen CNFA Gender Focal Point, Grants Officer	Khulna	Khulna
10	25.10.16	Sawpana Mondal, Retailer	Khulna	Batiaghata
11	25.10.16	Sumi Mondal, Retailer	Khulna	Shovna, Dumuria
12	25.10.16	Abu Taher, Senior Marketing Officer, ACI	Khulna	Khulna
13	26.10.16	Rupa Khatun, Retailer	Khulna	Phultala
14	26.10.16	Sirina Begum. Retailer	Khulna	Jamira
15	26.10.16	Aklima Begum, Retailer	Khulna	Shovna, Dumuria
16	27.10.16	Mina Parvin, Retailer	Jessore	Rajgonj Bazar
17	27.10.16	Nazma, Retailer	Jessore	Churamonkati
18	30.10.16	Juthika Biswas, Retailer	Dhaka	Kendua
19	30.10.16	Nahida Akter, Retailer	Madaripur	Charbadar Pasa
20	31.10.16	Gouri Halder, Retailer	Jalalhati	Nobogram
21	31.10.16	Rahima Sultana Kajal Director, AVAS	Barisal	Barisal
22	01.11.16	Nilu Raha, Retailer	Barisal	Moddha Bakal
23	02.11.16	Saleha Begum, Retailer	Barguna	Amargachia
24	03.11.16	Anar Khalilov, Senior Food Security Advisor	USAID	Dhaka

2. AIP Program Staff Analysis



Agro-Inputs Project In Bangladesh
2nd Gender Assessment; October 2016

Rapid Assessment: AIP Staff Competency on Gender

As part of the Gender Assessment exercise, 31 AIP Program staff (23 males, 8 females) completed an 11-question checklist verifying their familiarity with key gender-oriented elements of the Agro-Inputs Project. The results are summarized here by question, with some observations.

1. Does the AIP M & E framework have sex-disaggregated data (SDD) for reporting?
28 respondents said yes, with some qualifications. Indicators that are population-based are SDD. As verified during visits to women retailer shops, client traffic is sex-disaggregated. How this information is used for planning purposes, or program analysis remains to be seen. M & E frameworks often have an accompanying 'key' for each indicator to describe what purpose that indicator should serve.

The USAID Feed the Future Monitoring System (FTFMS) Combined Master Data Sheet for PPR sets the SDD indicators to submit in required reporting by implementing partners, and these are numeric, rather than percentage-based. Furthermore, at the FTFMS level there is no mechanism for data comparison over time, nor any trends capture. Thus, much of the SDD information generated by implementing partners has no channel for transmission to USAID.

2. Does the AIP Business Ethics Policy have a reference to gender and/or women's rights?
27 respondents said yes, 1 said no, and 3 were unsure, including the Gender Officer*. The 'yes' respondents referenced the AIRN Code of Conduct, which asserts:

"AIP business ethics policy promotes women participation and engagement as well as mutual cooperation by AIRN members that is reflected in the AIRN Business Code of Conduct."

3. Can you explain what 'Provisional Membership' in AIRN covers?
25 respondents gave a description of the 'provisional membership', however about a third neglected to specify that this status is reserved for women retailers, as a entry point into AIRN membership. 3 respondents said 'no', and 3 were unsure, including the Gender Officer, who did not specify that this category is only for women retailers.

The divisions for membership status are an important feature of the AIRN system, for progressive development of its constituency, organizational management, and recruitment appeal.

4. Do all AIRN training outlines have gender references or gender-sensitive components?
28 respondents said yes, and 3 said no. They may be thinking that some modules are 'gender-neutral', teaching on purely technical points.

5. Are you involved with the Gender Lens Committee (GLC)?

* The response of the GO was actually yes, however the description provided was not accurate.

3 respondents are members or observers on the GLC, 2 men and 1 woman. Other members of the GLC include representatives of the partner NGOs. The consultant sent an inquiry to AIP members about the status of activities in the Y4 Gender Action Plan (GAP), and is awaiting news. On a related note, one AVAS female project officer was not aware of the GAP. The more staff that are aware of the actual plan, the likelier that benchmarks will be met.

6. Please list the domains of the WEAL.

17 respondents listed the five domains: (*Control over*): *Decisions on business/production choices, resources (control over assets), control over (use) of income, leadership, and time (allocation, workload)*. 4 did not list time, and 2 male respondents could not list any domain.

AIP staff might review their understanding of the five domains, as each contains a simple formula for turning the somewhat amorphous challenge of ‘empowerment’ into actionable, descriptive categories. In particular, a better understanding of Domain 3: Leadership would reveal that group membership is easily measurable, and almost always growing. Not all women retailers will become leaders, however they can all become members of AIRN.

7. Can you give an estimate of the % of ‘women-focused’ dollars (in the program, not operating or admin costs) in AIP?

22 respondents took on the challenge; 4 could not, and 5 were unsure of what this meant. The question was intended to draw attention to the possibility of quantifying the gender dimension in a financial capacity, thus gaining further traction. The ‘yes’ respondents by and large identified the 1000 usd, or 10%, or 300,000 usd reserved for the women retailers. One respondent⁺ grasped the deeper intention of the question, and listed a number of other, quantifiable investments such as the local and international study tours for 14 women retailers, and more significantly, the value of contracts with three women headed local NGOs and their six staff members.

8. Did/does the AIRN media campaign have a clear gender lens in its messages?

24 respondents provided examples of gender messaging; 2 stated that there was no clear gender lens in the messaging; 5 were unsure. Examples included featured success stories of women retailers, TV shows, and posters with a special mention of the nutrition poster.

The nutrition poster offers a special lesson. The message about “*Nutritious food is all around you, and at low cost*” may actually be directed to men. A study conducted by SPRING Bangladesh¹ revealed that in at least some regions of Bangladesh, men do the marketing and food purchases – and their choices are made with an eye for economy.

9. How many female retailers are **now** engaged with AIP/AIRN? What is the expected % of female participation in AIP through the grants program?

30 respondents provided an answer here. Responses ranged from 150, 152, 164, 175, to 185 **now engaged**. The expected level of female participation ranged from 200 to 300, or 6.7-10%.

For consistency in messaging, all respondents should know the current number of participants and the revised target.

⁺ Syed Mohammad Huq.

¹ “Market Purchase Motivations among Men in Rural Khulna, Bangladesh”: a qualitative study. SPRING Bangladesh, July 2014.

10. What are the key messages in the Nutrition Poster that was produced to appeal to women?

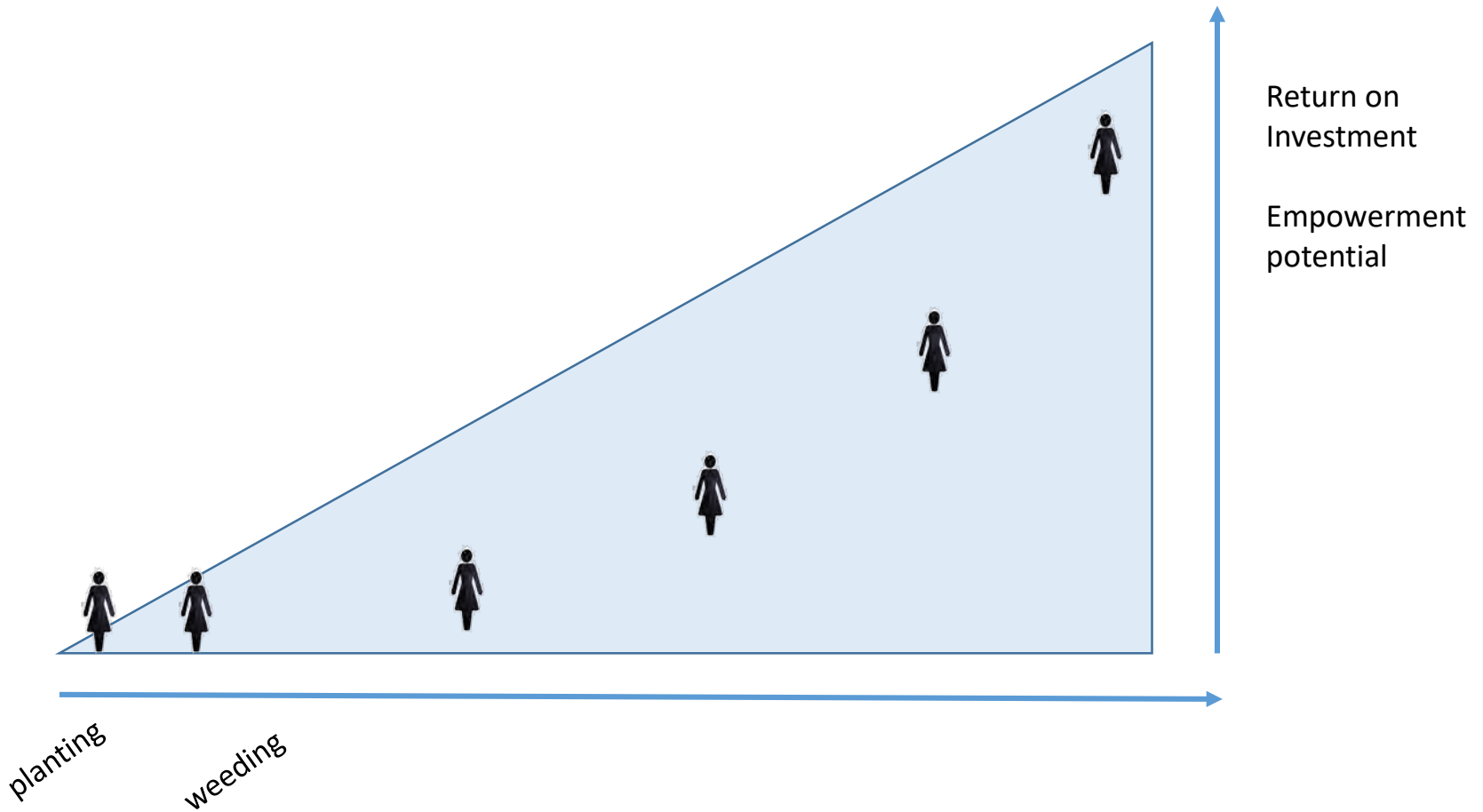
28 respondents provided examples of the key messages, 1 did not respond, and 1 was unsure. The majority identified the message flow “*nutritious food at low cost.*” Other elements were listed, including quality seed purchases from AIRN retail shops, and the importance of good nutrition for children.

11. Considering the agriculture value chain, where do you think women should go next to gain more position and profitability?

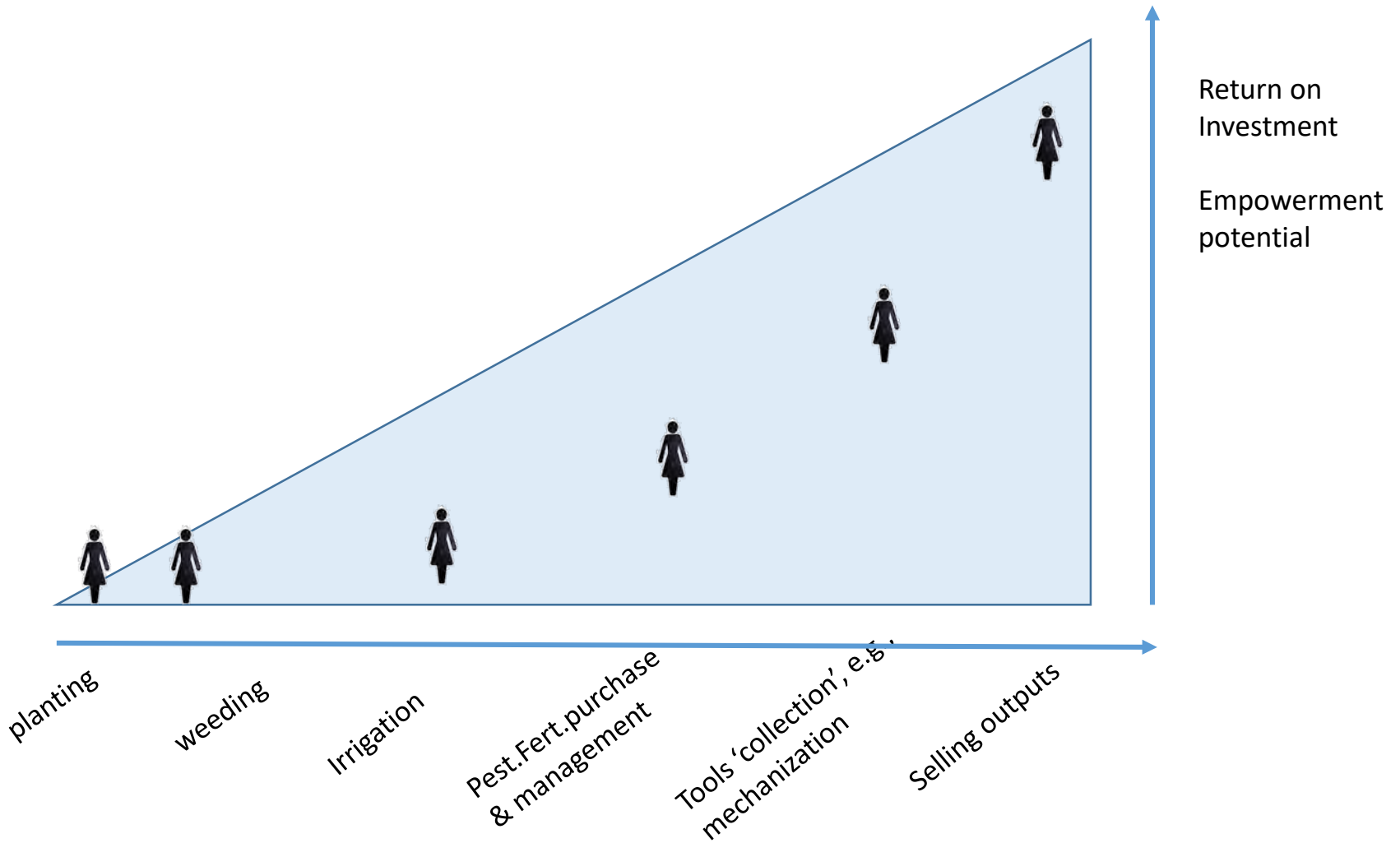
Respondents had the opportunity to provide some suggestions and input here. The question was articulated to focus on the value chain, implying an understanding of what this term means. Respondents gave thought to this, and some trends emerged:

- Get involved in mechanization – buy/sell, rent, etc.
- Take on leadership positions in AIRN
- Progress through training programs, to become trainers
- Develop networks, especially with government and private sector parties
- Become input dealers.

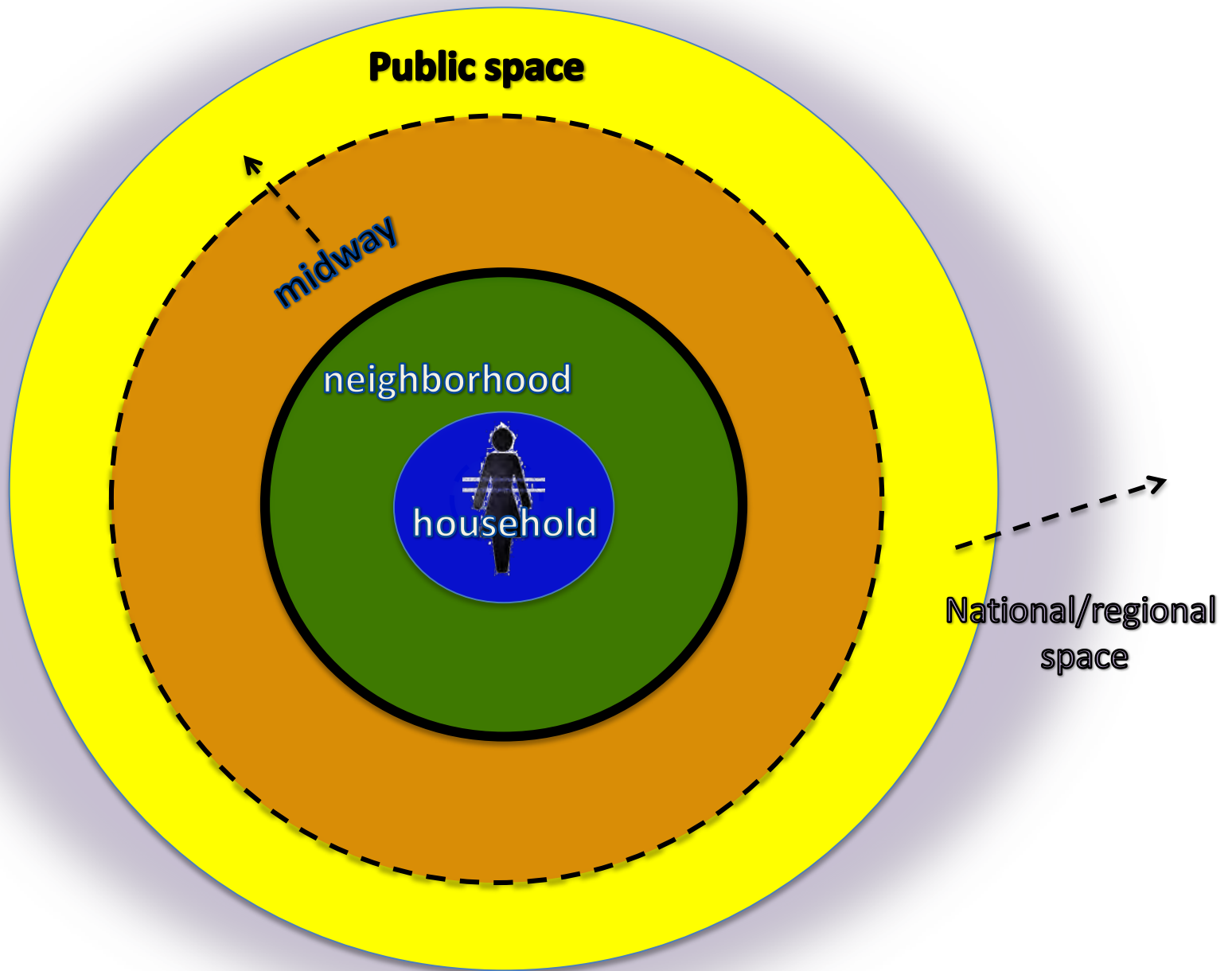
3. Tools and Instruments



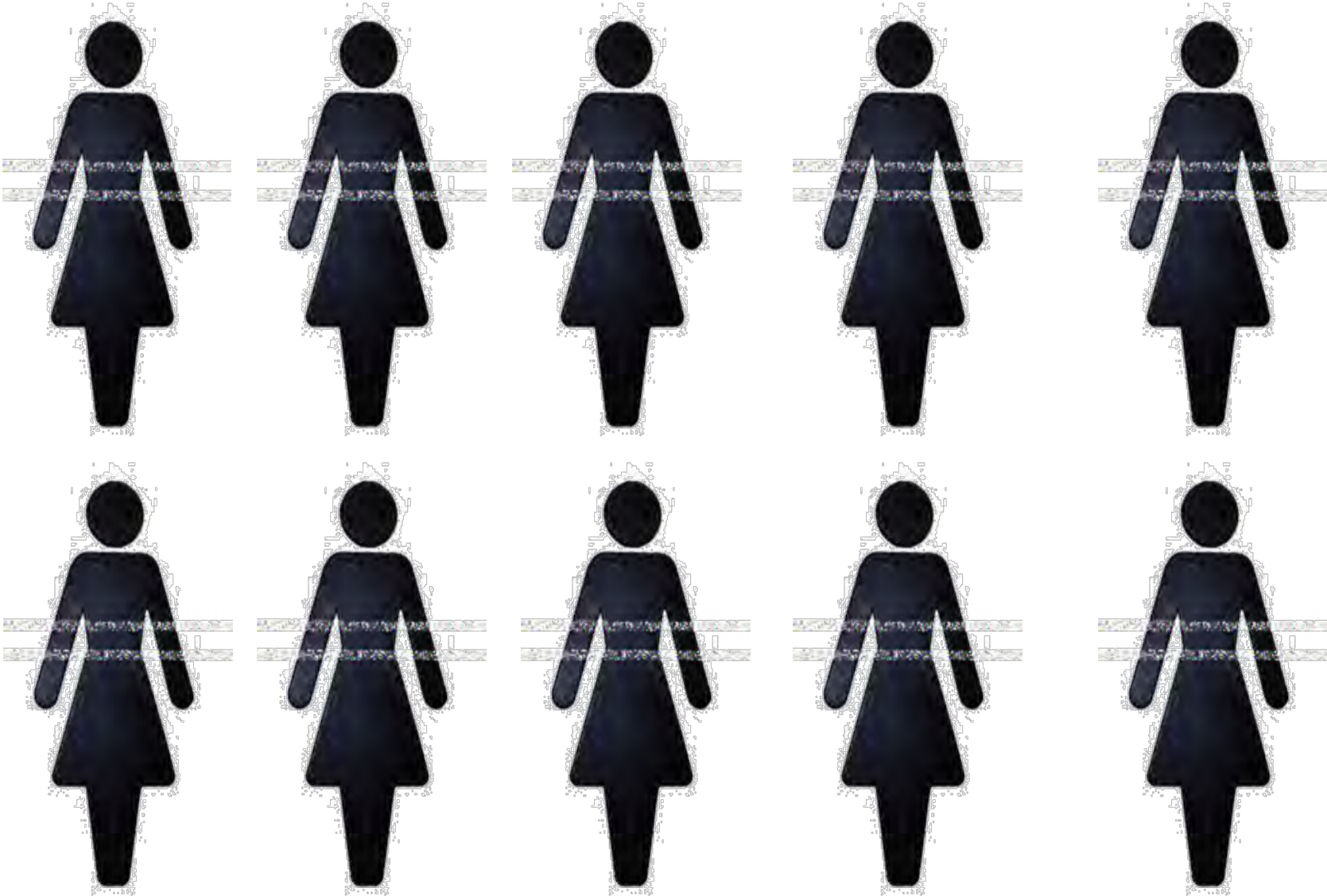
Agricultural activities – knowledge & skills value chain continuum



Agricultural activities – knowledge & skills value chain continuum



REPRODUCE 3 PAGES – CUT OUT SAMPLES TO USE IN FGDS



FGD Assessment Exercise: *“Agree><Disagree”*

Members of FGDs will be asked to stand up, and place themselves along a line. They are instructed that if they agree with a statement that is read out, they should step forward one step. If they disagree, they step back. One or two persons are asked to explain their choice.

- 1) ***“In 1 year from now, women will go to the market unaccompanied.*”**
- 2) ***“In 2 years from now, women will have bank accounts in their own name.”***
- 3) ***“In 5 years from now, women will have land in their own name.”***
- 4) ***“In 1 year from now, women will have more access to mobile technology for information on agriculture, health, education.”***

**FOCUS GROUP DISCUSSION GUIDE:
MALE FARMERS**

INTRODUCTION (Use as standard explanation. Adapt/simplify language as necessary).

*“CNFA is the lead implementer of the project “Agro-Inputs Project in Bangladesh”. You might know this activity through the AIRN network **SHOW LOGO**. You might have participated in trainings such as how to use pesticides, and/or field days and demonstration plots. You might also know about these activities from the radio promotions, or large billboard signs. You might even have received some SMS messages, or a visit from an agro-input retailer. You also know that women have been brought into the agro-inputs sector, both as retailers and as clients. We would like to discuss whether you see changes in women’s ability to improve their own status and their family’s welfare because of this program.”*

IS THIS CLEAR TO YOU? WHO CAN REPEAT WHAT I HAVE SAID, TO MAKE SURE YOU ALL UNDERSTAND...

1. Production - Input on production decisions, autonomy in production.

- Our past research shows that men do most of the purchasing of seed, fertilizer, and pesticides for the farm. Since you have been involved in AIRN **which has an emphasis on bringing women into the sale of inputs, and also decision-making for family farming**, have you noticed any changes with regard to women making decisions about farm production – such as types of crops, when to plant, buying inputs?
- Now that there are more women input retailers, do you believe this has changed women’s access to inputs? How so? **[probe]**
- One main challenge that women customers seemed to face was the size of input packages – they are too big for women to transport. What do you see as the problem here? Big packages, or not being able to arrange transport for the packages? Or is it still the idea that a woman shouldn’t go to market by herself?

2. Control of Resources: ownership of assets, purchase, sale or transfer of assets. Access to and decisions on credit.

- Since you have been participating in the AIRN network, have you thought about whether women can own their own assets – land, animals, equipment, etc. – and decide how to manage them – sell, etc.? What are your thoughts on this?
- Has your household recently sold any assets (not inputs products) – and if so, how did you decide to do this? **[suggest – jointly or individually. Or not included].**
- Let’s talk about credit – getting credit, and deciding how to use it. Do you know of any women who have gotten credit to use for farming or farm business? How easy or hard is it for them to get this?

3. Control over income: sole or joint control over income and expenditures

- Talk about what you do with the income from your crops; how do you decide what to spend it on – and who do you discuss this with?
- What are your priority purchases when the money comes in from your harvest? Would you say there is a difference in the type of purchases you make and what purchases a women with her own money would make? **[probe]**

4. Leadership: Group member, speaking in public

- Our research shows that men generally don't become members of a group, or an association primarily because they are not interested. Research also shows that women participate more in groups. What do you think groups offer women that they don't offer to men?
- Since you have been in training on farming practices, alongside women, can you comment on whether women are speaking up more and taking on leadership roles?

5. Time: workload and leisure.

- Time for work and time for relaxing – do you feel you have enough for both?
- What do you notice about women's time for work and for relaxing?

6. Access to knowledge and skills.

- Talk about the new knowledge and skills you have acquired since you have been participating in training, demo plots, field days, hearing radio messages, SMS – what impact has this had on your self-esteem?
- Do you feel the training you have received is equal to *"being more educated"*?

7. Access to technology: ownership of own cell phone, access to electricity, mechanization (irrigation in particular).

- Talk about the changes you have experienced in farming since you have been using your cell phone to get information – **SMS, bulletins, etc.**
- Talk about demonstrating new methods for using fertilizers and pesticides – what do you gain from this?
- Other technologies that have come to you since you have been involved in the new farming practices? [**suggest – access to electricity, seeding machines, irrigation mechanics, etc.**]
- Do you feel that women have the same access as you to technologies – like farm mechanization, using cell phones to get market information, irrigation systems, etc.?

Do you have any other comments to share about changes in your life and livelihood since you have been able to purchase inputs and participating in the improved farming practices?

Thank you very much for your time and thoughts! Best wishes for the future!

FOCUS GROUP DISCUSSION GUIDE: **WOMEN RETAILERS & FARMERS**

INTRODUCTION (Use as standard explanation. Adapt/simplify language as necessary).

FOR USE WITH WOMEN RETAILERS:

“CNFA is the lead implementer of the project “Agro-Inputs Project in Bangladesh”. You may know this activity through the AIRN network **SHOW LOGO**. Through this project, women have been given opportunities to get involved in the agricultural inputs retail sector. CNFA and AIRN believe that the ag inputs business is a very suitable sector for women to earn income and secure their family’s future. There are some areas in your lives that have to grow and be developed in order for this happen. We would like to discuss with you, **if and how** being involved in the business of managing and selling ag inputs has helped you to do this (**earn income and secure family’s future**). Please keep in mind what your life was like before being involved in the ag inputs business, so we can make some comparisons”.

IS THIS CLEAR TO YOU? WHO CAN REPEAT WHAT I HAVE SAID, TO MAKE SURE YOU ALL UNDERSTAND...

1. Business Development - Input on decision-making in the agro-inputs business; autonomy in business development.
 - How are decisions made that concern your inputs business? Give examples of a decision that you made on your own. **Give an example of a proposal you initiated with your partner and he agreed.**
 - Has the ability to be more involved in decision-making on your business also improved your involvement in decisions in other areas of your household? Please give examples. **[suggest – children/girls’ education, purchases, health care, mobility].**
2. Control of Resources: ownership of assets, purchase, sale or transfer of assets. Access to and decisions on credit.
 - Since you have been in business, have you made some major purchases in your own name, and which belong to you alone? **Give examples.**
 - How does it feel to be the owner of such things now?
 - Has your household sold any assets (not inputs products) – and if so, how did you decide to do this? **[suggest – jointly or individually. Or not included].**
 - **[Ask for examples of sale or purchase of assets. Poll if others have this same experience.]**
 - Talk about credit – getting credit, and deciding how to use it. The portion you had to provide **[50/50]** – is that credit in your name? How do you feel now about taking credit – the risks and the opportunities?
 - Since the time you have built up your assets, are you still able to keep these under your own control? Is anyone else managing your assets? If so, how did it happen that these assets moved out of your control?
3. Control over income: sole or joint control over income and expenditures
 - Talk about what you do with the income from your business; how do you decide what to spend it on – and who do you discuss this with?

- Are there things or services you purchase now that you didn't purchase before the business? [suggest – school books, clothes, animals, health care or medical products].
 - How does having more income influence the ways you spend money, and the people who are involved in spending this money?
4. Leadership: Group member, speaking in public
- Talk about being a member of a group – social or credit, or education group. What difference does being a group member made in your daily life?
 - Have you spoken out [either at home or in public] about a topic that previously would have been “too risky” for you, or because you didn't think your opinion was important? Give examples if possible.
5. Time: workload and leisure.
- Talk about how you now organize your time; what consumes most of your time now compared with before your business?
 - How has your business influenced the time you spend on domestic tasks? [cooking, cleaning, child care, etc.]
 - How satisfied are you with the way you spend any extra time you have for just yourself?
6. Access to knowledge and skills.
- Talk about the new knowledge and skills you have acquired since you started your business – what impact has this had on your self-esteem?
 - Do you feel the training you have received is equal to *'being more educated'*?
 - How do you now compare your knowledge and skills achievements with men you know?
7. Access to technology: ownership of own cell phone, access to electricity, mechanization (irrigation in particular).
- Talk about the changes you have experienced in your business since you have been using your cell phone for business purposes – SMS, bulletins, etc.
 - Talk about demonstrating new methods for using fertilizers and pesticides – what do you and your clients gain from this?
 - Other technologies that have come to you since you have been involved in the business? [suggest – access to electricity, seeding machines, irrigation mechanics, etc.]

Do you have any other comments to share about changes in your life and livelihood since you have become an ag inputs retailer?

Thank you very much for your time and thoughts! Best wishes for the future!

FOR USE WITH WOMEN FARMERS:

*“CFNA is the lead implementer of the project “Agro-Inputs Project in Bangladesh”. You might know this activity through the AIRN network **SHOW LOGO**. You might have participated in trainings such as how to use pesticides, and/or field days and demonstration plots. You might also know about these activities from the radio promotions, or large billboard signs. You might even have received some SMS messages, or a visit from an agro-input retailer. We would like to discuss with you, **if and how** getting access to information and to agro inputs, as well as new knowledge and skills, has improved your ability to manage your crops and the income you receive from them. Please keep in mind what your life was like before getting access to inputs. and and new knowledge and skills so we can make some comparisons”.*

IS THIS CLEAR TO YOU? WHO CAN REPEAT WHAT I HAVE SAID, TO MAKE SURE YOU ALL UNDERSTAND...

1. Production - Input on production decisions, autonomy in production.

- How has your training, participation in demonstration plots and field days, new information from SMS or radio – influenced your role in making decisions in your household on what crops to plant?
- How do you feel now about your participation in making those decisions?
- Now that there are women input retailers that you can go to, what if anything has changed in your ability to manage your farming?

2. Control of Resources: ownership of assets, purchase, sale or transfer of assets. Access to and decisions on credit.

- Since you have been participating in improved farming practices, have you made some major purchases in your own name, and which belong to you alone? Give examples.
- How does it feel to be the owner of such things now?
- Has your household sold any assets (not inputs products) – and if so, how did you decide to do this? [suggest – jointly or individually. Or not included].
- [Ask for examples of sale or purchase of assets. Poll if others have this same experience.]
- Talk about credit – getting credit, and deciding how to use it. Since you have been participating in improved farming practices, have you taken credit in your own name? How do you feel now about taking credit – the risks and the opportunities?

3. Control over income: sole or joint control over income and expenditures

- Talk about what you do with the income from your crops; how do you decide what to spend it on – and who do you discuss this with?
- Are there things or services you purchase now that you didn't purchase before your crop production improved? [suggest – school books, clothes, animals, health care or medical products].
- How does having more income influence the ways you spend money, and the people who are involved in spending this money?

4. Leadership: Group member, speaking in public

- Talk about being a member of a group – social or credit, or education group. What difference does being a group member make in your daily life?
- Have you spoken out [either at home or in public] about a topic that previously would have been “too risky” for you, or because you didn't think your opinion was important? Give examples if possible.

5. Time: workload and leisure.

- Talk about how you organize your time; what consumes most of your time now?
- How has your business influenced the time you spend on domestic tasks? [cooking, cleaning, child care, etc.]
- How satisfied are you with the way you spend any extra time you have for just yourself?

6. Access to knowledge and skills.

- Talk about the new knowledge and skills you have acquired since you have been participating in training, demo plots, field days, hearing radio messages, SMS – what impact has this had on your self-esteem?
- Do you feel the training you have received is equal to *“being more educated”*?
- How do you now compare your knowledge and skills achievements with men you know?

7. Access to technology: ownership of own cell phone, access to electricity, mechanization (irrigation in particular).

- Talk about the changes you have experienced in farming since you have been using your cell phone to get information – SMS, bulletins, etc.
- Talk about demonstrating new methods for using fertilizers and pesticides – what do you gain from this?
- Other technologies that have come to you since you have been involved in the new farming practices ? [suggest – access to electricity, seeding machines, irrigation mechanics, etc.]

Do you have any other comments to share about changes in your life and livelihood since you have been able to purchase inputs and participating in the improved farming practices?

Thank you very much for your time and thoughts! Best wishes for the future!

KEY INFORMANT INTERVIEW GUIDE: WOMEN RETAILERS

INTRODUCTION

“ You have been active as a retail seller for Agro Input products, and you are a member of the AIRN network **SHOW LOGO**. CFNA and AIRN believe that the ag inputs business is a very suitable sector for women to earn income and secure their family’s future. There are some areas in your lives that have to grow and be developed in order for this happen. We would like to discuss with you, **if and how** being involved in the business of managing and selling ag inputs has helped you to do this (**earn income and secure family’s future**).

IT WILL TAKE ABOUT 30-40 MINUTES OF YOUR TIME. I WOULD LIKE TO RECORD OUR CONVERSATION SO THAT I DON’T MISUNDERSTAND ANYTHING YOU SAY. DO YOU AGREE TO TALK WITH ME?

1. Business Development - Input on decision-making in the agro-inputs business; autonomy in business development.
 - How are decisions made that concern your inputs business? Give examples of a decision that you made on your own. **Give an example of a proposal you initiated with your partner and he agreed.**
 - Has the ability to be more involved in decision-making on your business also improved your involvement in decisions in other areas of your household? Please give examples. **[suggest – children/girls’ education, purchases, health care, mobility].**
2. Control of Resources: ownership of assets, purchase, sale or transfer of assets. Access to and decisions on credit.
 - Since you have been in business, have you made some major purchases in your own name, and which belong to you alone? **Give examples.**
 - How does it feel to be the owner of such things now?
 - Has your household sold any assets (not inputs products) – and if so, how did you decide to do this? **[suggest – jointly or individually. Or not included].**
 - **[Ask for examples of sale or purchase of assets. Poll if others have this same experience.]**
 - Talk about credit – getting credit, and deciding how to use it. The portion you had to provide **[50/50]** – is that credit in your name? How do you feel now about taking credit – the risks and the opportunities?
 - Since the time you have built up your assets, are you still able to keep these under your own control? Is anyone else managing your assets? If so, how did it happen that these assets moved out of your control?
3. Control over income: sole or joint control over income and expenditures
 - Talk about what you do with the income from your business; how do you decide what to spend it on – and who do you discuss this with?
 - Are there things or services you purchase now that you didn’t purchase before the business? **[suggest – school books, clothes, animals, health care or medical products].**

- How does having more income influence the ways you spend money, and the people who are involved in spending this money?
4. Leadership: Group member, speaking in public
- Talk about being a member of a group – social or credit, or education group. What difference does being a group member made in your daily life?
 - Have you spoken out [either at home or in public] about a topic that previously would have been “too risky” for you, or because you didn’t think your opinion was important? Give examples if possible.
5. Time: workload and leisure.
- Talk about how you now organize your time; what consumes most of your time now compared with before your business?
 - How has your business influenced the time you spend on domestic tasks? [cooking, cleaning, child care, etc.]
 - How satisfied are you with the way you spend any extra time you have for just yourself?
6. Access to knowledge and skills.
- Talk about the new knowledge and skills you have acquired since you started your business – what impact has this had on your self-esteem?
 - Do you feel the training you have received is equal to ‘being more educated’?
 - How do you now compare your knowledge and skills achievements with men you know?
7. Access to technology: ownership of own cell phone, access to electricity, mechanization (irrigation in particular).
- Talk about the changes you have experienced in your business since you have been using your cell phone for business purposes – SMS, bulletins, etc.
 - Talk about demonstrating new methods for using fertilizers and pesticides – what do you and your clients gain from this?
 - Other technologies that have come to you since you have been involved in the business? [suggest – access to electricity, seeding machines, irrigation mechanics, etc.]

DO DIAGRAM WITH CIRCLE OF EMPOWERMENT.

Do you have any other comments to share about changes in your life and livelihood since you have become an ag inputs retailer?

Thank you very much for your time and thoughts! Best wishes for the future!

KEY INFORMANT INTERVIEW GUIDE: **Gov't. and Private Sector Partners**

INTRODUCTION

“CFNA is the lead implementer of the project “Agro-Inputs Project in Bangladesh”. The project has a significant component that focuses on engaging women in the retail sector to manage and sell agricultural inputs. This type of activity offers all the avenues for women to greater empowerment and self-agency in line with recognized channels: 1) decision-making, 2) control of resources/assets, 3) control over income, 4) group participation and opportunities for leadership, 5) time management, 6) access to knowledge and skills, and 7) access to technology. The AIP project is conducting this assessment to analyse changes in perceived empowerment among women retailers and small farm holders; perceived changes in empowerment of women by male retailers, and possible implications for decreases in poverty. As a partner, you have observed and participated with AIP/AIRN, and your input is highly valued”.

QUESTIONS: Please answer those questions that you feel are within your range and in line with your association with the project.

Context

- 1) Please explain how you have been involved with the AIP/AIRN: associated via GoB, contracted partner, advisor, etc.
- 2) If possible, comment on the quality of collaboration you have had with the project, in terms of information sharing, participatory planning, consultative processes, and any other form of cooperation.
- 3) Please describe what you know about the Grants Program – who are the intended beneficiaries? How does it work? What is 'granted'? What are the specific elements/components?

Relevance

- 1) In line with your familiarity with women's conditions in Bangladesh, and progress toward empowerment, how do you see AIP/AIRN contributing to the future improved situation for women?

Effectiveness

- 1) Compared to where women retailers [and farmers] were before AIP/AIRN was operational, how do you feel their knowledge, skills, and capacities have been developed to address future challenges and opportunities? Can you say – “**basic skills, better-than-average, very well prepared...**”? Can you provide one example?
- 2) Compared to how communities perceived the role of women in agriculture [production, retail, - the whole value chain] the program began, where is the general opinion now? Can you provide one example? Have there been any unforeseen positive or negative results?
- 3) You may know that the grants mechanism is a 50/50 match – with a cap at \$1000 from AIP, and which is provided “in-kind”. What do you think of this approach – with no cash transfer? Are there other approaches that you feel might be more effective?

Impact

- 1) Please comment on how you perceive the impact of the AIP/AIRN actions with women [retailers and farmers]. Are you familiar with the so-called 'Domains of Empowerment?' If so, discuss your perspective of how AIP/AIRN is contributing to these domains. [If not, cite each one and ask about how AIP/AIRN is addressing them].
- 2) Can you name one element in particular in the realm of women's rights/agency that has changed due to the project's actions? Please give details.

Challenges

- 1) From your perspective, what might be the upcoming challenges for women retailers as they continue to grow their businesses? Upcoming challenges for women farmers themselves?

Lessons Learned

- 1) Can you identify an event, situation that really challenged the grants program – how they overcame it, and what did you learn from it?

Thank you for your opinions and comments. They will be carefully reviewed and will contribute to the information for making the best assessment of the project possible.

Master Plan: Assessment Activities

	Inquiry Activity	Target Group	Location/level
1	FGDs, empowerment circle, self-assessments	Women retailers	District, upazilla
2	FGDs	Women farmers	Upazilla
3	“Case Study – Life History”	Member of #1	
4	FGDs	Men farmers	Upazilla
5	KII	Government service providers	District
6	KII	Project partners – NGOs, PS	District
7	KII	AIP Grants team	District
8	Checklist	AIP staff	All

NEW QUESTION DIRECTIONS: FGDS... OCTOBER 30, 2016

Farmers:

- Continue asking about women and farming – land and use choices...
- Continue asking about what to plant; is nutritious food for the home ever a consideration?
- Ask about women purchasing inputs; association between knowledge of planting, weeding, harvesting – and knowing what inputs to use.
- Ask women about what pesticides they use/purchase – how do they know?
- Ask about use of income... choices of food purchases. Who makes the purchases? Do women know the prices of foods – rice, lentils, vegetables, fruit. [SHOW POSTER].
- Pursue the use of income--- after food, what? Male/female priorities.
- HH resources – large assets, who decides to buy? Who actually “owns”?
- What do women actually own?
- Pursue credit... women ever take credits/loan in their own name?
- Group participation – what are the advantages?
- Women in business: they see women in businesses? What are examples of ‘women’s business’? Is there any type of business that women really shouldn’t do?
- Women in agro input business – is this business for all women? Why/why not?
- Discuss the woman retailer business in their community...initial reaction, features of the business, chances for success, changes/improvements to make.
- What is the future for women in Bangladesh? What are your concerns about women changing roles? [fear of power shifts, lack of harmony in the home...]

Retailers:

- Get their profile... background.
- What reaction from the local community? Press on this... resistance, hostility...suspicion?
- Who in the community was favorable to your new venture? Who was in your support circle?
- Is the shop in your own name? Is the land of the shop...? Any chance that the landowner could decide to take over...?
- Income from your business – are you the primary manager? What are the priorities for spending? Any examples when your income was required by others for something not of your choosing?
- Taking a credit for the business – you plan this? Alone?
- AIRN and program: new approach to doing business from what you knew before? What aspects of your life have been affected?
- What changes in the family dynamic?
- Future plans?
- What is the future for women in Bangladesh?

4. Observations on the First Gender Assessment

OBSERVATIONS ON THE FIRST GENDER ASSESSMENT

CNFA, October 2016

A. Objectives and Purpose

The first gender assessment explored the situation of women in the project's target areas as it related to mobility, access to and use of inputs, asset use, and participation in the inputs retail sector. It was composed of a selective population questionnaire, Focus Group Discussions (FGDs), Key Informant Interviews (KII), a Case Study, and an adapted Women's Empowerment in Agriculture Index (WEAI) exercise. The specific objectives of the initial gender assessment included the following:

- 1) Identify the current degree of participation of women and men in the agricultural inputs sector- as farmers and retailers- in the Feed-the-Future (FTF) regions of the southern delta of Bangladesh.
- 2) Identify specific actions AIP can take to address the primary constraints facing women in the agricultural inputs sector in target areas of the project and how to address constraints to women's access to and use of safe, quality agricultural inputs.
- 3) Adapt the WEAI to the particular context of women-owned agricultural input retail shops to assess changes in empowerment following program interventions.

The purpose of the assessment was to identify appropriate AIP interventions that integrate the findings on these issues into program objectives, activities, and indicators. A review of this foundational document offered up some observations that may have bearing on how to proceed with the 2nd Gender Assessment inquiry.

B. Basic Data: some revised interpretations

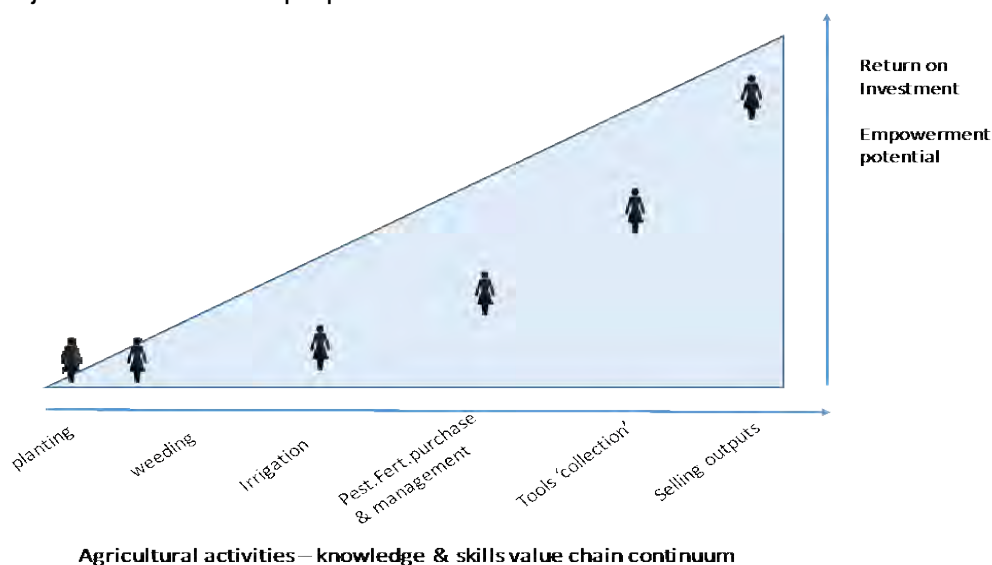
1. Tallies of women-owned agro-input retailers (p.13 - fixed and mobile sellers) came to 257, which is not inconsiderable. Added to this were 222 women *interested* in the inputs business. Yet, the conclusions (p. 41) state "... *there is currently very little women's involvement in the agricultural inputs sector – informal basis, limited to the sale of seeds, out of a woman's home...*" This is misstated, as the actual question and response (p.13) identifies 257 **mobile retailers**, e.g., moving out of her home, as distinct from **home-based**.
2. A key takeaway from the FGDs is not supported by any evidence in the results section: "*Male retailers could serve as mentor for prospective female retailers*" (p.24). In fact, the observations shared by male retailers would suggest that they themselves need more guidance (p.23). There is no information to suggest that male retailers a), work with a business plan, b), maintain business accounts, or c) know of opportunities for support from the government or NGOs.
3. The results on decision-making roles (p. 10) from the survey should have been the source of probing the same topic in the FGDs (p. 22). Instead of deepening the discussion using the data whereby women declared they were involved in making decisions (average 47%), the FGDs concluded that "**most women in the discussions noted that male family members traditionally are the ones who determine which inputs and resources are needed [] although women may make suggestions.**"
4. There may be an erroneous calculation in the WEAI results. On p. 35, the narrative states that "*women of Narail and Khulna are considerably less empowered than the women of Patualhali, Barisal, Jessore and Bagerhat*". Yet the graphic shows just the opposite. This is cause for some concern, as the conclusion is to design program

activities by area in consideration of the results based on location. To reinforce the narrative and not the graphic, IFPRI reports that Barisal has the highest women's empowerment, although the second lowest income¹.

5. The formulation that *“the greatest contributor to men’s disempowerment is lack of leadership”* (p.34) is misleading. The actual domain is **‘access to leadership roles’** and the index indicator is **group member**. A reduction to ‘lack of leadership’ doesn’t accurately reflect the differences between the way men and women operate - generally singularly, or more collectively – respectively.
6. A conclusion (p.41) states – *“In addition, women’s lack of autonomy in spending decisions may inhibit women from accessing inputs on their own”*. This is not supported either by the data on how much spending autonomy a woman has (p.10, p.14, p.34), or by the reasons they do not access inputs, which is outlined in Table 7., p.13.
7. Another conclusion states – *“Although men may be responsible for decision-making regarding purchase of inputs for a household, their purchases are likely to be more focused on agricultural production for commercial purposes – not necessarily focused on the need for more crops being grown by women for household consumption (i.e., household vegetable gardens)”*. Nowhere in any of the surveys, FGDs, KIs was there any question or results about what men purchase or what crops women are growing.

C. Missed opportunities for deeper data interpretation and recommendations

1. The level of participation by gender in defined agriculture activities (p.9) contains potential information regarding how and where women are involved in the value chain. By definition, certain agricultural activities are further along the VC, and involve greater responsibility as well as generate greater rewards (assets, revenue, ROI). There are even correspondences to the WEAI domains. In some cases, women operate at an equal or greater rate in a VC domain which has significant empowerment potential. In other cases, some activities imply pre-access to training and mechanization, which favor men over women. By plotting women’s engagement in the ag activities along the VC, the assessment could have developed a progress continuum to track over the life of the project. For illustrative purposes:



¹ Bangladesh Assessment of Food Security and Nutrition Situation, data from 2012. Reported in COMPACT 2025, May 2016, Akhter Ahmed, IFPRI.

2. The GA 2013 frequently cited 'illiteracy' as a constraint and drawback to women's involvement in agricultural inputs retail services. 19% (29/156) of the female survey respondents were illiterate. Subsequent approaches to training and materials development were likely influenced by this statistic. However, 81% (127/156) of the respondents have at least a primary school education. A recommendation could have been to a), capitalize on this promising foundation, and b), dispel the prevailing assumption that most women are illiterate. Instead, recommendations concentrate on the 19% illiterate base.
3. This conclusion was repeated in the section on matching grants (p.38). Follow-on reports from IFPRI Bangladesh² WEAI concluded that schooling is a factor in increased income of farmers - and subsequent progress out of poverty. Because AIP did not 'catch' this factor, it loses an opportunity to attribute success to good profiling, and may also find that it has miscalculated on its training materials and approach.
4. As noted in B.1, mobile retailers are out there. There might have been a recommendation directed to building up this fledgling beneficiary base.
5. The responses to statements on autonomy and mobility were more in favor of women having agency than not (p.14). Six out of eight statements were favorable to women's agency by both men and women. Yet this pattern was neither highlighted in the takeaways or formulated in the recommendations as 'low-hanging fruit' on which to build, reinforce existing positive behaviors.
6. The reasons why women don't visit input retailers are not analyzed in a way that matches the proposed solutions. In some sections, the conclusion is that women can't go alone to the markets, yet the FGDs offer that men farmers feel *"more female retailers would increase women's mobility to the market"*. This misses the mark, as getting to the market appears to be the main constraint – and even this is not flushed out satisfactorily. A recommendation might have been to explore this further to determine if it is more a question of social norms, or is it a real concern for women's safety and security given the prevailing level of violence against women in Bangladesh. The type of intervention would be significantly different.
7. Under the reasons for **Not belonging to a Group**, the most prominent was *"no interest"*, and the predominant reason for not participating in trainings was *"no opportunity"* (p.17-18). Neither of these responses was explored in the subsequent FGDs with the farmers and/or retailers. Both of these positions are among the most manageable in the range of behavior and perception change. Such a recommendation would have been easy to formulate.
8. The KIIs with the representatives from the private sector companies revealed serious biases and misconceptions about women in the agriculture field – their presence, role, capabilities. The private sector has tremendous influence through marketing, product promotion and placement. There should have been a recommendation to 'educate and advocate' within the private sector rank and file.

² See Attachment 'Preparatory Reading and Research.

5. Work Plan 2nd Gender Assessment

DRAFT

USAID Cooperative Agreement No. AID-388-A-12-00005,
Bangladesh Agro-Inputs Project implemented by CNFA

Follow-on review from 2013 Gender Analysis pertaining to
the WEAI, with a specific focus on AIP female
beneficiaries (grantees)

WORK PLAN AND INCEPTION REPORT

Prepared by:

**Marydean A. Purves
Consultant**

October 9, 2016

I. INTRODUCTION

In 2013, CNFA conducted a First Gender Assessment as part of the design process for its USAID-funded Agro-Inputs Project (AIP). A major element for success in this project would depend on the effective engagement of women, who make up a significant proportion of agricultural workers along the entire value chain. The goal of the initial gender assessment was to identify specific actions AIP might take to effectively address gender equity constraints in the agricultural inputs sector within the scope of the AIP project. These actions would be then built into the program with the goal of empowering female program participants. Impact would be measured using aspects of the Women's Empowerment in Agricultural Index (WEAI) tool. As per the Scope of Work (SOW), the follow-up gender assessment will measure the processes and results through a similar research agenda, with a comprehensive review of existing activities. To the degree possible, the follow-up assessment will employ the same methodology and instrument formats including key informant interviews, focus group discussions and a case study. The findings from this will assist CNFA in assessing vital components of AIP implementation, as well as guide CNFA and partner implementers in the future design of programmatic activities.

A. Gender Assessment Research Focus

1. Follow-on review from 2013 Gender Analysis pertaining to the WEAI, with a specific focus on AIP female beneficiaries (grantees).
2. Qualitative assessment of AIP's women's only Matching Grants Program (challenges, opportunities, lessons learned).

B. Tasks

The gender assessment process will undertake the following tasks:

1. Conduct a gender assessment in line with AIP's 2013 Gender Analysis, including male agro-input retailers and social counterparts to analyze changes in empowerment amongst target population of women retailers;
2. Conduct a qualitative assessment of AIP's women only Matching Grants Program (challenges, opportunities, lessons learned);
3. Document and present findings and recommendations via a written report and oral debrief with AIP Chief of Party and project staff, as available. The consultant is encouraged to use creative methods to present findings, but must submit a written report, structure and delivery date to be determined by AIP.

II. ORIENTATION TO THE WORK PLAN DEVELOPMENT

A. Snapshot of Project Context

The Agro-Inputs Project (AIP) is a \$14 million USAID-funded Feed the Future (FTF) program in Bangladesh. AIP established the Agro-Input Retailers Network (AIRN) that is contributing to the improvement of quality and availability of agricultural inputs to farmers in the FTF zone. This is being achieved through a network of 3,000 agro-input retailers (AIRN members) who receive training and technical assistance on the safe handling, storage, and application of quality inputs, business ethics and other related topics. AIRN members are expected to serve about 1 million smallholders, generating more than \$100 million in sales. Project interventions include:

1. **Establish an Agro-Inputs Retailers Network:** Creation of AIRN, a first-of-its-kind agro-inputs training organization serving retailers in the FTF zone;
2. **Improve Effectiveness of Agricultural Inputs Market Information Systems:** Distribution of 115,000 hard copy (e-copies will be used when possible) Monthly Price Outlook Bulletins, supported by an innovative GIS-based input market information system; demand creation for improved quality inputs through 500 demonstration plots;
3. **Enhance Knowledge and Application of Quality Standards:** Promotion of input quality standards to 50 input supply companies and 3,000 AIRN retailers. Eight new input quality standards developed by industry associations (with public and private stakeholders) presented to USAID for referral to the Bangladesh Policy Research and Strategy Support Program (BPRSSP); knowledge and demand for quality inputs increased through communications and outreach campaign;
4. **Strengthen Local Organizations' Institutional Capacity:** Three organizations receive comprehensive organizational capacity assessment (OCA) and necessary assistance in organizational capacity development (OCD). The objective is organizational strengthening of these organizations, and utilization of their technical expertise to implement AIP-related activities via sub-award.

The consultant noted that gender and/or women's empowerment intentions do not feature explicitly in the four interventions outlined above. The consultant reviewed all of the yearly project reports through June 2016, including the revised Program Description dated 7/29/2015. She looked at all aspects of programming with a gender lens. For the most part, achievements, activities, and information and actions dealing with women were mainly reserved for the sections labelled Cross-Cutting Issues (Gender), with disaggregated data points sprinkled throughout. For the most part, the project actions address the main conclusions and recommendations for programming in the 2013 Gender Assessment – namely:

- *“difficulty in accessing resources and relative inexperience in business;*
- *little women's involvement in the [formal] agricultural inputs sector;*
- *lack of training for [business and agriculture]”;*
- *address literacy issues in training and publications;*
- *participation of local community;*
- *include a leadership component;*

A few conclusions and recommendations that do not appear to be addressed in the project and/or in reporting include *women's mobility*, identified as a constraint both for women potential inputs retailers and as women farmers as clients. Mobility appears to influence a), access to markets b), access to training events, and c), ability to transport bulk inputs. Another area not addressed is *work/life balance, or time burdens*. These are elements in the WEAI, and ultimately the assessment should learn how heavily they weigh on women's empowerment.

B. Approach to the 2nd Gender Assessment

Priority time will be given to field inquiry about agriculture actions, contexts, and constraints with a gender lens using adapted instruments not exactly replicated from the

1st GA*. In addition, the assignment involves desk research and review of key AIP project documents. It will also consult updates produced by IFPRI and other entities on the WEAI findings for Bangladesh in the interim, and relevant information on Bangladesh's larger contextual environment, including the prevailing social gender frameworks and popular 'gender lens'. Please see the attachments for summaries of some of these information products.

C. Other Considerations

The consultant made observations on the first Gender Assessment from 2013, which have some bearing on the capacity to draw comparisons and conclusions. See the attachments.

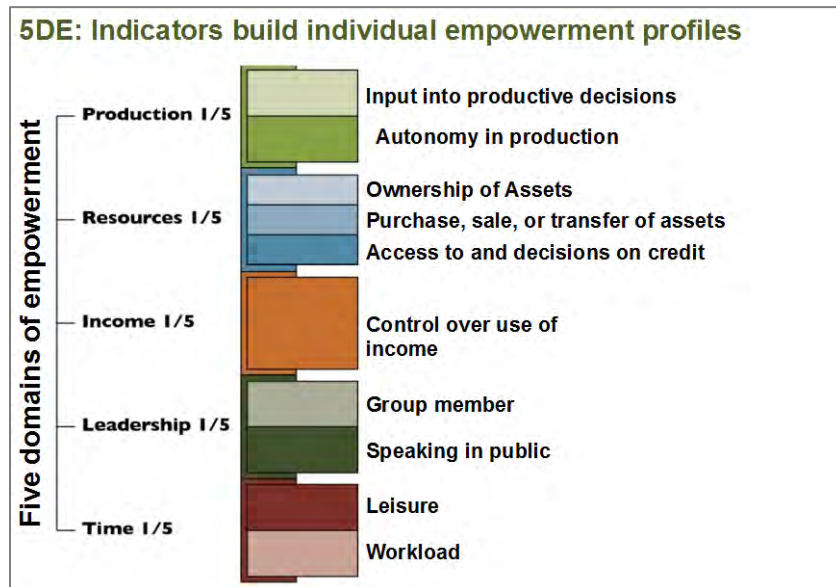
IV. WORK PLAN

A. Proposed Methodology

The spirit of this assessment is to operate in complete transparency, seek authentic input from the stakeholders, and make thoughtful, considered observations that will provide relevant, real time information to aid in future planning. The assessment will use participative, qualitative methods to obtain the required information, including key informant interviews (KII), and focus group discussions (FGD). The assessment will also use some rating/scoring tools, checklists, and graphic illustrations to explore and present some trends.

1. Gender Analytical Frameworks

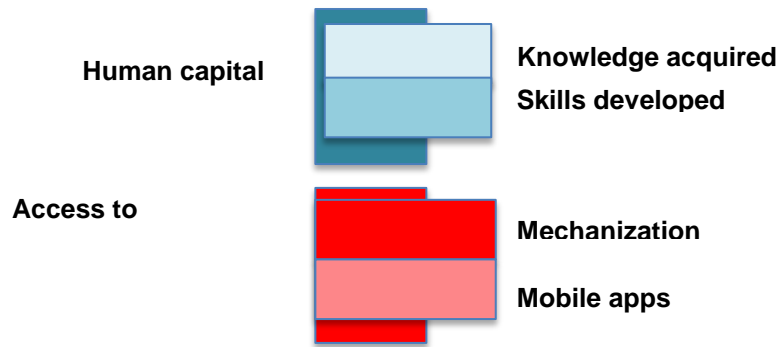
The WEAI domains and indicators will be the matrix to define change. AIP adapted Domain 1 to read 'Business' rather than 'Production'.



USAID, IFPRI, based on Kabeer, 2012.

Recently, the Bureau of Food Security (BFS) Feed the Future (FTF) Gender Unit in Washington, DC has endorsed the addition of two new domains:

* The 2013 GA included a household survey among 312 respondents and the application of the WEAI framework among 90 respondents.



Author illustration, unofficial, 2016.

The 1st GA used the WEAI in the form of a checklist with a sub-set of survey participants (90 in total). According to the assessment report:

This subset was a concentrated group of existing agro-input retailers and individuals expressing interest in becoming agro-input retailers. This was done so that the WEAI-related surveys (the responses of which were used to determine an AIP-adapted index figure) *could be replicated in AIP's second gender assessment to analyze changes in empowerment amongst the target population of women retailers.*

At the time of this writing, it is still undetermined if the 2nd GA will undertake a replication of the WEAI 90-respondent survey.

C. Assessment Review Group

The exercise is overseen by CNFA program and AIP project staff. In order to assure that all processes and products meet the needs and requirements of CFNA, an assessment review group (ARG) will be formed. Members should include:

1. Alexis Ellicott, Chief of Party, AIP, Bangladesh
2. Victoria Treski, Program Officer, CNFA, Washington DC
3. Gender Specialist, AIP, Bangladesh
4. Grants Manager, AIP, Bangladesh
5. Marydean Purves, Consultant, 2nd Gender Assessment

The consultant will serve as the principal investigator for the field work and the desk research. She will be accompanied in the field by a translator. At the time of this writing, it is undetermined if the AIP Gender Specialist will join the field work, and/or be involved in a substantial way.

B. Sampling Plan

1. **Focus Group Discussions**

The 1st GA held 21 FGDs in as many *upazillas*. The 2nd GA will conduct FGDs at the *upazilla* level in two of these same divisions where the grants program is being implemented - Khulna and Barisal. If time permits, a FGD will be conducted in one *upazilla* of Dhaka District.

The FGDs will be composed of female agricultural inputs retailers, who are grant recipients, and who represent the subset of AIRN provisional members (women only)

category). Male input retailers will also participate in another set of FGDs. They must be associated with AIRN in some fashion.

2. Key Informant Interviews

The 2nd GA will repeat the category of KIIs from the 1st GA, with the same persons where possible. Two additional KIIs will include the party at Syngenta that conducted training with government doctors on diagnosis and treatment for exposure to CPP, and a representative of the multi-media advertising agency selected to produce the AIRN media campaign.

A provisional Assessment Location Plan is presented here for completion. Travel times and distances will determine how many, and which upazillas to visit. The consultant relies on the in-country team to make these decisions, without other bias.

Division	District	Upazilla	FGD	KII
Khulna	Jessore			2 Syngenta Reps
		Manirampur	1 female FGD, 1 male FGD	
		Jessore Sadar	1 female FGD, 1 male FGD	
	Khulna	Khulna-Rupsha		Upazilla Nirbahi Officer
		TBD	1 female FGD, 1 male FGD	
	Bagerhat	TBD	1 female FGD, 1 male FGD	
Narail	TBD	1 female FGD, 1 male FGD		
Barisal	Patuakhali			Reps from Lal Teer and ACI
		Patuakhali	1 female FGD, 1 male FGD	
		Dashmina	1 female FGD, 1 male FGD	
	Barisal	Muladi	1 female FGD, 1 male FGD	
		TBD	1 female FGD, 1 male FGD	
	Pirojpur	TBD	1 female FGD, 1 male FGD	

3. AIP Staff Consultations

Recognition among project staff of the centrality of gender equality for sustainable agricultural development is a key facilitating element of success. The consultant proposes to administer a questionnaire/checklist to all AIP staff to gauge the penetration of the gender concepts and application across all sectors of the project.

C. Instruments for Data Collection

At the time of this writing, the inquiry instruments are still in development, and will be finalized with the input from the ARG. They may include the following:

1. **Focus Group Discussion guides.** The consultant will use a question guide based on the WEAI domains and the themes as noted in the research focus, probing for deeper discussion.
2. **Key Informant Interview guides.** Key informants will provide information about gender and women's empowerment/engagement as it pertains to the interventions, as well as highlight influential issues or concerns re: the population of interest. A topical guide will assist with this process.
3. **Checklists.** These forms are useful for screening indicators of achievement as per the WEAI domains, and to review gender concepts as they are integrated in a cross-cutting fashion throughout the project actions. A checklist will also aid in assessing the Grants Program materials.

4. **Media Broadcast Recall.** Incorporated into checklists and FGD guides.
5. **Media Product Message analysis.** Using recognized standards to evaluate key message, audience segmentation, format and design.
6. **Scoring and Ranking tools.** Incorporated into FGDs as a means to capture trends in perception.
7. **Graphic illustrations.** Incorporated into FGDs as a means to capture individual perceptions on personal growth.
8. **Support materials.** Some sample materials will be necessary to show to all respondents. These include:
 - Monthly price bulletin
 - Nutrition posters
 - AIRN logo
 - A/V materials produced by AIS
 - PPE related materials (flyers, etc.)

Please see annexes for sample FGD and KII guides, checklists, and other tools.

V. ANALYSIS AND INTERPRETATION

Data Entry

If possible, all FGDs will be audio-recorded. The information generated during the FGDs will be transcribed on a daily basis as possible. Due to time and resource constraints, the 'expanded notes' method will be used, which involves listening to the tapes while reviewing the handwritten records, correcting and adding relevant information. Given that the FGDs will be conducted in local languages and then translated (paraphrased/summarized), it will be especially important that key team members participate in the daily de-briefings. Other data generated through KIIs, checklists, observation matrices, etc., will be organized, and categorized by respondent/sector as it is generated.

Analysis

As most of the data to be generated will be qualitative, methods such as content analysis will be used to review FGDs for themes and patterns and proxy evidence that the results are attributable to the project actions. Training curricula, consultation client files, checklists, etc. will be summarized and collated for analysis.

Interpretation

The data from the assessment will be compared to the original WEAI and 1st GA benchmarks. Preliminary interpretation will be the responsibility of the consultant. A de-briefing meeting will be held in-country at the conclusion of data collection to confirm next steps. The Assessment Reference Group will be charged with reviewing the preliminary report on findings to gauge the accuracy of the work. Following this, the consultant will finalize the work to justify the findings and make recommendations accordingly.

VII. LOGISTICS

Preliminary Arrangements

Some preliminary arrangements made prior to the arrival of the consultant in Bangladesh will facilitate planning and contribute to operational efficiency. These include:

- 1) Translation of instruments into local languages;
- 2) Schedule introductory meeting with key stakeholders as necessary;
- 3) Tentative schedule of interviews with key partners in-country;
- 4) Logistical arrangements (venue, timing, AV equipment, etc.) field travel;
- 5) Workspace and logistics for the duration of the exercise.

Illustrative Time Line

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			Oct. 19 <i>MP depart US</i>	20	21 <i>MP arrive Dhaka 8 pm</i>	22 <i>MP available for meetings</i>
23 <i>Dhaka office in-brief; Prepare materials, logistics</i>	24 <i>a.m. –fly to Jessore/Khulna Meet with Grants team. Confirm field travel in Khulna</i>	25 <i>Khulna FGDs, KIIs, shop visits</i>	26 <i>Khulna FGDs, KIIs, shop visits</i>	27 <i>Khulna FGDs, KIIs, shop visits</i>	28 <i>Drive to Barisal (4 hours) Confirm sites. Visits as feasible.</i>	29 <i>Rest day, field prep, notes consultation.</i>
30 <i>Barisal FGDs, KIIs, shop visits</i>	31 <i>Barisal FGDs, KIIs, shop visits</i>	Nov. 1 <i>Barisal FGDs, KIIs, shop visits</i>	2 <i>Barisal FGDs, KIIs, shop visits</i>	3 <i>Morning flight to Dhaka; De-brief USAID</i>	4 <i>Dhaka. COP meetings.</i>	5 <i>Depart Dhaka 02:25 am.</i>

6. Summaries of Selected Research

Preparatory Reading and Research: 2nd Gender Assessment, November 2016

1. Schaetzel, Thomas, Melissa Antal, and Agnes Guyon. 2014. *Market Purchase Motivations among Rural Men in Khulna District of Bangladesh. A Qualitative Study*. Arlington, VA: USAID Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project.
 - The male head of household is responsible for making food purchases at the market for his family. If for any reason he cannot go, another man in the family, such as a son or father, will take on that responsibility.
 - The frequency of market visits depends on available cash; a close relationship exists between when a man is paid and how often he goes to the market.
 - These include rice, pulses, cooking oil, soap, and onions. Although fruit and eggs are considered costly, men will sometimes buy both for children, which suggests that they may view these as essential for children.
 - If men have “extra” money, they tend to buy moreregularly purchased items
 - desirability is determined by taste rather than nutritional value. This suggests that interventions to increase household income will likely not lead to increased dietary diversity in the absence of behavior-changing activities that promote the use of additional income to purchase diverse foods.
 - Food prices influenced whether the participants purchased certain vegetables or fish for their family, and also seemed to influence perceptions of nutritional value.
 - purchase of less or more expensive items is considered a reflection on a man’s socioeconomic status,
 - a man would choose quantity over quality, especially if that decision saved money for more/ other food items.
 - “nutrition” or “nutritious,” the participants showed little knowledge of specifics beyond an appreciation for vitamins. Men know vitamins are important; however, there is no understanding of what nutrition really is. There was a strong perception of vegetables as a good source of vitamins; in contrast, animal source foods (ASF) were seen as unhealthful and less nutritious than vegetables.
 - Imported, more expensive fruit, such as apples and grapes, were frequently mentioned as nutritious.
 - The participants believe that nutritious foods impart physical and mental strength, provide energy, support health, and promote intelligence. The participants were emphatic that they wanted to provide good food for their children.
 - Bad feelings, sensations, and illness influenced their opinions of “bad” food, with bad feelings
 - *Khechurii*, a mixture of pulses and rice, usually with vegetables added, was considered a nearly ideal food for children.
 - The participants showed a clear consensus that when a child refuses to eat, sweets are offered.
 - Generally, the participants felt that buying biscuits, cake, and other outside foods for their children was wrong, but most said they did it anyway.
 - participants prioritized familial wellbeing and happiness above other things, even over health considerations.
 - as a pacifier for children—despite perceptions that sweets are bad, causing upset stomach, worms, diarrhea, and dental caries and also spoiling appetite.
 - a good husband responds to his wife’s wants and wishes, especially with regard to purchasing the food items she requests.
 - high degree of discussion about market purchases between men and women. Men believe that making decisions together is a key element for a happy and peaceful home.
 - What men buy influences how their neighbors see them.
 - women seem to have a say in what is purchased, and men appreciate women’s guidance.
 - change on the social level by redefining the social norm of what nutrition is.
 - Achieving a major change in the perception of what “nutrition” means is indeed ambitious, but the widespread belief that vegetables are highly nutritious—presumably the result of previous campaigns promoting vegetable consumption—suggests that similar success may be possible for promoting new concepts of what nutrition is and how it can be obtained.
 - Income that is under the control of women has been shown to translate more efficiently into positive household health and control of men (Haddad and Hoddinott 1994). In Bangladesh, cultural norms may work against female control of income as seclusion and
 - tend to undervalue female labor (Haddad and Hoddinott 1994; Smith, Ramakrishnan, et al.2002; Thomas 1997). Although in the poorest households, women are actually fairly active in the agricultural sector as day laborers (Sraboni, Quisumbing, and Ahmed 2012). Studies by IFPRI in Bangladesh of USAID’s Feed the Future initiative intervention areas found low levels of women’s empowerment in agriculture, with 80 percent of women not rated as empowered according to the women’s empowerment in agriculture index (WEAI), and nearly half of women stating that they felt they had little input in decisions relating to agricultural production (Ibid). The report also concluded that women lack control over household resources.

2. Bangladesh Policy Research and Strategy Support Program, IFPRI.

The Feed the Future Zone of Influence in Bangladesh: Changes in Selected Indicators from 2011 Baseline to 2015 Midline. March 17, 2016.

This report updates the progress made in the USAID Bangladesh FtF portfolio, assessing differences in the areas of hunger, consumption, diets, and child nutritional status, profitability, and women's empowerment in agriculture. Significant progress was made, attributed to the FTF projects in the Zones of Influence (ZOI) – including CNFA's AIP. The key findings:

- FTF ZOI population living on less than PPP \$1.25 a day fell by 6.5 percentage points (or by 16%): 40.5 % in 2011/12 to 34.0 % in 2015.
- Change in the number of poor in the FTF ZOI: 1.4 million fewer people in poverty in 2015: 11.1M poor/16.3M non-poor in 2011/12; 9.7M poor/18.7M non-poor in 2015.
- Poverty declined more for the *ultra-poor* (by 30.6%) than the *subadjacent poor* (by 8.0%).

Results show that farmers' income increases if:

- Household male head and female spouse have more schooling
- They use mechanized irrigation, have access to commercial loans
- ***Women are more empowered (measured by WEAI)***
- Operated land area, total value of assets increase
- They increase MoP fertilizer use per hectare
- Non-farm income share increases; have access to electricity (solar panel or national grid) and own cell phone
- Domestic and international remittances increase.

With regard to women's empowerment, "remarkable improvements" were made:

- Empowerment headcount: 23.2 in 2011/12, 51.5 in 2015
- Adequacy score: 53.6 in 2011/12, 65.7 in 2015
- Women with gender parity: 36.3 in 2011/12, 57.0 in 2015
- Empowerment gap: 31.9 in 2011/12, 18.0 in 2015.

Household level diet quality also improves/decreases when correlated with an increase/decrease in women's empowerment. All of these elements may be useful references for probing the results of the 2nd CNFA gender assessment. Other results describing the conditions for susceptibility to poverty are available in the report as well, and may provide substance for future CNFA program planning.

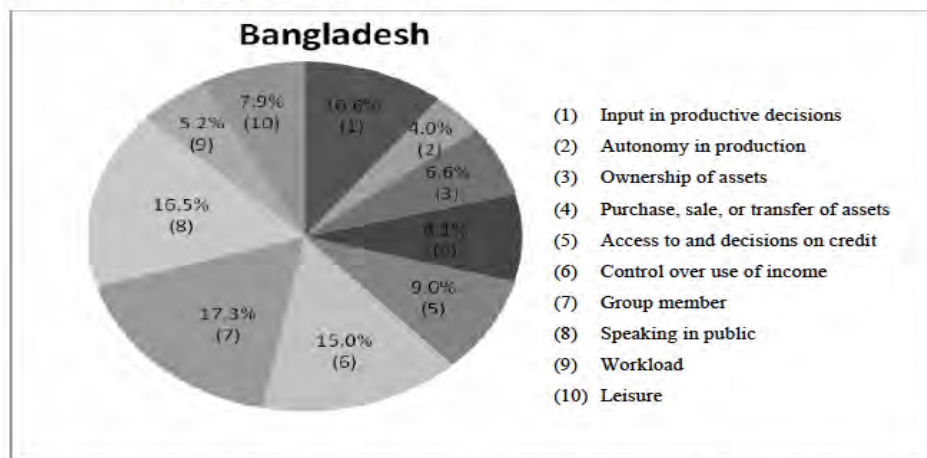
3. Bangladesh Development Studies (BDS), Vol. XXXVII, Sept. 2014, No. 3. ***How Empowered are Bangladeshi Women in the Agricultural Setting? Empirical Evidence using a New Index.***

The consultant did a review of recent research on the state of women's empowerment in Bangladesh, and cites some key information to fill in the landscape since the original 2013 CNFA/AIP assessment. Given the central role that the WEAI plays in the assessment, it is useful to provide a succinct description here.

"The WEAI is a new survey based index designed to measure the empowerment, agency, and inclusion of women in the agricultural sector in an effort to identify ways to overcome those obstacles and constraints. The WEAI was developed by researchers at IFPRI, the Oxford Poverty and Human Development Initiative (OPHI), and the U.S. Agency for International Development (USAID) to track the change in women's empowerment levels that occurs as a direct or indirect result of interventions under Feed the Future, the U.S. government's global hunger and food security initiative. While the WEAI has been designed for performance monitoring and impact evaluations of Feed the Future programs, it is also a useful tool for policymakers, development organizations, and academics seeking to inform efforts to increase women's empowerment. The WEAI was developed and tested between 2011 and 2012 using three country pilots in Bangladesh, Guatemala and Uganda (Alkire et al. 2013). Bangladesh is the first country to have WEAI data representative of the Feed the Future (FTF) Zone of Influence of the U.S. Agency for International Development (USAID) as well as the rural areas of the country."

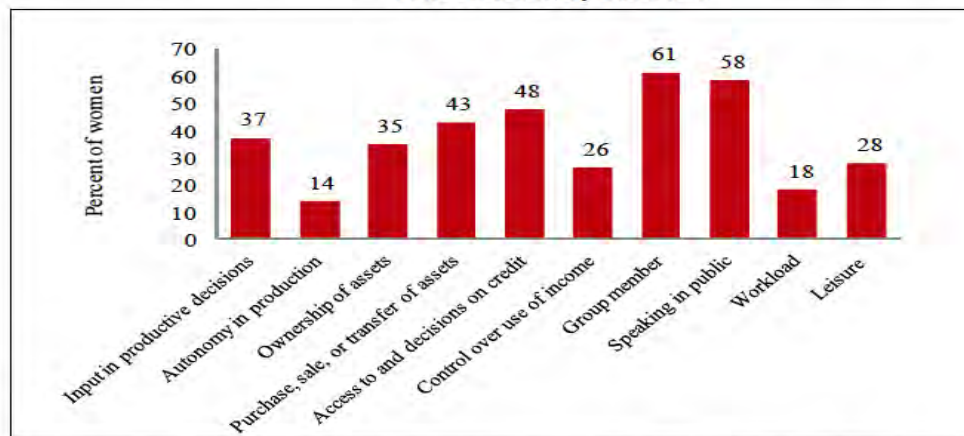
The BDS publication in 2014 enhanced the interpretation of the original IFPRI results to highlight the depth of disempowerment by indicator. This information provides background with which to compare the AIP progress specific to the domains it addressed.

Figure 2: Contribution of Each of the 10 Domain Indicators to Disempowerment of Women



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Figure 3: Per cent of Women not Empowered and Who have Inadequate Achievements, by Indicator



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

The publication also contains the same data display for men, which can be annexed. Other useful data points from this study include:

- Relationship between empowerment and education
- Relationship between empowerment and income
- Relationship between empowerment and household hunger
- Regional comparisons/differences: WEAI values and Gender Parity Index.

4. IFPRI Discussion Paper 01470 October 2015. “Gender Empowerment Gaps in Agriculture and Children’s Well-Being in Bangladesh”.

As per IFPRI’s premise – “development programs that reduce gender gaps are expected to not only improve women’s well-being, but also their children’s.” This report provides empirical evidence on the relationship between empowerment gaps between men and women in the same household and children’s well-being using nationally representative data from the 2012 Bangladesh Integrated Household Survey (BIHS). The conclusions suggest that fathers’ empowerment may be reflecting a “wealth” effect that is invested in children’s nutrition and education when they are young, while mothers’ empowerment becomes more important in girls’ education in general and keeping older children, regardless of sex, in school. Of note: “women’s overall empowerment, group membership, and own education are especially significant in

increasing schooling for secondary school-aged children, which suggests that both girls and boys are kept in school, and out of the labor force or marriage market, for longer.”

5. **World Development Vol. 61, pp. 11–52, 20140305-750X/ 2014 Elsevier Ltd. Women’s Empowerment in Agriculture: What Role for Food Security in Bangladesh?** [based on IFPRI data]

The linkages between women’s empowerment and food security have been more difficult to quantify owing to the difficulty of measuring empowerment. Despite these difficulties, there is evidence that **disempowerment in one of its most extreme forms—being a victim of intimate partner violence (IPV)—is associated with poor nutritional outcomes both for children and their mothers.** Of 2,042 women in the BDHS survey with at least one child under 5 years of age, 49.4% reported lifetime experience of physical partner violence, while 18.4% reported experience of sexual partner violence. They find that women were more likely to have a stunted child if they had lifetime experience of physical IPV or had been exposed to sexual IPV. A study based on a longitudinal dataset following up three sites in Bangladesh where agricultural technologies had been introduced found that experience of domestic abuse (particularly verbal abuse)

had a significant negative impact on women’s current BMI and on improvements in BMI over time.

Our analysis has also highlighted the importance of increasing the number of groups in which women actively participate and increasing women’s control of assets. [REFLECTS THE ACCEPTED CONDITION THAT WOMEN’S PARTICIPATION IN INITIATIVES, GROUPS, FORMAL BODIES – ETC., MUST REACH 30% TO BE EFFECTIVE.]

In assessing progress in implementing the government’s policy commitments to gender equality, the **MOWCA (2010)** found that the greatest emphasis of government ministries was on improving the gender balance of staff and working conditions of women. However, less than a third of the ministries (14 out of 47 responding to a questionnaire) identified economic advancement as a programmatic area, and within this area, women’s economic participation in the labor force was emphasized, not increasing control over assets or income derived from economic activities. Protection of legal rights focused on birth registration, eliminating child labor, and combating early marriage and dowry-related violence, not on equal rights to own assets.

With regard to leadership in the community, despite the two top political leaders being women, Bangladeshi women in general have fared far less well with respect to participation in national politics than women in comparator countries (Nazneen et al., 2011, p. 12). Policy documents and pronouncements on strengthening women’s leadership in the community are quite vague, although **MOWCA (2011, authors’ translation)** mentions the role of District Women Affairs Officers and Upazilla Women Affairs

Officers in implementing programs undertaken for the development of women in the economic advancement ministries, as well as a move to organize women into self-sustained groups at the village and union levels, with the possibility of registering these groups as formal organizations under different government organizations.

While NGOs have been active in increasing their membership base among poor rural women, women with more bargaining power within their households (owing to greater schooling or assets brought to marriage) are more likely to participate in NGOs (**Quisumbing, 2009**). Group-based efforts have often been unable to reach the ultra-poor, because many group-based activities, such as those in microfinance, require a minimum level of resources for participation, such as funds for the compulsory savings requirements. Long-seated systems of property rights that favor men in terms of inheritance, and the difficulty that women face in accumulating assets that they can control, need to be addressed so that women can build up their control of assets. This suggests that reforms of inheritance and property rights law more broadly, and specific interventions to increase women’s control of assets, would be important parts of the policy agenda to reduce gender inequality.

However, even if assets are transferred to women, a recent impact evaluation of BRAC’s TUP program shows that there is no guarantee that they will retain control of the transferred assets or other assets acquired from incomes generated from the transferred assets.

6. **ENSURING ESCAPES FROM POVERTY ARE SUSTAINED IN RURAL BANGLADESH – LEO Paper #32. ACDI-VOCA, July 2016.**

However, some households escape poverty only to live at a level just above the poverty line: 19 percent of the population lives out of poverty, but has a level of consumption less than 1.25 times the national poverty line. They therefore remain vulnerable to slipping into poverty in the event of a shock or stressor, such as an episode of ill-health or a flood.

The specific focus of this report is on “transitory poverty escapes”: a term referring to households that successfully escape from poverty only to return to living in it once again i.e. they become re-impovertised.

What matters? Specific findings include the following:

- Households with **greater asset value** are more likely to experience a sustained escape from poverty.
- **Owning more cultivable land** reduces the risk of experiencing a transitory poverty escape relative to a sustained

poverty escape. Cultivating land is an important source of income and food while ownership of land itself can act as collateral to secure loans; owning land is a measure of social status and can be mortgaged out during hard times.

- **An increase in the number of livestock** is associated with a reduced risk of experiencing a transitory poverty escape relative to a sustained poverty escape. Buying and selling cattle can be an important source of income as are sales of milk; there is evidence of “livestock ladders” with households moving from rearing poultry and small ruminants to share-rearing and owning cattle. Selling small ruminants, particularly goats, as well as poultry, is an important means to manage risks.
- **An increase in the share of dependents** is associated with a higher risk of a transitory poverty escape. Life histories also highlight dowry payments for girls as being an important driver of re-improvement.
- **A more educated head of household** is tied to a reduced risk of transitory poverty escapes and impoverishment. The level of education is also important. Households where the head has completed secondary education are less likely to experience a transitory poverty escape than those where the head has completed primary education. Those with primary education, in turn, are less likely to experience a transitory poverty escape than those where the head has no education.
- **Female-headed households** are less likely to experience a transitory poverty escape or become impoverished than to experience a sustained poverty escape. This finding should be contextualized for Bangladesh where there are two primary groups of female-headed households: those where the male head of household has migrated (including internationally); and those where the woman has been abandoned, divorced, or widowed. While the latter are among the poorest households in rural Bangladesh and can have limited prospects for sustained poverty escapes given limited income-generating activities that are accessible to women, the former are among some of the better-off households in rural areas due to their receipt of remittances.
- **Female-headed households that receive remittances** are more likely to experience a sustained escape than a transitory escape.
- When the head of household is involved in **non-agricultural activities, the household is more likely to experience a sustained escape**. In practice, based on the life histories of households that experienced sustained escapes, heads of these households were engaged in both agricultural and non-agricultural work throughout the year.
- **Experiencing a series of shocks in short succession** is associated with transitory poverty escapes. Health shocks emerge as a particularly important driver of re-improvement.
- **Households where the man and woman work together** are more likely to experience sustained poverty escapes.
- Households that experience sustained poverty escapes **cultivate more than once a year, switch crops regularly depending on market prices, and store crops** to sell them when the price is high.

What can be done? Recommendations include the following:

- Both primary and secondary education are important for sustained poverty escape. However, **education needs to be relevant for the labor market, and because of this, technical training and skills development are crucial**, as is *raising awareness* on the types of job available for educated individuals.
- *Avoid neglecting jobs*, given the predominant focus of development interventions in rural areas on self-employment and entrepreneurship. Migration is important here, and interventions should aim to reduce the risks associated with migration, both internal and international. [E.G., TRAINING & SKILLS DEVELOPMENT THAT ARE TRANSFERABLE]
- *Work toward changing values and behaviors*. **Female empowerment and tackling unequal gender relations as a root cause of poverty remain central** in efforts aimed at ensuring that escapes from poverty are sustained.
- *Promote mentoring*. **Household- and individual-level mentoring and follow-up is useful in providing continuous support** to enable them to successfully to follow new livelihood activities and to maintain interest in these activities.
- *Innovate around health care* so that households are protected in the event of health shocks; health insurance is one potential avenue here. In addition, there are households that experience transitory poverty escapes because family members are chronically sick or elderly. A priority here is to **link these households with government safety nets so that they have access to long-term support**.

7. The Informal Sector and Informal Employment in Bangladesh, ADB, Bangladesh Bureau of Statistics, 2010.

Data references stats on employment in rural/urban areas; agriculture, industry and service sectors. Ag is highest. Age range for working in the rural sector is younger...

89% employed in the informal sector...more women in this area. Majority of workers have basic education. Own-account

work most prevalent type of work...62% of labor sector – low productivity. 77% of jobs available is in unpaid work and/or daily wage workers.

Casual/irregular paid workers average 54 hours/week, with women doing 3-7 hours less per week than men.

Employment analysis in the non-agriculture sector, across all genders and production units, formal employment in formal enterprises was much higher than informal employment – participation rate of females any type of enterprise is lower than men.

8. Amplifying Outcomes by Addressing Inequality: The Role of Gender-Transformative Approaches in Agricultural Research for Development. *Gender, Technology, and Development. Asian Institute of Technology. 2015.*

KEY TAKEAWAY- “Technology-focused projects need to engage more explicitly with underlying social barriers if they are to achieve success.

Training inputs segregated by gender led to reinforcement of gender roles – typically with men getting greater benefit/access to mechanization.

Women who attended [...] training said workload increased, because husband was not involved in the training. Both men and women adopters said both should receive the training.

Women in training faced opposition from family members – mobility issues, gender roles (e.g., other chores?) – women dropped out of training because of this.

Demonstration model – one farmer receiving inputs/assets to do the demos to larger group that only received training created confusion, jealousy, tension, affecting potential for intra-community collaboration and knowledge sharing. [POWER DYNAMICS].

Consult document for lessons learned and ways forward.



Contents lists available at ScienceDirect

Agricultural Systems

journal homepage: www.elsevier.com/locate/agsyAgriculture, nutrition and the green revolution in Bangladesh Derek D. Headey ^{a,*}, John Hoddinott ^b^a International Food Policy Research Institute, USA^b Cornell University, USA

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This paper explores agriculture and nutrition linkages in Bangladesh, a country that achieved rapid growth in rice productivity at a relatively late stage in Asia's Green Revolution, as well as unheralded progress against undernutrition. To do so, we first outline a simple conceptual model to identify the different impacts that productivity growth in a food staple(s) might have on child nutrition outcomes, with a particular focus on changes in diets at the household and child level. We then apply this framework to a descriptive overview of the evolution of Bangladesh's food system in recent decades. We show that this evolution is characterized rapid growth in yields and calorie availability, but relatively sluggish diversification in both food production and consumption, despite increasing reliance on imports for dietary diversification. Next, we create a multi-round district level panel that links changes in nutrition survey data with agricultural sample survey data over 1996–2011, a period in which rice yields rose by more than 70%. We then use this panel to more rigorously test for associations between yield growth and various anthropometric and child feeding indicators. Consistent with our descriptive evidence on dietary changes, we find that rice yields predict the earlier introduction of complementary foods to young children (most frequently rice) as well as increases in their weight-for-height, but no improvements in their dietary diversity or height-for-age. Since Bangladesh has one of the highest rates of child wasting in the world, these significant associations between yields and child weight gain are encouraging, but the lack of discernible effects on children's dietary diversity or linear growth is cause for concern. Indeed, it suggests that further nutritional impacts will require diversifying the Bangladeshi food basket through both supply and demand-side interventions.

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1. Introduction

Despite a surge of recent interest in identifying the impact of agriculture on maternal and child nutrition, the existing scientific literature has brought little light to bear on the core question of whether large scale agricultural programs – particularly longstanding efforts to increase cereal yields – significantly alter nutrition outcomes (Ruel and Alderman, 2013; Pinstrup-Andersen, 2013). Much of the literature has been confined to cross-sectional studies for which even indirect policy attribution is very difficult (Bhagowalia et al., 2012; Dillon et al., 2014; Hoddinott et al., 2015), or to more experimental studies of small scale livestock or homestead gardening interventions (Berti et al., 2004; Leroy and Frongillo, 2007; Masset et al., 2012).

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Yet advocates of agriculture-led development typically have in mind much larger scale agricultural programs and policies in the spirit of Asia's "Green Revolutions" (Bezemer and Headey, 2008; Diao et al., 2010; Hazell, 2009; Mellor, 1976; Pinstrup-Andersen, 2013). These Green Revolutions were led by the research and development (R&D) of improved rice, wheat and maize varieties, which – along with associated policies to promote the expansion of irrigation, fertilizers and other inputs – have contributed to rapid growth in Asian food production over the past 40 years. Rice yields, for example, have increased by around 150% in Bangladesh, northern India, Indonesia and Pakistan since the 1960s, while wheat yields in these countries increased by some 250% (FAO, 2014).

Despite its fundamental contribution to poverty reduction, surprisingly little is known about the impact of Asia's Green Revolution on nutrition, and much of what has been written is speculative at best (see Hazell, 2009 for some review). Optimists have focused on the contributions of Green Revolution investments to household calorie consumption and national food security (Pinstrup-Andersen and Jaramillo, 1991), but no work that we are aware of has directly examined impacts on child level feeding practices (particularly the timing and diversity of complementary feeding) or nutrition outcomes. Pessimists point to the adverse micronutrient consequences of reduced biodiversity in monocropping systems, particularly lower consumption

of pulses, coarse grains and fish (Bouis, 2000; Shankar et al., 2005), and also to the harmful health and nutritional impacts of excessive use of fertilizers and pesticides (Brainerd and Menon, 2014). Yet no work that we are aware of has examined the impacts of growth in cereal yields on changes in individual nutrition outcomes or diets. This knowledge gap exists because the Green Revolutions of the 1960s, 1970s and 1980s largely preceded the kinds of large, multi-topic surveys that are typically a prerequisite for identifying the welfare impacts of large-scale interventions (Elbers and Gunning, 2013).

This paper seeks to fill this knowledge gap by exploring the nutritional impacts of rice productivity growth in Bangladesh. Bangladesh is an ideal case study for several reasons. First, for political reasons, Bangladesh was a relatively late adopter of Green Revolution technologies (Evenson and Gollin, 2003), meaning that much of its productivity growth occurred during more recent periods of improved statistical surveillance. From 1997 to 2011 (the period of our analysis) yield growth for rice averaged 3.6% per annum on the back of increased adoption of improved varieties and the rapid expansion of the irrigated dry season rice crop. Second, productivity growth in Bangladesh coincided with substantial improvements in preschooler nutritional status. In 1996/97, rates of preschooler stunting (height-for-age Z scores ≤ -2) and mild wasting (weight-for-height Z scores ≤ -1) were 53 and 54% respectively. These were among the highest rates of undernutrition in the world at that time, although by 2011 rates of moderate stunting and mild wasting had both fallen to around 40% (Headey et al., 2015). Third, Bangladesh has a relatively rich array of nutritional and agricultural data; the dearth of such data has undoubtedly been a constraint to exploring the impacts of agricultural growth on nutrition in other Green Revolution countries.

Our analysis involves three steps. First, we outline a conceptual framework for thinking about the complex linkages between the economic impacts of the Green Revolution (on farm incomes, wages and food prices) and child nutrition outcomes, with a specific focus on child diets/feeding practices as a key impact pathway (Section 2). We then turn to descriptive evidence of how the evolution of agricultural production and trade has influenced national food supply, household diets and child feeding practices in Bangladesh (Section 3). Here we not only describe the well-known drivers of yield growth in Bangladesh rice production (namely the conventional Green Revolution “package” or high yielding varieties, irrigation and chemical inputs), but also the agroecological constraints that have limited Bangladeshi agriculture's capacity to diversify food production away from rice. Imports have provided some imperfect substitution for the lack of diversification in domestic production, but the net result has been a very limited diversification in food consumption, especially among young children.

We then attempt more formal tests of these linkages by constructing a small district-level panel dataset comprised of nutritional indicators from five rounds of the Bangladesh Demographic Health Surveys (over 1996/97 to 2011) and district level data on rice yields from the Bangladesh Bureau of Statistics (the construction of which is described in Section 4). With these data we use difference-in-difference estimates to explore whether growth in rice yields significantly predicts preschool nutritional status and feeding patterns (dietary diversity, and the timing of introducing complementary foods), as well as maternal nutrition outcomes (Section 5). We find that yield growth predicts improvements in child weight gain and an earlier introduction of solid foods (most of which is rice), but does not predict improvements in linear growth (height gain) or improved dietary diversity. We also find no significant associations between yields and maternal body mass.

Given the limitations of our data and the lack of existing evidence on agriculture–nutrition linkages in Bangladesh, our concluding remarks cautiously reflect on these findings. One important limitation of our analysis is that our small district level panel precludes the use of more experimental estimation techniques that might allow us to draw more confident causal inferences. Hence we do not claim to causally identify the nutritional impacts of rice policies and investment per se. This

study should instead be viewed as a preliminary exploration into the nutritional impacts of Green Revolution-style agricultural development strategies.

Bearing this important caveat in mind, several of our exploratory findings are economically and biologically plausible, and are certainly pertinent to the important policy question of whether agricultural development strategies should continue to focus on improving the productivity of key staples, or instead leverage agriculture for diversifying diets. We show that Bangladeshi diets remain heavily under-diversified, and that this lack of diversification is likely a major constraint to achieving further reductions in child stunting, as well as various micronutrient deficiencies not directly addressed in this paper. Accelerating dietary diversification will require research and policy experimentation on a wide range of both supply and demand-side interventions.

2. Conceptualizing the linkages between rice productivity growth and child nutrition

How might rapid growth in a staple crop influence child nutrition outcomes? In Fig. 1 we present a simplified framework for thinking through the various connections between rice productivity growth and changes in nutrition. At the top of Fig. 1 we focus on policy-driven growth in rice yields (particularly the combination of agricultural R&D, irrigation expansion and policies that affect other inputs, such as fertilizers). Economic research has demonstrated that growth in staple food production influences farmer incomes directly, but also has indirect effects on the demands for unskilled labor (Mellor, 1976; Hazell, 2009). This influence on labor earnings explains why the rural landless have typically benefited from Asia's Green Revolutions (Hazell, 2009). In partially closed economies an increase in rice production also reduces real rice prices, with important implications for food security (Shahabuddin and Dorosh, 2002). However, the effects of rice productivity growth on the consumption of other foods is ambiguous. Higher

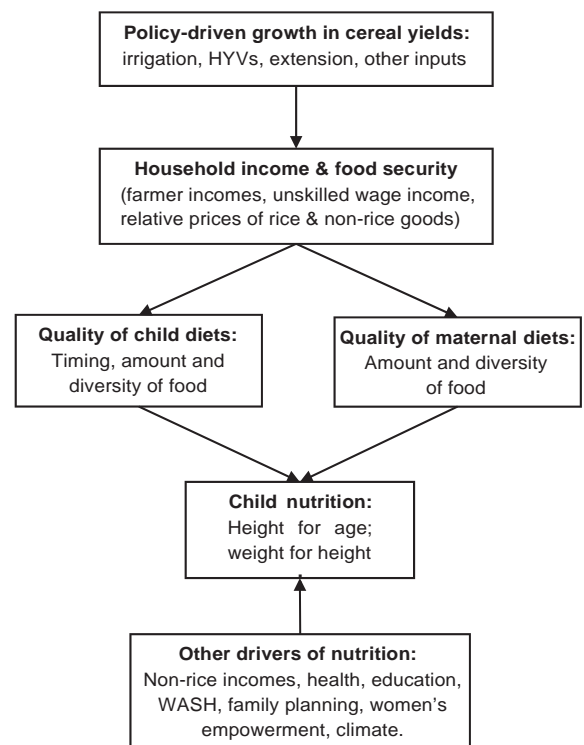


Fig. 1. The linkages between yield growth, dietary changes and nutrition outcomes. Notes: WASH refers to water, sanitation and hygiene. Source: Authors' construction.

incomes should raise the demand for more nutrient-rich foods (e.g. meat, eggs, fish and fruits and vegetables), but unless there is an adequate supply response this increase in demand may increase prices (Bouis, 2000), which will constrain consumption of these foods. As we discuss below, in Bangladesh there are likely to be basic agroecological constraints to diversifying agricultural production. Imports can partially play a role in strengthening supply response, though imports of highly perishable foods like vegetables, eggs and dairy products, will likely be highly constrained. These supply constraints, perhaps in combination with cultural factors that inhibit demand for nutrient-rich foods, likely explain the limited diversification of the Bangladeshi diet despite real income gains.

The next step in this framework is to consider how household level increases in incomes, rice consumption, and dietary diversity translate into improvements in the nutrition outcomes of young children, either via improvements in the diets of those children or in the diets of their mothers. A well-established nutritional literature has shown that linear growth (height for age) largely manifests itself in the first 1000 days of life (in utero and in the first 24 months of childhood), after which there is substantial stabilization in heights (Victora et al., 2009). Improvements in maternal diets can therefore influence child nutrition through growth in utero or, secondarily, via improved breastfeeding outcomes. Postnatal growth is more a function of child feeding practices, as well as exposure to infections that can curtail nutrient utilization.

Thus, in addition to direct tests of the relationships between nutrition outcomes and growth in rice yields, it is also important to explore the relationships between rice yields and maternal nutrition, and rice yields and child feeding outcomes. In terms of the latter we distinguish between the timing at which complementary (solid or semi-solid) foods are introduced (the WHO recommends 6 months, but many South Asian children start much later than this, and the diversity of foods given to young children. We hypothesize that the timing at which solid food is introduced may be a rough proxy for calorie intake at this critical age of accelerated faltering in both weight and height gain, since related indicators (feeding frequency) have been shown to be reasonable proxies for calorie intake (Working Group on IYCF Indicators, 2006). A child's dietary diversity may also proxy for calorie intake, but is likely more strongly linked to micronutrient intake. This indicator has also been empirically linked to linear growth in young children (Arimond and Ruel, 2006).

Finally, while Fig. 1 is a simplified framework designed to focus on the dietary aspects of agriculture-nutrition linkages, we note that: (1) productivity growth in agriculture might also have some negative non-dietary impacts on nutrition; and (2) many other factors may influence nutrition, and perhaps interact with agricultural drivers. Negative non-dietary aspects of agricultural productivity growth could include increased demands on women's time (Headey et al., 2012), as well as increased exposure to potentially harmful fertilizers and pesticides (Brainerd and Menon, 2014). However, observationally it appears that Bangladeshi women tend to work less in rice production and more in the homestead on rice processing and other non-rice activities. Other non-agricultural drivers of nutritional change in Bangladesh are discussed in Headey et al. (2015), and include parental education, sanitation, women's empowerment, reductions in fertility, and broader non-agricultural growth in manufacturing and services, as well as overseas remittances. In our statistical analysis we control for many of these factors, but we also assume that these factors influence nutrition independently of rice productivity growth (i.e. without interactions). This is not necessarily a plausible assumption. For example, there is evidence that women's empowerment influence the intrahousehold distribution of resources (see Malapit et al., 2015, for example), and there are clear biological links infections (which are related to WASH) and diets (Humphrey, 2009). In this paper the data are at hand are not well suited to exploring these complex interactions, but future work could relax this assumption.

3. Background on agricultural development and nutrition in Bangladesh

In this section we aim to briefly describe the important role of rice productivity growth in agricultural production in Bangladesh, and how Bangladesh's production and trade characteristics have influenced dietary patterns.

3.1. Agricultural production and trade in Bangladesh

Bangladesh is characterized by uniquely intensive agricultural production that largely takes place on very small family farms engaged in multiple cropping seasons. Most of the rural poor are landless farm or nonfarm laborers, or smallholders (Balagtas et al., 2014; Hossain, 2004). For all three groups rice is an exceptionally important crop. In 1997 – the start of our period of analysis – rice accounted for two-thirds of the value of food production, and almost 80% of the value of crop production, and around 70% of calorie intake (FAO, 2014). Rice prices have also been shown to be an important determinant of wage rates for unskilled workers in Bangladesh (Ravallion, 1990).

Traditionally, rice production utilized relatively low levels of irrigation and other modern inputs. Production was highly seasonal, with the vast majority of production taking place in the monsoonal *aman* season, with production in the dry season constrained by lack of water. But like other Asian countries, Bangladesh was to benefit substantially from the research and development of high-yielding varieties (HYVs) and the associated adoption of irrigation and other modern inputs; in short, the so called Green Revolution package (Ahmed et al., 2000; Hossain et al., 2006; Naher, 1997). Unlike most other Asian economies, however, Bangladesh's Green Revolution got off to a sluggish start. In 1967 the Bangladesh Academy of Rural Development imported the IR8 variety from The International Rice Research Institute (IRRI) in the Philippines and introduced them in the dry season, while IR20 was introduced in 1970 for the wet season. The spread of these varieties was slow in the 1970s, delayed by the war of independence and the rebuilding process, as well as the vulnerability of new varieties to pests and disease (Hossain et al., 2006). By the mid-1980s only around 27% of rice area was planted to modern varieties, and yield growth was averaging around 2.2% per annum (Fig. 2).

The 1990s saw more dramatic changes, however. First, the government progressively liberalized agricultural inputs, particularly the imports of small-scale irrigation equipment, including diesel pumps and shallow tube wells (Nazneen et al., 2007). As a result, irrigated area doubled from 1990 to 2010. The great water control afforded by the irrigated *boro* crop also increased the returns to high yielding varieties, leading to a rapid acceleration in *boro* yields. As a result, the share of the once minor *boro* crop in total production increased from around 15% in the 1970s to 58% in 2010. Moreover, while saline affected coastal areas were initially inhibited in adopting irrigation, these areas have seen

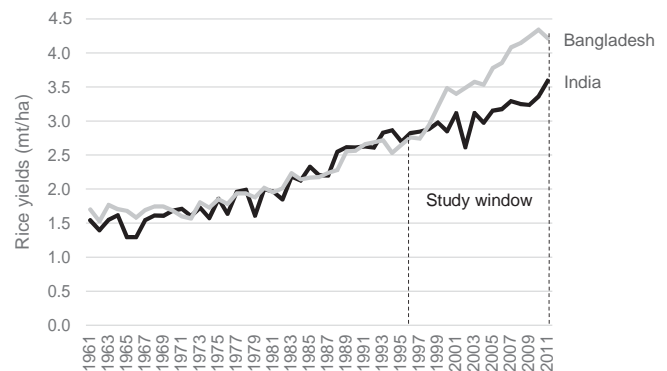


Fig. 2. Rice yields (mt/ha) in Bangladesh and India, 1961–2011. Source: FAO (2014).

some expansion in irrigation and HYV adoption since the mid 2000s, particularly with the adoption of more saline-resistant rice varieties (BR40 and BR41).

As a result rice production grew by 80.7% over 1997–2011, or 5.8% per annum, and accounted for 61.4% of total production growth (FAO, 2014). To put things in comparative perspective, Fig. 2 shows that rice yields in Bangladesh far outstripped yield growth in India over 1997–2011, thus providing us with a late Green Revolution experience that overlaps with regular nutritional measurement.

Over time there was also some diversification of the Bangladesh production basket out of rice, though Bangladesh still has one of the least diversified production systems in the world. Per capita production of non-rice foods is much less than neighboring India (Table 1). There are various demand and supply-side reasons to explain this lack of diversification. As is well known, dry season irrigation in Bangladesh (and other South Asian countries) has led to dramatic reduction in the area devoted to pulses. Like India, Bangladesh now primarily relies on pulse imports to meet domestic demand, with imports amounting to 70% of consumption (FAO, 2014). Another supply-side factor of some importance is the poor suitability of water-logged soils to non-rice crops (Pingali, 2007), which especially inhibits production of vegetables and many fruits. Imports of vegetables and fruits from India and China have grown rapidly in Bangladesh and now account for approximately 10% of vegetable consumption and 43% of fruit consumption (FAO, 2014). Similarly, Bangladesh's high population density also constrains livestock production because of feed constraints, and the country partly relies on milk powder imports, though milk consumption is very low by international standards. Indeed, per capita production of milk, vegetables, fruit and pulses is less than half that of India (Table 1).

Finally, fish is an important consumption item in Bangladesh, not least because of the high micronutrient and protein content of traditional fish varieties especially. Measurement of fish production in Bangladesh is difficult because so much production is not commercial, but it has been hypothesized that traditional fish harvesting declined substantially with the increased use of pesticides and fertilizers and the decline in floodwater area (Shankar et al., 2005). Indeed, from 1980 to 2003 the real price of *hilsa* fish doubled (Sen et al., 2010). In more recent years, however, commercial (specialized) fish farming has grown rapidly, leading to increase fish consumption, albeit of new varieties that tend to be less rich in micronutrients (Bogard et al., 2015).

3.2. Dietary trends in Bangladesh

How have Bangladesh's production and trade patterns translated into changes in diets? Fig. 4 uses FAO Food Balance Sheets to compare basic trends in food supply (a proxy for average diets) in Bangladesh and India. These results need to be treated with caution because there may be systematic errors in FAO Food Balance Sheets, particularly mis-reporting of production for foods that are traded little (e.g. some vegetables, fruits and animal sourced foods). Bearing that caveat in

Table 1
Trends in per capita production (kg) of various food groups, Bangladesh and India, 1996–2011.
Source: FAO (2014).

	Rice		Milk		Vegetables	
	Bangladesh	India	Bangladesh	India	Bangladesh	India
1996	152.9	74.7	29.5	117.7	11.5	54.6
2011	172.6	70.8	41.9	168.4	26.0	80.5
	Meat		Fruit		Pulses	
	Bangladesh	India	Bangladesh	India	Bangladesh	India
1996	4.0	6.1	11.1	36.0	4.3	11.8
2011	5.0	7.4	24.4	52.9	3.9	14.2

mind, Fig. 3 shows some striking differences between Bangladesh and India. Panel A in Fig. 3 shows that estimated calorie deprivation in Bangladesh declined from 42% in 1990–92 to 27% in 2010–12, a level only slightly above neighboring India. This increase in calorie availability is mechanically related to increase rice production per capita, and is a standard rationale for investments in staple foods. Panel B tells a very different story in terms of dietary diversification, as measured by the share of calorie obtained from non-starchy staples. Bangladesh has one of the least diversified diets in the world, and saw little diversification in its food supply over time, with the share of non-starch calories rising from just 15% in 1990–92 to 21% in 2010–12. This is just half the level of India.

In Table 2 we try to get a more complete and potentially more accurate picture using national level Household Income and Expenditure Survey (HIES) data to separate dietary trends across expenditure quintiles in both rural and urban areas. Although the HIES data show a somewhat faster diversification of diets than the FAO, they confirm that dietary diversification is very low in Bangladesh, especially in rural areas and especially among poorer quintiles. Indeed, in 2011 the share of calories from non-starchy staples in rural diets was less than 30% in all but the richest quintile.

While national and household level indicators are useful for understanding broad patterns of dietary change, for these changes to influence young children one must observe improvements in their diets, or in the diets of their mothers (which affects growth in utero, and potentially also the quality of breastmilk). For maternal diets, we lack data on trends over time, although the Demographic Health Surveys can be used to estimate changes in mothers' body mass index (BMI) over time in rural Bangladesh. We find that BMI increased among both pregnant (by 7.8% over 1997–2011) and non-pregnant mothers (by 9.2% over 1997–2011). While even adult BMI can be influenced by infection, these large increases likely reflect increased calorie consumption among Bangladeshi women.

For postnatal growth, however, child level feeding practices will have a more direct impact on linear growth and weight gain. Poor feeding practices are regarded by nutritionists as a critical constraint in South Asia (Senarath et al., 2012; Kabir et al., 2012; Menon, 2012). In addition to inappropriate breastfeeding practices (which are unlikely to be directly influenced by agricultural production), there are significant problems with *when* solid and semi-solid foods are introduced, and with limited diversity in those foods. Table 3 reports various indicators of the timing and diversity of solid foods (we note that these indicators should be interpreted cautiously because food categories in the DHS change somewhat over time). The WHO recommends that solid/semi-solid foods should be introduced at 6 months, but Table 3 shows that

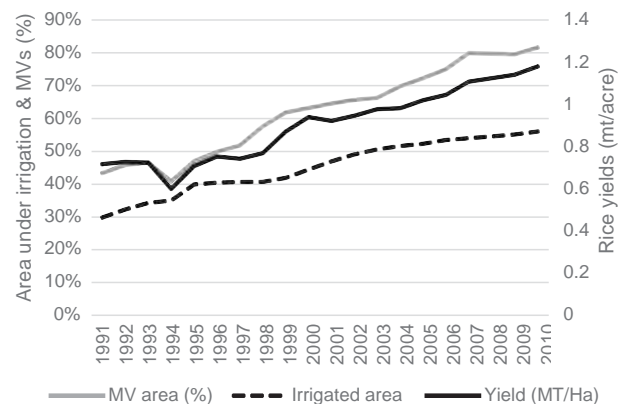


Fig. 3. Trends in irrigation, modern variety (MV) uptake and rice yields. Source: Data are from the Bangladesh Bureau of Statistics, various years.

in 2000 only half of children aged 6-8 months were given solid foods yesterday. By 2011 this had risen substantially to around 60%. Mean dietary diversity appears to have stayed the same or declined, with the average child aged 6-24 months given only 2.11 food groups in 2011. Likewise only a few children were given at least 4 food groups yesterday (the WHO recommendation for minimum dietary diversity). Finally, consumption of dairy products – which has previously been shown to be a strong predictor of child growth outcomes in a number of studies (Hoddinott et al., 2015; Hoppe et al., 2006; Iannotti et al., 2013; de Beer, 2012) – was unchanged over 2000–2011. Overall, then, there are some signs of improvements in maternal BMI and in the timely introduction of solid foods – both of which likely reflect increased calorie consumption by mothers and young children - but little indication that children's diets have diversified.

missing data for several districts in several rounds, our sample has 109 district-year observations in total. When constructing this sample, we were concerned that we had a sufficient number of children in each district. In our main sample the median number of children per district-

4. Construction and analysis of a district level agriculture-nutrition panel

More formal empirical tests of agriculture-nutrition linkages is greatly constrained by lack of data, with nutritional surveillance rarely collecting agricultural data, and long running household economic surveys rarely collecting anthropometric or dietary data for young children. For these reasons we create a synthetic panel by merging together five rounds of data on rural households and children from the nationally representative Bangladesh Demographic Health Surveys (DHS) collected in the years 1996/97, 2000, 2004, 2007 and 2011, with district level agricultural data (BBS, 2014). We focus on rural areas only. While rice productivity growth might benefit urban areas through lower rice prices, high levels of market integration across urban areas would presumably result in very little spatial variation in rice prices. Moreover, the urban sample in the DHS is relatively small, leaving some districts with very few urban observations.

Each observation in our rural panel is a year-district mean. There are 23 rural districts and five observations per district, but because we are

Table 3

Trends in selected child feeding indicators in rural Bangladesh, 2000–2011. Source: Author's estimates from the 2000 and 2011 rounds of the Demographic Health Surveys.

	Child given any solid or semi-solid food yesterday (children 6-9 months)	Mean dietary diversity yesterday (7 food groups; children 6-24 months)	Minimum dietary diversity yesterday (children 6-24 months given 4-plus food groups)	Child given any dairy yesterday (children 6-24 months)
2000	46.7%	2.25	22.2%	25.1%
2011	58.9%	2.11	13.8%	27.7%

largely depend on production in recent seasons rather than the still-on-going current season.² Given Bangladesh's multiple seasons, rice yields are the sum of production in different seasons divided by the total crop area harvested in those seasons. This indicator is only available at the district level, and is based on agricultural surveys carried out by the Bangladesh Bureau of Statistics (Bangladesh Statistical Yearbook, various years). Table 4 shows descriptive statistics for our key agricultural and nutrition indicators for the 109 district-years in our sample.

We model the relationship between nutrition outcomes and yields as:

$$N_{it} = \alpha + \beta y_{it} + \theta R_{it} + \gamma D_{it} + \delta X_{it} + \tau_i + \mu_i + \epsilon_{it}$$

where *N* refers to child nutrition outcomes for district *i* and time *t*, *y* to rice yields, β to the impact of yields on nutrition, *R* to district level rainfall, *D* to child age and its square, *X* to various other determinants of nutrition outcomes such as education, health, sanitation and demographic variables, *T* to time dummies for each survey round, μ_i to district fixed effects, and ϵ to an error term. As such, we control for time-invariant factors that could be correlated with both yields and nutritional quality (e.g. water availability, soil quality, climate, cultural practices), aggregate temporal effects that might simultaneously influence agricultural productivity and nutrition (for example, changes in international food prices) and a number of nutrition-relevant control variables that could also potentially be correlated with rice productivity/technology growth.

While the Eq. (1) controls for a wide range of observable factors, we acknowledge that empirical estimates of the effects of yields on nutrition could still be biased by unobservable factors that simultaneously influence rice yields and nutrition. Our assumption is that growth in district level rice yields largely reflects local suitability to improved technologies, particularly irrigation and HYVs. Dry season (*boro*) irrigation – the major driver of yield growth over 1997–2011 – was substantially constrained in coastal saline-affected districts and in the higher altitude Chittagong hill tracts. This assumption is contestable because it is possible that other endogenous factors may have substantially influenced yield growth (such as rising demand from growing urban centers) and simultaneously affected nutrition through other pathways (such as increased non-farm income). This means that we must treat the results below as suggestive rather than definitive evidence on the linkages between rice productivity growth and changes in child nutrition outcomes.

5. Empirical tests of the links between yield growth and changes in nutrition outcomes and feed practices across Bangladeshi districts

In this section we use the district level panel to test whether growth in rice yields explains changes in nutrition outcomes over 1997–2011, before then testing whether yields explain changes in child feeding

² The availability of seasonal production data at the district level allows us to adjust our agricultural measurement dates to the DHS survey timing. For example, in the 1996/1997

DHS rounds the survey dates ranged from October 1996 to April 1997. Thus we measured yields in the 12 months from July 1995 to June 1996, which includes the 1995 *aman* yield (harvested mostly in November and December 1995) and the *boro* and *aus* yields from April to June 1996. In another round (2004) the DHS began in January and finished in May, so we measured yields in the previous calendar year (2003).

practices. Finally, we describe the results of various empirical extensions to our main results, including several robustness tests.

5.1. Child nutrition outcomes

Table 5 reports the results of regressing the various chronic and acute child nutrition outcomes against rice yields in models that control for fixed effects and time period effects, as well as child age and its square. In regressions 1, 2 and 3 we find that rice yields have no significant effect on the three indicators of height gain (HAZ, HAZ b – 2 and HAZ b – 3). One explanation may be that current stunting rates are in fact related to cumulative nutrition processes, and hence to several years of lagged rice productivity outcomes. Another explanation may be that linear growth benefits more from dietary diversification than calorie availability. We explore these explanations below.

Unlike height gain, rice yields have a large and well-measured association with weight gain. The effects of yields on the WHZ score is significant at the 5% level and is meaningful in magnitude. The 0.5 metric ton (mt) increase in yields per acre over 1997–2011 predicts a 0.4 standard deviation improvement in WHZ scores. The same increase in yields predicts a 12 percentage point decline in mild wasting (WHZ b – 1). But in regression 6 we see no significant association between yield growth and moderate wasting (WHZ b – 2).

These results could be confounded by district time-varying characteristics. The focus of our study is on policy-driven changes in rice yields, but rainfall also influences yields, and can influence nutrition independently of yields via infection. Headey et al. (2015) also find evidence that many other socio-economic factors may have driven nutritional change over time, and some of these factors may be correlated with yield growth at the district level. We follow Headey et al. (2015) in extracting a wide array of relevant indicators, such as parental education, toilet use, access to antenatal care, fertility rates, a proxy for

Table 4
Descriptive statistics for the district level panel.

	Number of district-year observations	Mean	Standard Deviation
<i>Rice productivity</i>			
Yields (mt/acre)	109	0.93	0.21
<i>Child nutrition^a</i>			
HAZ score	109	-1.56	0.33
Moderate stunting, HAZ b – 2 (0-1)	109	0.39	0.11
Severe stunting, HAZ b – 3 (0-1)	109	0.16	0.08
WHZ score	109	-1.02	0.29
Mild wasting, WHZ b – 1 (0-1)	109	0.51	0.10
Severe wasting, WHZ b – 2 (0-1)	109	0.19	0.08
<i>Child feeding^b</i>			
Complementary feeding, 6-9 months (0-1)	109	0.68	0.18
Minimum dietary diversity, 6-24 months (0-1)	89	2.17	0.78
Dairy consumption, 6-24 months (0-1)	109	0.31	0.15

^a Child nutrition indicators are measured for children aged 0-24 months.

^b Child feeding indicators are measured for children aged 4-18 months. Note that the dietary diversity indicator is not available for 11 the 1996/97 round.

Table 5
Fixed effect estimates of the impact of rice yields on chronic and acute child nutrition indicators.

	1	2	3	4	5	6
	HAZ score	Moderate stunting (HAZ b -2)	Severe stunting (HAZ b -3)	WHZ score	Mild wasting (WHZ b -1)	Moderate wasting (WHZ b -2)
Rice yields	-0.14 (0.34)	0.18 (0.16)	-0.05 (0.10)	0.79** (0.30)	-0.23* (0.12)	-0.15 (0.14)
Age control	Yes	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.42	0.35	0.41	0.28	0.33	0.41
Sample size	109	109	109	109	109	109

Notes: *, **, and *** indicates significance at the 10%, 5% and 1% significance levels respectively. Robust standard errors are included in parenthesis. All indicators are measured for children 0-24 months of age.

women's empowerment (her self-reported ability to go to a health clinic alone), membership of BRAC (a large Bangladeshi NGO that provides agricultural and non-agricultural services), and a household asset score (scaled to vary between 0 and 10). This last indicator provides excessive control because we expect yields to chiefly influence nutrition via household economic status, either through increased food production, higher wages or lower food prices, or some combination of all three. Hence we specify multivariate regressions with and without the asset index to check whether rice productivity does indeed operate via economic status.

Table 6 shows that adding time-varying control variables (excluding assets) to the bivariate models from Table 5 reduces the effects of yield growth on the weight-for-height indicators only very slightly. In the case of WHZ scores the coefficient drops from 0.79 to 0.66, while in the case of mild wasting it remains unchanged but more imprecisely estimated and is now marginally insignificant at the 10% level. We also note that adding these controls substantially increased the coefficients of determination of these models, and that significant coefficients are observed on rainfall, toilet use and prenatal care.

Table 6
Adding control variables to the WHZ and mild wasting fixed effects models.

	1		2		3		4	
	WHZ		Mild wasting (WHZ b -1)		Mild wasting (WHZ b -1)		Mild wasting (WHZ b -1)	
	Excluding assets	Including assets	Excluding assets	Including assets	Excluding assets	Including assets	Excluding assets	Including assets
Rice yields	0.66** (0.25)	0.19 (0.31)	-0.23 (0.15)	-0.11 (0.15)	-0.23 (0.15)	-0.11 (0.15)	-0.23 (0.15)	-0.11 (0.15)
Log of rainfall	0.38 (0.26)	0.47* (0.25)	-0.19* (0.11)	-0.21* (0.11)	-0.19* (0.11)	-0.21* (0.11)	-0.19* (0.11)	-0.21* (0.11)
Maternal education (years)	0.14 (0.09)	0.09 (0.08)	-0.02 (0.03)	-0.01 (0.02)	-0.02 (0.03)	-0.01 (0.02)	-0.02 (0.03)	-0.01 (0.02)
Paternal education (years)	0.01 (0.06)	-0.04 (0.05)	0.01 (0.02)	0.03 (0.02)	0.01 (0.02)	0.03 (0.02)	0.01 (0.02)	0.03 (0.02)
Households with toilets (%)	0.67* (0.35)	0.66** (0.31)	-0.18 (0.11)	-0.18* (0.10)	-0.18 (0.11)	-0.18* (0.10)	-0.18 (0.11)	-0.18* (0.10)
Prenatal care (%)	0.28 (0.40)	0.09 (0.27)	-0.26* (0.13)	-0.21** (0.10)	-0.26* (0.13)	-0.21** (0.10)	-0.26* (0.13)	-0.21** (0.10)
Fertility rates	0.19 (0.12)	0.12 (0.09)	-0.05 (0.05)	-0.03 (0.04)	-0.05 (0.05)	-0.03 (0.04)	-0.05 (0.05)	-0.03 (0.04)
Women can visit clinics (%)	-0.11 (0.32)	0.38 (0.31)	0.07 (0.11)	-0.06 (0.11)	0.07 (0.11)	-0.06 (0.11)	0.07 (0.11)	-0.06 (0.11)
NGO members (%)	0.42 (0.67)	0.51 (0.66)	-0.17 (0.20)	-0.19 (0.21)	-0.17 (0.20)	-0.19 (0.21)	-0.17 (0.20)	-0.19 (0.21)
Household asset score (1-10)		0.25*** (0.05)		-0.07*** (0.02)		-0.07*** (0.02)		-0.07*** (0.02)
Age controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.40	0.53	0.39	0.47	0.39	0.47	0.39	0.47
Sample size	109	109	109	109	109	109	109	109

Notes: *, **, and *** indicate significance at the 10%, 5% and 1% significance levels respectively. Robust standard errors are included in parenthesis. All indicators are measured for children 0-24 months of age.

Quantitatively, the results from Table 5 therefore appear quite robust to incorporating some of the alternative explanations of nutritional change in Bangladeshi districts. However, the coefficients on yield growth drop significantly in magnitude and lose significance when the mean household asset score is added to these models. This result lends some uncertainty to the relationships between yield growth and changes in weight gain. One interpretation is that yield growth drives income growth and asset accumulation (i.e. assets are a mediating factor between yield growth and weight gain in young children. But this result is also consistent with the possibility that independent economic factors – such as rising demand for rice from non-farm economic growth – are simultaneously increasing household assets in rural areas and driving yield growth. We examine this issue in robustness tests and extensions reported below.

5.2. Associations between yield growth and changes in child feeding indicators

Yield-induced improvements in child weight gain suggest that children are either given more food, or possibly also better food (since micronutrients can also build up immunity to diseases, which can affect weight gain). In Table 7 we therefore explore associations between the three child feeding indicators introduced in Section 3: the introduction of solid foods among children 6-9 months, minimum diet diversity among children 6-24 months, and dairy consumption among children 6-24 months. Consistent with expectations we observe a large and significant effect of rice yields on consumption of solid foods among children 6-8 months, suggesting that poor rural Bangladeshi households may delay the introduction of complementary foods by extending their reliance of breastfeeding as the principal source of nutrition for young children. Consistent with this rationing hypothesis we also find that rainfall is positively associated with the introduction of complementary foods. As expected, we observe no significant associations between rice yields and minimum dietary diversity or milk consumption.

Finally, Table 8 reports associations between regressions of mild wasting and moderate stunting rates against the three indicators of feeding practices. Regression 1 shows that the introduction of complementary foods is strongly associated with child weight outcomes, with a coefficient of -0.19. Minimum dietary diversity and milk consumption have insignificant coefficients in the wasting model (regressions 2 and 3 respectively). In regression 4 we observe no significant association between complementary feeding and stunting, consistent with the lack of a significant impact of yields on stunting. However, minimum dietary diversity and dairy consumption are strongly and negatively associated with stunting rates, with comparable point estimates

(-0.29). Together, the results above suggest that rice productivity growth has

significantly influenced child weight gain through the earlier introduction of complementary foods, and perhaps also greater quantities of these foods. However, the insignificant effects of yield gains on linear

Table 7
Fixed effects estimates of the impact of yield growth on child feeding indicators.

	1	2	3
	Complementary foods, 6-9 months	Minimum dietary diversity, 6-24 months	Dairy consumption, 6-24 months
Rice yields	0.47* (0.25)	-0.04 (0.13)	-0.17 (0.17)
Child age controls	Yes	Yes	Yes
Additional time varying controls	Yes	Yes	Yes
Time effects	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes
R-squared	0.87	0.88	0.44
Sample size	100	89	109

Notes: *, **, and *** indicate significance at the 10%, 5% and 1% significance levels respectively. Robust standard errors are included in parenthesis. Additional time varying controls include those used in Table 6, excluding assets.

growth in children seems related to the limited impacts of these gains on dietary diversification.

5.3. Extensions and robustness tests

In addition to the results above we conducted a number of extensions and robustness tests. For the sake of brevity, these results are summarized here in the text only; the full set of results is available upon request.

In terms of basic robustness tests, we tested robustness to the exclusion of the Chittagong Hill districts (which have smaller DHS samples and somewhat less dependence on rice production), and to the inclusion of additional control variables (such as alternative indicators of access to health services). The core results remain robust to these additional tests.

Another concern with these results rests with our assumption that yield growth was largely an exogenous supply-side technology-driven process. Economists might argue that rice yields might be driven more by demand-side than supply-side factors, and that these demand-side factors have other links to nutrition. For example, remittances from overseas workers have grown rapidly in Bangladesh (with spatial variation), as has the manufacturing sector (again with spatial variation). These other sources of income growth could raise demand for rice, but also influence nutrition via household income/assets. However, there are three predictions of our technology-led assumption that are testable: (1) that yield growth over 1997-2011 was overwhelmingly driven by the package of irrigation and HYVs; (2) that child wasting is higher in coastal areas where irrigation adoption was exogenously constrained by salinity problems; and (3) that the more rapid increases in irrigation in

non-coastal areas was associated with more rapid asset accumulation in those areas.

All three predictions are supported by the data. With respect to prediction (1) we use the district level agricultural sample survey data to test how much of the growth in yields is explained solely by changes in irrigation and HYV adoption; the answer is a high 80%. Second, we run least squares regressions of nutrition indicators against a dummy variable for coastal districts, and the set of time-varying control variables used above (excluding assets, and excluding the three hill districts that are agroecologically different, but also culturally very different). The results suggest that, controlling for differences in other nutritional determinants, mild and moderate wasting rates are significant higher in coastal areas compared to non-coastal areas, by 5 and 6 percentage points respectively.³ Consistent with the results in sub-section 5.1, we find no stunting/HAZ differences between coastal and non-coastal districts. Finally, we look at trends in the asset index (which varies between 0 and 10) across coastal and non-coastal districts (again, excluding the three hill districts). In 1997 the data suggest that coastal districts were significantly richer than inland non-hill districts at the 10% level, by about 0.60 points. This is a reasonably large difference of about two-thirds of a standard deviation. However, by 2011 the non-coastal districts had slightly higher asset scores than the coastal districts (though not significantly so); in other words, asset accumulation was more rapid over 1997-2011 in those districts with greater suitability for irrigation.

We also explored whether the lack of an association between yields and HAZ/stunting stems from the fact that yields from the most recent season might be less important than yields from earlier seasons, including those preceding a child's birth (i.e. in utero). Consistent with this possibility, Headey et al. (2015) show that much of the improvement in child HAZ scores in Bangladesh seems to stem from improvements in birth size. We therefore estimated regressions of HAZ against yields in the year of a child's birth, but found no significant results. We also estimated mean maternal BMI scores (and maternal underweight prevalence) against yields, but again found no significant results (despite maternal BMI being strongly associated with asset scores). Of course, it may be that there really are significant linkages between yields and linear growth in children, but that they are simply to dynamically complex to untangle with the data at hand. Or it may be that rice yields genuinely have little influence on linear growth, perhaps precisely because of the limited impacts of Bangladesh's Green Revolution on dietary diversity.

6. Conclusions

In this paper we explored the links between rapid productivity growth in rice production, dietary diversification and changes in the

Table 8
Fixed effects estimates of the associations between child feeding indicators and child nutrition outcomes.

	1	2	3	4	5	6
	Mild wasting (WHZ b -1)			Moderate stunting (HAZ b -2)		
Complementary feeding (%)	-0.24** (0.09)			0.08 (0.14)		
Minimum diet diversity (%)		0.06 (0.11)			-0.29* (0.15)	
Dairy consumption (%)			0.07 (0.09)			-0.29** (0.14)
Age controls	Yes	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.32	0.27	0.26	0.31	0.24	0.36
Sample size	100	88	107	109	89	109

Notes: *, **, and *** indicate significance at the 10%, 5% and 1% significance levels respectively. Robust standard errors are included in parenthesis.

³ WHZ scores were also lower in coastal areas by about 0.12 standard deviations, though this coefficient is only significant at the 11% level.

nutritional status and feeding patterns of young children during Bangladesh's impressive late Green Revolution period. We first show that diets in Bangladesh are remarkably undiversified, and have only diversified slowly during this period of rapid rice intensification. We also find that increases in rice yields have large and statistically significant associations with child weight gain, which appears to be at least partially explained by increased food consumption for young children, particularly the timelier introduction of complementary foods in the critical early window of child development. This potential impact of yields on child weight gain is important – Bangladesh still has one of the highest rates of child wasting in the world – but it is also somewhat disappointing that we were unable to detect any benefit from increasing rice yields on child growth outcomes. Empirical tests may not be granular enough to unravel the complex dynamic linkages between yields and linear growth in young children, both our descriptive and econometric evidence does suggest that this may be explained by the very limited dietary diversification in Bangladesh.

These results point towards several potentially important policy implications, though further evidence is still needed to corroborate the linkages hypothesized in this paper.

First, we provide strong evidence that delays in the introduction of complementary foods – and most likely, in adequate calorie intake of children – are related to low levels of agricultural productivity and household economic status (assets). Hence, public investments in staple food production would appear to be an important tool for overcoming those constraints, in addition to safety net programs for poor households, as well as the kinds of behavioral change communications programs typically favored by nutritionists for the improvement of complementary feeding (Dewey and Adu-Afarwuah, 2008).⁴

Second, it is clear from different types of data that diets have diversified very little over a period of rapid productivity growth in the main food staple. A major challenge in Bangladesh is to understand the constraints to dietary diversification, and policy options for accelerating diversification. Examples of potential policy levers include a reorientation of Bangladesh's agricultural R&D portfolio towards more micronutrient-rich crops and livestock products, an increased focus on diversifying production via agricultural extension programs, behavioral change and communication interventions to nudge parents into healthier feeding practices, nutrition-sensitive social safety nets to improve the purchasing power of the poorest households (perhaps conditional upon participation in nutritional programs), and interventions to alleviate the many marketing bottlenecks that inhibit both domestic production and domestic and international trade of perishable nutrient-rich foods in particular (e.g. lack of cold storage, inadequate infrastructure, regulatory burdens to trade).

Assessing the effectiveness of these types of policies and programs in accelerating diversification towards healthier and more nutrient-rich diets would seem to be an important area for future research.

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⁴ Indeed, the importance of household economic status and food security for complementary feeding may explain why purely behavioral interventions to improve child feeding practices have had variable and often rather modest effects (Dewey and Adu-Afarwuah, 2008).

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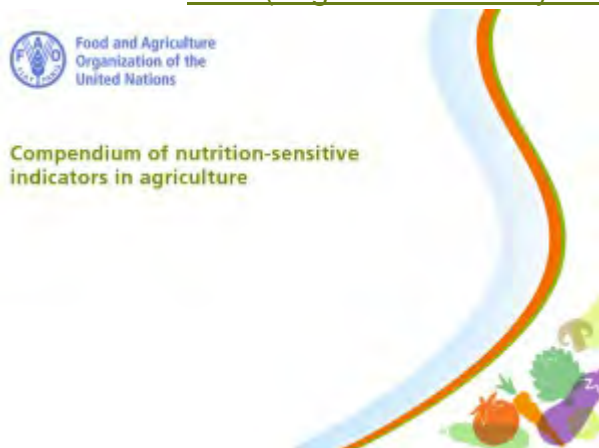
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Two publications on this topic were released in September 2016. Several other 2016 publications deal with specific areas of measurement and support the overall conversation on nutrition indicators in agriculture. Authors of these documents were on the call to introduce them to the CoP.

PUBLICATIONS

[Nutrition Indicators in Agriculture Projects: Current Measurement, Priorities, and Gaps](http://www.sciencedirect.com/science/article/pii/S2211912415300109)

(<http://www.sciencedirect.com/science/article/pii/S2211912415300109>). Anna Herforth & Terri J. Ballard. *Global Food Security*, Sept 2016.

FAO Compendium of Nutrition-Sensitive Indicators in Agriculture

[Minimum Dietary Diversity for Women: A Guide to Measurement](http://www.fao.org/3/a-i5486e.pdf) (<http://www.fao.org/3/a-i5486e.pdf>). FAO & FHI360, 2016.

FAO Dietary Assessment - A Resource Guide to Method Selection and Application in Low Resource Settings.

[FSIN Food Security and Nutrition: An Independent Technical Assessment and U](http://www.fao.org/fileadmin/user_upload/fsin/docs/1_FSIN-)

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The Informal Sector and Informal Employment in Bangladesh



COUNTRY REPORT 2010



The Informal Sector and Informal Employment in Bangladesh

COUNTRY REPORT 2010

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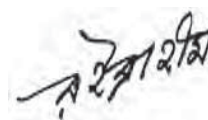
Preface

Bangladesh is a densely populated country where the proportion of the people aged 15 years and above constitutes more than 64% of the total population. Among this adult population, 59% is economically active. In the context of Bangladesh, the informal economy plays a significant role in the labor market, contributing a significant share to total employment in the country.

While there have been few previous attempts to measure informal employment using residual-based approach, no survey has been designed in Bangladesh prior to this current initiative of measuring the contribution of the informal sector in our economy and the prevalence of informal employment arrangements directly. Therefore, the Informal Sector Survey is a milestone for future surveys on informal economy and informal employment.

I take this opportunity to thank the Asian Development Bank for the technical and financial support for conducting the Informal Sector Survey in Bangladesh. Special thanks to Ms. Dalisay Maligalig and her team for their constant guidance and technical support in the conduct of the survey, processing of data, and preparation of this report.

I thank the Director General of the Bangladesh Bureau of Statistics and his colleagues for conducting the survey and preparing the report.



Riti Ibrahim
Secretary
Statistics and Informatics Division

Message from the Director General

Bangladesh is one of the countries in developing Asia with an abundant labor supply. Results from the 2010 Labor Force Survey (LFS) estimate that there are more than 56 million persons in the labor force. It is often argued that under the right conditions, the availability of abundant human resource has the potential to drive economic growth. To reap demographic dividends, this often requires increased labor productivity and improved working conditions in the labor market.

In general, countries with abundant labor supply confront the challenge of creating productive employment opportunities for all. While only about 4%-5% of the labor force was unemployed in 2010, survey results suggest that nine in 10 who had work are informally employed. While participation in the informal economy could also be a voluntary choice for some workers to maximize the advantages of limited regulation, it is still mostly taken by circumstance. Moreover, informal work is often characterized by low productivity, increased vulnerability to poverty, and low social protection coverage.

Available literature suggests that many labor markets share the feature of significant informal economy in terms of the numbers of jobs that it creates and its contribution to total aggregate output of many developing countries. It is estimated that employment in the informal sector is more than 50% of non-agricultural employment and nearly 30% of non-agricultural gross domestic product in Asia. In Bangladesh, this report shows that about 99% of the jobs in the agriculture sector and 82% in the non-agriculture sector have informal arrangements.

Clearly, informal economy has been a prominent feature of Bangladesh's economy over the years. However, informal sector and informal employment statistics have not been regularly collected and have not been included in Bangladesh's official labor force statistics. Government and policy makers need empirical data for efficient development planning and in coming up with optimal ways of improving the conditions of the working poor and extend higher quality employment opportunities to all. Since a significant bulk of the working poor is in the informal economy, it is necessary to measure this segment of the economy and incorporate the data in the set of official labor statistics. Statistics on the informal economy in Bangladesh are very limited because i) information on the types of benefits received by workers are not regularly collected; and ii) informal enterprises are difficult to locate, have high turnover, and their financial accounts and assets cannot be easily separated from the households that own them. Also, surveying informal production units requires more effort and costs than the regular establishment or household surveys. This is perhaps the very reason why, in general, only a handful of statistical systems in Asia have incorporated such activity in their respective data collection systems.

This report is a step toward institutionalizing the measurement of the informal sector and informal employment. It compiles statistical data collected through the Informal Sector Survey (ISS) that the Bangladesh Bureau of Statistics (BBS) conducted in 2010 under the regional technical assistance (RETA) 6430: Measurement of the Informal Sector of the Asian Development Bank (ADB).

Through the close collaboration between BBS and ADB, a cost-effective data collection approach has been adopted in providing reliable statistics on informal employment and estimating the economic output of the informal sector. This project also provides insights on how the ISS could be further improved toward its integration into regular data collection activities of BBS.

The preparation for the ISS, the analysis of the survey results, and the writing of this report were done by the following BBS staff:

Md. Shamsul Alam, Director (in-charge) , Industry and Labor Wing;
Mr. Ghose Subobrata, Joint Director;
Mr. Kabiruddin Ahmed, Deputy Director;
Mr. Jatan Kumar Saha, System Analyst;
Mr. Mahbubur Rahman, Deputy Director;
Ms Sabila Khatoon, Statistical Officer;
Md. Rafiqul Islam, Statistical Officer; and
Mr. Rezaul Karim, Statistical Investigator.

x Message from the Director General

The BBS staff received technical support from the RETA 6430 team composed of Dalisay S. Maligalig, Sining Cuevas, Arturo Martinez, Jr., Josephine Ferre, Laura Prado, and Pamela Lapitan. The RETA 6430 team assisted BBS in the preparation of all survey instruments, including questionnaires, manuals, and training materials; in the data processing and analysis of the survey results; and in the writing of this country report. ADB's Bangladesh Resident Mission staff also provided valuable technical and administrative support to this project.

BBS also appreciates the support of its field operations staff and the cooperation of all the respondents of the LFS and the ISS. The results of these two surveys are very important in providing a clear picture of the social and economic development in the country and in effective planning of Bangladesh's development.



Golam Mostafa Kamal
Director General
(Additional Secretary)

Foreword

Employment is the main source of income among the poor, and it is still considered to be the most effective vehicle to take them out of poverty. However, most of the working poor in developing countries are engaged in informal employment. While the informal sector offers a cushion to workers during economic crisis, the benefits of informal employment may not be sufficient to achieve an acceptable standard of living because informal employment rarely comes with adequate wages, good working conditions, and social protection. It is, therefore, necessary that efforts to alleviate poverty must be focused on the needs and constraints faced by the working poor in the informal economy.

Policies and programs that can provide decent work for the working poor can be explored as a mechanism to reduce poverty. More and better employment opportunities must be created, and efforts to influence the informal enterprises to register and extend benefits to their workers must be amplified. For such reorientation of economic policies to be effective, the informal sector and those engaged in informal employment have to be studied. More information on wage differentials, working conditions, social protection, and other issues are needed by policy makers and the development community to make well-informed decisions. At present, however, very few countries in Asia regularly collect data on the informal sector.

Many countries have yet to accept the challenge of collecting statistics on the informal sector and informal employment following international standards. Informal production units are difficult to distinguish from the households to which they belong. Compared to other enterprises, they are very small and with low levels of organization and technology. They are owned by households with unclear distinction between labor and capital or between household and production operations. They lack recognizable features for identification, and the owners are usually reluctant to share information.

Because the births and deaths of these production units are more frequent, they are highly unlikely to be included in the lists of establishments/enterprises that are used as sampling frames for business surveys. Moreover, the numbers of employees of these production units are usually lower than the threshold number for inclusion in the list of establishments. Hence, it is quite likely that these units are not covered by the regular establishment or enterprise surveys. And while these units might be covered by household surveys, the standard questionnaires for these surveys do not usually include questions pertaining to production.

But there are efforts that have already been initiated toward this goal, such as the Delhi Group that provides an international forum for countries to exchange experience and practices on the measurement of the informal sector and the United Nations Interregional Cooperation on the Measurement of the Informal Sector and Informal Employment. Joining countries in other regions, Mongolia, the Philippines, and Sri Lanka have already conducted informal sector surveys following international standards through the assistance of United Nations Economic and Social Commission for Asia and the Pacific.

As a contribution of the Asian Development Bank (ADB) to this global effort, Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector was implemented to contribute to the measurement of the informal sector by helping national statistics offices to find a sound and viable data collection strategy. The Bangladesh Bureau of Statistics (BBS) was one of the three pilot national statistical systems in this project. BBS undertook the Informal Sector Survey as second phase to the Labor Force Survey that it conducted in 2010.

This country report is the fruition of BBS efforts toward the development of cost-effective data collection methodology for measuring informal employment and the informal sector. The leadership of Riti Ibrahim, Secretary, Statistics and Informatics Division of the Ministry of Planning, and the Bangladesh Bureau of Statistics Director General was vital to the completion of this undertaking. We appreciate the cooperation

of the BBS team led by Md. Shamsul Alam with the RETA 6430 team led by Principal Statistician Dalisay S. Maligalig under the guidance of Douglas H. Brooks, Assistant Chief Economist, Development Indicators and Policy Research Division, ADB. We appreciate the guidance provided by Joann Vanek, Co-Director, Statistics Program, Women in Informal Employment: Globalizing and Organizing; and Tite Habiyakare, Regional Labour Statistician of the International Labour Organization. We would also like to thank the Bangladesh Resident Mission for their support in coordinating with the BBS; M. "ahid Hossain, Principal Country Economist and Shamsur Rahman, Senior Economics Officer, for their advice and comments on the project activities, especially the country report. We also acknowledge the efforts of Ma. Theresa Arago for editing and of Rhommell Rico for designing the cover as well as typesetting the report.

It is our hope that this report will contribute to informed policy making for constructing future programs on poverty alleviation and improved social welfare for the informal workers in Bangladesh.



Changyong Rhee
Chief Economist
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Abbreviations

ADB	Asian Development Bank
BBS	Bangladesh Bureau of Statistics
eLFS	Expanded Labor Force Survey
GDP	gross domestic product
GRDP	gross regional domestic product
GVA	gross value added
HUEM	Household unincorporated enterprise with at least some market production
ISIC	International Standard Industrial Classification
ICLS	International Conference of Labour Statisticians
ILO	International Labour Organization
ISS	Informal Sector Survey
LFS	Labor Force Survey
PSU	primary sampling unit
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific

Note: In this report, "\$" refers to US dollars.

Executive Summary

Background

- In Bangladesh, the Bangladesh Bureau of Statistics (BBS) conducts a labor force survey (LFS) once in every 3-5 years. BBS experimented with different approaches to capture a more exhaustive list of labor force activities through LFS rounds conducted in the 1980s. In the 2002-2003 round, the International Labour Organization (ILO) definition of employment was adopted. According to this definition, a person is considered employed if he/she either works one or more hours for pay and profit, or works without pay in a family farm or enterprise, or found not working but had a job or business from which he/she was temporarily absent during the reference period.
- During the 2005–2006 round of LFS, some modification was done in identifying the formal and informal sector activity. In particular, an employed person can be working in either (i) government, (ii) private formal sector, (iii) private household, (iv) personal establishment, or (v) others (establishment). Those working in private households and personal establishments were classified as part of the informal sector activity in 2005-2006.
- For the 2010 LFS round, BBS worked jointly with the Asian Development Bank to expand the LFS questionnaire so that informal employment can be measured using the 17th International Conference of Labour Statisticians' definition of informal employment and the informal sector. BBS added questions that can help identify workers under informal working arrangements and also, identify the owners of informal production units or what is termed as the household unincorporated enterprise with at least some market production (HUEMs). A second phase survey, the informal sector survey (ISS), was administered on selected HUEM respondents.
- From the ISS, the contribution of the informal sector to gross domestic product (GDP) was estimated. The characteristics and constraints of HUEMs were also analyzed.

Employment in Formal and Informal Economy

- Based on the 2010 LFS, 95% of the 56.7 million labor force was employed, and the majority of those who are employed are concentrated in three divisions namely, Dhaka, Rajshahi, and Chittagong. About 49% of those who are employed are in the agriculture sector, 17% are in the industry sector, and 34% are in the services sector.
- Unemployment rate in 2010 was at almost 5%. Unemployment was higher among women at 6%, than at 4% for men. Rural areas had an unemployment rate of 4%, while in urban areas, unemployment rate was relatively higher at almost 7%.
- The labor force in Bangladesh is concentrated among the 20-44 year old age group, accounting for 64% of total employment. It is worth noting that from age group 15–19, employment increased as age increased, and after reaching a peak at age group 30–34, employment decreased as age increased. A similar pattern was observed in rural areas except that the peak is at a younger age group, at 25–29 years.
- Informal employment was estimated at about 89% of the total number of jobs in the labor market. It was more prevalent in the rural areas than in urban areas. Women are also more likely to be under informal employment arrangements.
- Majority of the workers in Bangladesh received basic education. Those who had no education or who had primary education were more likely to hold informal jobs, while a substantial number of workers holding formal jobs were those who received at least secondary education. Results of the ISS show that as the level of education of a worker improves, the worker is more likely to hold a formal job.
- Own-account work was the most prevalent type of economic activity in the country's labor market in

2010. There are more workers who are employees in urban areas while unpaid family workers are mostly found in rural areas, reflecting the urban-rural difference in the types of work offered in these areas.

- About 62% of the jobs available in the country's labor market (laborers, unskilled workers, and agricultural workers) belong to sectors that have low productivity, while 33% consist of semi-skilled jobs such as clerks, service workers, plant and machine operators, and assemblers. Highly skilled jobs, such as executives and government employees, professionals, and associate professionals, account for 5% of total jobs. Majority of the formal jobs are associated with semi- to high-skilled workers, while unskilled work is associated with informal jobs.
- Almost 77% of the jobs available in the country's labor market in 2010 were undertaken in informal production units composed mainly of unpaid family workers and "daily wage workers" both in the agriculture and non-agriculture sectors.
- More than 88% of those employed in informal enterprises worked in establishments with less than 10 people.
- Single-proprietorship/ individual business/ farm was the most common type of enterprise (94%), followed by partnerships (2%). Regardless of legal status, majority of enterprises did not have written accounts or bookkeeping.
- Casual/irregularly paid workers worked an average of 54 hours a week, while the unpaid family worker worked 35 hours per week. A substantial difference can be observed between genders, with women putting in at least 3-7 hours less than the weekly hours put in by men. Common places of work were in farms, markets, bazaar stalls, and trade fairs.
- Workers with formal employment arrangements earned higher monthly income, except for own-account workers in agriculture. Informally employed own-account workers in agriculture received slightly higher income (Tk1,584 or \$22.75) than those under formal employment arrangements (Tk1,516 or \$ 21.78). Income differences between genders were more pronounced in the formal economy whereby males received at least 20% higher income than females.
- Informal workers received as much benefits as their formal worker counterparts in terms of free/subsidized food, free/subsidized housing, and

clothing. However, informal workers were less likely to receive pension, social protection, and a notice of termination compared to formal workers.

- Employment analysis in the non-agriculture sector revealed that across all genders and production units, formal employment in formal enterprises was much higher than informal employment, while the reverse was true for informal enterprises and households. The participation rate of females in any type of enterprise and any nature of employment was significantly lower than that of males.

Contribution of Informal Sector to Total Economy

The informal sector accounted for more than 40% of the total gross value added (GVA) of Bangladesh in 2010, with the highest contributions in agriculture, fishery, trade, and industries where capitalization is relatively lower.

Total labor productivity per job, as measured by the ratio of GVA to total employment, was Tk191,831 (\$ 2,756) in 2010. Labor productivity, which examines how productively labor is utilized to generate economic output, is high in the formal sector** particularly in industries with high capitalization such as mining and quarrying; financial intermediation; real estate; and electricity, gas, and water. The contribution of the formal sector** to total GDP was computed as a residual of the contribution of informal enterprises that was directly measured using the ISS. Hence, formal sector** consist of the joint contribution of formal sector enterprises and private households, although the share of the latter is only minimal. Labor productivity in the formal sector** exceeds that of the informal sector six times.

Characteristics of Informal Sector Enterprises

Family tradition (39%) or their knowledge of the profession (37%) is the main reason for HUEMs in choosing their business activity. Initial capitalization and subsequent financing needs were financed through own sources/savings (45%), support of family/relatives (25%), and through nongovernment organizations at 12%.

Formal sector* actually refers to the joint contribution of formal sector enterprises and private households. Its contribution to total gross domestic product (GDP) is computed as a residual of the contribution of informal enterprises that was directly measured using the informal sector survey.

For ongoing business activities, those who are engaged in financial intermediation, and in the agriculture, forestry, and fishing sectors (both at 23%) were more likely to apply for bank loans. A complicated procedure for loan applications is the main reason for not applying for bank loans.

Eighty-seven percent (87%) of the loans taken out by HUEMs helped in business expansion activities such as increasing production and sales volume, diversifying products, and enhancing competitiveness.

Seventy percent (70%) of the HUEMs cited the assistance in accessing capital and production enhancing

mechanisms (such as technical training and access to modern machines) as the primary types of assistance needed and where government policies may be directed.

Future Directions

BBS intends to institutionalize the expanded LFS and, if funding and technical support are available, it also plans to conduct ISS based on the results of the expanded LFS. Short- and long-term training for BBS officials in conducting specialized surveys can further enhance their capacity in data collection, processing, and analysis.

Chapter 1

Introduction

1.1 Background

Agriculture has been the main contributor to Bangladesh's economy. Almost half of the country's labor force works in the agriculture sector. But over the years, the non-agriculture sectors are growing at a faster rate than the agriculture sector. Recent data show that the industry and service sectors are emerging as thrust sectors in the country. Among the service sectors, wholesale and retail trade, transport and communication, and financial intermediation activities are growing steadily.

Asia, in general, has witnessed the increasing role of the modern sector, impressive economic growth, and significant poverty reduction and improved living standards over the years. The strong growth performance of Asia for the past decades has been accompanied by a decrease in the share of the population relying on subsistence agriculture. Despite these developments, Asia is still home to 1.6 billion people who are living below \$2 a day (Wan and Sebastian 2011). This may be partly explained by the fact that the region lags far behind other economies in providing workers with higher quality employment, a tool to make economic growth more inclusive. A recent Asian Development Bank (ADB) report emphasized the growing challenge of creating quality employment in Asia wherein many countries have informal employment rates exceeding 40% of their respective working population (ADB 2011).

Like many countries in transition away from a predominantly agriculture-driven economy, the economic activities in Bangladesh are mostly informal and small in nature. This is consistent with one of the classical perspectives that informal work may be perceived as a transitional stage characterized by petty commodity production that would bridge subsistence and modern production.

Indeed, informal employment arrangements have been playing a significant role in the labor markets of many developing countries today. While a typical middle-class worker earned a degree from the university and works at the office, the less skilled are often left out to take on precarious jobs that lack formal employer–employee relationships and with limited access to social protection coverage—the typical characteristics of jobs in the informal economy. Although informal work may sometimes be taken up by choice rather than circumstance, informal jobs are generally associated with

lower productivity and wages, less social protection, and higher vulnerability to poverty. Such situation also occurs in Bangladesh wherein most of the workers take on informal jobs. However, informal sector and informal employment statistics have not yet been regularly collected nor included in Bangladesh's official labor force statistics.

In Bangladesh, a labor force survey (LFS) is conducted once in every 3–5 years. In the past, the Bangladesh Bureau of Statistics (BBS) experimented with different approaches to capture a more exhaustive list of labor force activities through LFS rounds conducted in the 1980s. In 1989, some specific activities, such as plowing, irrigation, planting, weeding, growing vegetables and spices, maintaining livestock, poultry raising, and food processing, were included in the list of economic activities. At that time, anybody who spent at least 1 hour in such activities can be considered part of the labor force. As a result, the labor force increased from 30.9 million in 1984–1985 to 50.1 million in 1989. The addition of these activities in the purview of labor force was termed as the "extended definition," while the exclusion of these activities was referred to as the "usual definition." Estimates for the two definitions were provided, and such approach was continued up to the 1999–2000 round of LFS but was discontinued from the 2002–2003 round. In the 2002–2003 round, the International Labour Organization (ILO) definition of employment was adopted. According to this definition, a person is considered employed if he/she either works one or more hours for pay and profit, or works without pay in a family farm or enterprise, or found not working but had a job or business from which he/she was temporarily absent during the reference period. The reference period is defined as the 7 days preceding the interview date.

In the 2002–2003 round of LFS, the activity of an employed person can be undertaken in (i) private informal (sector), (ii) private formal (sector), (iii) government sector/establishment, and (iv) nongovernment formal sector. Due to limited guidelines, it was more difficult to identify if one works in private informal sector or private formal sector than if one works for either government sector or nongovernment formal sector. During the 2005–2006 round of LFS, some modification was done in identifying the formal and informal sector activity. In particular, an employed person can be working in either (i) government, (ii) private formal sector, (iii) private household, (iv) personal establishment, or (v) others

(establishment). Those working in private households and personal establishments were classified as part of the informal sector activity in 2005-2006.

In Bangladesh, there were sporadic attempts to collect data on informal economic activities through the LFS, but most of them tried to capture only one dimension of the informal economy (by distinguishing formal enterprises from nonformal enterprises). Such approach does not provide a complete picture of the informal economy. For instance, it does not distinguish jobs with informal arrangements created by formal enterprises from formal jobs. In addition, such approach can hardly quantify the extent of contribution of the informal economy to the country's output.

There has been a growing interest to develop data collection systems that measure the different indicators of the informal economy. Development institutions advocate for regular compilation of statistics about the informal economy by national statistics offices. As this study shows, such initiative can be implemented by expanding LFSs in many developing countries that do not collect adequate information on the types of benefits received by the employed population to characterize formal and informal jobs. In addition, an unincorporated enterprise survey can be linked with the expanded LFS to closely examine production behavior of informal enterprises.

Conceptually, informal sector enterprises comprise (i) households with at least some market production; and (ii) production units with low levels of organization and technology, and with unclear distinction between labor and capital or between household and production operations. They are very mobile with respect to place of work, and their operations are highly seasonal. They lack recognizable features for identification and are usually reluctant to share information. The turnover of these production units is quite fast, making it highly unlikely for them to be included in the list of establishments/enterprises that is usually used as sampling frames for business surveys. Moreover, the total number of workers of these production units is usually lower than the threshold number for inclusion in the list of establishments. Thus, it is quite likely that these units are not covered by the regular establishment or enterprise surveys. And though these units might be covered by household surveys, the standard questionnaires for these surveys do not usually include questions pertaining to production. In turn, it is arduous to estimate the contribution of informal enterprises to an economy's aggregate output.

The availability of empirical data characterizing the informal economy in the country would also help policy makers in developing more efficient intervention policies. For instance, informal work is often associated with underemployment, precarious work, and low-productivity jobs. It is worth mentioning that the Government of Bangladesh is committed to enhancing the economic activities for employment generation, with the objective of poverty reduction within the shortest possible time. Understanding the dynamics of the informal economy can play a vital role toward that direction. In order to get some reliable estimates of informal sector activity, the employment situation, and other labor market conditions, the Bangladesh Bureau of Statistics (BBS) conducted an expanded Labor Force Survey (eLFS) by adding indicators on the type of benefits received by workers and indicators that would identify household unincorporated enterprises, and the Informal Sector Survey (ISS) in 2010 through the technical and financial support of ADB under its Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector. The technical assistance aimed to contribute to the knowledge about the informal economy by helping national statistics offices find a sound and viable data collection strategy. It covered three countries: Armenia, Bangladesh, and Indonesia. With more accurate data, the prevalence of informal employment and social protection issues can be ascertained, the share of informal sector can be properly reflected in the gross domestic product (GDP), and the relationship between poverty and the informal sector can be thoroughly examined. ADB has learned from the experience of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), which had already done the research on the existing data collection strategies for the informal sector. ADB adopted UNESCAP's approach that uses the mixed survey technique to collect data on informal employment and informal sector using the definitions and concepts established by the 15th and 17th International Conferences of Labour Statisticians (ICLS).

1.2 Objectives of the Informal Sector Survey

Measuring the informal economy and examining the working conditions within the sector are steps toward promoting for a more inclusive growth through provision of more decent jobs for all. This report presents the results and a descriptive analysis of the informal sector and informal employment using the expanded Labor Force Survey (eLFS) and the Informal Sector Survey (ISS) conducted by the Bangladesh Bureau of Statistics

(BBS) in 2010. The report also documents the processes undertaken in preparing the survey questionnaires, sampling design, and survey operations. Moreover, the report also discusses the process of institutionalizing the production of informal sector and informal employment statistics. By providing reliable statistics about the informal economy, the report aims to stimulate policy discussion.

The main objectives are to

- determine the incidence of informal employment—both inside and outside the informal sector arrangements in the country through the eLFS coupled with the ISS;
- determine the economic activities that usually offer informal employment arrangements;
- identify correlates of informal employment;
- estimate the contribution of the Informal Sector to GDP; and
- suggest ways and means for institutionalization of informal employment and informal sector statistics in the official statistics.

1.3 Importance of Informal Sector Indicators in Policy Making and Monitoring

In developing countries such as Bangladesh, the informal economy plays an important role in the national economy because of its significant role in employment generation and in the distribution of goods and services. With the emergence of market economy and trade liberalization, the economic activities are now concentrated in the private sector. The informal sector activities are mostly small in size and transient in nature. The large-scale establishment survey could not capture these small-scale informal sector activities. The Government of Bangladesh is strengthening its small-scale industries to boost production in the non-agriculture sector and to create opportunity for self-employment and develop an industrial base for the country. In strengthening the small-scale industries, timely, reliable, and disaggregated information on the informal sector is needed in order to properly identify these industries and in doing so, be able to provide appropriate skills development through capacity-building activities and financial assistance, as needed.

In addition, informal employment arrangements also exist within formal establishments. These jobs are associated with less social protection benefits. We envision that the information presented here will help relevant government agencies to take appropriate measures to improve the working conditions within the informal economy.

1.4 Informal Sector Statistics in the Realm of Official Statistics

Bangladesh has been undertaking LFSs since 1980, but the ISS was not integrated into the LFS although some information collected in the LFS on economic (agricultural) activities was mostly considered informal in nature. The pilot survey, which was conducted under the assistance of ADB in 2010, is a milestone in the conduct of the ISS in the future. The LFS is conducted on a regular interval, and thus the ISS can be integrated into the LFS in the future. This will provide up-to-date data on informal employment and the contribution of the informal sector to GDP. If a reliable and precise ratio of informal (sector) employment and gross value added (GVA) could be established, then annual updating may be possible and can be used to impute GVA of the informal sector during national accounts estimation.

1.5 Main Sources of Data Used in the Report

The eLFS and the ISS were the main sources of data for this study. A total of 1,500 primary sampling units (PSUs) were selected from the sampling frame based on the 2001 population census. The census enumeration area or, in some cases, a combination of these areas, served as PSUs. From each PSU, a sample size of 27 households was originally intended to be drawn. Since the sampling frame used was based on the 2001 census, a fresh listing operation was undertaken for all the 1,500 PSUs prior to the survey data collection. To maintain equal probability of selection, the sample size was adjusted proportionally to the percentage increase or decrease in the number of households per PSU from 2001 census to the listing operations.

Once the households were enumerated under the LFS, a separate listing was drawn up to identify the

households with household unincorporated enterprise with at least some market production (HUEM). In order to identify HUEMs, the activity status of the economically active population aged 15 years and over was considered. The employed person (whose economic activity was employer, self-employed [agriculture], or self-employed in non-agriculture) was subjected to a set of criteria to evaluate if his/her activity can be considered as HUEM. (For more details, see Appendix 2.) In turn, a separate questionnaire (ISS Form-2) was given to each of the identified HUEM. The information covered under HUEM were registration status, accounting system, place of operation, employment, expenditure on inputs and management cost, value of output, and capital expenditure of the HUEM. The sources of financing of the HUEM were also covered.

1.6 Structure of the Report and Technical Details of the Surveys

The report provides a descriptive summary of the informal economy in Bangladesh. Economic interpretation is also discussed, albeit very briefly. Discussions of policy implications of the results are reserved in future economic working papers.

The report is comprised of six chapters and eight appendixes:

Chapter 2 *Employment in Formal and Informal Economy* discusses labor force characteristics; jobs in the labor market; age composition of workers; level of education of workers; industry of economic activity;

employment status; occupation; type of production units; size of establishments; legal status of enterprises; number of hours worked; income, workplace characteristics; and benefits received.

Chapter 3 *Contribution of the Informal Sector to GDP* highlights the contribution of the informal sector to the country's GDP. The chapter elaborates on the contribution of the informal sector to the agriculture and non-agriculture sectors and to labor productivity.

Chapter 4 *Characteristics of the Informal Sector Enterprises* discusses the characteristics of the informal sector enterprises. The chapter looks at the reasons for choosing respective current business activities, modes of financing, and difficulties encountered as reported by HUEM operators.

Chapter 5 *Institutionalizing Informal Employment and Informal Sector in Official Statistics* discusses the institutionalization of informal employment and informal sector statistics in official statistics. It also enumerates recommendations on improving future studies on informal employment and the informal sector.

Chapter 6 *Summary and Conclusions* provides the main results, importance of measurement in informal employment and informal sector, and other issues.

The report also includes appendixes covering concepts and definitions used in the report, discussion of sample design, presentation of sampling errors for selected indicators, notes on measuring informal employment and estimating the contribution of informal employment to GDP, other statistical tables, and survey forms.

Chapter 2

Employment in Formal and Informal Economy

This chapter describes what characterizes jobs with informal employment arrangements, and how they compare with formal jobs, using the results of the 2010 expanded Labor Force Survey (eLFS). In Bangladesh, labor force surveys (LFSs) are conducted every 3–5 years. Prior to 2010, the last round was conducted in 2005 from which official labor statistics were based. Questions that can identify whether employed persons are under formal or informal job arrangements were added to the 2005 LFS questionnaire that also contains socio-demographic characteristics of workers, making such analysis possible.

Since the definitions of informal economy adopted by countries in the region vary widely, the concept of informal employment, as stated in the 17th International Conference of Labour Statisticians (ICLS) report, is adopted in this report. According to the 17th ICLS report, “[...]since the adoption of the resolution concerning statistics of employment in the informal sector by the 15th ICLS in 1993, and the inclusion in the System of National Accounts, 1993, of the 15th ICLS informal sector definition, it had been recommended by the Expert Group on Informal Sector Statistics (Delhi Group) and others that the definition and measurement of employment in the informal sector should be complemented with a definition and measurement of informal employment.” Thus, clear delineations among (i) employment in the informal economy, (ii) informal employment, (iii) employment in the informal sector, and (iv) informal employment outside the informal sector were established.

To operationalize the definition proposed by the 17th ICLS, the concept of formal jobs, as used in this report, comprises economic activities undertaken by wage workers who had written contracts, and jobs held by employers or own-account workers who maintained detailed bookkeeping records. On the other hand, informal jobs comprise work undertaken by wage workers under verbal agreement or under employment arrangements not subject to contractual agreement. In general, distinguishing formal from informal wage job entails identifying the presence of minimum legal entitlements for an employee. Some studies use work contracts, social protection benefits, or a combination of both to identify formal from informal jobs. Here, we choose the presence of a written contract as an indicator for the legal entitlement as we deemed it more straightforward to implement in Bangladesh's data. But in succeeding analysis, we also compare the types of social protection benefits received by formal

and informal workers. Here, we also defined informal jobs to include work of employers and own-account workers who only maintained informal financial records for personal use. Jobs of all unpaid and contributing family workers are considered informal. In addition, to facilitate the delineations of the different concepts of employment in formal and informal economy as mentioned earlier, this chapter also distinguishes jobs undertaken in formal enterprises, informal enterprises, and private households. (For more detailed discussions on the conceptual framework of informal economy, refer to Appendix 1.)

Except for Section 2.1, most of the discussions in this chapter employ jobs as the unit of analysis. We believe that for most readers, it might be more intuitive to use persons as the unit of analysis. However, due to data limitations, which are discussed in the Appendix of this report, we decided to use jobs as the unit of analysis. In some labor markets, multiple-job holding can be prevalent among workers. For example, a person could be a formal employee in a government institution, working as a teacher in his or her primary job and, at the same time, may also be a self-employed worker in his or her own farm (as a secondary job). In the case of Bangladesh, only about 0.7% of the employed persons were noted to hold dual jobs. Thus, we believe that the conclusions that can be drawn from using jobs as the unit of analysis will be very similar to the conclusions that would come up had we used persons as the unit of analysis.

The eLFS results provide an opportunity to analyze the current patterns in employment arrangements and acquire a clearer picture of the working conditions transpiring in the labor market of Bangladesh. In general, the results depicted in this chapter provide empirical evidence that informal workers in Bangladesh are vulnerable to poor working conditions and less social protection coverage. Compared to formal workers, most of the workers with informal employment arrangements do not enjoy as much benefits.

2.1 Labor Force Characteristics

A quick summary of labor force statistics in Bangladesh is presented in Table 2.1.1. Of the total population of almost 149 million, there is an almost equal proportion

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of men (50.7%) and women (49.3%) in Bangladesh, with the majority of the population living in the rural areas (77.1%). The total labor force was comprised of 69.7% men and 30.3% women, of which 76.4% worked in the rural areas and 23.6% in urban areas. For a more comprehensive list of labor force statistics, readers are referred to the Bangladesh Bureau of Statistics website.¹

Results of the 2010 LFS showed that 95.3% of the 56.7 million labor force was employed while the unemployed comprised only of 4.7%. Employment rate was slightly higher among men than among women: for every 100 male labor force participants, 96 were employed, whereas for every 100 female labor force participants, 94 were employed. Conversely, unemployment rate was higher among women than among men, at 5.8% and 4.2%, respectively. Between urban and rural, the latter had a higher employment rate at 95.9% compared to the former's 93.4%. The difference in employment rates between those living in urban and rural areas is related to the higher rate of employment in the agriculture sector since Bangladesh is largely agricultural.

Employment in the agriculture sector accounted for 48.6% of the total labor force, while the industry and the services sectors combined accounted for 51.4%. Men dominated the agriculture sector largely at 59.1%, while women were a minority at 40.9%. The non-agriculture sector is no exception: men comprised 80.2% of the labor force employed in these sectors.

Workers who held primary jobs in formal enterprises were almost equally distributed in urban and rural

areas. The distribution was more dispersed when we compared the number of workers with primary jobs in informal enterprises and in households: 76.0% and 87.7%, respectively, were in the rural areas.

In developing economies, the informal sector plays a dominant role in employment generation, and Bangladesh is no exception. In the country's context, a larger portion of employment is generated by the informal sector, and it has been increasing over the years.

Informal employment was estimated at about 88.5% of the total number of jobs in the labor market. Of the jobs held by men, 86.8% were with informal employment arrangements. In comparison, the incidence of informal employment among female-held jobs was higher at 92.6%. Informal employment was more prevalent in the rural areas at 92.3% compared with 76.0% in urban areas. As we will see later, this may be primarily attributed to informal employment dominating the agriculture sector in which rural economies heavily depend on farm activities. In general, only 11.5% of the jobs available in the labor market of Bangladesh in 2010 had formal employment arrangements (Figure 2.1.1).

Of the 54 million employed persons, about 53.6 million took on only one job, while the other 0.4 million people had multiple jobs. Majority of workers with one job (88.5%) depended on an informal job, while only 11.5% held one formal job. Of those who assumed multiple jobs, 86.1% took on informal jobs, 12.4% combined formal and informal jobs, and 1.5% took on multiple formal jobs (Figure 2.1.2).

Table 2.1.1 Population and Labor Force Characteristics by Sex and Urban/Rural

Population	Total (1,000 persons)				% to Total				
	Men	Women	Urban	Rural	Total	Men	Women	Urban	Rural
Total Population	75,321.1	73,387.8	34,040.2	114,668.7	148,708.8	50.7	49.3	22.9	77.1
Labor Force	39,505.4	17,208.6	13,403.2	43,310.8	56,714.0	69.7	30.3	23.6	76.4
15–24 years	7,416.8	4,575.0	2,899.8	9,092.0	11,991.8	61.8	38.2	24.2	75.8
25–29	4,648.7	2,618.9	1,654.9	5,612.7	7,267.6	64.0	36.0	22.8	77.2
30–64	23,946.7	8,906.6	7,692.4	25,160.8	32,853.2	72.9	27.1	23.4	76.6
65–75	1,856.7	117.0	283.0	1,690.7	1,973.7	94.1	5.9	14.3	85.7
Unemployed	1,655.8	997.0	879.7	1,773.1	2,652.9	62.4	37.6	33.2	66.8
Employed	37,849.6	16,211.6	12,523.5	41,537.7	54,061.2	70.0	30.0	23.2	76.8
Agriculture (in primary job)	15,479.1	10,733.8	3,066.1	23,146.8	26,212.8	59.1	40.9	11.7	88.3
Non-agriculture (in primary job)	22,195.3	5,474.7	9,428.6	18,241.4	27,670.0	80.2	19.8	34.1	65.9
Formal enterprise (in primary job)	2,202.0	451.5	1,314.9	1,338.6	2,653.5	83.0	17.0	49.6	50.4
Informal enterprise (in primary job)	28,967.9	12,681.2	10,003.7	31,645.5	41,649.2	69.6	30.4	24.0	76.0
Household (in primary job)	6,509.4	3,075.7	1,178.6	8,406.4	9,585.1	67.9	32.1	12.3	87.7

Source: Computations using 2010 Labor Force Survey (LFS) and Informal Sector Survey (ISS).

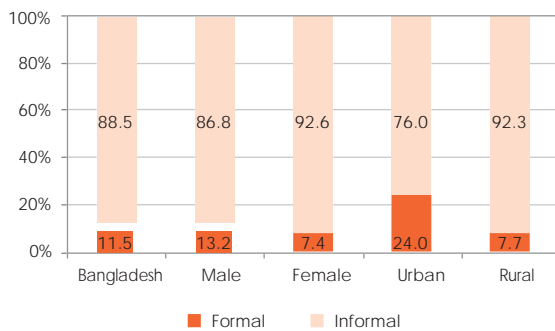
¹ A more complete compilation of labor force statistics computed from the 2010 Labor Force Survey is available at <http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/keyfinding/Labor%20Force%20Survey%202010.pdf>

Table 2.1.2 illustrates the urban–rural disparity among the employed population in Bangladesh whereby more employed persons holding one formal job (23.9%) can be found in the urban areas. On the other hand, more employed persons holding one informal job (91.5%) are found in the rural areas. While the proportion of employed persons holding multiple formal jobs is nearly zero, a small proportion can be observed for those who took on multiple informal jobs and those who combined formal and informal jobs in both urban and rural areas.

Gender differences among the employed population in Bangladesh, where men generally dominated the employed population, are shown in Table 2.1.3. Men dominated holding one formal job (13.2%), while women were inclined to be employed under informal jobs (92.6%).

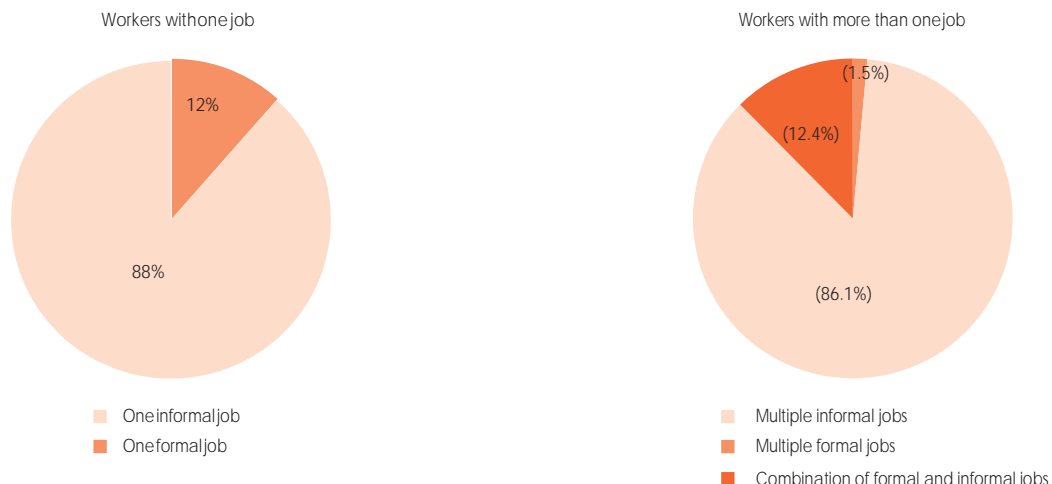
Table 2.1.4 summarizes the profile of the main job of the employed population in the country. Here, we see

Figure 2.1.1 Employment by Nature of Employment, Sex, and Urban/Rural



Source: Computations using 2010 LFS and ISS.

Figure 2.1.2 Job-holding among the Employed Population in Bangladesh



Source: Computations using 2010 LFS and ISS.

that people working as employee are mostly found in the non-agriculture sector. In addition, a larger portion of them are working in informal enterprises. Contributing family workers, on the contrary, were highly prevalent in the agriculture sector particularly in establishments producing agricultural goods. Working as employers had the least prevalence among different types of job, regardless of the economic sector.

Table 2.1.2 Number of Employed Persons by Nature of Employment and Urban/Rural

Nature of Employment	% to Total Number of Employed		
	Urban	Rural	Total
Formally employed in one job only	23.9	7.7	11.4
Informally employed in one job only	75.5	91.5	87.8
Formally employed in multiple jobs	0.0	0.0	0.0
Formally and informally employed in multiple jobs	0.2	0.1	0.1
Informally employed in multiple jobs	0.4	0.7	0.6
Total employed	100.0	100.0	100.0

0.0 = Magnitude is less than half of unit employed
Source: Computations using 2010 LFS and ISS.

Table 2.1.3 Number of Employed Persons by Nature of Employment and Sex

Nature of Employment	% to Total Number of Employed		
	Men	Women	Total
Formally employed in one job only	13.2	7.4	11.4
Informally employed in one job only	85.8	92.6	87.8
Formally employed in multiple jobs	0.0	-	0.0
Formally and informally employed in multiple jobs	0.1	0.0	0.1
Informally employed in multiple jobs	0.9	0.0	0.6
Total employed	100.0	100.0	100.0

0.0 = Magnitude is less than half of unit employed.
- = Magnitude equals zero.
Note: Multiple job-holding is approximately 1% among employed men and 0.06% among employed women.
Source: Computations using 2010 LFS and ISS.

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Table 2.1.4 Employed persons by Characteristics of the Main Job

Branch of Economic Activity/ Type of Production Unit	Total Employed Persons	Employees			Employers	Own-account workers	Contributing family workers
		Total	Formal Job	Informal Job			
1. Agriculture	25,757.3	7,330.8	470.2	6,860.6	14.9	8,121.0	10,290.5
1.1 Households producing agricultural goods exclusively for own final use	4,329.4	n/a	n/a	n/a	n/a	4,329.4	n/a
1.2 Other units producing agricultural goods	21,427.9	7,330.8	470.2	6,860.6	15.0	3,791.6	10,290.5
2. Non-agriculture	27,633.8	15,730.6	5,447.0	10,283.6	70.7	8,853.3	2,979.2
2.1 Formal sector enterprises	2,533.0	2,380.3	2,335.3	45.0	27.0	125.7	-
2.2 Informal sector enterprises	20,337.8	12,242.6	2,985.3	9,257.3	43.6	5,072.3	2,979.2
2.3 Households producing non agricultural goods exclusively for own final use	3,655.3	n/a	n/a	n/a	n/a	3,655.3	n/a
2.4 Household employing paid domestic workers	1,107.7	1,107.7	126.4	981.3	n/a	n/a	n/a
Total employed	53,391.0	23,061.4	5,917.2	17,144.2	85.7	16,974.2	13,269.7

n/a = not applicable

Note: Numbers may not sum precisely because of rounding and data limitations.

Source: Computations using 2010 LFS and ISS.

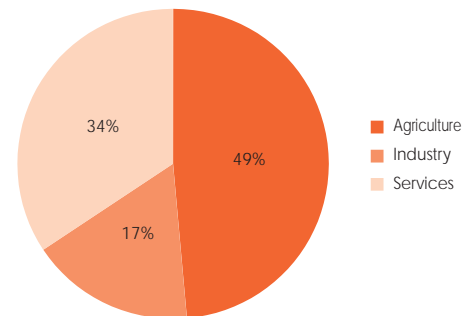
Figure 2.1.3 illustrates the geographical distribution of the employed population. As illustrated below, more than 80% of the workers in all divisions in Bangladesh held informal jobs, while more than 10% of the employed population in Barisal, Chittagong, and Dhaka held formal jobs. The graph shows that a substantially larger proportion of the employed population held informal jobs in every geographic region of Bangladesh.

2.2 Jobs in the Labor Market

The distribution of jobs, by type of economic activity, is shown in Figure 2.2.1. The country still heavily depends on the agriculture sector in creating economic opportunities for its population. As mentioned earlier, in 2010, about 49% of all the jobs (including both primary and secondary activities) in the country were associated with the agriculture sector and about 51% were undertaken in the non-agriculture sectors. In 2005, about 50% of the employed population carried out their primary economic activity in the agriculture sector. On the other hand, employment levels in both the industry and the services sectors seemed to have increased between 2005 and

2010. Employment in the industry sector seemed to have increased from 15% in 2005 (Maligalig and Cuevas 2009) to 17% in 2010, while employment in the services sector did not change significantly from 35% in 2005 (Maligalig and Cuevas 2009) to 34% in 2010.²

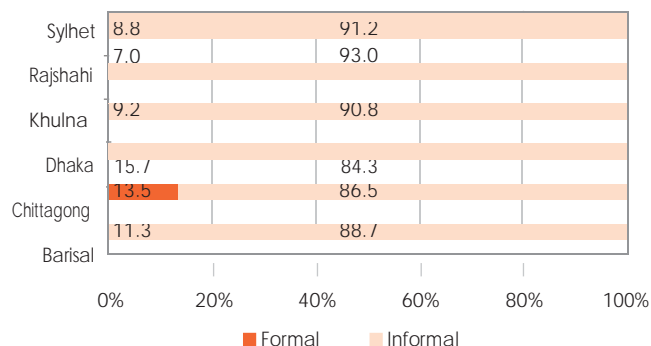
Figure 2.2.1 Distribution of Jobs by Type of Economic Activity



Source: Computations using 2010 LFS and ISS.

Among the jobs held by men, about 41% were undertaken in the agriculture sector and almost 59% in the non-agriculture sector (Figure 2.2.2). On the other hand, for female-held jobs, about 66% were engaged in agriculture and almost 34% in non-agriculture.

Figure 2.1.3 Proportion of Employed Population by Geographic Division



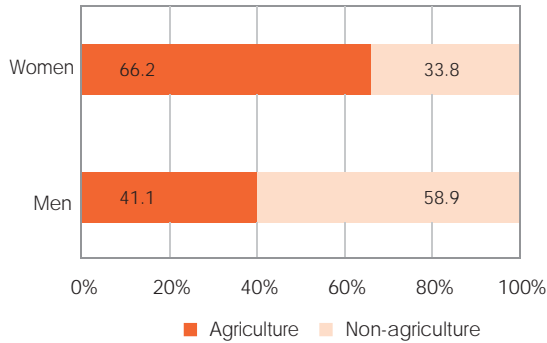
Source: Computations using 2010 LFS and ISS.

As previously discussed, there are significantly more men than women working in the country. Figure 2.2.3 shows that men also dominated both formal and informal jobs. However, there were more women working informally than women who held formal jobs. In the formal economy, about two in 10 jobs were held by women, with the other 80.8% were being undertaken by men. In the informal economy, three in 10 informal jobs were held by women.

² This assumes that the incidence of workers holding multiple jobs is not significant. Estimates for 2005 correspond to primary jobs only, while estimates for 2010 correspond to both primary and secondary jobs.

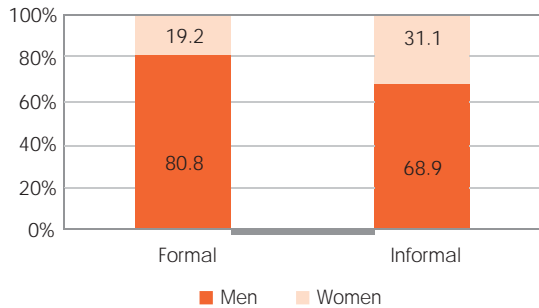
Rural areas offer more employments both formally and informally. About 52% of formal jobs and about 80% of informal jobs were found in the rural areas. However, it is worth noting that formal jobs were more likely to be found in urban (48.5%) than in rural areas (19.9%) (Figure 2.2.4).

Figure 2.2.2 Employment by Sex and Economic Sector



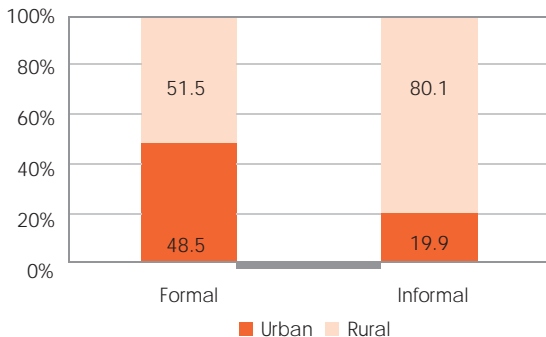
Source: Computations using 2010 LFS and ISS.

Figure 2.2.3 Employment by Nature of Employment and Sex



Source: Computations using 2010 LFS and ISS.

Figure 2.2.4 Employment by Nature of Employment and Urban and Rural



Source: Computations using 2010 LFS and ISS.

Table 2.2.1 presents the distribution of jobs among geographic division. It also tells us where formal and informal jobs are concentrated. Results showed that three geographic divisions already accounted for 76.2% of the total number of jobs in Bangladesh. Dhaka, Bangladesh's capital city, provided the most number of jobs at 31.8% of the total employment. Rajshahi and Chittagong accounted for 27.9% and 16.6%, respectively. On the other hand, Sylhet accounted for only about 5.8% of the total employment in Bangladesh. Further, whereas Chittagong and Rajshahi had almost the same contribution to the national labor market in terms of the number of formal jobs, there was disparity in the number of informal employment that they created.

Table 2.2.1 Geographical Distribution of Formal and Informal Employment

Geographic Division	Formal	Informal	All
Bangladesh	100.0	100.0	100.0
Barisal	5.8	5.9	5.9
Chittagong	19.5	16.2	16.6
Dhaka	43.6	30.2	31.8
Khulna	9.8	12.5	13.3
Rajshahi	17.0	29.3	27.9
Sylhet	4.4	5.9	5.8

Note: Employment would be higher than the number of persons employed as some persons may be employed in more than one job.
Source: Computations using 2010 LFS and ISS.

From this point until the end of this chapter, it would be useful to examine the two factors that influence the distribution of jobs in the labor market: supply and demand. To understand supply, we will look at the profile of workers in the labor force in detail. Then we will briefly describe firm-level characteristics in order to understand where the demand for formal and informal jobs is coming from. Lastly, we will compare the working conditions between formal and informal workers.

Profile of Workers in the Labor Market

2.3 Age Composition

The labor force in Bangladesh is largely concentrated in the rural areas and highly dominated by men across all age groups. In this section, we will examine closely the distribution of Bangladesh's labor force, by age groups, to see where the country's workforce is concentrated.

By age category, age groups belonging to 65 years and above recorded the lowest prevalence, while the age group with highest prevalence was 30-34, accounting for 14.1% of the total employment (Table 2.3.1). Similar

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with most developing economies, the labor force in Bangladesh is concentrated among 20–44 years, accounting for 64.3% of the total employment. Also, it worth noting that from age 15-19, employment increased as age increased and, after reaching a peak at age group 30–34, employment decreased as age increased. Similar pattern is observed in rural areas except that the peak is at younger age group (at 25–29 years). For urban areas, age group 30-34 had the highest prevalence at 17.1%.

As the economy of Bangladesh is largely composed of informal employment, the proportion of informal workers across age groups is also larger than that of formal workers. Age group 50–54 years had the largest share of formal workers (14.4%). Starting 55 years onward, the share of informal workers tended to increase as the worker's age increased, which might indicate that older workers tend to get engaged in informal jobs.

Table 2.3.1 Employment by Age Group and Urban/Rural

Age group	% to Total Employment		
	Urban	Rural	Total
15–19	9.7	9.1	9.3
20–24	13.3	12.6	12.8
25–29	13.2	13.5	13.4
30–34	17.1	13.1	14.1
35–39	10.9	12.6	12.2
40–44	12.2	11.8	11.9
45–49	8.8	9.5	9.4
50–54	7.3	5.9	6.3
55–59	3.1	4.5	4.2
60–64	2.1	3.2	2.9
65–69	1.4	2.1	1.9
70–74	0.5	1.2	1.0
75–79	0.3	0.5	0.5
≥80	0.1	0.3	0.3
Total	100.0	100.0	100.0

Source: Computations using 2010 LFS and ISS.

Younger workers, particularly those belonging to age group 20–39, tended to engage in jobs performed in informal enterprises, while middle-aged workers (belonging to age group 30–49) assumed jobs performed in households. Formal enterprises, in general, were likely to hire workers within the 20–44 age groups.

2.4 Level of Education

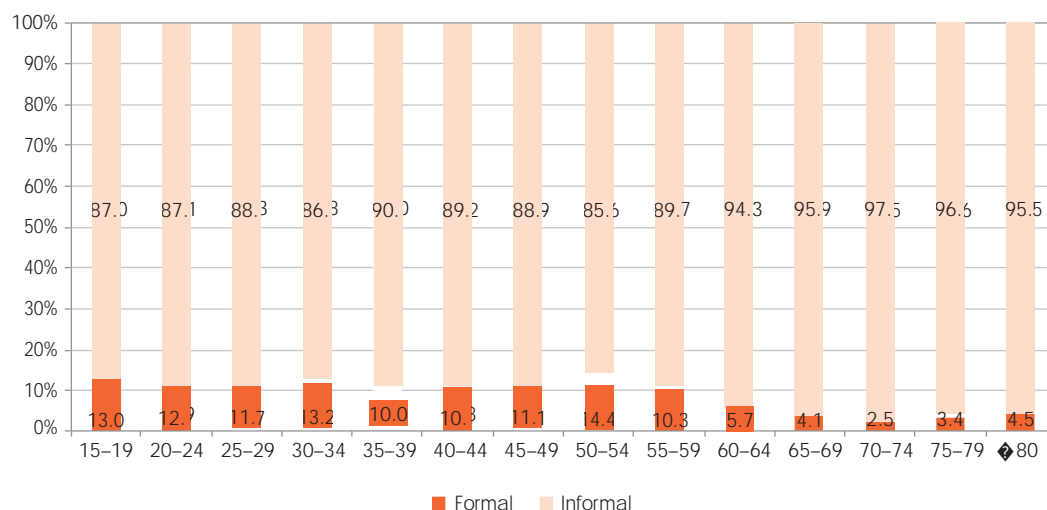
Table 2.4.1 presents the distribution of Bangladesh's employed population according to their level of education and sex. Majority of the workers had at least received basic education (59.2%), but a considerable number had no education at all (40.8%). Noticeably, the number of workers decreased as the level of education increased. This is also true if we look at the level of education by gender. However, it is worth noting that the share of

Table 2.3.2 Employment by Age Group and Type of Production Unit

Age group	% to Total Employment		
	Formal Enterprise	Informal Enterprise	Household
15–19	5.4	10.7	4.2
20–24	11.2	14.6	5.2
25–29	12.3	14.8	7.5
30–34	16.1	13.8	14.7
35–39	11.8	11.4	15.9
40–44	13.0	11.0	15.4
45–49	11.7	8.2	13.8
50–54	11.1	5.7	7.3
55–59	4.8	3.9	5.5
60–64	1.5	2.6	4.5
65–69	0.7	1.7	3.1
70–74	0.1	0.9	1.6
75–79	0.1	0.4	0.9
≥80	0.1	0.2	0.5
Total	100.0	100.0	100.0

Source: Computations using 2010 LFS and ISS.

Figure 2.3.1 Employment by Age Group and Nature of Employment



Source: Computations using 2010 LFS and ISS.

women who reached secondary education is higher than that of men, while the share of men who reached tertiary or higher education is higher than that of women.

Informal employment is largely associated with lower level of education. As presented in Table 2.4.2, majority of workers holding informal jobs were those who had no education or who had primary education only, while a substantial number of workers holding formal jobs were those who received at least secondary education. Although the share of men with no education of total employment was almost the same as that of women with no education, formally employed women with no education had a bigger share compared to formally employed men with no education.

Table 2.4.1 Employment by Level of Education and Sex

Level of Education	% to Total Employment		
	Men	Women	Total
No Education	40.7	41.0	40.8
Primary (I-V)	23.1	23.0	23.1
Secondary (VI-X)	21.7	25.8	22.9
SSC/Equivalent	6.2	5.5	6.0
HSC/Equivalent	3.7	2.6	3.3
Tertiary*	4.2	2.0	3.5
Medical/ Engineering degree	0.2	0.1	0.2
Technical/ Vocational education	0.2	0.1	0.1
Others	0.1	0.0	0.0
Total	100.0	100.0	100.0

HSC = higher secondary certificate, SSC = secondary school certificate.

* Bachelor and Master's Degree

Source: Computations using 2010 LFS and ISS.

Figure 2.4.1 shows that as the level of education gets higher, the proportion of informal jobholders decreases while the proportion of those with formal jobs increases. Technical/vocational certificate holders were more likely to engage in informal employment (54.7%) rather than in formal employment (45.3%). On the other hand, about 4.0% of jobs held by workers with no education were with formal arrangements, while 96.0% were undertaken with informal arrangements.

Table 2.4.2 Employment by Level of Education, Nature of Employment and Sex

Level of Education	% to Total Employment					
	Formal			Informal		
	Men	Women	Total	Men	Women	Total
No Education	12.3	21.6	14.1	45.0	42.6	44.2
Primary (I-V)	12.6	19.1	13.9	24.7	23.3	24.3
Secondary (VI-X)	31.3	27.7	30.6	20.3	25.6	21.9
SSC/Equivalent	12.7	8.0	11.8	5.2	5.3	5.2
HSC/Equivalent	10.6	8.3	10.2	2.6	2.1	2.4
Tertiary*	18.7	14.4	17.8	2.0	1.0	1.7
Medical/ Engineering degree	1.2	0.6	1.1	0.1	0.0	0.1
Technical/ Vocational education	0.6	0.2	0.5	0.1	0.1	0.1
Others	0.0	0.1	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

HSC = higher secondary certificate, SSC = secondary school certificate.

* Bachelor and Master's Degree

Source: Computations using 2010 LFS and ISS.

This validates the reality that as knowledge and formal training improve, the viability for employment also improves. The majority of those who worked in the informal sector were those with lower levels of education or no education at all. In Bangladesh, once a bachelor's degree or its equivalent is earned, the probability of being employed in the formal sector increases and the shift from informal to formal employment is seen.

2.5 Industry of Economic Activity

Like many developing countries that have not completed the transition from traditional to modern sector, Bangladesh's labor market still heavily relies on its agriculture sector. As previously discussed, about 49% of total employment can be accounted to this traditional sector. Survey results suggest that the country shares similar development pattern with other countries in developing Asia in which the services sector exceeds the role of the industry sector. Figure 2.5.1 presents other industries that have high employment prevalence.

The relationship between economic industry, nature of employment, sex, and area shows a varying degree of disparity. Industries with high employment such as agriculture; manufacturing; construction; trade; transport, storage, and communication; other service activities; and private households show a wide discrepancy between formal and informal employment (Table 2.5.1). These industries are associated with informal employment, perhaps due to the fact that jobs under these industries can be undertaken under employment arrangements without any contractual agreement. Similarly, these industries (except for private households) are mainly associated with male workers and are mostly found in rural areas.

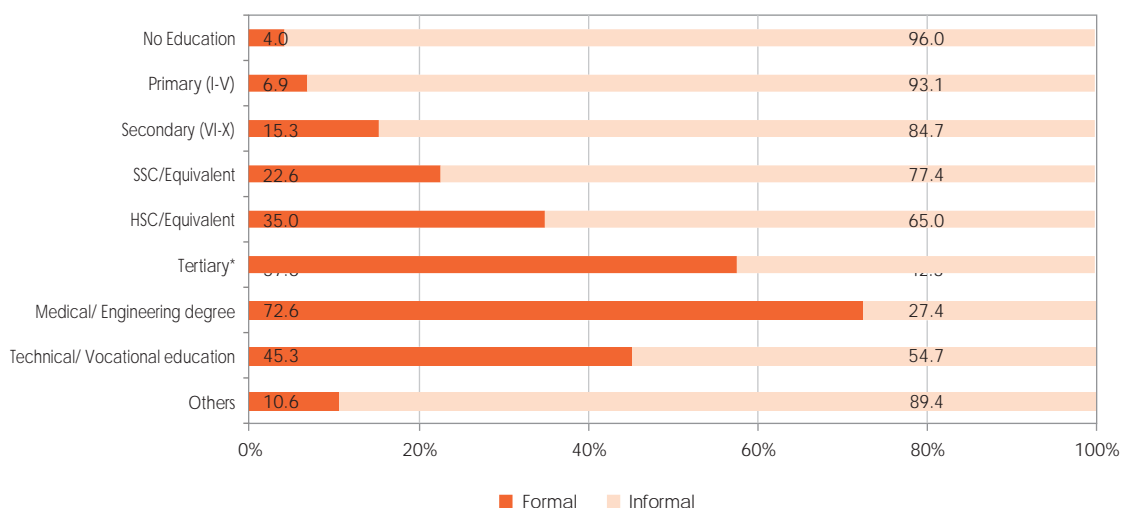
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The provision of formal or informal employment arrangements varied, depending on the type of economic activity. As established in the previous sections, informal employment is the most common work arrangement in the country's labor market. More than 90% of the jobs in the following economic activities had informal arrangements: agriculture; mining and quarrying; construction; trade; transport, storage, and communication; hotels and restaurants; and private households (Figure 2.5.2). There are industries where formal employment arrangement appears to be the

norm: examples are in the public administration and defense (81.7%), financial intermediation (77.7%), and education (73.6%).

Majority of the industries have more than 60% of the employment that can be found in rural areas. Industries such as financial intermediation; real estate, renting, and business activities; and extraterritorial organizations and bodies were more likely to be located in urban areas (Figure 2.5.3).

Figure 2.4.1 Employment by Level of Education and Nature of Employment



HSC = higher secondary certificate, SSC = secondary school certificate.

* Bachelor and Master's Degree

Source: Computations using 2010 LFS and ISS.

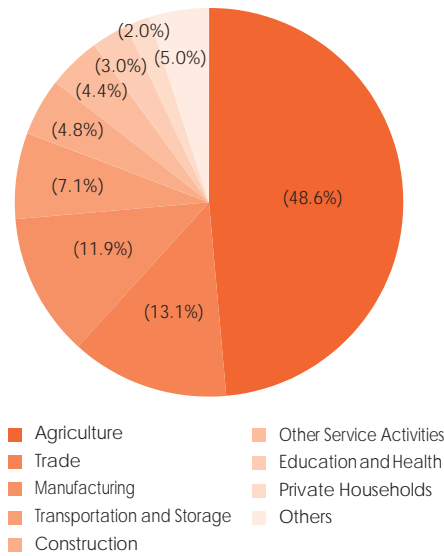
Table 2.5.1 Employment by Industry, Nature of Employment, Sex, and Urban/Rural (thousand)

Sector	Industry	Nature of Employment		Sex		Area		Total Employment
		Formal	Informal	Men	Women	Urban	Rural	
A	Agriculture, hunting and forestry, Fishing	571.0	25,898.2	15,732.1	10,737.0	3,102.2	23,366.9	26,469.1
B	Mining and quarrying	2.4	101.5	90.0	13.9	21.9	82.1	104.0
C	Manufacturing	1,975.2	4,517.8	4,666.3	1,826.6	2,565.9	3,927.0	6,492.9
D	Electricity, gas and water supply	62.1	55.4	111.0	6.5	58.9	58.5	117.4
E	Construction	166.6	2,439.9	2,379.1	227.3	808.4	1,798.1	2,606.4
F	Wholesale and retail trade	516.6	6,643.5	6,269.5	890.6	2,031.9	5,128.2	7,160.1
G	Hotels and restaurants	77.5	727.6	752.5	52.7	250.5	554.7	805.1
H	Transport, storage and communications	266.3	3,679.8	3,747.3	198.8	1,177.6	2,768.5	3,946.1
I	Financial intermediation	285.1	82.0	311.8	55.4	232.4	134.7	367.1
J	Real estate, renting and business activities	386.2	267.7	581.6	72.3	387.2	266.7	653.9
K	Public Administration and defense; compulsory social security	444.4	99.6	508.3	35.7	257.1	286.9	544.0
L	Education	918.7	329.8	938.0	310.5	423.5	824.9	1,248.5
M	Health and Social Work activities	151.6	252.8	261.1	143.2	147.8	256.5	404.4
N	Other community, social and personal service activities	363.6	2,101.2	1,750.5	714.3	715.9	1,749.0	2,464.8
O	Private households	52.4	1,049.1	158.9	942.6	418.7	682.9	1,101.5
P	Extraterritorial organizations and bodies	1.5	1.1	2.7	-	1.5	1.1	2.7
	All	6,241.2	48,246.9	38,260.8	16,227.3	12,601.4	41,886.7	54,488.1

- = Magnitude equals zero.

Source: Computations using 2010 LFS and ISS.

Figure 2.5.1 Distribution of Employment by Industry



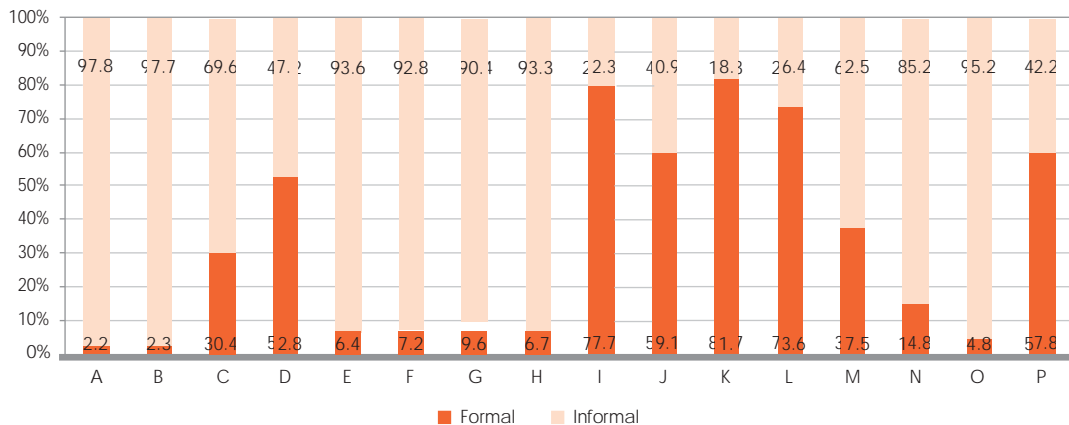
Source: Computations using 2010 LFS and ISS.

2.6 Employment Status

Own-account work in both agriculture and non-agriculture sectors was the most prevalent type of economic activity, accounting for 31.1% of the jobs in the country's labor market in 2010 (Figure 2.6.1). Unpaid family work and day labor (agriculture and non-agriculture) were also quite common, each accounting for almost a quarter of the jobs available in Bangladesh in 2010. This was followed by jobs of employees (13.2%), casual or irregularly paid jobs (3.1%), and paid domestic work (2.9%). Employers accounted for less than 1% of total employment in 2010. Figure 2.6.2, on the other hand, presents the employment status in Bangladesh by area (urban and rural). In this section, we will examine in detail how employment status relates to formal and informal job-holding.

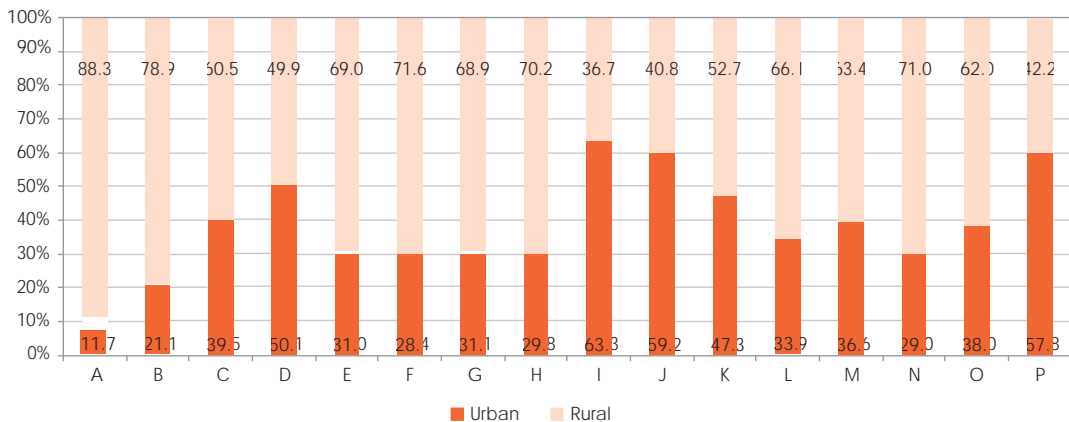
There existed an urban-rural variation with respect to status in employment (Table 2.6.1). Employee-jobs were more prevalent in urban areas (28.5%)—where

Figure 2.5.2 Employment by Industry and Nature of Employment



Note: For the complete name of industries, please refer to Table 2.5.1.
Source: Computations using 2010 LFS and ISS.

Figure 2.5.3 Employment by Industry and Urban/Rural



Note: For the complete name of industries, please refer to Table 2.5.1.
Source: Computations using 2010 LFS and ISS.

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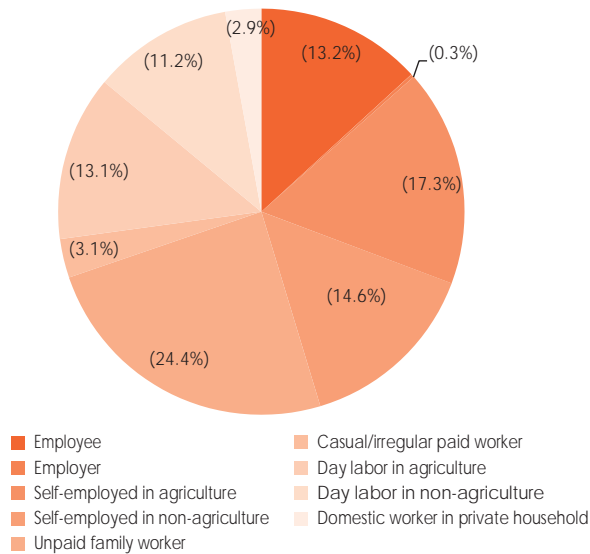
centers of commerce and industries are located compared to other types of employment. In addition, the proportion of unpaid family worker, self-employed, and day-wage workers in the non-agriculture sectors was also high in urban areas. In the rural areas, unpaid family worker registered the highest percentage of employment status (at 26.0%) followed by the self-employed in agriculture (20.9%) and day-wage workers in agriculture (15.9%). Both the rural and urban areas, however, had low proportions of employers and domestic workers.

The disparity between sexes across the different types of employment status is presented in Table 2.6.2. In general, men dominated both formal and informal work for all categories except in formal employee jobs, casual/irregular paid work, and unpaid family work. Under formal employee job, women registered 83.4%

while men recorded a lower 79.4%. Also, women had significantly higher share in unpaid family work at 65.2% compared to men's 10.6%.

Figure 2.6.2 shows that formal jobs are typically associated with wage work, while informal jobs are linked to entrepreneurial activities undertaken on own-account or unpaid (family) work, regardless of gender. In particular, working as paid employee (for both sexes) is higher in formal employment.

Figure 2.6.1 Distribution of Employment by Employment Status



Source: Computations using 2010 LFS and ISS.

Table 2.6.1 Employment by Employment Status and Urban/Rural

Employment Status	% to Total Number of Employed	
	Urban	Rural
Employee	28.5	8.6
Employer	0.5	0.2
Self-employed in agriculture	5.2	20.9
Self-employed in non-agriculture	18.6	13.4
Unpaid family worker	19.1	26.0
Casual/irregular paid worker	5.9	2.3
Day labor in agriculture	3.9	15.9
Day labor in non-agriculture	15.2	9.9
Domestic worker in private household	3.1	2.8
Total	100.0	100.0

Source: Computations using 2010 LFS and ISS.

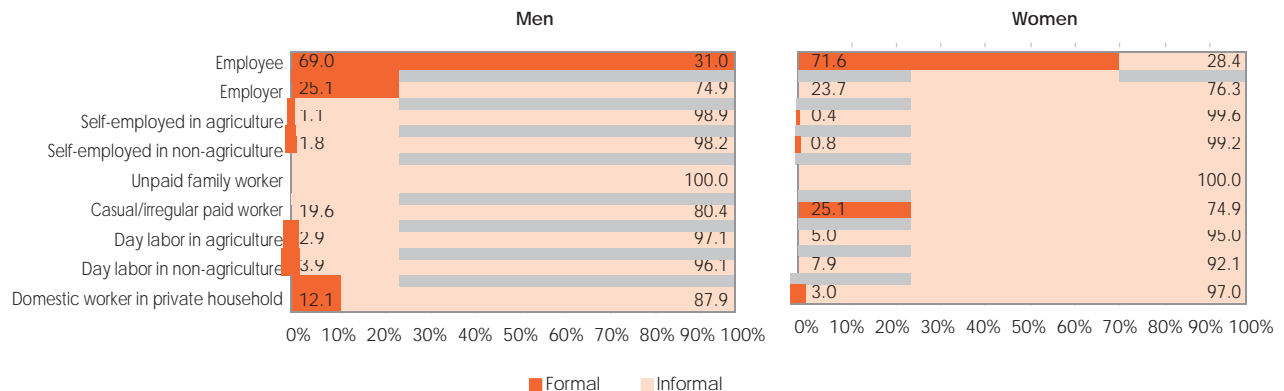
Table 2.6.2 Employment by Employment Status, Sex, and Nature of Employment

Employment Status	% to Total Number of Employed			
	Men		Women	
	Formal	Informal	Formal	Informal
Employee	79.4	5.4	83.4	2.6
Employer	0.6	0.3	0.4	0.1
Self-employed in agriculture	1.7	22.3	0.7	12.7
Self-employed in non-agriculture	2.4	20.1	0.7	7.7
Unpaid family worker	-	10.6	-	65.2
Casual/irregular paid worker	5.2	3.2	7.4	1.8
Day labor in agriculture	3.8	19.4	2.1	3.2
Day labor in non-agriculture	4.3	15.8	4.1	3.8
Domestic worker in private household	2.7	2.9	1.1	2.9
All	100.0	100.0	100.0	100.0

- = Magnitude equals zero

Source: Computations using 2010 LFS and ISS.

Figure 2.6.2 Employment by Employment Status, Nature of Employment, Sex

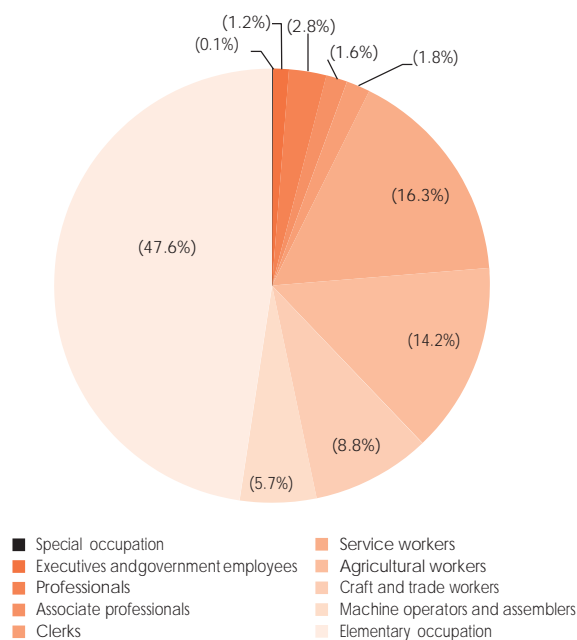


Source: Computations using 2010 LFS and ISS.

2.7 Occupation

About 62% of the jobs available in the country's labor market in 2010 can be associated with lower-productivity jobs in the form of elementary or agricultural jobs (Figure 2.7.1). On the other hand, semi-skilled jobs held by clerks, service workers, craft and related trades workers, and plant and machine operators and assemblers accounted for 32.6% of the total employment in the country, while highly skilled jobs held by professionals, associate professionals, executives, and government employees accounted for 5.5% of the total employment. The rest can be attributed to other special types of occupations.

Figure 2.7.1 Distribution of Employment by Occupation



Note: Special occupations refer to occupations in the armed forces.
Source: Computations using 2010 LFS and ISS.

Occupations, in terms of the number of formal and informal jobs associated with each type, are listed in Table 2.7.1. Intuitively, the table shows that majority of the formal jobs can be associated with semi-skilled and skilled labor, while unskilled work make up the majority of informal jobs. In particular, almost seven in 10 informal jobs were associated with jobs held by laborers, unskilled workers, farmers, forestry workers, and fishers.

Majority of employed women worked as laborers and unskilled workers (72.0%), while employed men, aside from being laborers (37.2%), commonly worked as service workers and market sales workers (19.5%); and farmers, forestry workers, and fishers (19.0%) (Table 2.7.2). Formally employed women are more likely to be working as professionals, plant machine operators and assemblers, and laborers. On the other hand, informally employed women are predominantly laborers and unskilled workers.

Table 2.7.1 Employment by Occupation and Nature of Employment

Occupation	% to		
	Total employment	Formal	Informal
Special occupations	0.1	0.6	0.0
Official of government & special interest organizations, corporate executives, managers, managing proprietors	1.2	2.9	0.9
Professionals	2.8	15.8	1.1
Technicians and associate professionals	1.6	7.0	0.9
Clerks	1.8	8.8	0.9
Service workers and shop and market sales workers	16.3	12.7	16.8
Farmers, forestry workers and fishermen	14.2	1.4	15.8
Craft and related trades workers	8.8	8.5	8.9
Plant and machine operators and assemblers	5.7	21.8	3.6
Elementary occupation: laborers and unskilled workers	47.6	20.4	51.1
All	100.00	100.00	100.00

0.0 = Magnitude is less than half of unit employed.
Source: Computations using 2010 LFS and ISS.

Table 2.7.2 Employment by Occupation, Nature of Employment, and Sex

Occupation	% to Total Employment					
	Formal		Informal		All	
	Men	Women	Men	Women	Men	Women
Special occupations	0.7	0.0	0.0	0.0	0.1	0.0
Official of government & special interest organizations, corporate executives, managers, managing proprietors	3.3	1.5	1.2	0.4	1.5	0.5
Professionals	14.9	19.7	1.3	0.6	3.1	2.0
Technicians and associate professionals	7.0	7.1	1.0	0.5	1.8	1.0
Clerks	9.6	5.2	1.2	0.2	2.3	0.6
Service workers and shop and market sales workers	15.1	2.8	20.2	9.3	19.5	8.8
Farmers, forestry workers and fishermen	1.6	0.8	21.6	3.0	19.0	2.8
Craft and related trades workers	8.7	8.0	9.5	7.5	9.4	7.5
Plant and machine operators and assemblers	18.7	34.5	4.2	2.4	6.1	4.7
Elementary occupation: laborers and unskilled workers	20.4	20.4	39.8	76.1	37.2	72.0
All	100.0	100.0	100.0	100.0	100.0	100.0

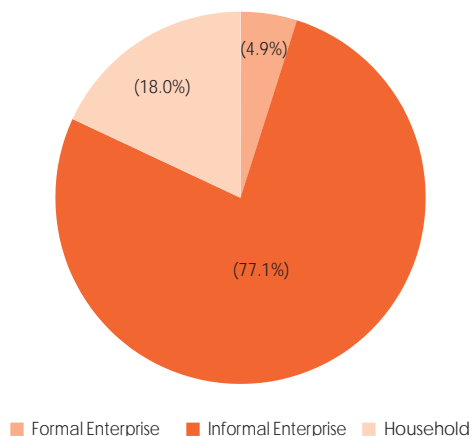
0.0 = Magnitude is less than half of unit employed.
Source: Computations using 2010 LFS and ISS.

Snapshots of Firms That Create Demand in the Labor Market

2.8 Type of Production Unit

Estimates show that most of the jobs were undertaken in informal enterprises, accounting for almost four-fifths (77.1%) of the jobs available in the country's labor market in 2010 (Figure 2.8.1). Jobs undertaken in private households (e.g., paid domestic workers, etc.) accounted for about 18.0% of the total employment. Formal enterprises registered as the least contributor in terms of job creation, where only five in 100 jobs were associated with such type of enterprise.

Figure 2.8.1 Distribution of Employment by Type of Production Unit



Source: Computations using 2010 LFS and ISS.

Formal enterprises were composed mainly of employees (84.4%); informal enterprises, on the other hand, were composed mainly of unpaid family workers and “daily wage workers” both in the agriculture and the non-agriculture sectors, while household enterprises provided about 84% of employment to self-employed workers (Table 2.8.1).

Table 2.8.1 Employment by Employment Status and Type of Production Unit

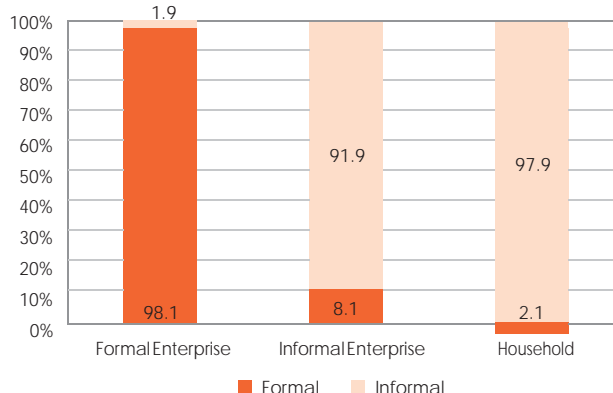
Type of Worker	Formal Enterprise	Informal Enterprise	Household
Employee	84.4	11.8	0.0
Employer	1.1	0.1	0.5
Self-employed in agriculture	2.3	8.9	57.2
Self-employed in non-agriculture	4.0	12.5	26.4
Unpaid family worker	0.0	31.7	0.0
Casual/irregular paid worker	4.5	3.7	0.0
Day labor in agriculture	1.3	17.0	0.0
Day labor in non-agriculture	2.3	14.3	0.0
Domestic worker in private household	0.0	0.0	15.9
All	100.0	100.0	100.0

0.0 = Magnitude is less than half of unit employed.

Source: Computations using 2010 LFS and ISS.

Figure 2.8.2 illustrates that informal employment arrangements were quite prevalent among jobs provided by informal enterprises and private households. In addition, even formal enterprises also provided informal employment arrangements to some of their workers.

Figure 2.8.2 Employment by Type of Production Unit and Nature of Employment



Source: Computations using 2010 LFS and ISS.

2.9 Size of Establishment

More than 88% of those employed in informal enterprises worked in establishments employing fewer than 10 persons, but only 37.1% of those employed in formal enterprises worked in establishments with the same size (Table 2.9.1). Majority of household enterprises had an employment size of less than 10. Workers employed in formal enterprises are more likely to work in establishments with 10 workers or more, while those in informal enterprises are more likely to work in establishments with fewer workers.

In both formal and informal employment arrangements, establishments with fewer than 10 employees had the highest employment prevalence. However, informal employment was dominated by establishments with fewer than 10 workers (Tables 2.9.2 and 2.9.3).

Table 2.9.1 Employment by Employment Size of Establishment and Type of Production Unit (%)

Employment Size	Formal Enterprise	Informal Enterprise	Household
Less than 10 workers	37.1	88.4	95.1
10-49	26.4	5.6	3.7
50-149	12.9	2.8	0.0
150 and more	23.6	3.3	0.0
All	100.0	100.0	100.0

0.0 = Magnitude is less than half of unit employed

Source: Computations using 2010 LFS and ISS.

Table 2.9.2 Formal Employment by Employment Size of Establishment and Nature of Employment

Employment Size	Employee	Employer	Self-employed in agriculture	Self-employed in non-agriculture	Casual/irregular paid worker	Day labor in agriculture	Day labor in non-agriculture	Domestic worker in private household	All
Less than 10 workers	27.8	0.2	1.3	1.6	1.8	1.1	1.9	0.8	36.4
10–49	20.9	0.2	0.0	0.0	0.9	2.0	1.2	1.0	26.5
50–149	8.7	0.1	0.0	0.0	1.7	0.3	0.5	0.0	11.6
150 and more	23.5	0.1	0.0	0.0	0.8	0.1	0.5	0.0	25.5
All	80.9	0.6	1.5	2.1	5.2	3.4	4.1	2.4	100.0

0.0 = Magnitude is less than half of unit employed
 Source: Computations using 2010 LFS and ISS.

Table 2.9.3 Informal Employment by Employment Size of Establishment and Nature of Employment

Employment Size	Employee	Employer	Self-employed in agriculture	Self-employed in non-agriculture	Unpaid family worker	Casual/irregular paid worker	Day labor in agriculture	Day labor in non-agriculture	Domestic worker in private household	All
Less than 10 workers	3.2	0.2	18.5	15.5	27.1	1.9	14.1	10.4	2.8	93.6
10–49	0.4	0.0	0.0	0.0	0.4	0.4	0.2	1.0	0.1	3.7
50–149	0.4	0.0	0.0	0.0	0.1	0.5	0.0	0.5	0.0	1.8
150 and more	0.6	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	1.0
All	4.6	0.2	19.3	16.2	27.7	2.8	14.3	12.0	2.9	100.0

0.0 = Magnitude is less than half of unit employed
 Source: Computations using 2010 LFS and ISS.

2.10 Legal Status of Enterprise

Self-employed workers were most likely in single proprietorship business/farm. Table 2.10.1 shows that more than nine in 10 self-employed jobs can be associated with operation of single proprietorship enterprises, individual business, or farms. This was true across all geographic divisions. Partnership was the second most common type of legal status among self-employed workers. Not surprisingly, we also found self-employed workers who did not know the legal status of their enterprise. Whether this is indicative of

the informality of the self-employment structure is open to further investigation.

Regardless of legal status, majority of self-employed workers did not maintain written records (except for 50% of registered cooperatives who maintained at least simplified accounting methods). Among the self-employed working in corporations, on the other hand, 30.5% maintained complete bookkeeping accounting methods (Table 2.10.2).

Table 2.10.1 Number of Self-Employed Jobs by Legal Status and Division

Legal Status	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Bangladesh
Single proprietorship / individual business / farm	94.9	91.7	95.7	93.9	94.9	93.1	94.4
Partnership	2.0	2.5	2.0	1.0	2.8	2.7	2.2
Corporation (stock or non-stock; non-profit)	0.5	0.2	0.4	0.2	0.2	0.5	0.3
Registered cooperative	0.5	0.3	0.5	0.1	0.1	0.5	0.3
Other, specify	0.8	0.8	0.7	1.3	1.0	1.2	0.9
Do not know	1.3	4.5	0.8	3.5	0.9	2.1	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computations using 2010 LFS and ISS.

Table 2.10.2 Informal Employment by Legal Status and Accounting Methods

Legal Status	Complete bookkeeping	Simplified accounts	Informal records	No written records	Others	All
Single proprietorship/ individual business/farm	1.6	7.9	12.4	66.4	11.7	100.0
Partnership	6.2	18.0	12.7	48.6	14.5	100.0
Corporation (stock or non-stock; nonprofit)	30.5	7.3	10.7	46.6	4.9	100.0
Registered cooperative	8.1	50.1	3.8	38.0	–	100.0
Others, specify	13.0	13.8	6.3	46.9	20.1	100.0
Do not know	0.5	2.9	7.3	75.8	13.5	100.0

– = Magnitude equals zero.

Source: Computations using 2010 LFS and ISS.

Working Conditions in the Labor Market

2.11 Number of Hours Worked

Between formal and informal workers in Bangladesh, casual/irregularly paid workers worked the most number of hours (equivalent to an average of 54 hours in a week), while the unpaid family worker only worked 35 hours per week (Table 2.11.1).

Table 2.11.1 Average Weekly Hours Worked by Employment Status and Nature of Employment

Employment Status	All	Formal	Informal
Employee	51.4	50.8	52.9
Employer	48.9	51.3	48.1
Self-employed in agriculture	40.6	43.8	40.6
Self-employed in non-agriculture	49.3	52.7	49.2
Unpaid family worker	35.3	-	35.3
Casual/irregular paid worker	53.9	53.0	54.1
Day labor in agriculture	50.3	51.3	50.3
Day labor in non-agriculture	52.8	52.3	52.9
Domestic worker in private household	48.3	51.4	47.9

- = Magnitude equals zero.

Source: Computations using 2010 LFS and ISS.

Table 2.11.2 shows that between sexes, a substantial difference in the number of hours worked weekly can be observed for those self-employed in non-agriculture, unpaid family workers, and day laborers in non-agriculture, with women putting in at least 3-7 hours less than the weekly hours put in by men.

Table 2.11.2 Average Weekly Hours Worked by Employment Status and Sex

Employment Status	Men	Women
Employee	51.5	51.2
Employer	49.3	47.0
Self-employed in agriculture	40.6	40.6
Self-employed in non-agriculture	50.4	42.6
Unpaid family worker	41.2	33.2
Casual/irregular paid worker	54.4	51.9
Day labor in agriculture	50.4	49.5
Day labor in non-agriculture	53.2	49.7
Domestic worker in private household	47.6	49.9

Source: Computations using 2010 LFS and ISS.

Across all types of workers and sex, the casual/irregularly paid workers put in the most number of weekly hours worked (and this may be the population who took on multiple jobs).

2.12 Income

Monthly income by economic sector is presented in Table 2.12.1. In general, workers with formal employment earned significantly higher income, except for own-

account workers in agriculture. Own-account workers who are informally employed received slightly higher income (Tk1,584 or \$22.75) than those with formal employment arrangements (Tk1,516 or \$21.78).

Table 2.12.1 Monthly Income by Type of Worker, Economic Sector, and Nature of Employment (in taka)

Type of Worker	Agriculture		Non-Agriculture	
	Formal	Informal	Formal	Informal
Employee	2,534.8	1,353.6	2,319.5	1,710.0
Employer	3,321.6	1,041.6	5,497.2	3,079.6
Own-account worker	1,516.0	1,583.7	4,339.1	1,862.7

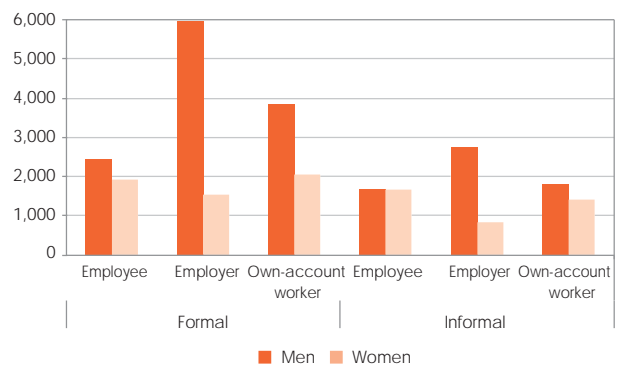
Source: Computations using 2010 LFS and ISS.

A similar trend can also be observed for those in the non-agriculture sector where a typical formally employed worker receives a higher monthly income than those who hold informal jobs. Those in the formal economy received at least 35% higher than those in the informal economy.

Figure 2.12.1 presents the monthly income earned by both sexes; across all types of workers and employment sector, male workers enjoyed higher monthly incomes than female workers. Workers in the formal economy generally received higher incomes than those in the informal economy across all worker types and sex.

On average, monthly income earned by males who have formal jobs (Tk5,964 or \$85.69) was three times higher than the income of their female counterparts (Tk1,542 or \$22.16). The income differences between males and females were more pronounced in the formal economy whereby the income of males was at least 20% higher than that of females. Female and male employees in the informal economy, on the other hand, had almost the same monthly income. To the extent that this may suggest that there is greater gender balance in the informal economy than in the formal economy is subject to further investigation.

Figure 2.12.1 Monthly Income by Type of Worker, Nature of Employment, and Sex (in taka)



Source: Computations using 2010 LFS and ISS.

2.13 Place of Work

The most common places of work in Bangladesh were in farms or individual agricultural plots (50.5%), followed by market, bazaar stall, and trade fair (18.1%) (Table 2.13.1). Almost 90% of the farms or individual agricultural plots are in the rural areas, while 10% are in urban areas. According to the survey results, the employer's home was the least common place of work of the workers of Bangladesh (mostly comprised of hawkers moving from door to door).

Urban workers mostly worked in markets, bazaar stalls, and trade fairs (33.6%) or worked in farms (19.2%) or at home with a special workplace (12.9%). On the other hand, 62.5% of those in the rural areas worked in farms or agricultural plots, while 12.2% worked in markets, bazaar stalls, and trade fairs. This shows that

Table 2.13.1 Employment by Place of Work and Urban/Rural

Place of Work	% to Total Employment		
	Bangladesh	Urban	Rural
At home with no special workplace	3.5	3.6	3.4
At home with special workplace	11.6	12.9	11.1
Factory, workshop, shop, kiosk, etc.	4.4	9.7	2.4
Farm or individual agricultural plot	50.5	19.2	62.5
Home or workplace of client	1.0	2.2	0.5
Construction site	0.6	1.4	0.3
Market, bazaar stall, trade fair	18.1	33.6	12.2
Street pavement/ highway with fixed post	5.1	9.5	3.4
Office building	0.7	1.9	0.2
Employer's home	0.1	0.2	0.1
Transport vehicle	1.8	1.6	1.8
No fixed location	2.1	3.3	1.7
Others	0.6	0.8	0.5
Total	100.0	100.0	100.0

Source: Computations using 2010 LFS and ISS.

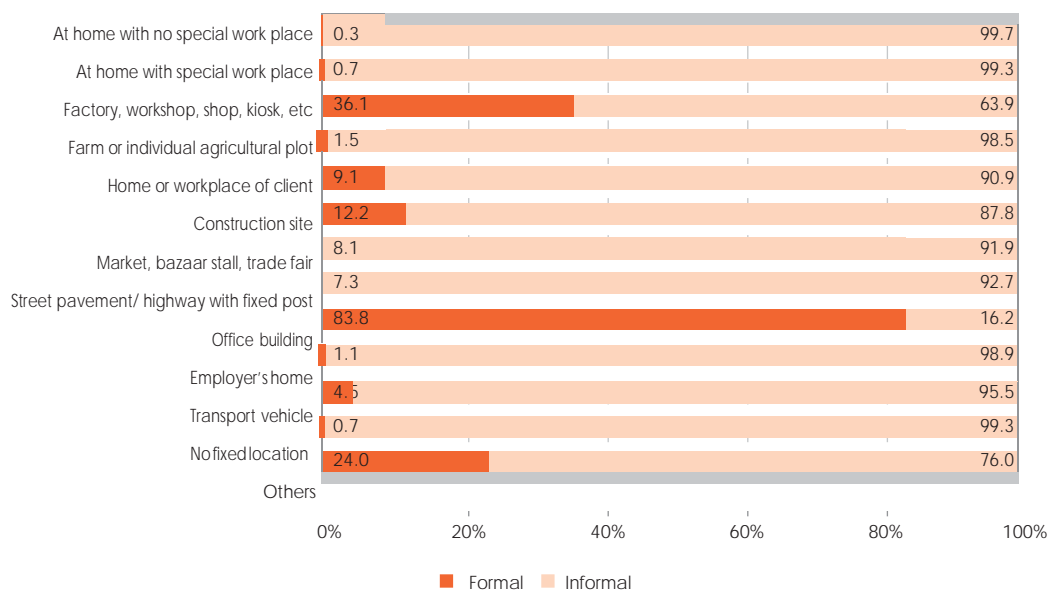
those working in urban areas are largely into selling goods in markets or are in the services sector, while those in the rural areas are largely in the production of goods and are venturing into selling goods in the market. Since the economy of Bangladesh is largely agricultural and in informal employment, it is not surprising that 72.4% of jobs were located in the rural areas and the remaining 27.6% were in urban areas.

Figure 2.13.1 may enable us to infer the nature of employment based on place of work. Although there are uniformly more informal jobs across different places of work, the propensity to have formal jobs is higher when one is working on fixed location (e.g., office building, factory, workshop, shop, kiosk, construction site)-characteristics that are associated with formal entrepreneurial activities. Similarly, those working at home, in farms, markets, streets, employers' homes, and in their vehicles are more likely to engage in informal jobs.

Intuitively, those who reported to be working in farms usually have informal jobs. In Bangladesh, 98.5% of the total number of jobs undertaken in farms or individual agricultural plot is informal and thus, those who are working in farms are generally engaged in informal employment.

Since employment in Bangladesh is largely composed of informal jobs, majority of the places of work are also informal except for those who worked in office buildings (83.5%) and factories (36.1%). This only reaffirms the previous observation that a large proportion of formal work in the country is in the manufacturing, education, and administrative services sectors.

Figure 2.13.1 Employment by Place of Work and Nature of Employment



Source: Computations using 2010 LFS and ISS.

2.14 Benefits Received by Formal and Informal Workers

This section examines the employment conditions of formal and informal workers in terms of the benefits received by the wage workers and thus the level of social protection received. The unit of analysis used in this section is the job of a wage worker (who provided answers to relevant survey questions).

Social protection, in general, is likely to be received by formal wage workers, and as Figure 2.14.1 shows, the formal wage workers in Bangladesh received social protection (in terms of sick leaves, paid vacation leaves, bonus, pension, and the notice of termination) more than their informal sector counterparts. It is interesting to note that almost 20% of those employed informally also received sick leaves and almost 25% received paid vacation leaves.

With regard to the basic necessities of free/subsidized food, free/subsidized housing, and clothing, the formal and informal sectors offered no divergence in that less than 10% of wage workers received these types of benefits. It is alarming to note, however, that 50% of wage workers in the formal sector did not receive their pensions, while almost all of the wage workers in the informal sector did not receive pensions.

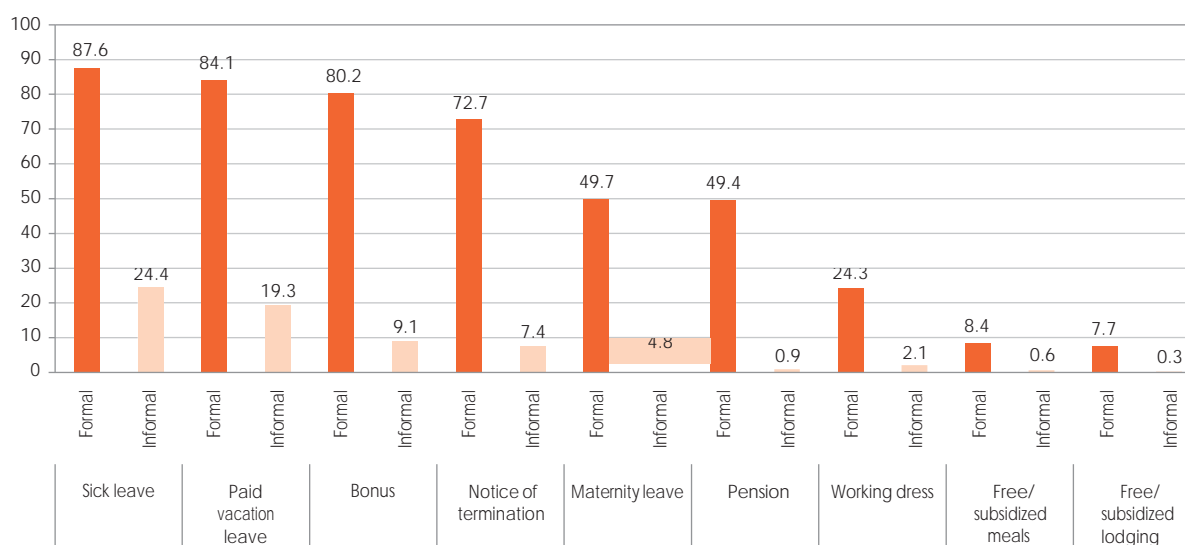
The distribution of receipt of benefits by male and female workers is shown in Figure 2.14.2. Among those who responded in the survey, the proportion of women who received benefits was generally higher than that of men. Ideally, there should be equal distribution of benefits received by workers, regardless of sex. However, the graph could also reflect the female workers' increasing awareness and utilization of benefits accorded to wage workers.

Thus, with these results, it may be concluded that for a wage worker to receive social protection or benefits, he or she needs to be employed in the formal sector. While being a formal wage worker does not guarantee receipt of benefits, it is still a better condition compared to that of the informal wage worker who does not seem to receive benefits. Box 2.1 defines formal and informal wage employment.

2.15 Exclusion of Agriculture, Forestry, and Fishing

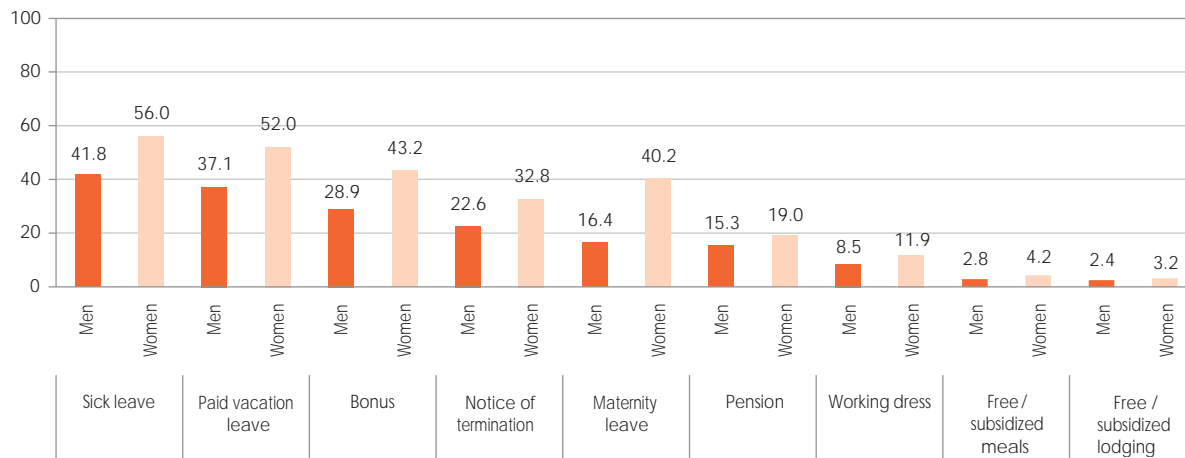
Agricultural employment is often characterized by informal employment arrangements. Thus, a high incidence of total informal employment might simply be a reflection of the prevalence of agricultural employment. In this section, we will focus on the non-agriculture sector.

Figure 2.14.1 Proportion of Wage Workers who Received Benefits by Nature of Employment and Type of Benefit



Source: Computations using 2010 LFS and ISS.

Figure 2.14.2 Proportion of Wage Workers who Received Benefits by Sex and Type of Benefit



Source: Computations using 2010 LFS and ISS.

Box 2.1 Defining Formal and Informal Wage Employment

According to the 17th International Conference of Labour Statisticians (ICLS), “[...] employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to labor legislation, income taxation, social protection or entitlement to certain employment benefits (e.g., advance notice of dismissal, severances of pay, paid annual or sick leave, among others).” Depending on data availability, operationalization of this definition may differ from one country to another. In general, a common approach is to treat jobs without social security coverage or written contracts as proxy for informality among wage workers (OECD 2008). Developing countries, such as Brazil, India, and Mexico, have employed these two indicators to distinguish formal from informal wage employment (Husmanns 2004).

Some studies define informal wage employment based on the absence of social protection or insurance (Chen 2007; Chen, Vanek, and Carr 2004; Cling, Razafindrakoto, and Roubaud 2010). Others, however, base the informal employment classification on the lack of written contracts. For instance, Hazans (2011a) focused on the existence of contracts in categorizing formal and informal employees. With this definition, the author tried to explain the prevalence of informal employment in European countries. He then further compared the conditions of informal workers in 30 countries with those in Europe (Hazan 2011b). Other papers, like those of Packard (2007) and the World Bank (2011), also based their analyses of wage informal employment on the existence of contracts.

Likewise, this study also used the existence of written contracts to differentiate formal from informal wage or employee jobs. While the 2010 Informal Sector Survey also collected information about the different types of benefits received by wage workers, specific country conditions in Bangladesh show that the provision of social protection to wage workers will be an ineffective condition in identifying informal employees. First, the provision of social pension to private sector workers appears to be an uncommon practice in Bangladesh (Miyan 2008). In contrast, granting appointment letters and service books, which is a form of employment contract, are mandatory under the Bangladesh Labor Law (Hossain, Ahmed, and Akter 2010).^a Lastly, the contract condition is more straightforward compared to identifying a minimum set of legal entitlements for a wage worker from the list of social benefit indicators collected in the survey. These sets of information are i) whether the employer pays contribution for social security pension; ii) provision of paid leaves; and iii) subsidized meals and lodging.

Among wage jobs with written contracts, less than 50% benefited from pension fund contribution from their employers (see Figure 2.16.1). On the other hand, less than 1% of the jobs, which had verbal contracts or none at all, received employer contributions to the pension fund. Given these information, one could infer that total formal employment will increase by approximately 1% had the definition of informal employment been based on social protection condition instead of existence of contracts.

^a According to Hossain, Ahmed, and Akter (2010), the service book is required to be signed by both employer and worker.

Sources: OECD (2008), Chen (2007), Chen et al. (2004), Cling et al. (2010), Hazans (2011), Packard (2007), World Bank (2011), Miyan (2008), and Hossain et al. (2010).

The analysis of the employment in the non-agriculture sector registered a wide gap between formal and informal employment rates, at 20.2% and 79.8%, respectively (Table 2.15.1). This is a significant change from the overall employment rate of 11% for formal and 89% for informal employment. Employment analysis in the non-agriculture sector revealed that, across all genders and production units, formal employment in formal enterprises was much higher than informal employment, while the reverse was true for informal enterprises and households. The participation rate of females in any type of enterprise and any nature of employment was significantly lower than that of males.

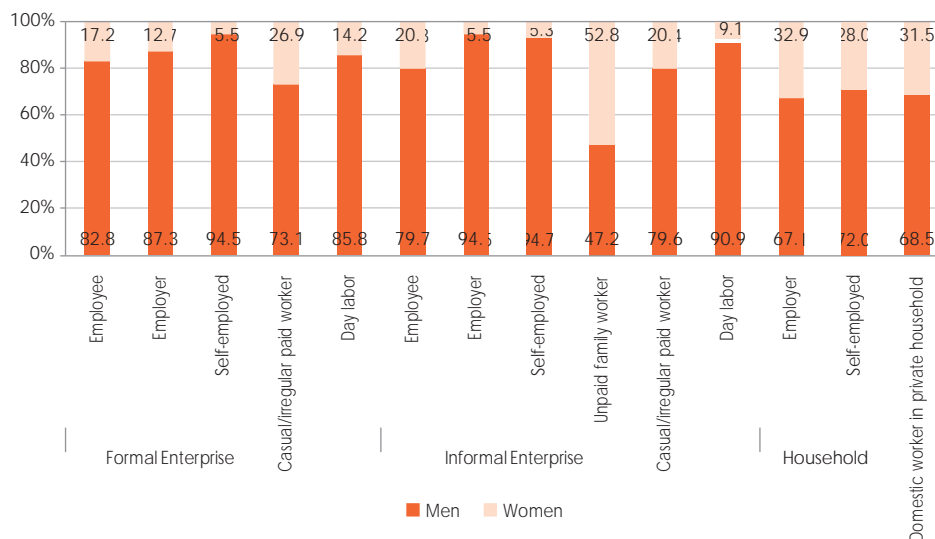
Figure 2.15.1 suggests that males dominated across all three types of enterprises and for each type of worker. It is interesting to note that the rate of female participation as employer in formal enterprises was higher than that in informal enterprises. It can be inferred, based on the figure, that even for the non-agriculture sector, the structure of job provision remained unchanged. This validates the fact that Bangladesh is still highly dependent on its agriculture sector not only in production but also with employment.

Table 2.15.1 Employment in the Non-agriculture Sector by Nature of Employment, Type of Production Unit, and Sex

Nature of Employment	Formal Enterprise		Informal Enterprise		Household		Total	
	Men	Women	Men	Women	Men	Women	Frequency	%
Formal	2,082.8	422.9	2,344.5	658.1	149.4	13.0	5,670.7	20.2
Informal	38.5	9.4	14,559.8	2,981.4	3,358.7	1,405.4	22,353.2	79.8

Source: Computations using 2010 LFS and ISS.

Figure 2.15.1 Employment in the Non-Agriculture Sector by Type of Production Unit, Employment Status, and Sex



Source: Computations using 2010 LFS and ISS.

Chapter 3

Contribution of the Informal Sector to GDP

The informal economy plays a vital role in the economy of developing countries such as Bangladesh³. There are more than 48 million informal jobs in Bangladesh (see Chapter 2). A major component of the informal economy is the informal sector. Whereas, informal economy generally refers to jobs offering informal employment arrangements, regardless of whether they are undertaken in formal or informal enterprises, the informal sector is just the collection of all informal enterprises. Hence, informal jobs offered in formal enterprises are excluded in the concept of informal sector.

The informal sector serves as an important source of employment and is primarily attributed to high labor intensity production that the informal sector is usually associated with. Of the 54 million jobs in the country's labor market in 2010, about 42 million were held in informal enterprises. Overall, these statistics show how important the informal sector is in Bangladesh.

Unfortunately, existing data collection systems do not even provide straightforward answers to common research questions about the informal sector and even about the informal economy in general. At present, very few national statistical systems in Asia regularly collect statistical indicators that can directly measure the informal employment and the informal sector. Rarely do labor force surveys probe beyond the usual indicators such as employment status and earnings (e.g., extent of informal work, consumption patterns of the labor force, what kind of risk management tools are available for the working population), thus, complicating the analysis of the informal economy. Consequently, it is also arduous to measure the extent of contribution of the informal economy to the total output of the country. National accountants usually estimate the gross value added (GVA) of different economic activities indirectly, using administrative data and establishment surveys. However, such data do not adequately capture the output of economic activities in the informal sector. Because there is practically limited official statistics on these important issues, there is also marginal public awareness of them and, more importantly, design and monitoring of policies and programs are not well-informed.

The Informal Sector Survey (ISS) conducted under ADB regional technical assistance provides empirical support to facilitate direct measurement of the contribution of the informal sector in terms of economic output. In particular, the ISS collected detailed production and expenditure data from the identified household unincorporated enterprises (with some market production) identified in the expanded Labor Force Survey. Survey results suggest that in the agriculture and non-agriculture sectors, the informal sector accounts for a significant portion of the economy. In the agriculture sector, about 94% of the agricultural GVA can be accounted to the output of informal agricultural enterprises. The informal sector accounted for 34% of total GVA in the manufacturing and other industry sectors, and 33% in the services sectors. Survey results also provided empirical evidence on the disparity of labor productivity between the informal sector and the rest of the economy.

Since the ISS is the first survey of its type to be conducted by the Bangladesh Bureau of Statistics, a number of problems were encountered during data collection and analysis. Extensive data validation, checking, and imputations were implemented to minimize the effects of problems on data quality; a comprehensive account of data limitations and notes of how the estimates were computed are presented in Appendix 5.

3.1 Gross Value Added of the Informal Sector

The economy of Bangladesh is likely to be shifting gradually from a traditional agriculturally-driven economy to an industry and services-oriented economy. In 2009–2010, GVA of the manufacturing sector amounted to Tk1,201 billion (\$17 billion), whereas GVA of the agriculture sector (excluding fishing) during the same period amounted to Tk1,006 billion (\$14.5 billion). The share of the agriculture sector in the 2010 total GDP of Bangladesh (at current prices) is 18.6%, whereas that of the manufacturing and other industry sectors is 28.5%. Services accounted for 52.9% of total GDP.

The last two columns in Table 3.1.1 depict the contribution of the informal sector for each economic activity to total GDP. The informal sector in the services sector contributed the highest at 18%, agriculture at 15%, and the industry sector at 10%.

3 Under this section, what is referred to as "formal sector" actually refers to the joint contribution of formal sector enterprises and private households. Its contribution to total gross domestic product (GDP) is computed as a residual of the contribution of informal enterprises that was directly measured using the Informal Sector Survey.

Table 3.1.1 GDP Share of Formal and Informal Sector (Tk billion)

Sector	Industry	GDP at current price in 2009–2010	GVA of formal sector**	GVA of informal sector	Share by sector (%)	Share of formal sector** (%)	Share of informal sector (%)
A	Agriculture	1,005.9	63.9	942.0	15.0	1.0	14.0
B	Fishing	242.2	132.2	110.0	3.6	2.0	1.6
C	Mining and quarrying	81.1	80.8	0.3	1.2	1.2	0.0
D	Manufacturing	1,201.1	743.6	457.5	17.9	11.1	6.8
E	Electricity, gas and water	71.9	70.8	1.2	1.1	1.1	0.0
F	Construction	556.6	373.5	183.1	8.3	5.6	2.7
G	Trade	1,002.9	333.2	669.7	14.9	5.0	10.0
H	Hotel and restaurant	51.5	30.0	21.5	0.8	0.5	0.3
I	Transport, storage, and communication	718.8	536.1	182.7	10.7	8.0	2.7
J	Financial intermediation	123.0	119.1	3.9	1.8	1.8	0.1
K	Real estate and business activities	456.8	341.4	115.4	6.8	5.1	1.7
L	Public administration	187.6	181.7	5.9	2.8	2.7	0.1
M	Education	179.1	161.7	17.4	2.7	2.4	0.3
N	Health	151.4	147.5	3.9	2.3	2.2	0.1
O	Community and other private services	684.7	528.7	156.0	10.2	7.9	2.3
	Total	6,714.7	3,844.1	2,870.5	100.0	57.0	43.0

Source: Computations using 2010 ISS Phase 2 data.

The informal sector accounted for more than two-fifths of the total GVA of Bangladesh in 2010 (Figure 3.1.1). Among the economic activities-where the informal sector is the major player-are agriculture and fishery, trade, hotels and restaurants, manufacturing, real estate, and other business activities. On the other hand, the informal sector does not contribute significantly to economic activities that usually have high capitalization (e.g., construction; mining and quarrying; electricity, gas, and water; and finance). Figure 3.1.2 depicts the contribution of the informal sector by type of economic activity.

Figure 3.1.1 Contributions of Formal and Informal Sectors to GDP

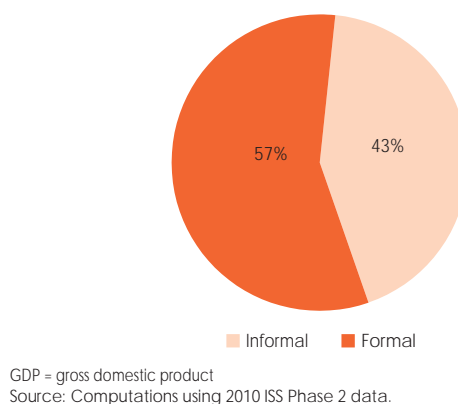
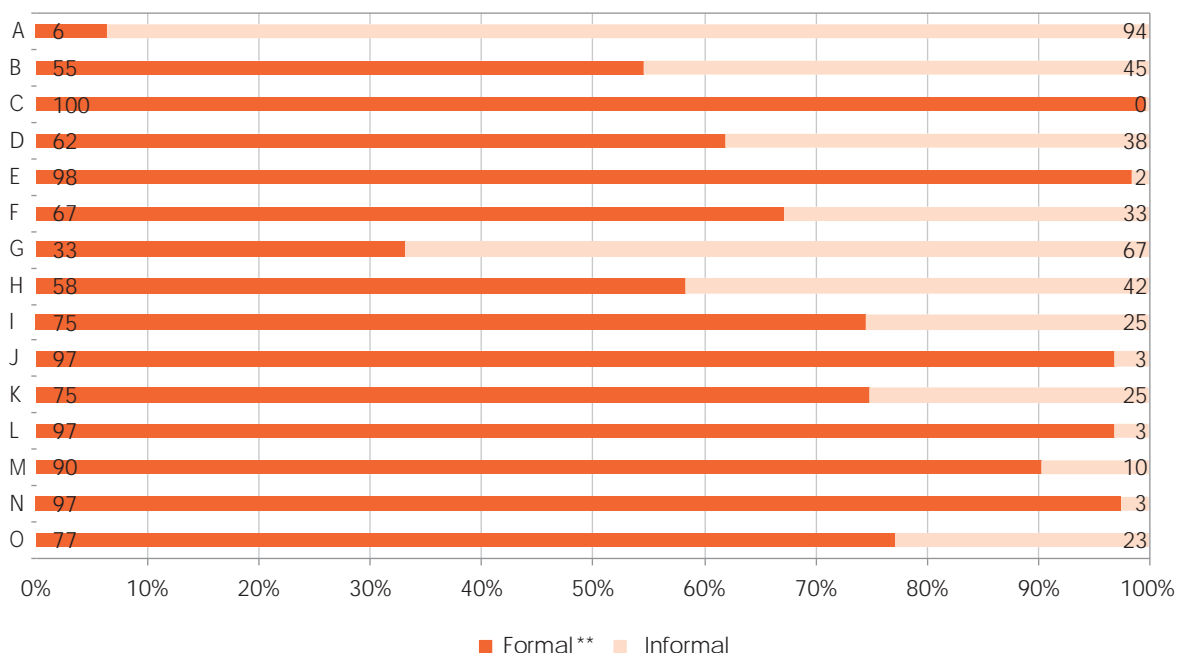


Figure 3.1.2 Share of Formal and Informal Sectors to Gross Value Added, by Industry (%)



Note: For the complete name of industries, please refer to Table 3.1.1
Source: Computations using 2010 ISS Phase 2 data.

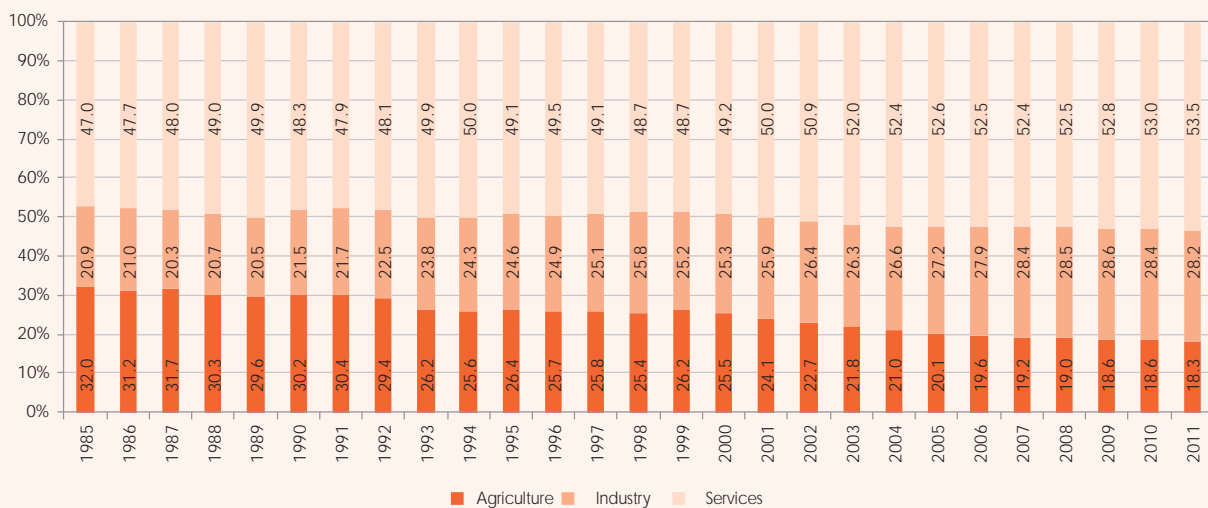
Box 3.1 below illustrates the shift of the economy of Bangladesh from 1985 to 2011.

Box 3.1 A Snapshot on the Shift of the Economy of Bangladesh

Bangladesh, which is highly dependent on its rich agricultural land, with rice and jute being its major crops, is also blessed with a large human resource base and relatively abundant water. Over the last 26 years, sectoral contribution from agriculture has declined by 13.7 percentage points (from 32.0% in 1985 to 18.3% in 2011), while the industry sector has, in turn, increased its contribution to gross domestic product (GDP) by 7.3 percentage points (from 20.9% to 28.2%); the services sector has maintained the largest contribution to GDP at about 50%. The agricultural industry mainly produces rice and jute, while maize and vegetables are slowly gaining importance. Fertile soil and ample water supply allow rice to be grown and harvested three times a year. But due to Bangladesh’s large population, the rice produced is mainly consumed domestically. Jute, or its end product, jute fiber (used to produce sacks, carpets, or cloth) is also one of the largest exports of Bangladesh. In producing jute fiber, women and children are mainly employed in retting and stripping. In 2008, Bangladesh was the second-largest jute-producing country (next to India) and the largest exporter of raw jute in the world.

The textile industry—which includes knitwear and ready-made garments along with specialized textile products—was the nation’s number one export earner, accounting for about Tk54 million in 2010. Other agricultural exports include shrimps, tea, and spices.

The agriculture sector is a major component of the economy such that weather conditions can have an impact on growth. One of the most catastrophic floods in Bangladesh happened in 1998. “The Great Flood,” as it is now known, greatly affected the agriculture sector, with total rice production falling by 2.04 million metric tons. This could have been the reason for the start of the decline of the contribution of agriculture to GDP, and expansions in the textile industry could have taken in the movements from the agriculture industry.



Sources: ADB Statistical Database System.

3.2 Agriculture and Non-Agriculture Sectors

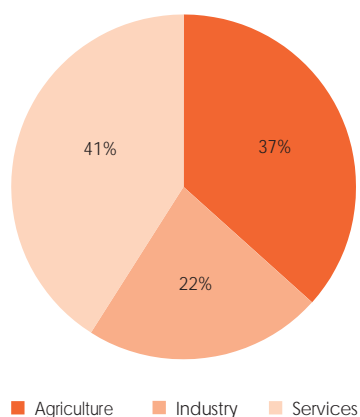
In Bangladesh, the informal sector in agriculture contributed Tk1,052 billion (\$15 billion), or 84% of total agriculture (including fishing) GVA, while the non-agriculture sectors contributed Tk1,819 billion (\$26 billion), or 33% of total non-agriculture GVA. This is similar to the development patterns of most developing countries wherein the agriculture sector is typically perceived to be coming from mostly informal sector

production. Here, the term informal agriculture sector excludes subsistence farming whose production output is exclusive for the households’ own final consumption. Since the computation of GVA of non-informal sectors follows the residual method, GVA of such activities are lumped under the formal** sector.⁴

⁴ The own consumption of identified informal sector enterprises is still included in the computation of informal sector’s gross value added. However, if a household is engaged in subsistence farming (i.e., no market production), its own consumption is not considered part of informal production.

The contribution of the agriculture and non-agriculture sectors in total production of the informal sector is shown in Figure 3.2.1. In Bangladesh, the informal sector engaged in non-agriculture production contributed more (63%) than those engaged in agriculture (37%). As mentioned earlier, the concept of the informal sector has evolved over the decades. Now, the informal sector is no longer dominated by agricultural activities and has, in fact, also flourished in the non-agriculture sectors. This may not be surprising for a developing economy such as Bangladesh's. As it moves from being heavily dependent on the traditional agriculture sector, the non-agriculture informal sector tends to serve as a bridge toward the modern sector production. With the rapid improvement and expansion of different economic activities in Bangladesh over the past years, the informal sector is also likely to be concentrating on non-agriculture activities, particularly on the manufacturing and trade sectors.

Figure 3.2.1 Contributions of Agriculture and Non-Agriculture Sectors to Informal Sector Production



Source: Computations using 2010 ISS Phase 2 data.

3.3 Labor Productivity

This section examines how productively labor is used to generate economic output among informal enterprises in Bangladesh. In general, concepts, such as the joint influence of changes in capital, intermediate inputs, technical efficiency, and economies of scale and capacity utilization of enterprises, are reflected in productivity measures (*OECD Manual on Measuring Productivity*). There are two common ways of measuring productivity: (i) the gross output-based labor productivity approach, and (ii) the value added-based labor productivity approach. The gross output-based approach measures labor requirements per unit of output, while the value added-based approach can be directly linked with existing income-based measures of living standards. This section uses a labor productivity measure similar to the value added-based approach. In particular, we divide the total GVA of the informal sector computed from survey data by the total number of jobs in the informal sector. To have a point of comparison, we also present labor productivity in the formal sector**. For convenience, we use the term *value added of the formal sector*** to refer to the sum of the GVA of formal enterprises and subsistence / private households.

Survey results suggest that, in Bangladesh, total labor productivity per job, as measured by the ratio of GVA to total employment, stood at Tk191,831 (\$2,756) in 2010. The estimated labor productivity per job for each of the major type of economic activities is presented in Table 3.3.1. Intuitively, we find that labor productivity per job in high-capitalization sectors (such as mining and quarrying; financial intermediation; real estate; and electricity, gas, and water) are high in the formal sector**. On the other hand, real estate, trade, and manufacturing posted the highest labor productivity

Table 3.3.1 Labor Productivity by Type of Economic Activity

Industry	Gross value added (in Tk million)		Number of jobs		Gross value added per job (Tk thousand)		
	Formal sector**	Informal sector	Formal sector**	Informal sector	Total	Formal sector**	Informal sector
Agriculture, Hunting, Forestry and Fishery	196,150	1,051,959	5,016,345	21,452,762	47.2	39.1	49.0
Mining and quarrying	80,812	329	24,734	79,233	780.4	3,267.3	4.1
Manufacturing	743,588	457,493	1,322,879	5,170,042	185.0	562.1	88.5
Electricity, gas, steam and air conditioning supply, water	70,780	1,165	47,266	70,179	612.6	1,497.5	16.6
Construction	373,455	183,126	363,067	2,243,364	213.5	1,028.6	81.6
Wholesale and retail trade; repair of motor vehicles and motorcycles	333,233	669,713	2,225,275	4,934,800	140.1	149.7	135.7
Hotels, accommodation and food service activities	30,011	21,490	178,676	626,444	64.0	168.0	34.3
Transportation, storage and communication	536,073	182,723	904,475	3,041,626	182.2	592.7	60.1
Finance	119,084	3,914	172,749	194,395	335.0	689.3	20.1
Real estate and other business activities	341,448	115,382	305,781	349,104	697.6	1,116.6	330.5
Public administration and defense compulsory social security	181,665	5,904	387,195	156,779	344.8	469.2	37.7
Education	161,679	17,405	695,458	553,025	143.4	232.5	31.5
Human health and social work activities	147,509	3,915	207,759	196,619	374.5	710.0	19.9
Other community and personal services	528,661	155,994	643,403	2,925,657	191.8	821.7	53.3

Source: Computations using 2010 ISS Phase 2 data.

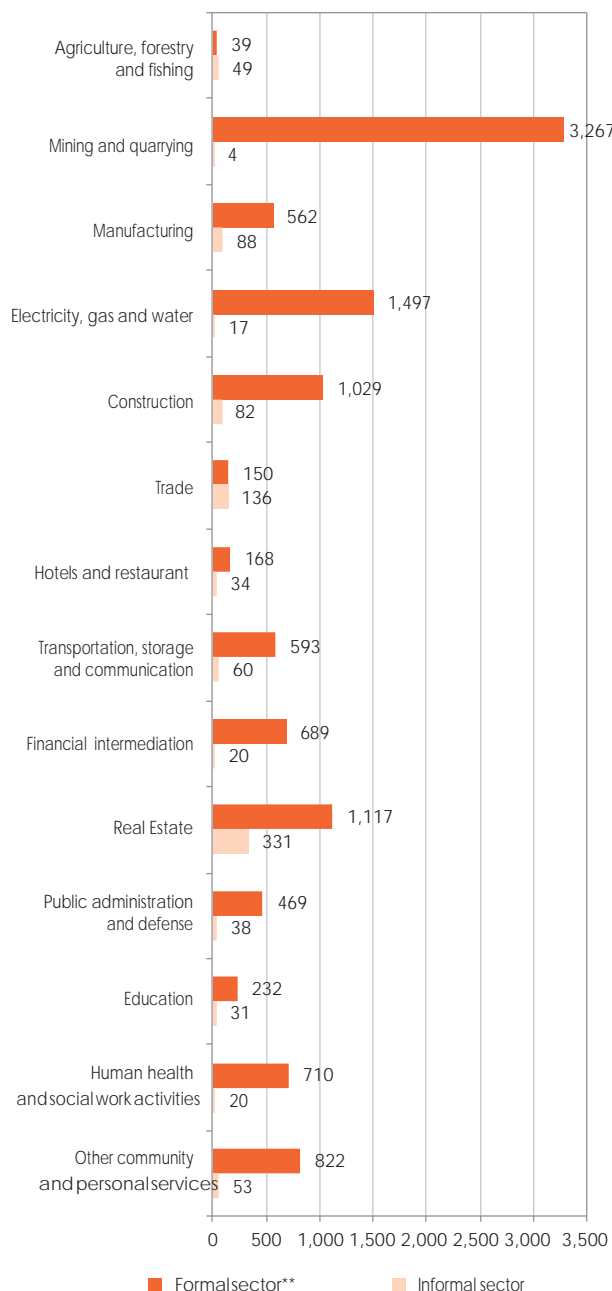
per job in the informal sector. Labor productivity in the formal sector** exceeded that in the informal sector by almost six times. In particular, a typical job in the formal sector** contributed Tk821,664 (\$11,805) in value-added terms, while an average job in the informal sector contributed Tk53,319 (\$766).

Figure 3.3.1 further illustrates the disparity of labor productivity between the informal sector and the rest of the economy.

In the industry sector, labor productivity in the formal sector** was 33 times higher than the labor productivity in the informal sector. Similarly, in the services sector, labor productivity in the formal sector** was seven times higher than the labor productivity in the informal sector. On the other hand, in agriculture, the labor productivity in the informal sector was 25% higher than that in the formal sector**.

Overall, the estimates provided in this chapter support the inference that the informal sector accounts for a significant portion of the economy.

Figure 3.3.1 Labor Productivity in the Formal** and Informal Sector (Tk thousand)



Source: Computations using 2010 ISS Phase 2 data.

Chapter 4

Characteristics of Informal Sector Enterprises

The estimates shown in the previous chapters suggest that the informal sector accounts for a significant portion of Bangladesh's economy. In Chapter 2, we find that 77% of the employed population worked in informal sector enterprises, while Chapter 3 shows that informal sector activities accounted for 43% of gross domestic product (GDP). A substantial, yet vulnerable, contributor to the economic sector should not be overlooked, especially in formulating appropriate policies that could improve the welfare of those in the sector. Thus, in order to further our understanding of the informal sector enterprises, this chapter describes the characteristics of the informal production units, or what we call the household unincorporated enterprises with at least some market production (HUEMs). In particular, the chapter looks at the reasons for choosing respective current business activities, modes of financing, and difficulties encountered as reported by HUEM operators.

4.1 Household Unincorporated Enterprises with At Least Some Market Production

Of the total number of HUEMs or informal sector production units surveyed, majority reported to have been motivated by family tradition (39%) or better knowledge of the profession (37%) in choosing their respective business activity. On the other hand, 18%

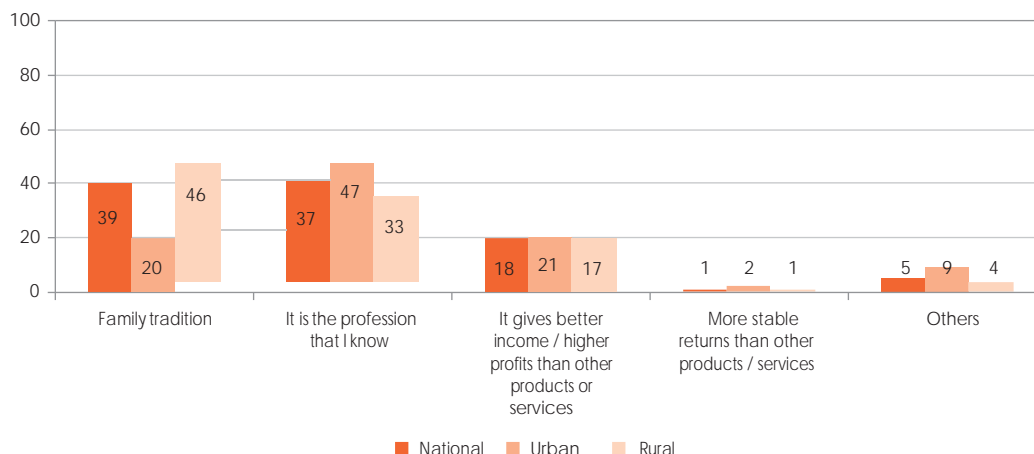
of HUEMs chose their present business activity to gain higher incomes or profit.

In choosing their respective business activity, HUEMs in the urban areas were motivated by their knowledge of the profession, while those in the rural areas were motivated by family tradition. Families in the rural areas are more likely to engage in agricultural production and thus, choosing their business activity because it is a family tradition owes it to the fact that agricultural lands can be passed on to generations of families. Figure 4.1.1 further illustrates that HUEMs choose their business activity based on social norms and on what they know, which further illustrates that businesses that offer less risk, even though profits/incomes may not be higher, are more attractive to HUEMs. This is consistent with the findings of Brooks et al. (2010), such that risk aversion and the vulnerability to income shocks can hinder other kinds of investments with potentially high returns because vulnerability leads to suboptimal decisions.

4.2 Financing and Other Financial Support Structures

Based on survey results, majority (70%) of the HUEMs reported own source/saving and the support of family/relatives as their primary sources of initial capitalization, while 12% sourced their initial capital from nongovernment organizations (NGOs). It is interesting to note that about 10% of the HUEMs opt for banks and

Figure 4.1.1 Reasons for Choosing the Business Activity (%)



Source: Computations using 2010 ISS.

micro lending facilities as their sources of initial capital as this signifies the openness of the banking sector to small enterprises.

In addition to the source of initial capitalization, HUEMs were also asked about subsequent financing. Survey results revealed a similar result whereby still a majority of HUEMs sourced their financing from their own savings (29.3%) or from family and relatives (24.4%) and from NGOs (17.0%). The proportion of HUEMs who borrow from banks and micro lending facilities has increased by 6 percentage points, while those who borrow from NGOs has increased by 5 percentage points (Table 4.2.1). This reveals significant information about the attitudes of HUEMs in Bangladesh. The increase in the proportion of HUEMs who borrow from NGOs suggests that (i) HUEMs know that NGOs provide ample support to small enterprises, which encourages them to start and expand their businesses which could, in turn, help the economy; and (ii) they prefer formal transactions than informal arrangements in expanding their businesses. The increase in the proportion of HUEMs who borrow from banks and micro lending facilities, on the other hand, suggests that (i) HUEMs are knowledgeable that banks and micro lending facilities provide loans to small enterprises and that they have access to the available loans; and (ii) they prefer more formal transactions in expanding their businesses.

Table 4.2.1 Proportion on HUEMs Sources of Initial Capital and Financing (%)

Source	Initial Capital	Financing (if required)
Banks	5.8	10.7
Micro lending facility	3.9	5.1
Cooperative	0.5	0.6
Non Government Organization	12.0	17.0
National/Local Government Project	0.3	0.6
Family/Relative	24.9	24.4
Neighbor/Friends	3.5	6.6
Employer/Landlord	0.2	0.2
Private moneylender	2.6	4.6
Own Source/Saving	45.2	29.3
Others	1.2	1.1

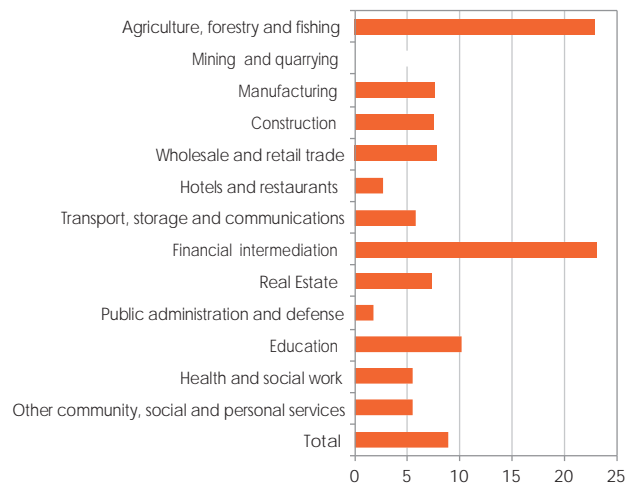
Source: Computations using 2010 ISS.

The interviewed HUEMs were also asked whether they applied for a bank loan to boost their business. Survey results estimate that only 9% of the total respondents said that they applied for a bank loan, with HUEMs in financial intermediation and in the agriculture, forestry, and fishing sectors posting the highest proportions for applying for a bank loan (both at 23%) (Figure 4.2.1).

In relative terms, loan application is more common among informal enterprises with higher fixed assets.

This may be a reflection of the need for collateral when applying for loans and, thus, very small informal enterprises are hindered from applying. In terms of number, almost nine in 10 loan seeking HUEMs are either small informal enterprises with fixed assets not exceeding Tk10,000 (\$144) or relatively large informal enterprises with fixed assets worth Tk41,000 (\$589) or more. In particular, these two groups made up more than 80% of the total number of HUEMs that applied for loan in the country.

Figure 4.2.1 Proportion of HUEMs which Applied for a Bank Loan for Ongoing Business Activity, by Industry (%)



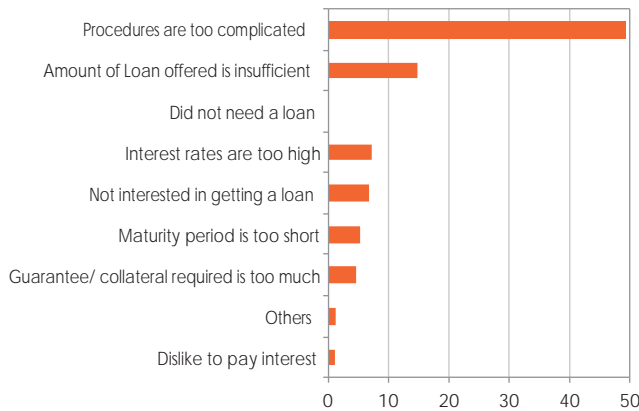
Source: Computations using 2010ISS.

Bank loan application rate among HUEMs was only about 9%. The fact that very few HUEMs applied for loans could be a manifestation of the difficulty of this process. Thus, the HUEMs that did not apply were also asked for the reasons for the non-availability of loans. The most common reason cited for not applying for a bank loan was complicated procedures of loan applications (Figure 4.2.2). In general, about 81% of the HUEMs that did not apply cited bank-related reasons for the non-availability of bank loans. In particular, 49% of the HUEMs cited that procedures are complicated; 15% said that an insufficient amount of loan is generally offered by the banks; and about 17% said that interest rates are too high, maturity period is too short, and that the guarantee/collateral required is too much.

While HUEMs are aware that there are available loans from banks, more than 90% of the HUEMs still did not avail of the loans since they believed that procedures are too complicated and, if they hurdle the procedures, the amount of loan offered is insufficient. This provides information very useful for policy making in that while HUEMs are aware of the availability of loans, their perception (that the loan procedures are very

cumbersome and the loan amount may be inadequate) affects their decisions in non-availment of the loan. This is perhaps the reason why most HUEMs prefer to finance their businesses using money borrowed from their family/relatives or from NGOs, which does not entail too many requirements.

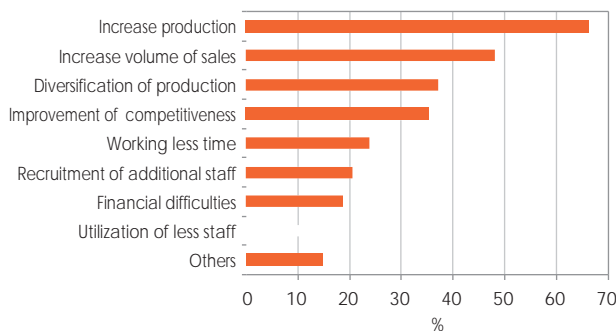
Figure 4.2.2 Reason for Not Availing of Bank Loan to Finance Business Activity (%)



Source: Computations using 2010 ISS.

Among the HUEMs that applied for a bank loan, whether in the urban or rural areas, 64% obtained a bank loan, and 87% reported that the money acquired through loans had a positive impact on their business, particularly on business expansion. The loans helped HUEMs increase their production and sales volume, diversify their products, and enhance their competitiveness (Figure 4.2.3). A very small proportion of businesses took out loans to solve financial difficulties.

Figure 4.2.3 Impact of Loan on Business Operation (%)

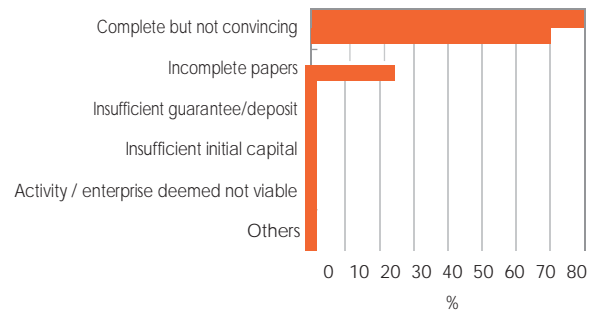


Source: Computations using 2010 ISS.

Among the HUEMs who were unsuccessful in securing bank loans, 71% had submitted complete loan application requirements; however, those documents were found unconvincing. Submission of incomplete documents was another common reason for rejection of

bank loan applications, as cited by 23% of the HUEMs. In addition to these, we also find some peculiarities depending on the HUEM's economic activity. For instance, one in five (22%) of HUEMs engaged in fishing activities (whose bank loan applications were rejected) cited that their economic activity was not deemed viable by lending institutions (Figure 4.2.4). In addition, 45% of HUEMs engaged in construction activities cited insufficiency of capital as the reason why banks rejected their loan applications.

Figure 4.2.4 Reasons for Loan Rejection (%)



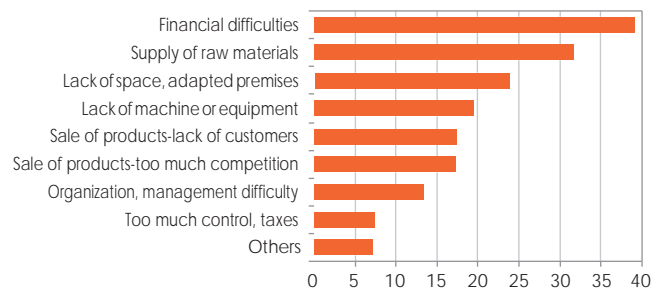
Source: Computations using 2010 ISS.

The reasons for loan rejection are consistent with the perceived notion of HUEMs that applying for bank loans is complicated, starting with the procedures. This is reflected by the low percentage (9%) of HUEMs who actually applied for bank loans.

4.3 Problems and Prospects

The difficulties faced by HUEMs in operating their business are shown in Figure 4.3.1. Survey results estimate that about 70% of the total HUEMs faced difficulties related to capital and inputs to production and did not consider marketing and competition to be much of a problem.

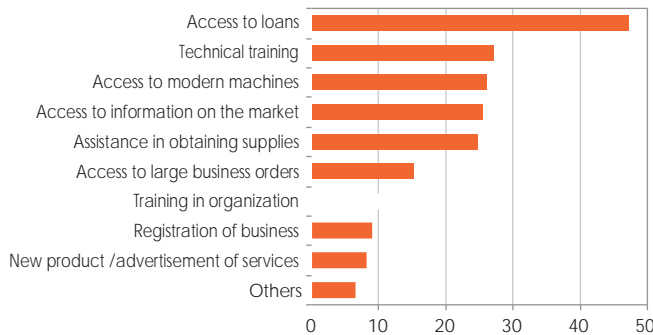
Figure 4.3.1 Problems Faced by HUEMs (%)



HUEMs = household unincorporated enterprises with at least some market production
Source: Computations using 2010 ISS.

HUEMs were aware that they needed help in order to solve their business problems; HUEMs said that they would highly need assistance in accessing loans, technical training, and modern machines, and in obtaining supplies. The types of assistance identified by the HUEMs (Figure 4.3.2) are consistent with the capital- and production-related problems cited earlier.

Figure 4.3.2 Type of Assistance Needed by HUEMs (%)



Source: Computations using 2010 ISS.

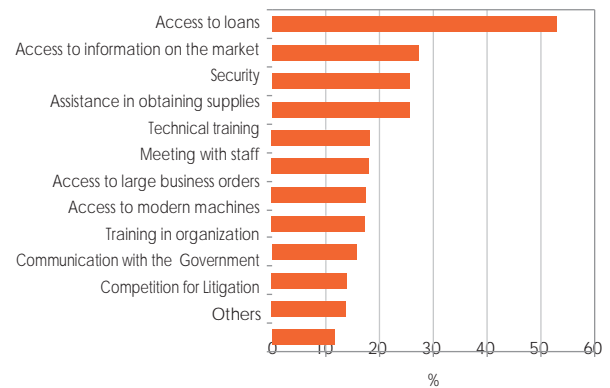
While increased access to loans is the most common type of assistance needed by HUEMs in either urban or rural areas, we may recall that loan approval rates among HUEMs were generally satisfactory at 64%. However, the low percentage of HUEMs who actually applied for bank loans suggests the increasing role of other financial support systems such as NGOs and micro lending facilities that make themselves available to HUEMs.

There are also notable differences on how HUEMs perceived solutions to their business problems. For instance, HUEMs operating in urban areas expressed more need for increased access to market information and access to large business orders. On the other hand, HUEMs in the rural areas saw more need for technical training and access to modern machines. This reflects the difference in the types of businesses operating in urban and rural areas. HUEMs in urban areas are mainly focused on the services sector, while those in the rural areas may be more inclined to focus on the production side.

In general, organizing enterprises in the informal economy is not an easy task and, as the survey results suggest, only one in 10 HUEMs is associated with a business organization. The rate of membership was slightly higher in urban areas (at 13%) than that in the rural areas where only 9% of HUEMs reported affiliation with a business organization.

Interestingly, survey estimates show that 14% of HUEM operators belonged to a business organization. These organizations provided HUEMs assistance in the different aspects of their business. Figure 4.3.3 provides a snapshot on which areas HUEMs received assistance from their respective business organization. It is not surprising to find that most HUEMs also sought the help of their business organization in accessing loans and market information, and assistance in obtaining supplies since they have identified capital and production-related issues as their top problems. Also, 25% of the surveyed HUEMs received assistance in resolving security issues; this is one facet of research that merits further investigation.

Figure 4.3.3 Proportion of HUEMs Helped by Professional Business Organization, by Type of Difficulty (%)



Source: Computations using 2010 ISS.

In general, HUEMs are faced with credit and production-based problems and, as such, government policies that address access to loans and technical trainings, access to modern machines, and the like could be crafted to help small enterprises improve their competitiveness. Policies should look into the proper solutions to the problems, as well as areas where these problems are more prevalent. HUEMs in the urban sector have hinted that most businesses are engaged in the services sector, while those in the rural areas are engaged in the production sector; hence, technical trainings relating to production and modern machinery may be more focused on the rural sector, while market-driven trainings could be focused on urban areas. Policy formulation needs to consider both the assistance to be provided and the target beneficiaries in order for policies to be effective.

Chapter 5

Institutionalizing Informal Employment and Informal Sector in Official Statistics

In recent years, Bangladesh has achieved remarkable progress in reducing the poverty rate from 40.0% in 2005 to 31.5% in 2010. The urban population of Bangladesh is growing rapidly due to rural-urban migration whereby people from the rural areas move to urban areas to find higher-paying jobs. However, the formal sector, generally characterized as a sector that requires higher education and skills, and where the scope of employment is very limited, did not have the absorptive capacity for the migrant workers. Thus, it is believed that most of those who migrated from the rural areas were employed in the informal sector. It is in this thread that the informal sector played a significant role in poverty reduction and job creation in Bangladesh.

Since 2008, the Bangladesh Bureau of Statistics (BBS) collaborated with the Asian Development Bank through regional technical assistance (RETA) 6430: Measuring Informal Employment and the Informal Sector. Through this technical assistance, the 2010 round of the Labor Force Survey (LFS) was expanded to include questions to identify informal employment and informal production units, or what we call household unincorporated enterprises with at least some market production (HUEMs). In turn, an Informal Sector Survey (ISS) was conducted to collect detailed production and expenditure data from the list of identified HUEMs.

The BBS, the only national government agency that is responsible for collecting, compiling, and disseminating statistical data relating to all sectors of the economy in Bangladesh, has been conducting the LFS since 1980 to provide data on civilian labor force, employment, unemployment, underemployment, and other employment-related statistics. The traditional LFS, however, does not provide detailed data on the informal sector and, currently, there is no statistical mechanism to generate disaggregated data of the informal sector, which is essential in formulating appropriate policies and

programs for the improvement of the informal sector. The experience in conducting this survey will help the BBS undertake future surveys of the same nature that would assist policy makers in crafting employment opportunities for the poor and the informal sector.

This chapter enumerates the recommendations for institutionalizing informal employment and the informal sector in official statistics collected by the BBS.

The joint undertaking of the ISS with the LFS, using the mixed survey approach, was observed to be cost effective. However, the pilot ISS and the LFS 2010 coincided with preparations for the population census 2011, lending limited time to train the LFS-ISS enumerators. The lack of training resulted in a number of data inconsistencies that made data integration between the datasets for ISS-1 (Informal Sector Survey Phase 1) and LFS more time consuming. In relation to this, data entry was also done by several programmers at several locations, which complicated the data matching process. For reference, the data cleaning approaches implemented to minimize the observed data inconsistencies are documented in the appendix.

For future undertakings of the same nature, a comprehensive data processing guideline that includes the codes for all data fields and processes for data validation should be drafted and implemented by all the data processors. Supervision of the data processors should also be tightened. An exhaustive pretest and thorough data processing should be done ahead of the actual survey to remove data processing inconsistencies. The software used should also be finalized to facilitate proper data processing.

The following recommendations should likewise be considered for future surveys in order to get more reliable and accurate information on the ISS:

Modification	Justification	Relevance
An Economic Census will be conducted in 2013; the results of the census will be useful in preparing the sampling frame in conducting the ISS.	Using the census information as the sampling frame, identifying households/institutions engaged in informal sector activities can help in the conduct of future ISS.	Economic census contains comprehensive data on the economic activities of Bangladesh, using the sampling frame for the ISS from the census ensures that the economic data are in line with the employment data.
Users of the LFS and ISS need data at a shorter interval than at the current interval of 3–4 years. Therefore, these surveys should be done every other year.	The scenarios of economy and employment are changing rapidly in Bangladesh; thus, data (at a shorter interval) on informal employment and the contribution of the informal sector to GDP is needed.	This is relevant to the mandate of the NSO to provide up-to-date data to planners and policy makers for evidence-based policy making.
Involvement of National Accounts personnel in the ISS and in the estimation of GVA from the informal sector.	Information from the ISS-2 is very relevant and useful for estimating GVA from the informal sector thus, getting the National Accounts personnel involved in the design and processing of information gathered from the ISS-2 can assist them in properly estimating GVA of the informal sector.	The objective of ISS-2 is to determine the contribution of the informal sector to the country's GVA. Therefore, the involvement of National Accounting Wing staff will help in institutionalizing the system.
Integrating the ISS into the LFS (by including questions or modules on informal economy in the LFS) can provide valuable information on the extent of informal employment arrangements and the informal economy.	Inclusion of some questions on ISS in the LFS will not overburden the LFS but will provide valuable information that will be very useful for Bangladesh.	The information on informal employment and the contribution of the informal sector to the country's economy is relevant to Bangladesh.
The enumerator should have a clear concept about the employment status of the population and exhaustive training of enumerators is needed to properly identify HUEM using ISS Form 1 to be copied from the LFS.	The enumerator should understand the objectives of the survey and the reasons for using ISS Form 1 to be reflected from section-4 of the LFS module. The question on employment status (no. 4.9) of the LFS should be the same with the employment status reflected in the ISS Form 1.	HUEM may be identified by using the ISS Form 1 and by asking questions 2.2–2.4.
Short-term and long-term training programs for officials from the Industry and Labor Wing and the National Accounting Wing on the conduct of specialized surveys such as the ISS can enhance the capacity of BBS officials in data collection, processing, and analysis.	<p>The BBS, which encountered difficulties in conducting the pilot study, still lacks the capability to conduct the ISS using the same sampling frame as the LFS.</p> <p>The BBS has very few personnel who can conduct specialized surveys such as the ISS, more so with personnel who have experience in conducting the LFS. Thus, a team of officials from the Industry and Labor Wing and the National Accounting Wing should be trained for future surveys.</p> <p>The concept and definition of the informal sector need to be reflective of the current realities, through consultations with relevant experts, including stakeholders who use ISS data.</p>	<p>A team of experts from the Industry and Labor Wing and the National Accounting Wing trained specifically for the ISS and the LFS will improve the data collection and the survey results.</p> <p>Improving the capabilities of BBS officials also improves the quality of data collected for the informal sector.</p> <p>Proper training prepares statisticians and enumerators in collecting, handling, and processing data.</p>
ISS-2 should be administered together with the LFS.	<p>Administering ISS-2 separately was expensive, and without ISS-1 (to be replicated from LFS module (-4), identification of HUEM was difficult.</p> <p>If administered together, the link between informal employment and the informal sector is defined.</p>	Administering the ISS-2 with the LFS would allow gathering of valuable information on informal sector economy at lesser costs. This valuable information will be useful for improvement of the informal sector.
Data processing guidelines and software should be developed and tested after the questionnaires are finalized prior to the mixed survey. Data processors and supervisors should be given intensive training. Supervision of the data processors should be tightened.	This would reduce data processing errors and shorten data processing period.	Survey results must be published and disseminated in a timely manner to help improve policy formulation and monitoring.

BBS = Bangladesh Bureau of Statistics, GVA = gross value added, HUEM = household unincorporated enterprises with at least some market production, ISS = Informal Sector Survey, ISS-1 = Informal Sector Survey Phase 1, ISS-2 = Informal Sector Survey Phase 2, LFS = Labor Force Survey, NSO = national statistics office.

Chapter 6

Summary and Conclusions

6.1 Summary of Main Results

The Informal Sector Survey (ISS) conducted by the Bangladesh Bureau of Statistics with the Labor Force Survey (LFS) is a first of its kind in Bangladesh. Important information on the informal economy had been gathered, which may be useful as inputs to evidence-based formulation of sector policies.

Survey results indicate that more than 95% of the 56.7 million individuals in the labor force were employed in 2010. This is equivalent to 54 million employed persons, more than 76% of which come from three divisions: Dhaka, Rajshahi, and Chittagong. Of the total number of employed persons, majority took on only one job while a small minority (0.4 million) had multiple jobs. Almost 89% of those with one job depended on an informal job and those with multiple jobs, 86% took on informal jobs, 12% had both informal and formal jobs, and 2% took on multiple formal jobs.

The labor force of Bangladesh is largely dominated by males and is concentrated in the rural areas across age groups. Sixty-four percent (64%) of total employment in Bangladesh are among the 20-44 year-old age group, with the 30-34-year-old age group reporting the largest percentage of working population. It is worth noting that 59% of workers in Bangladesh received at least some basic education.

Informal employment dominated the country's labor market, estimated at about 89% of the total number of jobs, with females reporting a higher incidence at 93% compared to males at 87%. Forty-nine percent (49%) of the jobs in Bangladesh are mainly undertaken in the agriculture sector, 34% are in the services sector, and 17% are in the industry sector. Intuitively, informal employment arrangement is very common in the agriculture sector where 90% of the jobs are under informal arrangements similar to the mining and quarrying, construction, trade, transport and communication; hotels and restaurants; and private households. On the other hand, less than 30% of the workers in the public administration and defense, financial intermediation, and education are under informal employment arrangements. This reflects the dominant role of the informal economy as a source of employment for the labor force in Bangladesh.

When comparisons on the working conditions between formal and informal workers were explored, the data revealed disparities in which informal workers are at a disadvantage. For instance, in terms of income, those in the formal economy earn, on the average, at least 35% more than those in the informal economy do. The same can be said about social protection coverage wherein informal workers receive less than formal workers. In addition, the labor productivity of a typical worker in an informal enterprise is only about one-sixth of the productivity of his or her counterpart in the rest of the economy.

Informal enterprises—a major component of the informal economy and thus a major source of employment—contribute significantly to the total economic output of the country. ISS estimates show that the total gross value added of all informal enterprises accounted for 43% of the country's gross domestic product in 2010.

Among operators of informal enterprises, the most commonly cited reason for engaging in informal activities is either family tradition (39%) or knowledge of the activity (37%). The initial capitalization for most of the informal sector activities was sourced mainly from individuals' own financial resources/savings (45.2%), from family/relatives (24.9%), and from nongovernment organizations (NGOs) (12%). Only a few (10%) of the survey respondents applied for a bank loan, while it may be noted that as high as 49% opined that they did not apply for a bank loan since the procedures are too complicated. Problems of informal enterprises were mainly credit and production-related; thus, these enterprises need more access to loans and technical training and modern machineries. Urban-rural differences in the problems encountered by household unincorporated enterprises with at least some market production (HUEMs) also became evident in the report whereby urban HUEMs needed more credit-related solutions to their problems while those in the rural areas needed more production-related solutions to their problems. To address these problems, policies of the government need to properly target the solutions by also looking at the specific area of the HUEMs rather than presenting a universal solution to problems.

6.2 Importance of Measuring Informal Employment and Informal Sector

In general, the informal economy plays a significant role in Bangladesh's economy, both in terms of the number of jobs it creates and its contribution to total economic output. However, data gaps are present since there is still no regular data collection activity being done in Bangladesh that will provide empirical support to analyze the dynamics of the informal economy. It is anticipated that this study will help fill in the gap in such a way that the results gathered can be used as valuable inputs to evidence-based policy making which, in turn, would help bolster the economic and social development of Bangladesh. Comprehensive, detailed, and up-to-date information about the informal sector and informal economy are needed to paint a clearer image of the state of the labor market, access to various social protection mechanisms, and the circumstances of the informal enterprises since the informal economy has become a growing concern in Bangladesh.

While there are few instances when workers opt to participate in the informal economy by choice, majority of informal workers in Bangladesh seem to be in the informal economy involuntarily. The survey data provide evidence that workers under informal employment arrangements or those working in informal enterprises have low productivity and thus, have lower income and are more vulnerable to economic and social shocks. Moreover, the results presented in the previous chapters allow us to identify where these workers are found and the kind of economic activity in which they engage. Such data will help economic planners for crafting appropriate policies and for policy targeting.

In general, with globalization leading to less formal and more flexible employment arrangements

in the labor market, the informal economy plays an increasing role in developing countries. Some workers find participation in the informal economy as a bridge toward higher productivity jobs in the informal sector. However, a significant number of the poorest workers are trapped in low productivity jobs in the informal economy. To understand the dynamics and be able to identify more efficient policies, we need empirical data that will accurately reflect what is transpiring on the ground. If this data collection approach may be refined and regularly conducted in Bangladesh, government policies that support the informal sector and informal employment can be prepared and executed to help alleviate the affected sectors.

6.3 Other Issues

The 2010 ISS is a pilot survey and the first informal survey in Bangladesh. The lesson learned from the ISS will help in designing the larger survey on the informal sector in Bangladesh. The identification of households with some market production from labor force module on employment status is a complicated endeavor that needs rigorous training and caution. Sufficient time is also needed to replicate the ISS-1 from the LFS module. The experience gained from the pilot survey in Bangladesh showed that the employment status reported in the LFS module was not properly duplicated in the ISS module-1, which led to the selection of wrong households in HUEM. Up to some extent, this can be attributed to inaccuracies in the respondent identifiers. The misidentification of the HUEMs occurred during the data collection and data processing stages. The lack of experience of the enumerators' and officials involved in conducting combined surveys caused the setback in the data collection stage, while processing the ISS and LFS data in separate locations was the main reason why data processing became problematic. It was observed that enumerators and supervisors who have had prior experience in conducting institutional survey will be useful in administering the ISS.

Appendix 1

Concepts and Definitions

Concepts and Definitions for Employment

The concepts presented are mainly based on the definitions and principles recommended by the International Labour Organization (ILO), contextualized to the norms followed in Bangladesh. This also follows the definitions used by Maligalig, Cuevas, and Rosario (2008).

1. Economically active population (labor force) – the employed and unemployed population, aged 15 years and over during the reference period, who forms the labor force.
2. Economically inactive population – people aged 15 years and over who are not considered among the labor force.
3. Economic activity rate (labor force participation rate) – proportion of economically active population to total labor resources.
4. Employment rate – proportion of employed population to total labor force.
5. Unemployment rate – proportion of unemployed population to total economically active population.

Concepts and Definitions for Informal Employment (Discussions were lifted from the ADB Handbook on Using the Mixed Survey in Measuring the Informal Employment and Informal Sector.)

For an internationally comparable definition of informal employment in Bangladesh, classification of the employed population was primarily based on the Fifteenth (15th) and Seventeenth (17th) International Conference of Labour Statisticians (ICLS) guidelines. The 15th ICLS conceptualized the informal sector as

- (1) The informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production and on a small scale. Labor relations – where they exist – are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees.

- (2) Production units of the informal sector have the characteristic features of household enterprises. The fixed and other assets used do not belong to the production units as such but to their owners. The units as such cannot engage in transactions or enter into contracts with other units, nor incur liabilities, on their own behalf. The owners have to raise the necessary finance at their own risk and are personally liable, without limit, for any debts or obligations incurred in the production process. Expenditure for production is often indistinguishable from household expenditure. Similarly, capital goods such as buildings or vehicles may be used indistinguishably for business and household purposes.
- (3) Activities performed by production units of the informal sector are not necessarily performed with the deliberate intention of evading the payment of taxes or social security contributions, or infringing labor or other legislations or administrative provisions. Accordingly, the concept of informal sector activities should be distinguished from the concept of activities of the hidden or underground economy.

According to the 17th ICLS final report, *"since the adoption of the resolution concerning statistics of employment in the informal sector by the 15th ICLS in 1993, and the inclusion in the System of National Accounts, 1993, of the 15th ICLS informal sector definition, it had been recommended by the Expert Group on Informal Sector Statistics (Delhi Group) and others that the definition and measurement of employment in the informal sector should be complemented with a definition and measurement of informal employment."* Hence, the conceptual framework on informal employment developed by the ILO linked the enterprise-based concept of employment in the informal sector with a broader, job-based concept of informal employment (Figure A1.1). As a result, clear delineations among i) employment in the informal economy, ii) informal employment, iii) employment in the informal sector, and iv) informal employment outside the informal sector were established.

While the concept of informal sector refers to production units as observation units, the concept of informal employment refers to jobs as observation units. The framework above also applied, for the purpose of statistics on informal employment, the 15th ICLS

Figure A1.1 17th ICLS Conceptual Framework on Informal Employment

Production units by type	Jobs by status in employment								
	Own-account workers		Employers		Contributing (unpaid) family workers	Employees		Members of producers', consumers' cooperatives	
	Informal	Formal	Informal	Formal	Informal	Informal	Formal	Informal	Formal
Formal sector enterprises					1	2			
Informal sector Enterprises ^(a)	3		4		5	6	7	8	
Households ^(b)	9					10			

(a) As defined by the Fifteenth International Conference of Labour Statisticians (excluding households employing paid domestic workers).

(b) Households producing goods exclusively for their own final use and households employing paid domestic workers.

Sources: 17th ICLS Final Report and Hussmann, R. 2004a.

resolution that excludes households employing paid domestic workers from informal sector enterprises, and to treat them separately as part of a category named “households”. On the other hand, informal employment comprises the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises, or households, during a given reference period.

Hence, given the conceptual framework, informal employment includes

- (i) own-account workers and employers employed in their own informal sector enterprises (cells 3 and 4) - The employment situation of own-account workers and employers can hardly be separated from the type of enterprise, which they own. The informal nature of their jobs thus follows directly from the characteristics of the enterprise.
- (ii) contributing family workers, irrespective of whether they work in formal or informal sector enterprises (cells 1 and 5) – The informal nature of their jobs is due to the fact that contributing family workers usually do not have explicit, written contracts of employment, and that usually their employment is not subject to labor legislation, social security regulations, collective agreements, etc.
- (iii) members of informal producers' cooperatives (cell 8) – The informal nature of their jobs follows directly from the characteristics of the cooperative of which they are members.
- (v) employees holding informal jobs in formal sector enterprises, informal sector enterprises, or as paid domestic workers employed by households (cells 2, 6, and 10) – Employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labor legislation, income taxation, social protection, or entitlement to certain employment benefits

(advance notice of dismissal, severance pay, paid annual or sick leave, etc.) for reasons such as non-declaration of the jobs or the employees; casual jobs or jobs of a limited short duration; jobs with hours of work or wages below a specified threshold (e.g., for social security contributions); employment by unincorporated enterprises or by persons in households; jobs where the employee's place of work is outside the premises of the employer's enterprise (e.g., outworkers without employment contract); or jobs for which labor regulations are not applied, not enforced, or not complied with for any other reason.

- (vi) own-account workers engaged in the production of goods exclusively for own final use by their household (cell 9).

The framework also presents the important information on informal employment outside the informal sector, which is comprised by the following types of jobs:

- (i) employees holding informal jobs (as defined in paragraph 3(5) above) in formal sector enterprises (cell 2) or as paid domestic workers employed by households (cell 10);
- (ii) contributing family workers working in formal sector enterprises (cell 1); and
- (iii) own-account workers engaged in the production of goods exclusively for own final use by their household (cell 9), if considered employed according to the resolution concerning statistics of the economically active population, employment, unemployment, and underemployment adopted by the 13th ICLS.

One significant idea to consider in analyzing the nature of employment is whether informality pertains to persons or jobs. According to the 15th and 17th ICLS, employment in the informal sector is defined as

comprising all jobs in informal sector enterprises, or all persons who, during a given reference period, were employed in at least one informal sector enterprise, irrespective of their status in employment and whether it was their main or a secondary job ... A person can simultaneously have two or more formal and/or informal jobs. Due to the existence of such multiple jobholding, jobs rather than employed persons were taken as the observation units for employment - informal employment as comprising the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises, or households, during a given reference period (Hussmann 2004a and 2004b).

Additional concepts have also been introduced by organizations dedicated to endeavors pertaining to the informal economy and informal employment, such as the Women in Informal Employment: Globalizing and Organizing (WIEGO). According to one of the known affiliates of WIEGO, Martha Chen, in her paper titled "Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment," while the informal economy consists of a range of informal enterprises and informal jobs, it can still be segmented into the following:

1. *Self-employment in informal enterprises:* workers in small unregistered or unincorporated enterprises, including
 - employers
 - own-account operators: both heads of family enterprises and single-person operators
 - unpaid family workers
2. *Wage employment in informal jobs:* workers without worker benefits or social protection who work for formal or informal firms, for households or with no fixed employer, including
 - employees of informal enterprises
 - other informal wage workers such as
 - casual or day laborers
 - domestic workers
 - unregistered or undeclared workers
 - some temporary or part-time workers

- industrial outworkers (also called homeworkers)

Research also showed distinct characteristics of the informal economy in terms of income earnings and sex of workers. Chen (2007) depicted this in an "iceberg" segmentation of the informal economy, which illustrates the significant gaps in earnings within the informal economy and general trends in men–women employment ratios (as shown in Figure A1.2). Given that the figure represents increasing earnings toward the top, it shows that employers have the highest earnings, followed by their employees and other more "regular" informal wage workers, own-account operators, "casual" informal wage workers, and industrial outworkers. Meanwhile, it also demonstrates that, in general, men are likely to be overrepresented in the top segment, while women tend to be overrepresented in the bottom segments. However, the shares of men and women in the intermediate segments vary across sectors. These concepts ultimately point to the significant gender disparity in earnings within the informal economy, with men having the advantage over women.

The concepts and ideas presented are the chief considerations applied in the estimation and analysis of informal employment in Indonesia using the 2009 Pilot Informal Sector Survey conducted in the provinces of Yogyakarta and Banten.

Figure A1.2 Segmentation of the Informal Economy



Note: The informal economy may also be segmented by race, ethnicity, or religion.
Source: Chen, Martha A. 2007.

Appendix 2

Cost-Effective Sampling Design for the Informal Sector

The Mixed Survey: Overview {Discussions are lifted verbatim from Maligalig, D., 2010.)

On the basis of the definitions of the informal sector that were agreed at the 15th International Conference of Labour Statisticians (ICLS), there are two types of informal sector production units: informal own-account enterprises and enterprises of informal employers. Both these types are owned by households and since the operations of these enterprises are not easily distinguishable from those of the households that own them, a household survey has an advantage in identifying these production units. How can this be done? Respondent households have to be screened for these enterprises following the dichotomy presented in Figure A2.1. Those household enterprises that are producing at least some goods and services for the market and belonging either in the agricultural or non-agricultural informal sectors will be the target sampling units. These are called household unincorporated enterprises with at least some market production (HUEMs).

Figure A2.1 Dichotomy of Household Enterprises

Household Enterprises			
Producing at least some goods and services for market		Producing goods and services for own final use	
Non-agricultural	Agricultural	Goods	Services
Formal sector	Informal sector	Agriculture, forestry, fishing	Paid domestic services
		Other activities	Owner occupied dwelling services

Household Unincorporated Enterprises with some Market Production (HUEMs)

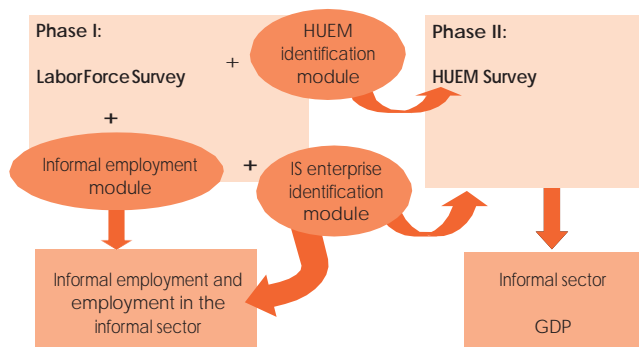
The mixed survey approach utilizes a household survey in the first phase to identify the HUEMs, some of which will be sampled for the second phase survey or the HUEM survey. Since the ultimate sampling units of the labor force survey (LFS) are the adults in sampled households and its questions are mostly on labor and employment, the LFS is the most appropriate household survey to use for the first phase. Also, the LFS is the most frequently conducted household survey and hence, informal employment statistics will be up to date. The LFS is expanded by adding questions to identify HUEMs, informal enterprises, informal employment, benefits received, and working conditions of workers.

The graphical description of the mixed survey approach is shown in Figure A2.2. Phase 1 or expanded

LFS contains additional questions that can be classified into three categories namely, i) informal employment module, ii) informal sector enterprise module, and iii) HUEM identification module. The informal employment module will determine the extent of informal employment by distinguishing the informal from the formal workers. The data to be collected will be used to analyze the characteristics of the informal workers, available social protection mechanisms, and working conditions. This module, when combined with the informal enterprise module, will further enrich the examination by determining informal employment in the informal sector. The informal sector enterprise module will determine if the enterprise/establishment of a respondent worker is informal or not. This is significant since the concept of informal employment also covers the people working in the formal sector who are informally employed. The HUEM identification module determines the existence of a probable HUEM in the household and identifies the respondent in phase 2 of the survey. Meanwhile, phase 2 concentrates on the enterprise and its production, providing relevant information on the informal sector's contribution to the country's economic output or the gross domestic product.

The HUEMs that were identified in the second phase will be used as the sampling frame for the phase 2 survey. Hence, the cost of listing operations, which could be very large because small production units are difficult to identify, will not be incurred, and the second phase-the HUEM survey-will still maintain a probability sample design.

Figure A2.2 Mixed Survey Approach



Modified from Gennari, P., M. Guerrero, and Z. Orhun. 2009.

Sampling Design of Phase 2 in the 1-2 Mixed Survey

The mixed survey is a variant of double phase sampling in which the second phase survey is usually a subset of the first phase sample and hence, both phases have the same ultimate sampling units. In the case of the mixed survey, however, the sampling units differ with households/individuals in the LFS or phase 1 and HUEMs in the second phase. The LFS is usually designed such that all the relevant geographical areas and household social/income classes are well represented. However, no mechanism has been incorporated into the LFS design that ensures that all sectors of national accounts will be well represented in phase 2. Some sectors may be overrepresented and some, with very few HUEMs. Hence, the strategy might result in less-efficient estimates than those from independent informal sector surveys in which the sampling frame of HUEMs is the result of listing operations conducted solely for that purpose. It is, therefore, important that the phase 2 sample be carefully designed to address this issue.

The high turnover of HUEMs is another issue that has to be considered in designing the second phase survey. To control for unit nonresponse (e.g., cannot be located, closed) in the second-phase HUEM survey, the interval between the two phases should be kept short. In fact, survey operations can be designed such that the two phases can be done almost simultaneously. This would not only reduce the ineligible HUEMs and those that cannot be located but would also save some travel costs for the enumerators and supervisors. This, of course, is straightforward if all the HUEMs identified in the LFS will also be enumerated in the HUEM survey. Otherwise, reliable auxiliary information from previous survey is needed. For example, if the sample primary sampling units (PSUs) in the LFS are the same or very similar in previous surveys, the distribution of "own-accounts" and self-employed individuals in the survey can be a good auxiliary variable that can be used as measure of size or stratification variable in subsampling PSUs.

To implement the simultaneous field operations, there are several options in designing the second phase: (i) a subsample of the PSUs of the household sample survey can be taken, in which all the informal sector units will be enumerated; (ii) a subsample of HUEMs that were identified will be interviewed for the second-phase survey; and (iii) all HUEMs that have been identified will be interviewed. Decision on which is the most appropriate variation depends on the following conditions: (i) availability of auxiliary information from previous survey results, (ii) budget limitations, and (iii) skill level of enumerators and field supervisors.

A subsample of PSUs may be drawn prior to the survey if relevant auxiliary information is available. For example, if the distribution of "own-account" or self-employed individuals by sector (of national accounts) is available for each domain, then PSUs can be selected accordingly. Subsampling HUEMs for the second phase would usually require another field operation because to subsample, a list frame is needed and, hence, results of the first phase must first be processed. Furthermore, since HUEMs are likely not distributed evenly across geographical areas, balancing the workload of field operation staff will be more challenging. Subsampling HUEMs in simultaneous phase 1 and phase 2 operations can only be implemented if the enumerators and field supervisors are adept in screening the HUEMs and are able to apply the correct sampling fractions. The third option is the easiest to implement but would require a large budget since the sample size is not controlled at the onset. It could turn out that the sample size will be very large and may require longer enumeration period and more human resources to complete. Also, the number of questionnaires that have to be printed will be quite large. And there is no mechanism for making the workload among enumerators equitable.

In the case of Bangladesh, a new master sample has been developed. Hence, the 2005 round of LFS, which used the Integrated Multi-Purpose Sampling Design, did not provide information on industry classification of PSUs, which can be used as auxiliary variable so that dominant/sparse sector rule can be applied. In turn, the subsampling PSUs may use the strata formed for the new master sample. Under the assumption that PSUs in the rural areas will have mostly agriculture HUEMs and since agriculture HUEMs are quite prevalent in Bangladesh, PSUs in the rural areas would be subsampled substantially (strata #3 and #4). Based on the initial plan, the distribution of sample PSUs across geographic divisions of Bangladesh is shown in Table A2.1.

The survey weight for the phase 2 survey is the product of the survey weights in phase 1 and the inverse of the selection probability of the sampled PSU. The survey weights of respondents in phase 1 are well known since phase 1 is usually the expanded LFS. Had the initial plan of subsampling PSUs been implemented, the phase 2 survey weight of a HUEM in a specific stratum of a geographic division will be equal to the survey weight of the respondent household to which it belongs in the first phase multiplied by the ratio of the number of PSUs in phase 1 to the number of PSUs in phase 2. However, during field operations, all HUEMs identified in ISS 1 were interviewed in ISS 2. Consequently, the survey weight of HUEMs in phase 2 is equal to the survey weight of the respondent household to which it belongs in phase 1.

Table A2.1 PSU Distribution for Phase 1 and Phase 2 of the Informal Sector Survey: Bangladesh

Division	Stratum	ISS 1	ISS 2 (initial plan)
Barisal	1	57	57
	2	49	48
	3	39	13
	4	37	11
Chittagong	1	86	80
	2	74	69
	3	46	15
	4	40	15
Dhaka	1	132	123
	2	117	114
	3	63	21
	4	58	22
Khulna	1	63	62
	2	64	62
	3	41	14
	4	42	14
Rajshahi	1	94	89
	2	88	86
	3	69	23
	4	63	21
Sylhet	1	50	41
	2	51	38
	3	39	11
	4	38	13
TOTAL		1,500	1,062

ISS = Informal Sector Survey; PSU = primary sampling unit.

Informal Sector Survey Forms

Given that the ISS has two phases, the survey questionnaires are also separated into two forms. The following table describes each form:

Table A2.2 Survey Questionnaires: Informal Sector Survey

LFS and ISS Form 1 Questionnaire	<p>These questionnaire(s) gathered information on the Employment Status, Nature of Employment, Terms of Employment, Social Security Contribution, Paid Leave, Maternity/Paternity Leave, Termination of Employment, Place of Work, Industry of Enterprise, Legal Organization, Employment Size, Registration, Bookkeeping and Accounting Practices, and Production.</p> <p>The ISS Form 1 also incorporated a short expenditure module that was used to collect data on household's food and nonfood consumption.</p>
ISS Form 2 (Phase 2) Questionnaire	<p>This questionnaire records information about HUEMs such as Identification and General Information, Organization and Status of Business, Employment and Compensation, Production and Sale, Expenditures on Raw Material and Stocks, Capital Expenditure, and Credit Information. The respondents for this form are either own-account workers who are owners of the HUEM.</p>

HUEM=household unincorporated enterprise with at least some market production, ISS=Informal Sector Survey, LFS=Labor Force Survey.

The objectives of the ISS Form 1 (Phase 1) Questionnaire are to

- (i) identify and construct a sampling frame of household unincorporated enterprises with at least some market production (HUEMs) among the enterprises in which employed persons work;
- (ii) provide data for estimating employment in informal sector enterprises; and
- (iii) provide data for estimating informal employment.

In this document, the questionnaire items relating to each of these objectives are grouped into three modules—a module on informal employment, a module on the registration and employment size criterion for identifying informal sector enterprises, and a module to identify HUEMs.

Meanwhile, research has shown a clear link between poverty and employment in the informal sector; however, due to lack of data the following issues have not yet been determined in many countries: (i) the number of working poor, (ii) the number employed in the informal sector, and (iii) the prevalence of poor in the informal sector compared with the formal sector. To address this need for information, the ISS in Bangladesh included a one-page household expenditure module in the ISS Form 1. This was incorporated into the questionnaire design chiefly to determine poverty status of workers, so that employment poverty analysis can be performed. Using the data that will be collected and the existing poverty lines in Bangladesh, poverty rates, the number of poor, and other poverty indicators will be estimated. With the potential poverty statistics to be generated, it would be possible to determine how many of those working in the informal sector and those engaged in informal employment are poor.

Information in Section III of the ISS Form 1, the Household Expenditure work sheet, are based on the consumption items available in the Household Income and Expenditure Survey (HIES) questionnaire of Bangladesh. They are divided into (i) food and beverages, (ii) fuel and lighting, (iii) clothing and footwear, (iv) transport expenses, (v) housing-related expenses, (vi) miscellaneous expenses, (vii) medical expenses, (viii) health expenses, (ix) expenses on durable equipment, and (x) expenses for festivals and special occasions. The reference period used are the previous week, previous month, and 12 months ago.

On the other hand, the primary purpose of the ISS Form 2 (HUEM) Questionnaire is to generate data that

can be a direct measure of informal production activities. The results of the HUEM Survey will provide the basis for estimating the benchmark gross value added (GVA) for the informal sector and, thus, measure its contribution to the gross domestic product (GDP) of the country. The HUEM Survey is meant to provide the data specifically for the informal sector.

The ISS Form 2 has six (6) sections:

- A. Organization of Business
- B. Employment and Compensation
- C. Expenditure, Production, Inventory and Sale
- D. Capital Expenditures
- E. Banks, Micro-Finance Services, and Other Support Structure
- F. Problems and Prospects

Since the data that will be collected from the ISS Form 2 or from the HUEM Survey will be the benchmark of the informal sector GVA, it is imperative that all items in the questionnaire be filled up completely and carefully. The sections significant for the GVA estimation are Sections B through D. Meanwhile, Sections E and F are added to collect information in aid of policy making.

Screening of HUEM Survey Respondents

For the first phase, the mixed survey approach administered in Bangladesh used ISS Form 1 to screen the respondents for the second phase. The following

questionnaire items from ISS Form 1 were used to identify the HUEMs, whose owners were interviewed in the second phase: 1) employment status, 2) legal status, 3) marketed production, and 4) business records or accounts.

Meanwhile, the following conditions were applied to determine whether the enterprise is a HUEM:

It was necessary that all jobs, whether primary or secondary and regardless if it is the same respondent or not, was screened for the HUEM Survey. For example, an employed person may be a formal employee, working as a regular bus driver in a company as his main job, but may also be working as a tricycle driver in his second job. Thus, he can be considered as an own-account worker in this other job. If he receives payment for the transportation services he provides, and the legal status of his business is single proprietorship with no business records or accounts, then his business is a potential HUEM. These considerations were applied in the HUEM surveys conducted; thus, a person with the described characteristics was a respondent in this phase.

It should be noted that, as a rule, the respondent interviewed for the HUEM Survey should be the owner of the enterprise. This is a strict condition implemented because the respondent must have extensive knowledge of the revenues and expenditures, as well as the production process of the enterprise, to be able to answer the questions in the HUEM.

Table A2.3 HUEM Decision Matrix

Employment Status		Legal Status		Marketed Production		Business Records or Accounts	
Own-account worker	&	Single proprietorship/ individual business or farm	&	Yes	&	No written accounts	
Employer		Others					Informal records for personal use
		Do not know					Simplified accounting format required for tax payment

Appendix 3

Sampling Errors

Table A3.1 Informal Employment Rate

Item	Informal Employment Rate	Linearized Std. Error	95% Confidence Interval	
Bangladesh	11.45	0.38	10.72	12.19
Urban	24.00	1.13	21.79	26.22
Rural	7.68	0.24	7.20	8.16
Male	13.18	0.39	12.42	13.94
Female	7.39	0.49	6.43	8.35

Table A3.2 Distribution of Jobs by Employment Status

Employment Status	Proportion	Linearized Std. Error	95% Confidence Interval	
Employee	13.21	0.43	12.36	14.06
Employer	0.25	0.03	0.19	0.32
Self-employed in agriculture	17.26	0.32	16.64	17.88
Self-employed in non-agriculture	14.59	0.27	14.05	15.12
Unpaid family worker	24.43	0.33	23.79	25.08
Casual/irregular paid worker	3.09	0.20	2.69	3.49
Day labor in agriculture	13.15	0.35	12.47	13.82
Day labor in non-agriculture	11.16	0.31	10.54	11.77
Domestic worker in private household	2.86	0.12	2.62	3.11

Table A3.3 Distribution of Jobs by Industry

Industry	Proportion	Linearized Std. Error	95% Confidence Interval	
Agriculture, hunting, forestry, and fishery	48.58	0.62	47.35	49.80
Mining and quarrying	0.19	0.06	0.07	0.31
Manufacturing	11.92	0.42	11.08	12.75
Electricity, gas, steam, and air-conditioning supply	0.17	0.02	0.13	0.21
Water supply, sewerage, waste management, and remediation activities	0.05	0.01	0.03	0.07
Construction	4.78	0.18	4.43	5.14
Wholesale and retail trade, repair of motor vehicles and motorcycles	13.14	0.29	12.58	13.70
Transportation and storage	7.15	0.19	6.79	7.51
(Hotels, etc.) Accommodation and food service activities	1.48	0.07	1.33	1.62
Information and communication	0.09	0.02	0.05	0.13
Financial and insurance activities	0.67	0.07	0.54	0.80
Real estate activities	0.06	0.01	0.03	0.08
Professional, scientific, and technical activities	0.22	0.03	0.16	0.27
Administrative and support service activities	0.93	0.11	0.72	1.13
Public administration and defense, compulsory social security	1.00	0.08	0.85	1.15
Education	2.29	0.09	2.11	2.48
Human health and social work activities	0.74	0.05	0.65	0.83
Arts, entertainment, and recreation	0.12	0.02	0.09	0.16
Other service activities	4.40	0.14	4.13	4.67
Private households	2.02	0.09	1.85	2.19
Extraterritorial organizations and bodies	0.00	0.00	0.00	0.01

Appendix 4

Measuring Informal Employment and Informal Enterprises

Informal Employment

Classifying informal employment using the Informal Sector Survey (ISS) data entailed determining the characteristics of the dataset itself and then applying the International Conference of Labour Statisticians (ICLS) concepts and definitions in consideration of these characteristics. The significance of this type of dataset analysis was acquired from Maligalig et al. (2008) results in identifying informal employment in Bangladesh using the 2005–2006 Labor Force Survey (LFS). The methodology developed, that is, cross-tabulating variables to determine the properties of the dataset as well as to identify the relationships among them, is also an appropriate process to apply in the ISS of Bangladesh. Through the series of cross tabulations, the survey questions were examined, the responses validated, and reliable variables to apply in the informal employment decision matrix were identified. The following table shows the combination of questions used for the cross tabulation analysis.

The cross tabulations described the type of dataset and the potential variables to consider for the informal employment decision matrix. The whole process of determining the properties of the dataset has led to the assessment that the reliable variables to use in classifying the informality of employment for own- account and employers are the employment status and bookkeeping practice of the enterprise, with priority on these answer choices: 1) no written accounts, 2) informal records, and 3) simplified accounting practices. On the other hand, for employees, the employment status and type of contract variables are the significant conditions to apply.

Informal Enterprises

One of the variables deemed critical in identifying the households in Bangladesh is the query “Does the enterprise you own sell its goods or services?” since households are defined in the framework as producing exclusively for its own consumption. However, cross

Table A4.1 Combination of Questions from the 2010 Bangladesh ISS Used for the Cross Tabulation Analysis

Question	Description		Question	Description
Q2.1 (ISS1)	Employment status	vs.	Q4.10 (LFS)	Type of enterprise
Q2.1 (ISS1)	Employment status	vs.	Q2.2 (LFS)	Legal status of enterprise
Q2.1 (ISS1)	Employment status	vs.	Q2.4 (ISS1)	Bookkeeping practice
Q2.1 (ISS1)	Employment status	vs.	Q4.23 (LFS)	Type of contract
Q2.1 (ISS1)	Employment status	vs.	Q4.24 (LFS)	Type of pay slip
Q2.1 (ISS1)	Employment status	vs.	Q2.3 (ISS1)	Market enterprise (sell goods or services)
Q4.23 (LFS)	Type of contract	vs.	Q4.24 (LFS)	Type of pay slip
Q4.8 (LFS)	Place of work	vs.	Q4.10 (LFS)	Type of enterprise
Q4.8 (LFS)	Place of work	vs.	Q2.2 (ISS1)	Legal status of enterprise
Q2.4 (ISS1)	Bookkeeping practice	vs.	Q2.2 (ISS1)	Legal status of enterprise
Q2.2 (ISS1)	Legal status of enterprise	vs.	Q4.24 (LFS)	Type of pay slip
Q4.24 (LFS)	Type of pay slip	vs.	Q4.11 (LFS)	Employment size

Table A4.2 Decision Matrix for Determining Formal and Informal Employment

Nature of Employment	Employment Status	Contract	Records of Accounts
Formal Employment	1 regular paid employee 6 irregular paid worker 7 day laborer (agri) 8 day laborer (non-agri) 9 Domestic worker in a private household	1 written contract	
	2 employer 3 self-employed (agri) 4 self-employed (non-agri)		1 complete bookkeeping
Informal Employment	1 regular paid employee 6 irregular paid worker 7 day laborer (agri) 8 day laborer (non-agri) 9 Domestic worker in a private household 5 unpaid family worker	2 verbal contract or 3 no contract	
	2 employer 3 self-employed (agri) 4 self-employed (non-agri)		2 simplified accounts 3 informal records 4 no written records 5 others

tabulations suggested caution in using the variable. The results imply that there may be respondents who did not fully understand the question in relation to their type of work. For example, the respondents who work in corporations and receive detailed pay slips may be employed in a construction company which, in the view of the employee, does not sell any tangible product. Technically, the company “sells” its services to the agency/people/other companies that hire them. But, to an ordinary employee, this concept may not easily be grasped. Hence, when asked if the enterprise sells any of its products or services, the respondent may have answered “No”. The same reasoning is hypothesized to those own-account workers and employers who answered “No” to the query but exhibit qualities of owning market-producing enterprises, such as 1) the self-employed worker posting income during the reference

period, and/or 2) the enterprise engaging paid employees for the production during the reference period. The enterprise may have been providing services, which is typically not associated with “selling” of products.

Thus, given the results of the cross tabulations, the dataset was revalidated to determine the consistency of the answers to “selling” query with the other variables that make up the characteristics of each observation. Individual analysis and evaluation of the observations (which answered NO to the “selling” question) were conducted, and records were revised based on the examination. After each cycle of revisions, the variables are again evaluated. The process is repeated until no inconsistency is observed when the variables are cross-tabulated. With this methodology, the decision matrix for informal enterprises is formulated as

Table A4.3 Decision Matrix for Classifying Production Units: Own-Account Workers, Employers, and Unpaid Family Workers

Production Unit	Employment Status	Payslip	Legal Status of Organization	Bookkeeping	Sell Good or Services
Formal Enterprise	1 regular paid employee 6 irregular paid worker 7 day laborer (agri) 8 day laborer (non-agri)	1 Complete information			
	2 employer 3 self-employed (agri) 4 self-employed (non-agri) 5 unpaid family worker			1 complete bookkeeping	1 On a regular basis or 2 From time to time
Informal Enterprise	1 regular paid employee 6 irregular paid worker 7 day laborer (agri) 8 day laborer (non-agri)	2 Simple payslip or 3 No			
	2 employer 3 self-employed (agri) 4 self-employed (non-agri) 5 unpaid family worker		1 Single proprietorship 2 Partnership 5 Others 6 Do not know	2 simplified legal accounts 3 Informal records 4 no written records 5 others	1 On a regular basis or 2 From time to time
Household	9 Domestic worker in a private hhd				
	3 self-employed (agri) 4 self-employed (non-agri)				3 No or 4 Don't know

Appendix 5

Notes on Data Validation and Analysis

Data Preparation

1. Bangladesh is one of three countries covered by ADB Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector. The cost-effective but reliable methodology employed under this technical assistance made use of the Labor Force Survey (LFS) as the first phase survey, from which the sampling frame of the Informal Sector Survey was drawn.
2. Additional questions that can determine informal employment and identify household unincorporated enterprises with at least some market production (HUEMs) or informal sector production units were introduced in the LFS.
3. Prior to this technical assistance, the last LFS round conducted in Bangladesh was in 2005. The 2005 LFS followed the Integrated Multi-Purpose Sampling Design (IMPS). Maligalig and Barcenas (2008) identified areas of improvement for the said sampling design. In turn, Dr. Maligalig, the technical assistance team leader, supervised the development of a new master sample for Bangladesh (to be used for the new round of LFS) during a review mission in September 2009. (For technical details, readers may refer to Maligalig and Martinez [2009].)
4. The new master sample recommended a base sample size of 10 households to be drawn from each of the 1,500 primary sampling units (PSUs). Since the 2001 census of population was used as basis for allocating the sample, the number of households to be selected should be adjusted according to current PSU size to maintain the same selection probabilities. Uniform selection probabilities within a domain ensure that the contribution of survey weights to the variance of the estimates is small.
5. However, instead of drawing 10 households from each PSU, the Bangladesh Bureau of Statistics (BBS) opted to draw 20 households. Later on, BBS staff decided to draw seven more households per PSU. They attributed this to their need to in“ate the sample size for other rider-surveys that were to be conducted together with the LFS (e.g., Survey on Volunteerism).

6. In August 2010, a review mission was carried out to identify areas of improvement in the data processing of the LFS and the Informal Sector Survey (ISS). The mission noted that data processing of the LFS and that of the ISS were done separately. Close coordination to implement a systematic mechanism of consistency checking between the two groups was also lacking. There was also limited data validation checks employed during data entry. These contributed to the in“ation of the number of data inconsistencies. Example(s) of data inconsistencies are illustrated below:

Example 1: Issue on merging the data files

The LFS data was encoded by the Computer Wing of BBS using FoxPro software. Using this database program, data for each record are automatically stored in eight separate files (each corresponding to one page in the LFS questionnaire). However, the software did not incorporate logical algorithms during the encoding process. This caused some variables to fall outside the expected range. In addition, some skipping patterns were not followed. During manual editing stage, which was designed to correct the values falling outside the expected range and other mistakes, the edits were independently implemented for each of the eight files. Unfortunately, during this stage, encoding errors of the geographic codes were also committed. This led to some inconsistencies in the geographic codes within the same questionnaires:

For example, in the questionnaire for PSU#44, hhld#88, there is an inconsistency in the variable region.

Between file 1 and file 2:

ct	reg	Dist	upza	un	mza	rmo	psu_no	hhno	lineno	rel	sex	age
2	0.3	6	51	33	185	1	44	88	3	3	1	10
2	0.3	6	51	33	185	1	44	88	1	1	1	43
2	0.3	6	51	33	185	1	44	88	2	2	2	35
1	5	6	51	33	185	1	44	88				

Between file 1 and file 4:

ct	reg	Dist	upza	un	mza	rmo	psu_no	hhno	lineno	s4_1	s4_2	s4_3
4	15	15	9	43	480	2	265	176	3	2	2	5
4	15	15	9	43	480	2	265	176	1	1	0	0
4	15	15	9	43	480	2	265	176	5	1	0	0
4	15	15	9	43	480	2	265	176	6	1	0	0
4	15	15	9	43	480	2	265	176	2	2	2	2
1	15	15	43	9	480	2	265	176				

These factors led to some inconsistencies among the eight data files of the LFS. Consequently, it was not straightforward to merge these files.

Example 2: Encoding error

region	zila	upazila	union	mauza	rural_urban	psu	hhld	sl	occ
10	10	40	54	908	1	1023	2	1	1
10	10	40	54	908	1	1023	7	1	1
10	10	40	54	908	1	1023	13	1	1
10	10	40	54	908	1	1023	24	1	1
10	10	40	54	908	1	1023	30	1	1
10	10	40	54	908	1	1023	47	1	7
10	10	40	54	908	1	1023	53	1	1
10	10	40	54	908	1	1023	64	1	1
10	10	40	54	908	1	1023	70	1	7
10	10	40	54	908	1	1023	81	1	1
10	10	40	54	908	1	1023	87	1	1
10	10	40	54	908	1	1023	92	1	1
10	10	40	54	908	1	1023	104	1	1
10	10	40	54	908	1	1023	109	1	7
10	10	40	54	908	1	1023	115	1	1
10	10	40	54	908	1	1023	126	1	1
10	10	40	54	908	1	1023	132	1	7
10	10	40	54	908	1	1023	143	1	1
10	10	40	54	908	1	1023	149	1	7

The table above is a subset of ISS Form 1 data. The variables provided are the geographic codes, household ID (hhld), household member ID (sl), and job number (occ). The highlighted rows correspond to cases where the job number is 7. Ideally, this would mean that a person under consideration has seven jobs, but it seems that this is not the case in this example because there is only one employed member of the household, each with only one job.

The example above illustrates inconsistent information between Q.2.3 and Q.2.8. If the respondents are indeed not selling goods nor services, they should have been marked as "X" under Column 2.7. In fact, it seems that some of them were even classified as HUEMs based on Column 2.9. Alternatively, the mistake may have been committed in Column 2.3: instead of not selling, it is possible that the response should have been either 1 or 2. We can check this by studying all the other information from both the LFS and ISS. Such steps should have been incorporated in the ISS questionnaire review. The same is true for the following example:

Example 3: Inconsistencies between variables

Inconsistencies in "Q.2.3 Does the enterprise you own / where you work (including work in the farm) sell or barter its goods and/or services?"

region	zila	upazila	union	mauza	rural_urban	psu	hhld	sl	occ	q_2_3	q_2_7	q_2_9
10	10	94	79	767	1	1038	60	1	1	3	0	0
10	10	94	79	767	1	1038	76	1	1	3	0	0
62	61	31	94	363	1	658	80	6	1	3	0	0
65	51	65	47	156	1	393	30	1	1	3	0	X
65	51	65	47	156	1	393	38	1	1	3	0	X
65	51	65	47	156	1	393	88	1	1	3	0	0
84	84	25	76	696	1	424	52	1	1	3	0	0
84	84	25	76	696	1	424	58	1	1	3	0	0
84	84	25	76	696	1	424	81	1	1	3	0	0
84	84	25	76	696	1	424	81	2	1	3	0	0

Notes: Q.2.3 – Does the enterprise you own / where you work (including work in the farm) sell or barter its goods and/or services? --> 1. Yes, at least some part of it on a regular basis; 2. Yes, at least some part of it from time-to-time; 3. No; 4. Don't know.

Q.2.7 – If entry in Column 2.3 is either code 1 or 2, enter "O". Otherwise, enter "X".

Q.2.9 – Put a check mark (✓) if the entries in Columns 2.5 to 2.8 are all "O" and go to Column 2.10.

Inconsistencies in "Q.2.4 How does your enterprise / business maintain its records or accounts?"

region	zila	upazila	union	mauza	rural_urban	psu	hhld	sl	occ	q_2_4	q_2_8	q_2_9
46	46	65	31	459	1	378	10	1	1	1	0	0
62	61	31	94	363	1	658	21	1	1	1	0	X
62	61	31	94	363	1	658	49	1	1	1	0	X
62	61	31	94	363	1	658	62	1	1	1	0	0

Notes: Q.2.4 – How does your enterprise / business maintain its records or accounts? --> 1. Complete bookkeeping (balance sheet and operating statements);

2. Simplified legal accounts; 3. Only through informal records of orders, sales, purchases; 4. No written records are kept; 5. Others, specify.

Q.2.8 – If entry in Column 2.4 is either code 2, 3, or 4, enter "O". Otherwise, enter "X".

Q.2.9 – Put a check mark (✓) if the entries in Columns 2.5 to 2.8 are all "O" and go to Column 2.10.

The mission produced a set of guidelines for data cleaning. Still, due to the large volume of data inconsistencies encountered, data cleaning took longer time than expected. Also, not all inconsistencies were addressed successfully. For example, few records shared the same person and job IDs. In most of these cases, it was hard to conclude whether the records corresponded to different persons or the same person with multiple jobs. Also, in a few cases, an employed person did not have a main job; instead, he/she had multiple secondary jobs. Looking at the number of hours worked / rendered for each job did not provide conclusive evidence for us to identify the person's main job. We believe that even if we had kept them or excluded them from the analysis, either way would not have had a significant impact on the analysis especially when working on proportions.

Measuring Informal Employment

7. In the analysis of formal and informal employment, households that were interviewed for the Volunteerism Module were excluded. This is because most of these households did not have the ISS 1 data needed to classify jobs under formal/informal employment, and formal/informal/household production units.
8. Initially, the survey weights for the LFS-ISS1 were calibrated so that the total number of households will be equal to the number of households reported in the preliminary 2010 census report (published in the BBS website). This would also result in an estimated population of 146.3 million. Considering that Bangladesh's population is growing at approximately 1.3% per year over the last 5 years, 146.3 million seemed to be a reasonable estimate. However, BBS suggested the use of the Sample Vital Registration Survey (SVRS) results in computing the calibration factors until the results of the 2010 census have been finalized. This resulted in an estimated population of 148.6 million.
9. The following table provides a quick summary of the estimated magnitude of the population after calibrating the survey weights based on SVRS results. As a point of comparison, the estimates derived from the 2005 LFS are also presented.

The table shows a big difference in the number of women in the labor force between 2005 and 2010. These discrepancies led to further examination of the data. Though not classified as part of the labor force, most of these women (aged 15 years and over) reported that they engaged in household work. Based on the data, they were not classified

as employed because they were neither working nor absent from work. Most of them were also not identified as unemployed because they did not look for paid work. BBS staff opined that some of these observations should have been classified as employed. To address the issue, BBS staff carried out another round of data validation.

	2010 LFS/ISS	2005 LFS
Bangladesh	148,600,000	
Urban	38,100,000	
Rural	110,500,000	
Barisal	8,773,479	
Chittagong	28,806,089	
Dhaka	49,951,042	
Khulna	16,077,125	
Rajshahi	35,412,317	
Sylhet	9,579,948	
Labor Force	46,775,568	49,494,263
Men	41,141,330	36,988,972
Women	5,634,239	12,505,291
Employed	45,264,773	47,356,591
Men	40,327,349	36,079,828
Women	4,937,424	11,276,763
Unemployed	1,510,796	2,137,672
Men	813,981	909,144
Women	696,815	1,228,528

10. Using the corrected data, the interrelationships of different variables were examined. In addition to classifying jobs according to the nature of employment arrangement, each job is to be categorized according to the type of production unit in which it is carried out: whether as a formal enterprise, informal enterprise, or household production unit. Table A4.3 shows the decision matrix used for grouping jobs according to the nature of employment arrangement and type of production unit. However, due to data inconsistencies and missing values, the general decision matrices failed to classify about 1% of the jobs.⁵ For these initially unclassified jobs, additional record-specific criteria were adopted.

Measuring the Contribution of Informal Sector to Gross Domestic Product

11. As mentioned in Table A2.1, the initial plan was to subsample PSUs for phase 2 in order to reduce survey cost. Since the distribution of HUEMs across national accounts sectors was not considered

⁵ Most of these unclassified jobs corresponded to records of unpaid family workers. To determine the type of production units of these unpaid family jobs, we used the information on own-account workers or employers within the same household.

in the design of the phase 1 survey of the LFS, subsampling must be carefully planned so that all industry sectors can be adequately represented in the phase 2 survey. In the absence of good auxiliary variables from previous surveys that can be used to identify potential HUEMs and stratify them to sectors using the dominant/sparse sector rule, BBS intended to use the stratification used in the new master sample. However, the plan of subsampling PSUs for phase 2 did not materialize during field operations. Instead of subsampling, all HUEMs identified in phase 1 were interviewed for phase 2.

12. To ensure the quality of survey data, BBS employed different strategies to identify questionable ISS 2 records (e.g., missing values, data values falling outside the expected range, total is not equal to sum of parts and outliers). Most of these approaches were also employed by two other countries covered by RETA 6430. The list includes eyeballing the data, computation of descriptive statistics, and generation of distributional plots by neighborhood. To correct the identified problematic records, the "neighborhood approach" (as described in the handbook on using the mixed survey for measuring informal employment and the informal sector) is adopted. The key assumption behind the use of the neighborhood approach is that within a given neighborhood, there exists a group of records that can provide reliable data sufficient to correct inconsistencies observed from other records within the same neighborhood.
13. Preliminary estimation exercises revealed that it is possible to misclassify a HUEM's activity under an incorrect industrial classification code. This can be identified by carefully examining the reported industry code and the kind of products sold with and without transformation. Extensive data cleaning was done especially for the agriculture and trade sectors, when upon verification, it was noted that there have been confusion on selling of agricultural products. Some of the output (without transformation) by farmers, who directly sold their products to the market, was erroneously classified under trade. This initially resulted in a contribution of informal trade activities (to total gross value added of the trade sector) exceeding 100%.

Appendix 6

Statistical Tables

Table A6.1 Population and Labor Force Characteristics by Sex and Urban/Rural

Population	Total (1,000 persons)					% to Total			
	Men	Women	Urban	Rural	Total	Men	Women	Urban	Rural
Total Population	75,321.1	73,387.8	34,040.2	114,668.7	148,708.8	50.7	49.3	22.9	77.1
Labor Force	39,505.4	17,208.6	13,403.2	43,310.8	56,714.0	69.7	30.3	23.6	76.4
15–24 years	7,416.8	4,575.0	2,899.8	9,092.0	11,991.8	61.8	38.2	24.2	75.8
25–29	4,648.7	2,618.9	1,654.9	5,612.7	7,267.6	64	36.0	22.8	77.2
30–64	23,946.7	8,906.6	7,692.4	25,160.8	32,853.2	72.9	27.1	23.4	76.6
65–75	1,856.7	117.0	283.0	1,690.7	1,973.7	94.1	5.9	14.3	85.7
Unemployed	1,655.8	997.0	879.7	1,773.1	2,652.9	62.4	37.6	33.2	66.8
Employed	37,849.6	16,211.6	12,523.5	41,537.7	54,061.2	70.0	30.0	23.2	76.8
Agriculture (in primary job)	15,479.1	10,733.8	3,066.1	23,146.8	26,212.8	59.1	40.9	11.7	88.3
Non-agriculture (in primary job)	22,195.3	5,474.7	9,428.6	18,241.4	27,670.0	80.2	19.8	34.1	65.9
Formal enterprise (in primary job)	2,202.0	451.5	1,314.9	1,338.6	2,653.5	83.0	17.0	49.6	50.4
Informal enterprise (in primary job)	28,967.9	12,681.2	10,003.7	31,645.5	41,649.2	69.6	30.4	24.0	76.0
Household (in primary job)	6,509.4	3,075.7	1,178.6	8,406.4	9,585.1	67.9	32.1	12.3	87.7

Table A6.2 Employed Persons by Nature of Employment and Urban/Rural

Nature of Employment	Total Number of Employed (1,000 persons)			% to Total Number of Employed		
	Urban	Rural	Total	Urban	Rural	Total
Formally employed in one job only	2,995.3	3,178.7	6,173.9	23.9	7.7	11.4
Informally employed in one job only	9,455.5	38,027.4	47,482.9	75.5	91.5	87.8
Formally employed in multiple jobs	3.2	2.7	5.9	0.0	0.0	0.0
Formally and informally employed in multiple jobs	18.9	31.4	50.2	0.2	0.1	0.1
Informally employed in multiple jobs	50.6	297.6	348.2	0.4	0.7	0.6
Total employed	12,523.5	41,537.7	54,061.2	100.0	100.0	100.0

0.0 = magnitude is less than half of unit employed, – = magnitude equals zero.

Table A6.3 Employed Persons by Nature of Employment and Sex

Nature of Employment	Total Number of Employed (1,000 persons)			% to Total Number of Employed of the Corresponding Group		
	Men	Women	Total	Men	Women	Total
Formally employed in one job only	4,978.1	1,195.8	6,173.9	13.2	7.4	11.4
Informally employed in one job only	32,477.0	15,005.9	47,482.9	85.8	92.6	87.8
Formally employed in multiple jobs	5.9	–	5.9	0.0	–	0.0
Formally and informally employed in multiple jobs	48.1	2.1	50.2	0.1	0.0	0.1
Informally employed in multiple jobs	340.4	7.8	348.2	0.9	0.0	0.6
Total employed	37,849.6	16,211.6	54,061.2	100.0	100.0	100.0

0.0 = magnitude is less than half of unit employed, – = magnitude equals zero.

Table A6.4 Employed Persons by Characteristics of the Main Job

Branch of Economic Activity/ Type of Production Unit	Total Employed Persons	Employees			Employers	Own-account workers	Contributing family workers
		Total	Formal Job	Informal Job			
1. Agriculture	25,757.3	7,330.8	470.2	6,860.6	14.9	8,121.0	10,290.5
1.1 Households producing agricultural goods exclusively for own final use [a]	4,329.4	n/a	n/a	n/a	n/a	4,329.4	n/a
1.2 Other units producing agricultural goods	21,427.9	7,330.8	470.2	6,860.6	15.0	3,791.6	10,290.5
2. Non-agriculture	27,633.8	15,730.6	5,447.0	10,283.6	70.7	8,853.3	2,979.2
2.1 Formal sector enterprises	2,533.0	2,380.3	2,335.3	45.0	27.0	125.7	-
2.2 Informal sector enterprises	20,337.8	12,242.6	2,985.3	9,257.3	43.6	5,072.3	2,979.2
2.3 Households producing non agricultural goods exclusively for own final use [a]	3,655.3	n/a	n/a	n/a	n/a	3,655.3	n/a
2.4 Household employing paid domestic workers [b]	1,107.7	1,107.7	126.4	981.3	n/a	n/a	n/a
total employed	53,391.0	23,061.4	5,917.2	17,144.2	85.7	16,974.2	13,269.7

Note: Numbers may not sum precisely because of rounding and data limitations. For example, the number of employed persons in agriculture (in primary job) plus the number of employed persons in the non-agriculture sector is less than the estimated total number of employed persons. This is because there are instances when respondents with multiple jobs classified as "secondary jobs", in such occasions, these were excluded in estimating the numbers presented in the table above. Moreover, there were about 14,547 in the agriculture sector and 36,229 in the non-agriculture sector who reported that they were employers but were classified as working in private households. We suspect that they were own-account workers and not employers. In addition, there were also 441,039 in the agriculture sector who reported that they were paid domestic workers but were identified as working in households producing agricultural goods for own consumption. Again, we suspect that they were own-account workers and not paid domestic employees. This is discussed further in the Appendix 5 of this report.

Table A6.5 Geographical Distribution Employment by Nature of Employment

Geographic Division	Formal	Informal	All
Bangladesh	100.0	100.0	100.0
Barisal	5.8	5.9	5.9
Chittagong	19.5	16.2	16.6
Dhaka	43.6	30.2	31.8
Khulna	9.8	12.5	13.3
Rajshahi	17.0	29.3	27.9
Sylhet	4.4	5.9	5.8

Table A6.6 Employment by Age Group and Urban/Rural

Age group	Employment (1000 jobs)			% to Total Employment		
	Urban	Rural	All	Urban	Rural	Total
15-19	1,228.7	3,826.9	5,055.7	9.7	9.1	9.3
20-24	1,678.6	5,284.1	6,962.8	13.3	12.6	12.8
25-29	1,659.3	5,642.9	7,302.2	13.2	13.5	13.4
30-34	2,154.9	5,506.3	7,661.2	17.1	13.1	14.1
35-39	1,378.9	5,269.0	6,647.9	10.9	12.6	12.2
40-44	1,540.2	4,956.8	6,497.0	12.2	11.8	11.9
45-49	1,109.8	3,992.3	5,102.1	8.8	9.5	9.4
50-54	924.0	2,487.8	3,411.8	7.3	5.9	6.3
55-59	386.6	1,905.3	2,291.9	3.1	4.5	4.2
60-64	260.9	1,328.3	1,589.2	2.1	3.2	2.9
65-69	171.4	871.0	1,042.5	1.4	2.1	1.9
70-74	66.7	483.3	550.0	0.5	1.2	1.0
75-79	36.1	219.3	255.4	0.3	0.5	0.5
≥80	14.5	134.1	148.6	0.1	0.3	0.3
Total	12,610.7	41,907.5	54,518.2	100.0	100.0	100.0

Table A6.7 Employment by Age Group and Type of Production Unit

Age group	Production Unit (1000 jobs)			% to Total Employment		
	Formal Enterprise	Informal Enterprise	Household	Formal Enterprise	Informal Enterprise	Household
15-19	144.9	4,496.3	408.8	5.4	10.7	4.2
20-24	300.6	6,151.3	509.7	11.2	14.6	5.2
25-29	327.9	6,229.4	738.8	12.3	14.8	7.5
30-34	431.0	5,784.0	1,444.2	16.1	13.8	14.7
35-39	316.8	4,769.7	1,559.5	11.8	11.4	15.9
40-44	347.2	4,636.8	1,509.8	13.0	11.0	15.4
45-49	311.9	3,436.7	1,352.3	11.7	8.2	13.8
50-54	297.5	2,395.9	718.4	11.1	5.7	7.3
55-59	129.1	1,625.3	536.5	4.8	3.9	5.5
60-64	39.3	1,102.5	445.5	1.5	2.6	4.5
65-69	19.4	720.9	302.1	0.7	1.7	3.1
70-74	3.4	384.3	161.1	0.1	0.9	1.6
75-79	2.9	168.6	84.0	0.1	0.4	0.9
≥80	2.8	94.8	51.1	0.1	0.2	0.5
Total	2,674.6	41,996.6	9,821.8	100.0	100.0	100.0

Table A6.8 Employment by Level of Education and Sex

Level of Education	1,000 persons			% to Total Employment		
	Men	Women	Total	Men	Women	Total
No Education	15,568.8	6,654.6	22,223.3	40.7	41.0	40.8
I-V	8,838.6	3,733.0	12,571.7	23.1	23.0	23.1
VI-VIII	5,237.4	2,495.8	7,733.1	13.7	15.4	14.2
IX-X	3,072.0	1,686.6	4,758.7	8.0	10.4	8.7
SSC/Equivalent	2,376.2	893.9	3,270.1	6.2	5.5	6.0
HSC/Equivalent	1,398.7	415.0	1,813.7	3.7	2.6	3.3
Bachelor degree/ Equivalent	975.0	199.4	1,174.3	2.5	1.2	2.2
Master degree of equivalent	637.8	118.9	756.6	1.7	0.7	1.4
Medical/ Engineering degree	81.0	12.3	93.3	0.2	0.1	0.2
Technical/ Vocational education	61.0	10.8	71.8	0.2	0.1	0.1
Others	19.2	7.1	26.3	0.1	0.0	0.0
Total	38,265.7	16,227.3	54,493.0	100.0	100.0	100.0

Table A6.9 Employment by Level of Education and Nature of Employment

Level of Education	Formal	Informal	Total
No Education	4.0	96.1	100.0
I-V	6.9	93.1	100.0
VI-VIII	17.0	83.0	100.0
IX-X	12.5	87.5	100.0
SSC / Equivalent	22.6	77.4	100.0
HSC /Equivalent	35.0	65.0	100.0
Technical/Vocational education	45.3	54.7	100.0
Bachelor's degree/Equivalent	55.2	44.8	100.0
Master's degree /Equivalent	61.5	38.5	100.0
Medical/Engineering degree	72.6	27.5	100.0
Others	10.6	89.4	100.0

Table A6.10 Employment by Industry, Nature of Employment, Sex, and Urban/Rural (thousand)

Sector	Industry	Nature of Employment		Sex		Area	
		Formal	Informal	Men	Women	Urban	Rural
A	Agriculture, hunting and forestry, Fishing	571.0	25,898.2	15,732.1	10,737.0	3,102.2	23,366.9
B	Mining and quarrying	2.4	101.5	90.0	13.9	21.9	82.1
C	Manufacturing	1,975.2	4,517.8	4,666.3	1,826.6	2,565.9	3,927.0
D	Electricity, gas and water supply	62.1	55.4	111.0	6.5	58.9	58.5
E	Construction	166.6	2,439.9	2,379.1	227.3	808.4	1,798.1
F	Wholesale and retail trade	516.6	6,643.5	6,269.5	890.6	2,031.9	5,128.2
G	Hotels and restaurants	77.5	727.6	752.5	52.7	250.5	554.7
H	Transport, storage and communications	266.3	3,679.8	3,747.3	198.8	1,177.6	2,768.5
I	Financial intermediation	285.1	82.0	311.8	55.4	232.4	134.7
J	Real estate, renting and business activities	386.2	267.7	581.6	72.3	387.2	266.7
K	Public Administration and defense: compulsory social security	444.4	99.6	508.3	35.7	257.1	286.9
L	Education	918.7	329.8	938.0	310.5	423.5	824.9
M	Health and Social Work activities	151.6	252.8	261.1	143.2	147.8	256.5
N	Other community, social and personal service activities	363.6	2,101.2	1,750.5	714.3	715.9	1,749.0
O	Private households	52.4	1,049.1	158.9	942.6	418.7	682.9
P	Extraterritorial organizations and bodies	1.5	1.1	2.7	0.0	1.5	1.1
	All	6,241.2	48,246.9	38,260.8	16,227.3	12,601.4	41,886.7

0.0 = magnitude is less than half of unit employed.

Table A6.11 Employment by Employment Status and Urban/Rural

Employment Status	1,000 jobs			% to Total Number of Employed of the Corresponding Group			% to Total Number of Employed	
	Urban	Rural	All	Urban	Rural	All	Urban	Rural
Employee	3,598	3,601	7,199	50.0	50.0	100.0	28.5	8.6
Employer	60	77	137	43.9	56.1	100.0	0.5	0.2
Self-employed in agriculture	658	8,750	9,408	7.0	93.0	100.0	5.2	20.9
Self-employed in non-agriculture	2,339	5,610	7,949	29.4	70.6	100.0	18.6	13.4
Unpaid family worker	2,412	10,903	13,314	18.1	81.9	100.0	19.1	26.0
Casual/irregular paid worker	742	943	1,685	44.0	56.0	100.0	5.9	2.3
Day labor in agriculture	492	6,672	7,165	6.9	93.1	100.0	3.9	15.9
Day labor in non-agriculture	1,915	4,164	6,080	31.5	68.5	100.0	15.2	9.9
Domestic worker in private household	390	1,170	1,560	25.0	75.0	100.0	3.1	2.8
Total	12,606	41,890	54,496	23.1	76.9	100.0	100.0	100.0

Table A6.12 Employment by Employment Status, Sex, and Nature of Employment

Employment Status	% to Total Number of Employed of the Corresponding Group				% to Total Number of Employed			
	Men		Women		Men		Women	
	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal
Employee	69.0	31.0	71.6	28.4	79.4	5.4	83.4	2.6
Employer	25.1	74.9	23.7	76.3	0.6	0.3	0.4	0.1
Self-employed in agriculture	1.1	98.9	0.4	99.6	1.7	22.3	0.7	12.7
Self-employed in non-agriculture	1.8	98.2	0.8	99.2	2.4	20.1	0.7	7.7
Unpaid family worker	-	100.0	-	100.0	-	10.6	-	65.2
Casual/irregular paid worker	19.6	80.4	25.1	74.9	5.2	3.2	7.4	1.8
Day labor in agriculture	2.9	97.1	5.0	95.0	3.8	19.4	2.1	3.2
Day labor in non-agriculture	3.9	96.1	7.9	92.1	4.3	15.8	4.1	3.8
Domestic worker in private household	12.1	87.9	3.0	97.0	2.7	2.9	1.1	2.9
All	13.2	86.8	7.4	92.6	100.0	100.0	100.0	100.0

- = magnitude equals zero

Table A6.13 Employment by Occupation and Nature of Employment

Occupation	% to		
	Total employment	Formal	Informal
Special occupations	0.1	0.6	0.0
Official of government & special interest organizations, corporate executives, managers, managing proprietors	1.2	2.9	0.9
Professionals	2.8	15.8	1.1
Technicians and associate professionals	1.6	7.0	0.9
Clerks	1.8	8.8	0.9
Service workers and shop and market sales workers	16.3	12.7	16.8
Farmers, forestry workers and fishermen	14.2	1.4	15.8
Craft and related trades workers	8.8	8.5	8.9
Plant and machine operators and assemblers	5.7	21.8	3.6
Elementary occupation: laborers and unskilled workers	47.6	20.4	51.1
All	100.0	100.0	100.0

0.0 = magnitude is less than half of unit employed.

Table A6.14 Employment by Occupation, Nature of Employment, and Sex

Occupation	% to Total Employment					
	Formal		Informal		All	
	Men	Women	Men	Women	Men	Women
Special occupations	0.7	0.0	0.0	0.0	0.1	0.0
Official of government & special interest organizations, corporate executives, managers, managing proprietors	3.3	1.5	1.2	0.4	1.5	0.5
Professionals	14.9	19.7	1.3	0.6	3.1	2.0
Technicians and associate professionals	7.0	7.1	1.0	0.5	1.8	1.0
Clerks	9.6	5.2	1.2	0.2	2.3	0.6
Service workers and shop and market sales workers	15.1	2.8	20.2	9.3	19.5	8.8
Farmers, forestry workers and fishermen	1.6	0.8	21.6	3.0	19.0	2.8
Craft and related trades workers	8.7	8.0	9.5	7.5	9.4	7.5
Plant and machine operators and assemblers	18.7	34.5	4.2	2.4	6.1	4.7
Elementary occupation: laborers and unskilled workers	20.4	20.4	39.8	76.1	37.2	72.0
All	100.0	100.0	100.0	100.0	100.0	100.0

0.0 = magnitude is less than half of unit employed.

Table A6.15 Employment by Employment Status and Type of Production Unit

Type of Worker	Formal Enterprise	Informal Enterprise	Household
Employee	84.4	11.8	0.0
Employer	1.1	0.1	0.5
Self-employed in agriculture	2.3	8.9	57.2
Self-employed in non-agriculture	4.0	12.5	26.4
Unpaid family worker	0.0	31.7	0.0
Casual/irregular paid worker	4.5	3.7	0.0
Day labor in agriculture	1.3	17.0	0.0
Day labor in non-agriculture	2.3	14.3	0.0
Domestic worker in private household	0.0	0.0	15.9
All	100.0	100.0	100.0

0.0 = magnitude is less than half of unit employed.

Table A6.16 Employment by Employment Size of Establishment and Type of Production Unit (%)

Employment Size	Formal Enterprise	Informal Enterprise	Household
Less than 10 workers	37.1	88.4	95.1
Oct-49	26.4	5.6	3.7
50-149	12.9	2.8	0.0
150 and more	23.6	3.3	0.0
All	100	100	100

Table A6.17 Formal Employment by Employment Size of Establishment and Nature of Employment

Employment Size	Employee	Employer	Self-employed in agriculture	Self-employed in non-agriculture	Casual/irregular paid worker	Day labor in agriculture	Day labor in non-agriculture	Domestic worker in private household	All
Less than 10 workers	27.8	0.2	1.3	1.6	1.8	1.1	1.9	0.8	36.4
10-49	20.9	0.2	0.0	0.0	0.9	2.0	1.2	1.0	26.5
50-149	8.7	0.1	0.0	0.0	1.7	0.3	0.5	0.0	11.6
150 and more	23.5	0.1	0.0	0.0	0.8	0.1	0.5	0.0	25.5
All	80.9	0.6	1.5	2.1	5.2	3.4	4.1	2.4	100.0

Table A6.18 Informal Employment by Employment Size of Establishment and Nature of Employment

Employment Size	Employee	Employer	Self-employed in agriculture	Self-employed in non-agriculture	Unpaid family worker	Casual/irregular paid worker	Day labor in agriculture	Day labor in non-agriculture	Domestic worker in private household	All
Less than 10 workers	3.2	0.2	18.5	15.5	27.1	1.9	14.1	10.4	2.8	93.6
10-49	0.4	0.0	0.0	0.0	0.4	0.4	0.2	1.0	0.1	3.7
50-149	0.4	0.0	0.0	0.0	0.1	0.5	0.0	0.5	0.0	1.8
150 and more	0.6	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	1.0
All	4.6	0.2	19.3	16.2	27.7	2.8	14.3	12.0	2.9	100.0

0.0 = magnitude is less than half of unit employed.

Table A6.19 Number of Self-Employed Jobs by Legal Status and Division

Legal Status	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Bangladesh
Single proprietorship / individual business / farm	94.9	91.7	95.7	93.9	94.9	93.1	94.4
Partnership	2.0	2.5	2.0	1.0	2.8	2.7	2.2
Corporation (stock or non-stock; non-profit)	0.5	0.2	0.4	0.2	0.2	0.5	0.3
Registered cooperative	0.5	0.3	0.5	0.1	0.1	0.5	0.3
Other, specify	0.8	0.8	0.7	1.3	1.0	1.2	0.9
Do not know	1.3	4.5	0.8	3.5	0.9	2.1	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A6.20 Informal Employment by Legal Status and Accounting Methods

Legal Status	Complete bookkeeping	Simplified accounts	Informal records	No written records	Others	All
Single proprietorship/ individual business/farm	1.6	7.9	12.4	66.4	11.7	100.0
Partnership	6.2	18.0	12.7	48.6	14.5	100.0
Corporation (stock or non-stock; nonprofit)	30.5	7.3	10.7	46.6	4.9	100.0
Registered cooperative	8.1	50.1	3.8	38.0	-	100.0
Others, specify	13.0	13.8	6.3	46.9	20.1	100.0
Do not know	0.5	2.9	7.3	75.8	13.5	100.0

- = magnitude equals zero.

Table A6.21 Average Weekly Hours Worked by Employment Status and Nature of Employment

Employment Status	All	Formal	Informal
Employee	51.4	50.8	52.9
Employer	48.9	51.3	48.1
Self-employed in agriculture	40.6	43.8	40.6
Self-employed in non-agriculture	49.3	52.7	49.2
Unpaid family worker	35.3	-	35.3
Casual/irregular paid worker	53.9	53.0	54.1
Day labor in agriculture	50.3	51.3	50.3
Day labor in non-agriculture	52.8	52.3	52.9
Domestic worker in private household	48.3	51.4	47.9

- = magnitude equals zero.

Table A6.22 Average Weekly Hours Worked by Employment Status and Sex

Employment Status	Men	Women
Employee	51.5	51.2
Employer	49.3	47.0
Self-employed in agriculture	40.6	40.6
Self-employed in non-agriculture	50.4	42.6
Unpaid family worker	41.2	33.2
Casual/irregular paid worker	54.4	51.9
Day labor in agriculture	50.4	49.5
Day labor in non-agriculture	53.2	49.7
Domestic worker in private household	47.6	49.9

Table A6.23 Monthly Income and Earning by Type of Worker, Economic Sector, and Nature of Employment (in taka)

Type of Worker	Agriculture		Non-Agriculture	
	Formal	Informal	Formal	Informal
Employee	2,534.8	1,353.6	2,319.5	1,710.0
Employer	3,321.6	1,041.6	5,497.2	3,079.6
Own-account worker	1,516.0	1,583.7	4,339.1	1,862.7

Table A6.24 Employment in the Non-agriculture Sector by Nature of Employment, Type of Production Unit, and Sex

Nature of Employment	Formal Enterprise		Informal Enterprise		Household		Total	
	Men	Women	Men	Women	Men	Women	Frequency	%
Formal	2,082.8	422.9	2,344.5	658.1	149.4	13.0	5,670.7	20.2
Informal	38.5	9.4	14,559.8	2,981.4	3,358.7	1,405.4	22,353.2	79.8

Table A6.25 GDP share of formal and informal sector (Million Tk.)

Industry	GDP at curr. Price in 09-10	GVA of formal sector**	GVA of informal sector	Share by sector (%)	Share of formal sector** (%)	Share of informal sector (%)
Agriculture	1,005,880	63,904	941,976	15.0	1.0	14.0
Fishing	242,229	132,246	109,983	3.6	2.0	1.6
Mining & Quarrying	81,141	80,812	329	1.2	1.2	0.0
Manufacturing	1,201,081	743,588	457,493	17.9	11.1	6.8
EGW	71,945	70,780	1,165	1.1	1.1	0.0
Construction	556,581	373,455	183,126	8.3	5.6	2.7
Trade	1,002,946	333,233	669,713	14.9	5.0	10.0
Hotel & restaurant	51,501	30,011	21,490	0.8	0.5	0.3
Transport, storage, and communication	718,796	536,073	182,723	10.7	8.0	2.7
Financial intermediation	122,998	119,084	3,914	1.8	1.8	0.1
Real estate and business activities	456,830	341,448	115,382	6.8	5.1	1.7
Public administration	187,569	181,665	5,904	2.8	2.7	0.1
Education	179,084	161,679	17,405	2.7	2.4	0.3
Health	151,424	147,509	3,915	2.3	2.2	0.1
Community and other private services	684,655	528,661	155,994	10.2	7.9	2.3
Total	6,714,660	3,844,147	2,870,513	100.0	57.0	43.0

0.0 = magnitude is less than half of unit employed, GDP = gross domestic product, GVA = gross value added.

Table A6.26 Formal** and Informal Sector Gross Value Added (in Million Taka) and Number of Jobs in Bangladesh by Industry

Industry	Gross value added (in Million Taka)		Number of jobs	
	Formal sector**	Informal sector	Formal sector**	Informal sector
Agriculture, Hunting, Forestry and Fishery	196,150	1,051,959	5,016,345	21,452,762
Mining and quarrying	80,812	329	24,734	79,233
Manufacturing	743,588	457,493	1,322,879	5,170,042
Electricity, gas, steam and air conditioning supply, water	70,780	1,165	47,266	70,179
Construction	373,455	183,126	363,067	2,243,364
Wholesale and retail trade; repair of motor vehicles and motorcycles	333,233	669,713	2,225,275	4,934,800
Hotels, accommodation and food service activities	30,011	21,490	178,676	626,444
Transportation, storage and communication	536,073	182,723	904,475	3,041,626
Finance	119,084	3,914	172,749	194,395
Real estate and other business activities	341,448	115,382	305,781	349,104
Public administration and defense compulsory social security	181,665	5,904	387,195	156,779
Education	161,679	17,405	695,458	553,025
Human health and social work activities	147,509	3,915	207,759	196,619
Other community and personal services	528,661	155,994	643,403	2,925,657

*Formal sector*** actually refers to the joint contribution of formal sector enterprises and private households. Its contribution to total gross domestic product (GDP) is computed as a residual of the contribution of informal enterprises that was directly measured using the informal sector survey.

Table A6.27 Formal** and Informal Sector Gross Value Added (in Thousand Taka) and Number of Jobs (in millions) in Bangladesh by Industry

Industry	Gross value added per job (in Thousand Taka)			Number of jobs (in millions)	
	Total	Formal sector**	Informal sector	Formal sector**	Informal sector
Agriculture, Hunting, Forestry and Fishery	47.2	39.1	49.0	5	21
Mining and quarrying	780.4	3,267.3	4.1	0	0
Manufacturing	185.0	562.1	88.5	1	5
Electricity, gas, steam and air conditioning supply, water	612.6	1,497.5	16.6	0	0
Construction	213.5	1,028.6	81.6	0	2
Wholesale and retail trade; repair of motor vehicles and motorcycles	140.1	149.7	135.7	2	5
Hotels, accommodation and food service activities	64.0	168.0	34.3	0	1
Transportation, storage and communication	182.2	592.7	60.1	1	3
Finance	335.0	689.3	20.1	0	0
Real estate and other business activities	697.6	1,116.6	330.5	0	0
Public administration and defense compulsory social security	344.8	469.2	37.7	0	0
Education	143.4	232.5	31.5	1	1
Human health and social work activities	374.5	710.0	19.9	0	0
Other community and personal services	191.8	821.7	53.3	1	3

*Formal sector*** actually refers to the joint contribution of formal sector enterprises and private households. Its contribution to total gross domestic product (GDP) is computed as a residual of the contribution of informal enterprises that was directly measured using the informal sector survey.

Table A6.28 Labor Productivity in the Formal** and Informal Sector (in million Taka)

Industry	Labor Productivity in million Taka	
	Formal sector**	Informal sector
Agriculture, Hunting, Forestry and Fishery	39,102.2	49,036.1
Mining and quarrying	3,267,243.5	4,152.3
Manufacturing	562,098.3	88,489.2
Electricity, gas, steam and air conditioning supply, water	1,497,482.3	16,600.4
Construction	1,028,611.8	81,630.1
Wholesale and retail trade	149,749.1	135,712.3
Hotels, accommodation and food service activities	167,963.2	34,304.7
Transportation, storage and communication	592,689.7	60,074.1
Finance	689,347.0	20,134.3
Real estate and other business activities	1,116,642.3	330,509.0
Public administration and defense	469,182.2	37,658.1
Education	232,478.5	31,472.4
Human health and social work activities	710,000.5	19,911.6
Other community and personal services	821,663.9	53,319.3

*Formal sector*** actually refers to the joint contribution of formal sector enterprises and private households. Its contribution to total gross domestic product (GDP) is computed as a residual of the contribution of informal enterprises that was directly measured using the informal sector survey.

Table A6.29 Labor Productivity in the Formal** and Informal Sector (in thousand Taka)

Industry	Labor Productivity in thousand taka	
	Formal sector**	Informal sector
Agriculture, Hunting, Forestry and Fishery	39.1	49.0
Mining and quarrying	3,267.2	4.2
Manufacturing	562.1	88.5
Electricity, gas, steam and air conditioning supply, water	1,497.5	16.6
Construction	1,028.6	81.6
Wholesale and retail trade	149.8	135.7
Hotels, accommodation and food service activities	168.0	34.3
Transportation, storage and communication	592.7	60.1
Finance	689.4	20.1
Real estate and other business activities	1,116.6	330.5
Public administration and defense	469.2	37.7
Education	232.5	31.5
Human health and social work activities	710.0	19.9
Other community and personal services	821.7	53.3

*Formal sector*** actually refers to the joint contribution of formal sector enterprises and private households. Its contribution to total gross domestic product (GDP) is computed as a residual of the contribution of informal enterprises that was directly measured using the informal sector survey.

Table A6.30 Distribution of HUEMs by Main Reason for Choosing Business Activity

Reason for choosing business activity	Number of HUEMs		Percentage	
	Number	Percentage	Number	Percentage
Family tradition	3,745,682.0	38.8	553,451.0	20.1
Relative know this activity better	3,574,402.0	37.0	1,305,986.0	47.5
For better income/higher profit than other	1,741,185.0	18.0	587,542.0	21.4
More stable returns/income	109,564.0	1.1	57,044.0	2.1
Others	496,348.0	5.1	247,950.0	9.0
Total	9,667,180.0	100.0	2,751,973.0	100.0

Table A6.31 Distribution of HUEMs by Source of Initial Capital

Source of initial capital	National	Urban	Rural
Banks	5.8	6.4	5.5
Micro lending facility	3.9	3.9	3.9
Co-operative	0.5	0.5	0.5
NGO	12.0	9.8	12.9
National/Local Government Project	0.3	0.3	0.3
Family/Relative	24.9	27.9	23.8
Neighbor/Friends	3.5	4.8	3.0
Employer/Landlord	0.2	0.2	0.1
Private money Lender	2.6	2.3	2.7
Own Source /Saving	45.2	42.5	46.2
Others	1.2	1.4	1.1
Total	100.0	100.0	100.0

HUEMs = household unincorporated enterprises with at least some market production.

Table A6.32 Distribution of HUEMs by Source of Financing if Required

Willing to get financing by source	National	Urban	Rural
Banks	10.7	10.5	10.8
Micro lending facility	5.1	7.0	4.4
Co-operative	0.6	0.7	0.5
NGO	17.0	13.6	18.3
National/Local Government Project	0.6	0.3	0.7
Family/Relative	24.4	28.0	22.9
Neighbor/Friends	6.6	7.1	6.3
Employer/Landlord	0.2	0.1	0.2
Private money Lender	4.6	3.1	5.2
Own Source /Saving	29.3	28.3	29.7
Others	1.1	1.2	1.0
Total	100.0	100.0	100.0

HUEMs = household unincorporated enterprises with at least some market production.

Table A6.33 Percentage Distribution of HUEMs which Applied for a Bank Loan for Ongoing Business Activity by Industry

Industry	National		Urban		Rural	
	Applied	Did not apply	Applied	Did not apply	Applied	Did not apply
Agriculture, hunting and forestry	11.1	88.9	10.4	89.6	11.2	88.8
Fishing	11.8	88.2	13.0	87.0	11.4	88.6
Mining and quarrying	9.0	91.0	100.0	0.0	0.0	100.0
Manufacturing	7.6	92.4	10.0	90.0	5.5	94.5
Electricity, gas and water supply	0.0	100.0	0.0	100.0	0.0	100.0
Construction	7.5	92.5	8.9	91.1	5.5	94.5
Wholesale and retail trade	7.8	92.2	8.6	91.4	7.1	92.9
Hotels and restaurants	2.7	97.3	3.1	96.9	2.5	97.5
Transport, storage and communications	5.8	94.2	5.8	94.2	5.9	94.1
Financial intermediation	23.1	76.9	30.6	69.4	0.0	100.0
Real Estate	7.3	92.7	5.9	94.1	9.9	90.1
Public administration and defense	1.8	98.2	4.3	95.7	0.0	100.0
Education	10.2	89.8	6.3	93.7	11.7	88.3
Health and social work	5.5	94.5	3.1	96.9	7.7	92.3
Other community, social and personal services	5.5	94.5	6.0	94.0	5.0	95.0
Total	8.9	91.1	8.4	91.6	9.1	90.9

0.0 = magnitude is less than half of unit employed, HUEMs = household unincorporated enterprises with at least some market production.

Table A6.34 Proportion of HUEMs which Applied for a Bank Loan for Ongoing Business Activity, by Industry (%)

Industry	National	Urban	Rural
Agriculture, forestry and fishing	22.9	24.1	22.5
Mining and quarrying	9.0	100.0	0.0
Manufacturing	7.6	10.0	5.5
Construction	7.5	8.9	5.5
Wholesale and retail trade	7.8	8.6	7.1
Hotels and restaurants	2.7	3.1	2.5
Transport, storage and communications	5.8	5.8	5.9
Financial intermediation	23.1	30.6	0.0
Real Estate	7.3	5.9	9.9
Public administration and defense	1.8	4.3	0.0
Education	10.2	6.3	11.7
Health and social work	5.5	3.1	7.7
Other community, social and personal services	5.5	6.0	5.0
Total	8.9	8.4	9.1

0.0 = magnitude is less than half of unit employed.

HUEMs = household unincorporated enterprises with at least some market production.

Table A6.35 Percentage Distribution of the Main Reasons for HUEMs that never Applied for Bank Loan for Ongoing Business Activity by Industry

Industry	Main reason for having never applied for a bank loan								
	Amount of Loan offered is insufficient	Procedures are too complicated	Interest rates are too high	Guarantee/collateral required is too much	Maturity period is too short	Not interested in getting a loan	Dislike to pay interest	Did not need a loan	Others
Agriculture, hunting and forestry	15.1	48.9	7.0	4.5	4.1	7.4	1.2	11.2	0.5
Fishing	11.8	57.0	7.9	3.2	3.9	5.2	0.0	11.0	0.0
Mining and quarrying	42.2	21.2	0.0	0.0	18.3	18.3	0.0	0.0	0.0
Manufacturing	16.8	48.4	7.8	5.9	7.6	5.3	1.5	6.1	0.6
Electricity, gas and water supply	0.0	44.3	0.0	8.8	25.8	7.4	6.7	6.9	0.0
Construction	12.7	44.5	15.1	6.4	3.6	4.6	1.1	11.4	0.6
Wholesale and retail trade	16.4	48.2	6.6	4.7	6.5	6.3	1.1	8.0	2.2
Hotels and restaurants	11.2	54.6	9.3	3.7	4.8	7.0	0.0	5.8	3.5
Transport, storage and communications	10.5	53.5	5.9	5.4	7.3	4.7	1.3	9.7	1.6
Financial intermediation	0.0	21.4	8.6	34.2	8.7	0.0	0.0	27.1	0.0
Real Estate	18.3	48.0	4.9	2.0	6.0	3.0	0.0	14.5	3.3
Public administration and defense	17.4	46.0	8.4	0.0	8.4	7.5	2.8	9.5	0.0
Education	12.8	51.9	6.6	3.4	2.8	6.9	3.4	11.0	1.3
Health and social work	8.1	53.0	4.2	6.9	3.2	6.6	0.0	18.0	0.0
Other community, social and personal services	12.8	51.3	9.9	2.4	4.7	8.7	0.4	8.7	1.1
Total	14.8	49.4	7.2	4.6	5.3	6.7	1.1	9.7	1.2

0.0 = magnitude is less than half of unit employed, HUEMs = household unincorporated enterprises with at least some market production.

Table A6.36 Reason for Not Availing of Bank Loan to Finance Business Activity

Reason	Proportion (%)
Dislike to pay interest	1.1
Others	1.2
Guarantee/ collateral required is too much	4.6
Maturity period is too short	5.3
Not interested in getting a loan	6.7
Interest rates are too high	7.2
Did not need a loan	9.7
Amount of Loan offered is insufficient	14.8
Procedures are too complicated	49.4

Table A6.37 Impact of Loan on Business Operation

Impact of loan on Business						
Increase production	66.2	33.8	56.4	43.6	69.8	30.2
Diversification of production	37.2	62.8	27.0	73.0	41.0	59.0
Increase volume of sales	48.0	52.0	52.7	47.3	46.2	53.8
Improvement of competitiveness	35.2	64.8	44.3	55.7	31.7	68.3
Recruitment of additional staff	20.6	79.4	21.4	78.6	20.2	79.8
Working less time	23.8	76.2	26.8	73.2	22.7	77.3
Utilization of less staff	18.0	82.0	19.0	81.0	17.6	82.4
Financial difficulties	18.7	81.3	25.7	74.3	16.1	83.9
Others	14.7	85.3	16.3	83.7	14.1	85.9
Total	86.5	13.5	85.8	14.2	86.8	13.2

Table A6.38 Impact of Loan on Business Operation (%)

Impact of Loan on Business	Proportion (%)
Increase production	66.2
Increase volume of sales	48.0
Diversification of production	37.2
Improvement of competitiveness	35.2
Working less time	23.8
Recruitment of additional staff	20.6
Financial difficulties	18.7
Utilization of less staff	18.0
Others	14.7

Table A6.39 Reasons for Rejection of Loan Application

Industry	Main reason for rejection of application					
	Incomplete papers	Complete but not convincing	Insufficient guarantee/ deposit	Insufficient initial capital	Activity / enterprise deemed not viable	Others
Agriculture, hunting and forestry	30.4	63.9	1.7	1.6	0.0	2.4
Fishing	7.9	69.9	0.0	0.0	22.1	0.0
Mining and quarrying	0.0	100.0	0.0	0.0	0.0	0.0
Manufacturing	0.0	92.3	7.7	0.0	0.0	0.0
Electricity, gas and water supply	-	-	-	-	-	-
Construction	0.0	55.2	0.0	44.8	0.0	0.0
Wholesale and retail trade	13.8	80.3	4.4	0.0	1.5	0.0
Hotels and restaurants	21.2	78.8	0.0	0.0	0.0	0.0
Transport, storage and communications	20.4	79.6	0.0	0.0	0.0	0.0
Financial intermediation	-	-	-	-	-	-
Real Estate	0.0	100.0	0.0	0.0	0.0	0.0
Public administration and defense	-	-	-	-	-	-
Education	34.0	66.0	0.0	0.0	0.0	0.0
Health and social work	-	-	-	-	-	-
Other community, social and personal services	11.7	88.3	0.0	0.0	0.0	0.0
Total	23.2	71.4	2.2	1.1	0.7	1.4

0.0 = magnitude is less than half of unit employed, - = magnitude equals zero.

Table A6.40 Reasons for Rejection of Loan Application (%)

Reason	Proportion (%)
Complete but not convincing	71.4
Incomplete papers	23.2
Insufficient guarantee/deposit	2.2
Others	1.4
Insufficient initial capital	1.1
Activity/enterprise deemed not viable	0.7

Table A6.41 Types of Problems Faced by HUEMs to Run the Business Activity (%)

Type of problem/difficulties	National		Urban		Rural	
	Problem Faced	Did not face	Problem Faced	Did not face	Problem Faced	Did not face
Supply of raw materials	31.8	68.2	26.9	73.1	33.8	66.2
Sale of products-lack of customers	17.4	82.6	16.0	84.0	17.9	82.1
Sale of product- too much competition	17.3	82.7	18.7	81.3	16.7	83.3
Financial difficulties	39.1	60.9	34.3	65.7	41.0	59.0
Lack of space, adapted premises	23.8	76.2	29.2	70.8	21.6	78.4
Lack of machine or equipment	19.5	80.5	14.8	85.2	21.4	78.6
Organization, management difficulty	13.5	86.5	12.6	87.4	13.9	86.1
Too much control, taxes	7.5	92.5	6.9	93.1	7.7	92.3
Others	7.1	92.9	7.1	92.9	7.2	92.8
Total	70.8	29.2	67.8	32.2	72.1	27.9

Table A6.42 Problems Faced by HUEMs (%)

Problems	Proportion
Financial difficulties	39.1
Supply of raw materials	31.8
Lack of space, adapted premises	23.8
Lack of machine or equipment	19.5
Sale of products-lack of customers	17.4
Sale of product- too much competition	17.3
Organization, management difficulty	13.5
Too much control, taxes	7.5
Others	7.1
Total	70.8

HUEMs = household unincorporated enterprises with at least some market production.

Table A6.43 Type of Assistance Needed by HUEMs

Type of problem/difficulties	National		Urban		Rural	
	Need Help	Did not need help	Need Help	Did not need help	Need Help	Did not need help
Technical training	27.1	72.9	18.8	81.2	30.4	69.6
Training in organization	11.9	88.1	7.6	92.4	13.6	86.4
Assistance in obtaining supplies	24.8	75.2	24.7	75.3	24.9	75.1
Access to modern machines	26.0	74.0	17.1	82.9	29.5	70.5
Access to loans	47.2	52.8	40.7	59.3	49.8	50.2
Access to information on the market	25.4	74.6	28.4	71.6	24.1	75.9
Access to large business orders	15.2	84.8	19.4	80.6	13.5	86.5
Registration of business	9.0	91.0	10.0	90.0	8.5	91.5
New product /advertisement of services	8.1	91.9	7.9	92.1	8.1	91.9
Others	6.5	93.5	5.4	94.6	6.9	93.1
Total	71.7	28.3	67.4	32.6	73.4	26.6

HUEMs = household unincorporated enterprises with at least some market production.

Table A6.44 Type of Assistance Needed by HUEMs (%)

Problems	Proportion
Access to loans	47.2
Technical training	27.1
Access to modern machines	26.0
Access to information on the market	25.4
Assistance in obtaining supplies	24.8
Access to large business orders	15.2
Training in organization	11.9
Registration of business	9.0
New product /advertisement of services	8.1
Others	6.5
Total	71.7

HUEMs = household unincorporated enterprises with at least some market production.

Table A6.45 Proportion of HUEMs Helped by Professional Business Organization, by Type of Difficulty (%)

Type of Difficulty	Proportion
Access to loans	52.9
Access to information on the market	27.2
Security	25.6
Assistance in obtaining supplies	25.5
Technical training	18.2
Meeting with staff	18.1
Access to large business orders	17.5
Access to modern machines	17.3
Training in organization	15.7
Communication with the Government	14.0
Competition for Litigation	13.7
Others	11.6

HUEMs = household unincorporated enterprises with at least some market production.

ISS FORM 1

Confidential

(Personal information will not be disclosed)

Team: Quarter:
Round: Govt of the People's Republic of Bangladesh
Bangladesh Bureau of Statistics, Industry and Labour Wing
Parisankhyan Bhaban, E-27/A, Agargaon, Dhaka-1207DPC No. Time Started Time Ended

(For official use only)

INFORMAL SECTOR SURVEY, 2009-2010

SECTION-1: IDENTIFICATION OF THE SAMPLE AREA		
Sample Area Particulars	Name	Code No.
Region		<input type="text"/>
Zila		<input type="text"/>
Upzila/Thana		<input type="text"/>
Union/Ward		<input type="text"/>
Mouza/Mohalla		<input type="text"/>
Area (Rural-1, Urban-2)		<input type="text"/>
PSU No.		<input type="text"/>
Sample Household No.		<input type="text"/>
Head of the Household		
Respondent's Name		

DESCRIPTION OF THE VISIT

Visit	Date	Progress of the collected data (encircle the appropriate answer)		
1 st visit		1 - Complete	2 - Incomplete	3 - Refused
2 nd visit		1 - Complete	2 - Incomplete	3 - Refused
INVESTIGATOR & EDITOR/CODER	NAME	Signature	Date	Code
Name of the Interviewer				
Name of the Supervising Officer				
Name of the Editor/Coder				

SECTION – 2 : HUEM IDENTIFICATION (TO BE FILLED BY ENUMERATOR)

HH member's ID numbers	J O B N U M B E R	If the entry in Column 2.1 is either code 2, 3, or 4, enter "O". Otherwise enter "X".	If the entry in Column 2.2 is either code 1, 2, 5, or 6, enter "O". Otherwise, enter "X".	If entry in 2.3 is either code 1 or 2, enter "O". Otherwise enter "X".	If entry in Column 2.4 is either code 2, 3, or 4 enter "O". Otherwise enter "X".	Put a check mark (--) if the entries in Columns 2.5 to 2.8 are all "O" and go to Column 2.10.	<p>What is the full name and address/location of your enterprise?</p> <p><i>If place of work is in fixed business premise outside of housing unit, write complete name and address.</i></p> <p><i>Otherwise, write "Housing Unit".</i></p> <p><i>If this is the last person or job, proceed with ISS Form 2 interviews for each IS identified and marked in Column 2.9.</i></p> <p><i>(Write the name of the business (if applicable)/Name of operator)</i></p>
		2.5	2.6	2.7	2.8	2.9	2.10
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:
							Name: Address:

SECTION-3 : HOUSEHOLD EXPENDITURES				
Item		Previous Week (taka) (a)	Previous Month (taka) (b)	12 Months Ago (taka) (c)
1.	Food and beverages			
2.	Fuel and lighting (firewood, cow dung, jute stick, kerosene, agriculture products fuel, gas, electricity, pit coal, etc)			
3.	Clothing and Footwear (ready-made garments, clothing material and tailoring, footwear, household-use textiles – quilt, bedsheets, curtains,etc)			
4.	Transport/Travel and other miscellaneous charges (transport fare, vehicle maintenance, salaries of drivers/guards/ gardeners, communication bills, etc)			
5.	Housing related expenses (rent, imputed rent, water, home improvements, maintenance and repair, municipal tax, other related services/expenses)			
6.	Miscellaneous expenses			
7.	Medical treatment (doctor's/practitioner's fees, medicines and medical items, tests, ayurvedic, hospitalization, dental expenses, health-related travel/incidental expenses)			
8.	Educational expenses (fees for registration,examination, school, annual; personal teaching expenses, textbook, notebook, stationery, hostel expenses, etc)			
9.	Furniture, Cooking Equipment, Miscellaneous Household Durable (khat, chai, table, trunks, furniture repair, glass, dishes, refrigerator, stove, kitchenware, radio, two-in-one, television, washing machine, guitar, electric fans, etc)			
10.	Total monthly expenditure ((sum of column a X 4) + (sum of column b) + (sum of column c / 12))			
11.	Festival and special occasion expenses (Annual expenditure)			

Appendix 8

The Informal Sector Survey (ISS): Household Unincorporated Enterprises with at least some Market Production

The People's Republic of Bangladesh
 Bangladesh Bureau of Statistics
 Industry & Labour Wing
 Parishankhyan Bhavan
E-27/A, Agargaon, Dhaka-1207.

ISS FORM 2

Time Started

Time Ended

THE INFORMAL SECTOR SURVEY (ISS) Household Unincorporated Enterprises with at least some Market Production (HUEM)

CONFIDENTIAL

I. IDENTIFICATION OF THE SAMPLE AREA				
Sample Area Particulars	Name	Code No.		
Region		<input type="text"/>	<input type="text"/>	
Zila		<input type="text"/>	<input type="text"/>	
Upzila/Thana		<input type="text"/>	<input type="text"/>	
Union/Ward		<input type="text"/>	<input type="text"/>	
Mouza/Mohalla		<input type="text"/>	<input type="text"/>	<input type="text"/>
Area (Rural-1, Urban-2)		<input type="text"/>		
PSU No.		<input type="text"/>	<input type="text"/>	<input type="text"/>
Sample Household No.		<input type="text"/>	<input type="text"/>	<input type="text"/>
HUEM Owner				
II. DESCRIPTION OF THE VISIT				
Visit	Date	Progress of the collected data (<i>encircle the appropriate code</i>)		
1 st visit		1 - Complete	2 - Incomplete	3 - Refused
2 nd visit		1 - Complete	2 - Incomplete	3 - Refused
III. ENUMERATOR / SUPERVISOR / EDITOR / CODER				
Enumerator / Supervisor / Editor / Coder	Name & Designation	Signature	Date	Code
Enumerator				
Supervising Officer				
Editor / Coder				

SECTION A. ORGANIZATION OF BUSINESS											
OB.1. What is the main activity (NAME) (product made and/or sold/ service provided for pay) of your business? (Copy from LFS Section 4, Question 4.6) _____	ISIC <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>										
OB.2. In what year was this business established?	<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>										
OB.3. Is your business registered? <div style="display: flex; justify-content: space-around;"> 1. Yes 2. No </div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> If NO, Skip to OB.5. </div>											
OB.4. If yes, your business is registered with which of the following? Put a Tick Mark in the appropriate box. <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">OB.4.1. City Corporation</td> <td style="width: 5%; text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>OB.4.2. Union Parishad</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>OB.4.3. Pourashava</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>OB.4.4. NGO/Co-operatives</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>OB.4.5. Others (Specify).....</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>		OB.4.1. City Corporation	<input type="checkbox"/>	OB.4.2. Union Parishad	<input type="checkbox"/>	OB.4.3. Pourashava	<input type="checkbox"/>	OB.4.4. NGO/Co-operatives	<input type="checkbox"/>	OB.4.5. Others (Specify).....	<input type="checkbox"/>
OB.4.1. City Corporation	<input type="checkbox"/>										
OB.4.2. Union Parishad	<input type="checkbox"/>										
OB.4.3. Pourashava	<input type="checkbox"/>										
OB.4.4. NGO/Co-operatives	<input type="checkbox"/>										
OB.4.5. Others (Specify).....	<input type="checkbox"/>										
OB.5. Do you have a bank account in the name of this business? <div style="display: flex; justify-content: space-around;"> 1. Yes 2. No </div> <div style="text-align: right; margin-top: 10px;"> <input style="width: 20px; height: 20px;" type="checkbox"/> </div>											
OB.6. What type of bookkeeping and account practices do you keep for this business? (Copy from ISS Form 1, Question 2.4) <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1. Complete bookkeeping (balance sheet and operating statements)</td> <td rowspan="5" style="width: 20%; text-align: center; vertical-align: middle;"><input type="checkbox"/></td> </tr> <tr> <td>2. Simplified legal accounts</td> </tr> <tr> <td>3. Only through informal records of orders, sales, purchases</td> </tr> <tr> <td>4. No written records are kept</td> </tr> <tr> <td>5. Others, specify</td> </tr> </table>		1. Complete bookkeeping (balance sheet and operating statements)	<input type="checkbox"/>	2. Simplified legal accounts	3. Only through informal records of orders, sales, purchases	4. No written records are kept	5. Others, specify				
1. Complete bookkeeping (balance sheet and operating statements)	<input type="checkbox"/>										
2. Simplified legal accounts											
3. Only through informal records of orders, sales, purchases											
4. No written records are kept											
5. Others, specify											
OB.7. In which type of premises do you conduct this business activity? (Copy from ELFS-1 Section 4, Question. 4.8) <u>Fixed premises</u> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"> 1. At home with no special workplace 2. At my homework space inside/attached to the the home </td> <td style="width: 5%; text-align: center;">}</td> <td style="width: 20%; text-align: center;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">Proceed to OB.7.1</div> </td> <td style="width: 15%; text-align: center;"> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> </td> </tr> <tr> <td> 3. Business premises with fixed location independent from home 4. Farm or individual agriculture/subsidiary plot 5. Home or workplace of the client 6. Construction site 7. Market, bazaar stall, trade fair 8. Street, pavement or highway with fixed post 9. Office building 10. Employer's home </td> <td style="text-align: center;">}</td> <td style="text-align: center;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">Proceed to OB.8.</div> </td> <td></td> </tr> </table>		1. At home with no special workplace 2. At my homework space inside/attached to the the home	}	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Proceed to OB.7.1</div>	<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	3. Business premises with fixed location independent from home 4. Farm or individual agriculture/subsidiary plot 5. Home or workplace of the client 6. Construction site 7. Market, bazaar stall, trade fair 8. Street, pavement or highway with fixed post 9. Office building 10. Employer's home	}	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Proceed to OB.8.</div>			
1. At home with no special workplace 2. At my homework space inside/attached to the the home	}	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Proceed to OB.7.1</div>	<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>								
3. Business premises with fixed location independent from home 4. Farm or individual agriculture/subsidiary plot 5. Home or workplace of the client 6. Construction site 7. Market, bazaar stall, trade fair 8. Street, pavement or highway with fixed post 9. Office building 10. Employer's home	}	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Proceed to OB.8.</div>									
<u>No fixed premises</u> 11. Transport vehicle 12. No fixed location (e.g. mobile, door-to-door, street w/o fixed post) 13. Others (specify) _____											
OB.7.1. If you were to rent an office space for your business, how much do you think will be your monthly rental cost? <div style="text-align: right;"> Taka <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> </div>											

OB.8. Do you have other places of business where you also conduct your main activity?

1.Yes 2.No **If NO, skip to OB.9**

OB.8.1. How many other places?

OB.9. Do you have any other business activity aside from this business activity?

1.Yes 2.No **If NO, skip to Section B**

OB.9.1. Where is the other business activity located?

1. In the same location as main business activity (see **OB.7.**)
 2. In a location different from that of main business

SECTION B. EMPLOYMENT AND COMPENSATION

EC.1. How many persons, including yourself, worked in your business even for just an hour during the last week of operation (For all business activities and for all part-timers & full-timers)?

EC.1.1 Total number of workers?

EC.1.2 How many paid workers?

EC.2. Including yourself, list the characteristics of those who worked regularly in the business you operated. (last 6 months of operation for agriculture; last month of operation for non-agriculture) (below 15 years old are not included)

No.	Name	Sex (Code)	Age (yrs)	Status (Code)	Contract (Code)	Total working hours	Payment (Code)	Wages / salaries (In Taka)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1								
2								
3								
4								
5								
6								
7								
8								
9								

EC.2.1 Total for last 6 months of operation for agriculture; last month of operation for non-agriculture) (Taka)

<u>Codes for Sex</u>	<u>Codes for Status</u>	<u>Codes for Contract</u>	<u>Codes for Payment</u>
1 – Male 2 – Female	1. Employee 2. Employer 3. Self-employed in agriculture 4. Self-employed in non-agriculture 5. Unpaid worker/ family member 6. Casual/Irregular paid worker 7. Day labor in agriculture 8. Day labor in non-agriculture 9. Others (specify)	1 – Operator/Owner 2 – Written contract without fixed duration 3 – Written contract with fixed duration 4 – Verbal agreement 5 – On trial/probation 6 – No contract 7 – Others (specify)	1- Fixed monthly salary 2- Fixed weekly salary 3- Daily or per hour of work 4- Per job/task based 5- In kind payment 6- No payment 7- Others, includes profit income

EC.3. Worker's Benefits (last 6 months of operation for agriculture; last month of operation for non-agriculture)									
EC.3.1. Total social insurance contributed by employer (Taka)									
EC.3.2. Total of all other allowances/bonuses paid by employer (Taka)									
EC.3.3. Total of EC.3.1 and EC.3.2 (Taka)									
SECTION C. EXPENDITURE, PRODUCTION, INVENTORY AND SALE (Last SIX MONTHS of operation for agriculture and last MONTH for non-agriculture)									
EXPENDITURES ON RAW MATERIALS AND STOCK									
<i>Industry Activity (copy from OB.1)</i> _____									
EX.1. How much did you spend on raw materials used for your business over the specified reference period?									
AGRICULTURE					NON-AGRICULTURE				
No.	Kind/Name of raw materials	Qty	Unit	Total value (Taka)	No.	Kind/Name of raw materials	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
EX.1.1 Total (last 6 months)					EX.1.2 Total (last month)				
EX.2. For products sold without transformation, how much did you spend to buy your stocks?									
AGRICULTURE					NON-AGRICULTURE				
No.	Kind/Name of item	Qty	Unit	Total value (Taka)	No.	Kind/Name of item	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
EX.2.1 Total (last 6 months)					EX.2.2 Total (last month)				

EX.3. What were your business expenses during the operation?									
Expenses/Cost					Value (In Taka)				
					AGRICULTURE (Last 6 months)		NON- AGRICULTURE (Last month)		
1. Wages and salaries (from E.C. 2.1)									
2. Social insurance									
3. Bonuses & allowances									
4. Raw materials (from EX.1.1)									
5. Purchase cost of products sold without transformation (from EX.2.1)									
6. Fuel, gasoline & lubricants									
7. Water									
8. Electricity									
9. Rental payments (space, machinery, structures)									
10. Transport services									
11. Post, communication, internet									
12. Other non-industrial services (bank charges excluding interest, professional, business and other service fees, representation and entertainment									
13. Repair & maintenance of facilities & equipment									
14. Other industrial services (maintenance and installation work,									
15. Paid interests									
16. Taxes (business license, documentary stamps and other fees)									
17. Insurance									
18. Other charges (specify)									
TOTAL									
PRODUCTION									
PIS.1 What was the total amount of your gross sale/ revenue for the last 6 months of operation if agriculture; last month of operation if non-agriculture? (Calculate as PIS1 = PIS2+PIS3+PIS4)									
(Taka) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>									
PIS.2. Products sold after transformation									
AGRICULTURE					NON-AGRICULTURE				
No.	Name of product	Qty	Unit	Total value (Taka)	No.	Name of product	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.2.1. Total (last 6 months)					PIS.2.2. Total (last month)				

PIS.3. Products sold without transformation									
AGRICULTURE					NON-AGRICULTURE				
No.	Name of item	Qty	Unit	Total value (Taka)	No.	Name of item	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.3.1. Total (last 6 months)					PIS.3.2. Total (last month)				
PIS.4. Services offered									
AGRICULTURE					NON-AGRICULTURE				
No.	Kind of services	Qty	Total value (Taka)		No.	Kind of services	Qty	Total value (Taka)	
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.4.1. Total (last 6 months)					PIS.4.2. Total (last month)				
PIS.5. Beginning Inventory of Products with transformation									
AGRICULTURE					NON-AGRICULTURE				
No.	Name of product	Qty	Unit	Total value (Taka)	No.	Name of product	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.5.1. Total (last 6 months)					PIS.5.2. Total (last month)				

PIS.6. Ending Inventory of Products with transformation									
AGRICULTURE					NON-AGRICULTURE				
No.	Name of product	Qty	Unit	Total value (Taka)	No.	Name of product	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.6.1. Total (last 6 months)					PIS.6.2. Total (last month)				
PIS.7. Beginning Inventory of Products without transformation									
AGRICULTURE					NON-AGRICULTURE				
No.	Name of product	Qty	Unit	Total value (Taka)	No.	Name of product	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.7.1. Total (last 6 months)					PIS.7.2. Total (last month)				
PIS.8. Ending Inventory of Products without transformation									
AGRICULTURE					NON-AGRICULTURE				
No.	Name of product	Qty	Unit	Total value (Taka)	No.	Name of product	Qty	Unit	Total value (Taka)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
PIS.8.1. Total (last 6 months)					PIS.8.2. Total (last month)				

PIS.9. Value of Production for Own Consumption												
AGRICULTURE					NON-AGRICULTURE							
No.	Name of product / raw materials	Qty	Unit	Total value (Taka)	No.	Name of product / raw materials	Qty	Unit	Total value (Taka)			
1					1							
2					2							
3					3							
4					4							
6					6							
7					7							
8					8							
PIS.9.1. Total (last 6 months)					PIS.9.2. Total (last month)							
PIS.10. How did your business activity fluctuate within the past 12 months?												
Month	JAN (a)	FEB (b)	MAR (c)	APR (d)	MAY (e)	JUN (f)	JUL (g)	AUG (h)	SEP (i)	OCT (j)	NOV (k)	DEC (l)
Activity code												
Activity codes: 0 – No activity 1 – Minimum 2 – Average 3 – Maximum												
(TAKA)												
PIS.10.1 Minimum gross sale/revenue (Per Month)									<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			
(TAKA)												
PIS.10.2 Average gross sale/revenue (Per Month)									<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			
(TAKA)												
PIS.10. Maximum gross sale/revenue (Per Month)									<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			

SECTION D. CAPITAL EXPENDITURES							
CE.1. What are the Capital/Fixed assets and their present status used for your business activity during the past 12 months?							
Kind of Capital / Fixed Assets	Code	Initial Value (Current Price)	Repair & Preservation	Change / Addition	Transfer / Loss / Sale	Depreciation	Value of Net Assets (3+4+5-6-7) (In Taka)
1	2	3	4	5	6	7	8
Land	1						
Land Development	2						
Building & Other Construction	3						
Machinery Equipment	4						

Computer Hardware & Software	5						
Transport Equipment	6						
Furniture & Office Equipment	7						
Livestock & Poultry	8						
Small Tools	9						
Others (specify)	10						

SECTION E. BANKS, MICRO-FINANCE SERVICES & OTHER SUPPORT STRUCTURES

BMF.1. What is the main reason you chose this business activity?

1. Family tradition
2. It is the profession that I know
3. It gives better income/higher profits than other products or services
4. More stable returns than other products/services
5. Others (specify) _____

BMF.2. What is the source of your business activity's the initial capital?

1. Banks
2. Microlending facility
3. Cooperatives
4. NGO
5. National/Local government project
6. Family/relative
7. Neighbor/friends
8. Employer/landlord
9. Private money lender/pawnshop
10. Ownsource / savings
11. Others, specify

BMF.3. If you need financing for your business activity, what is the source of the financing?

1. Banks
2. Microlending facility
3. Cooperatives
4. NGO
5. National/Local government project
6. Family/relative
7. Neighbor/friends
8. Employer/landlord
9. Private money lender/pawnshop
10. Ownsource / savings
11. Others (specify)

BMF.4. Have you ever applied for a bank loan for your business?

1.Yes 2.No

If YES, skip to BMF.4.2

BMF.4.1 *If you never applied for a loan, what is the main reason?*

1. Amount of loan offered is insufficient
2. Procedures are too complicated
3. Interest rates are too high
4. Guarantee/collateral required is too much
5. Maturity period is too short
6. I am not interested in getting a loan
7. I do not believe in paying interest
8. Did not need a loan

- 9. Advertising of new products/services
- 10. Others (specify) _____

PP.3. Do you belong to an association in your domain of business activity?

1.Yes 2.No

if NO, END

**PP3.1 IF YES, For which type of difficulties does this organization help you?
Enter "1" if YES, enter "2" if NO. (Multiple answers are allowed)**

- 1. Technical training
- 2. Training in organizational and financial management
- 3. Assistance in obtaining supplies
- 4. Access to modern machines
- 5. Access to loans
- 6. Access to information on the market
- 7. Access to large business orders
- 8. Problems/linkages with government
- 9. Litigation with the competitors
- 10. Security problems
- 11. Interactions with employees
- 12. Others (specify) _____

END

Thank You!!!

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The Informal Sector and Informal Employment in Bangladesh

Country Report 2010

This country report is the result of the analysis on the Informal Sector Survey that was funded by the regional technical assistance of the Asian Development Bank (ADB) on Measuring the Informal Sector. The Bangladesh Bureau of Statistics, one of the three partner statistical agencies of the regional technical assistance, worked closely with ADB in adapting the mixed survey approach to collect informal sector and informal employment data, in analyzing the survey results, and in writing this report.

It presents an in-depth analysis of informal employment, which comprises about 89% of all jobs in Bangladesh. It also discusses the method for estimating the contribution of the informal sector to the gross domestic product, the resulting estimates, labor productivity, and the characteristics of informal sector production units.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.7 billion people who live on less than \$2 a day, with 828 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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NEPAL

INDIA

BANGLADESH

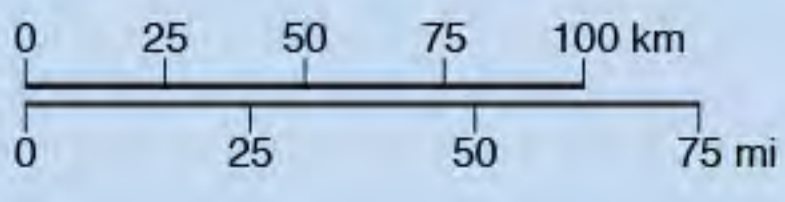
INDIA

INDIA

BANGLADESH

- ★ National capital
- ⊙ Provincial capital
- Town, village
- ✈ Major airport
- - - International boundary
- Main road
- Railroad

BAY OF BENGAL



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MYANMAR

Mouths of the Ganges

CHITTAGONG HILL TRACTS

Kolkata (Calcutta)

Dhaka (Dacca)

Chittagong

Rajshahi

Sylhet

Rangpur

88° 89° 90° 91°

26° 25° 24° 23° 22°

88° 89° 90° 91° 92° 93°

21°

Can Cash Do Better Than In-Kind Aid? Let's Find Out

5/19/14 | [Amanda Glassman](#)

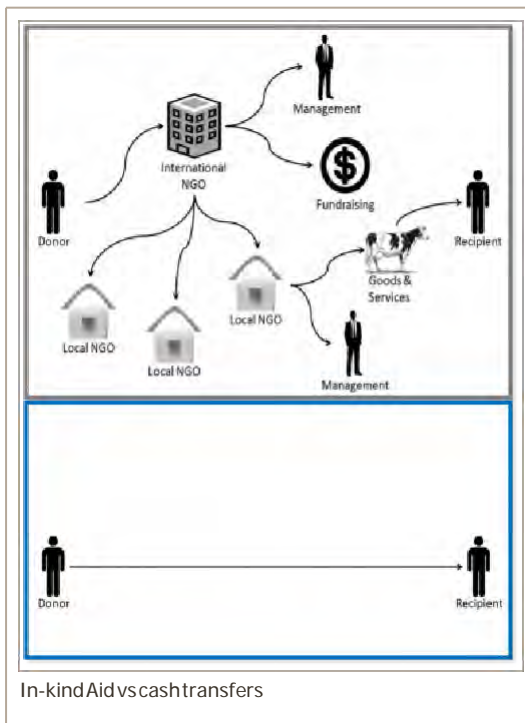
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This month [Foreign Affairs](#) featured an article in which [Chris Blattman](#) and [Paul Niehaus](#) argue that donors funding poverty reduction should benchmark the costs and benefits of their in-kind assistance against just transferring cash. They write:

Does the benefit of an in-kind donation to one family really outweigh the value of helping twice or even ten times as many households? For a growing number of antipoverty programs, the answer to that question appears to be no. New research suggests that cash grants to the poor are as good as or better than many traditional forms of aid when it comes to reducing poverty. The process of transferring cash, moreover, is only getting cheaper, thanks to the spread of technologies such as cell phones and satellite signals. And simply asking whether a given program is doing more good than it costs puts pressure on the aid sector to be more transparent and accountable. It's well past time, then, for donors to stop thinking of unconditional cash payments as an oddball policy and start seeing them for what they are: one of the most sensible tools of poverty alleviation.

We recently hosted Niehaus to keynote a [debate](#) on this question (described well by Jenny Aker [here](#)). And after hearing both sides of the argument, I would go farther and argue that we could (and should) benchmark most in-kind aid against cash.



Source: Niehaus, presentation at CGD 2014

While 52 countries already have cash transfer programs – some operating even in very low-income settings – cash transfers make up a microscopically small share of total aid. And since some big ticket aid has produced little in the way of concrete results, like post-earthquake [aid to Haiti](#) and post-conflict [aid to Afghanistan](#), the minimum we should ask is whether all this activity can do better than just wiring money to people in need.

Benchmarking in-kind aid against cash transfers would help us address any number of empirical questions: How do we reduce stunting most quickly and cheaply – “nutrition-sensitive” agricultural productivity investments or cash to most impoverished households? What reduces HIV infection rates fastest – subsidizing drugs or just transferring cash to commercial sex workers so that they do not engage in high-risk behaviors? What increases access to clean water most quickly and cheaply – solar water disinfection or cash? Our debate even posited that cash transfers might help to improve governance; Todd Moss has already argued that [cash transfers could be taxed](#) and citizens would have a greater stake in holding government accountable for providing goods and services.

There are already good examples of this kind of comparative cost-effectiveness analysis. IFPRI reported last year on an experimental [study](#) in four countries assessing the comparative cost-effectiveness of food, vouchers and cash transfers in improving food security, finding that cash transfers generally but not always proved to be more effective at significantly less cost (HT [Willa Friedman](#)). Ex-ante modeling is also possible; given a goal of increasing primary school enrollment in Mozambique in 2002, a [study](#) by Ashu Handa contrasts the cost-effectiveness of supply side interventions like adult literacy campaigns and building schools with cash transfers to raise incomes, finding that –at least ex ante- supply-side investments were more cost-effective.

This is the kind of economic evaluation that one hopes to see as part of Project Appraisal Documents at the World Bank, and its own [norms](#) already specify that “consideration of alternatives is one of the most important features of proper project analysis.” While many [NGOs](#) are already investing in cash transfers, some big NGOs –particularly those that favor transferring credit, skills or animals to reduce poverty like Kiva and Heifer International- could usefully evaluate their work this way (though there is always the [argument](#) that Heifer raises more money because of the people-animal connection). USAID in particular –with its stated goal of “ending extreme poverty in the next generation”- is another candidate for more attention in this area.

Funders should find out if their in-kind assistance does more good than cash. Should we at CGD do more to track the use of cash benchmarking by aid agencies and NGO? Can we answer the question: what share of spending goes to cash transfers, and what is the evidence that the in-kind support provided generates more benefits? And if we did, would that change anything? Or is the [Give Directly](#) impact incentive enough?

RELATED POSTS:

[Aadhaar-Based Cash Transfers: Promising Reform, but More Data Needed](#)

[Pay 'em or Don't Charge 'em? The Case of Conditional Cash Transfers and User-Fee Exemptions in Nepal for Pregnant Mothers](#)

[Using Aid for Cash Transfers: What Do 10,000 People in 28 Countries Think?](#)

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Join the discussion...

**Pierre Ferrari** · 2 years ago

Hello, I'm Pierre Ferrari with Heifer International. While the ongoing debate about the effectiveness of cash transfers versus asset transfers is of value, there is one component frequently left out that I think is worth considering here.

Ms. Glassman asserts: "cash transfers make up a microscopically small share of total aid." But consider for a moment the \$400 billion in annual remittances flowing into developing countries from family members who have left home to find what work they can. This money comes without conditions, so we can to at least a degree consider them UCTs or direct private aid. The numbers are astonishing – nearly four times the amount of foreign aid given annually by international governments – and growing (<http://siteresources.worldbank...>)

What is being done with this massive cash inflow? The recipients consume it mostly on imports, which they need to survive. Yes, it reduces the poverty of the recipients, but is this development? We at Heifer view development as supporting communities into self reliance and autonomy. If more than \$400 billion a year in remittances isn't working to create sustainable economies, how can we expect donor-funded UCTs to be the superior solution to ending poverty worldwide?

△ | ▾ · Reply · Share >

**Raphael** · 2 years ago

So can we also benchmark CGD's work against cash transfers? In other words, would it be more cost effective to just transfer the entire CDG budget to, say, Ethiopia as a cash transfer instead of using it for "research and policy work?" I think most academics and armchair economists would be aghast at this idea. But that is exactly what you are asking of us 'field implementers.' To be clear, I think this is a promising idea, but perhaps one should also look in the mirror.

△ | ▾ · Reply · Share >



Sandi McCoy · 2 years ago

Thank you for this excellent post. Our research group at UC Berkeley is interested in this question in the HIV context. We are conducting a randomized trial in Tanzania to compare the effects of conditional food and cash assistance for food insecure people living with HIV infection on adherence to antiretroviral therapy. In addition to the food and cash transfer arms of the study, we have a comparison group who receives the standard-of-care adherence and nutrition counseling. Our detailed clinical and cost data will allow us to understand whether food and cash transfers are effective assistance modalities and whether one is preferred over the other, both in term of effectiveness and cost-effectiveness. We hope that with more comparative effectiveness studies, we'll have a better understanding of best type of aid for a given situation.

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In today's increasingly connected world, women are being left behind. A significant gender gap in mobile phone ownership and usage in low-and middle-income countries is hindering growth for the mobile industry and means women are missing out. Successfully targeting women not only advances women's digital and financial inclusion, but unlocks significant growth potential for the mobile industry. In fact, closing the gender gap in mobile phone ownership and usage could unlock an estimated \$170 billion market opportunity for the mobile industry in the period from 2015 to 2020.

GSMA's Connected Women works with mobile operators and their partners to address the barriers to women accessing and using mobile internet and mobile money services. Together we can unlock this substantial market opportunity for the mobile industry, deliver significant socio-economic benefits and transform women's lives. When women thrive, societies, businesses and economies thrive.



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2011–2015

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ACRONYMS

BAS	Business Advisory Services
CAD	Community Agro-Dealer
DHF	Demo Host Farmer
GIF	Gender Integration Framework
MSMEs	Micro, Small, and Medium-Sized Enterprises
PBG	Producer Business Group
USAID	U.S. Agency for International Development
WEAI	Women’s Empowerment in Agriculture Index



INTRODUCTION

Feed the Future and Women's Empowerment in Agriculture

Women contribute significantly to agriculture and food security around the globe, and gender equality and women's empowerment are critical to ensuring sustainable development. Yet women continue to face unequal access to training, resources, and opportunities to adopt new agricultural technologies, grow their businesses, and spend their earned income to improve the well-being of themselves and their families.

The U.S. Government's global hunger and food security initiative, Feed the Future, puts women's empowerment at the center of its approach to improving global food security, making it a core area of investment and a measure of whether Feed the Future has achieved its overall goal of reducing global hunger, poverty and malnutrition.

Through Feed the Future, women farmers have accessed training and resources that have enabled them to adopt new agricultural technologies that increase productivity, reduce their unpaid work and improve their families' nutritional status. In Feed the Future's first year, over 500,000 women applied improved technologies or practices in their agricultural work; by 2014 this number almost quintupled to nearly 2.5 million women.¹ In addition, between 2012–2014, Feed the Future programs extended over \$260 million in loans to over 640,000 women farmers and women-owned small enterprises.² These figures represent hundreds of thousands of individual stories, human faces, and the voices behind them.

FEED THE FUTURE: THE U.S. GOVERNMENT'S RESPONSE TO GLOBAL HUNGER

Global food price spikes and resulting instability in 2007 and 2008 were a wake-up call to the world: More needed to be done to break the vicious cycle of hunger and poverty. The answer: Unlock the potential of agriculture as the key to reducing hunger, extreme poverty and malnutrition. At the 2009 G8 Summit in L'Aquila, Italy, President Obama called on global leaders to reverse a three-decade decline in agricultural investment. He also announced increased U.S. investment in global food security. Launched in 2010, Feed the Future is the U.S. Government's global hunger and food security initiative. Feed the Future is a whole-of-government approach led by USAID that includes 11 U.S. Government agencies. It prioritizes country leadership and engages partners from the private sector, international and national civil society organizations, and research institutions. Learn more about Feed the Future at www.feedthefuture.gov.

HOW FEED THE FUTURE CULTIVATES WOMEN'S EMPOWERMENT IN AGRICULTURE

To help tell the stories behind these figures, this publication presents a collection of case studies and personal anecdotes that illustrate how Feed the Future programs are creating opportunities for women's empowerment in agriculture.

Each of the stories collected here demonstrates how Feed the Future partners are facilitating empowerment in multiple yet interconnected ways: from making agricultural markets more inclusive of women as part of value chain development; to creating opportunities for women to be leaders of change in their communities and economies; to facilitating supportive environments for women to exercise their voice and agency by challenging stereotypes about gender roles and power relations between men and women.

Many of these stories also illustrate how programs have focused on the domains of empowerment identified in the Women's Empowerment in Agriculture Index (WEAI; see box on p. 5) as well as some of the themes that researchers identified through rigorous

The Synthesis of Evaluations Related to the Feed the Future Learning Agenda can be found here.



analysis of more than 190 program evaluations in the Synthesis of Evaluations Related to the Feed the Future Learning Agenda, released by USAID in March 2016.³ In particular, many of the featured interventions in this report focus on increasing access to productive resources and assets, leveraging the power of community-based groups, and promoting women's leadership—as entrepreneurs, group leaders, researchers, and advocates. The stories also illustrate some of the challenges identified in the Evaluation Synthesis, particularly related to closing gender gaps in access to and decision-making power over credit and land, and control over income.

METHODOLOGY

This publication provides insights into the ways Feed the Future partners have successfully promoted women's empowerment and what they have learned in the process. It is neither an evaluation of Feed the Future's impact on women's empowerment, nor a synthesis of what has been learned so far. As more data from the Feed the Future Monitoring System and the WEAI become available, partners will be able to conduct more rigorous analysis of results and impacts. This publication is intended to complement such higher-level assessments.

The case studies were solicited and selected from submissions by Feed the Future partners through a call for cases about the Feed the Future Learning on Gender Integration and Women's Empowerment.⁴ Selected submissions were compared with the cases and themes identified in the Feed the Future Evaluation Synthesis Report. The submissions were ranked and chosen according to the quality of the data, the compelling nature of the story, demonstration of learning, and diversity of representation in terms of geography and type of intervention. All original case studies submitted in response to the call for cases are available on USAID's Agrilinks website (<http://www.agrilinks.org>).



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WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX

To hold itself accountable for its commitment to gender equality and women's empowerment, Feed the Future and its partners launched the Women's Empowerment in Agriculture Index (WEAI) in 2012, creating baseline measures of women's empowerment in Feed the Future focus countries. The WEAI is the first comprehensive and standardized data collection tool for measuring women's empowerment and inclusion in the agriculture sector by looking at five domains of empowerment—decisions about agricultural production; access to and decision-making power over productive resources; control over use of income; group membership and leadership; and time use—as well as two cross-cutting domains: access to technology and social capital.

THE FIVE DOMAINS OF EMPOWERMENT IN THE WEAI

Domain	Indicators
Production	Input in productive decisions
	Autonomy in production
Resources	Ownership of assets
	Purchase, sale, or transfer of assets
	Access to and decisions on credit
Income	Control over use of income
Leadership	Group member
	Speaking in public
Time	Workload
	Leisure

Feed the Future is using the WEAI to inform programming and track the impact of its programs on women's empowerment in 19 Feed the Future focus countries. USAID partners collected baseline data in these countries between 2012 and 2013.⁵

A cross-country analysis of the WEAI baseline data from 13 of the 19 focus countries found that among the assessed domains, women were most likely to be disempowered in the areas of access to and decision making about credit, workload, and membership in groups. However, the analysis also found that constraints vary by region; for example, a lack of group membership is the primary constraint for women in Asia, while low access to and decision making about credit, as well as heavy workloads, are greater constraints for women in east and southern Africa. The WEAI analysis found that these are the same factors that contribute most to men's disempowerment as well. However, the magnitude of disempowerment is much greater for women.⁶

USAID is collecting a second round of data in 2016 and 2017 that will allow stakeholders to analyze comparable quantitative data on the WEAI's five domains of empowerment, rendering a fuller picture of Feed the Future's progress toward inclusive agriculture sector growth.

In the years since the WEAI was launched, Feed the Future has invested in research, improvements in tools and methods, and complementary resources to enhance the utility of the WEAI and for designing and evaluating programs. A list of WEAI resources, datasets and research can be found on Feed the Future's website.⁷

You can learn more about the Women's Empowerment in Agriculture Index (WEAI) here.





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МАЪЛУМОТИ УМУМИ ДАР БОРАИ ЛОИҲА

ЛОИҲАИ USAID «ИСЛОҲОТИ ЗАМИН ВА ТАРАҚҚИЯТИ БОЗОР», КИ БАРОИ СЕ СОЛ ПЕШБИНИЙ ШУДААСТ, АЗ ТАРАФИ ТАШКИЛОТИ БАЙНАЛХАЛҚИИ КЕМОНИКС ИНТЕРНЕШНЛ АМАЛИ ГАРДОНИДА МЕШАВАД. ХАДАФИ АСОСИ ЛОИҲА - ИИ ТАКВИЯТБАХШИИ ТАРАҚҚИЯТИ ИҚТИСОДИ БОЗОРГОНИ МЕБОШАД. ЛОИҲА МОҲИ ОКТЯБРИ СОЛИ 2005-УМ ҶАЪЛИЯТИ ХУДРО ДАР ДУ ҶУМҲУРИИ, ҶУМҲУРИИ ТОҶИКИСТОН ВА ҚИРГИЗИСТОН ШУРУЪ НАМУД. ЛОИҲАИ МАЗКУР ДАР ҶУМҲУРИИ ТОҶИКИСТОН АЗ СЕ ҚИСМИ АСОСИ ИБОРАТ АСТ.

- ЛОИҲА ДАСТГИРИИ ХУДРО БА ҲУКУМАТИ ТОҶИКИСТОН ДАР ТАКМИЛДИҲИИ КОНУНГУЗОРИ ОИД БА ИСЛОҲОТИ ЗАМИН АМАЛИ МЕГАРДОНАД
- БАЛАНДБАРДОРИИ САТҲИ ДОНИШИ ДЕҲҚОНОН ОИ ҲУҚУҚҲОИ ОНҲО БА ЗАМИН БА ВОСИТАИ ГУЗАРОНИДАНИ ТРЕНИНГҲО, СЕМИНАРҲО, МАШВАРАТҲОИ ҲУҚУҚИ ВА ИИЧУНИИ БА ВОСИТАИ ВОСИТИ АҲБОРИ УМУМ
- ДАСТГИРИИ ДЕҲҚОНОН БА ВОСИТАИ СИЛСИЛАИ МАРКАЗҲОИ ДАСТГИРИИ ҲУҚУҚИ ВА СИЛСИЛАИ ТАШАББУСҚОРОНИ МАҲАЛИ



INCLUSIVE AGRICULTURE SECTOR GROWTH

Opening Doors for Women Farmers and Entrepreneurs

A market-driven approach is critical for achieving growth, and many Feed the Future partners are creating opportunities for women by working through the private sector and leveraging market demand.

The following stories demonstrate different ways Feed the Future programs have facilitated market-driven agriculture sector growth throughout the value chain while connecting women to increased income opportunities: from increasing productivity of food crops that can be sold on local and urban markets in Bangladesh, to connecting female producers to mango export markets in Haiti, to creating opportunities for women to be entrepreneurs in a growing community-based input supply sector in Zambia, to strengthening women's agro-processing businesses in Honduras.

Many of these interventions touch on multiple domains of the WEAI, including decisions about production, access to resources, access to income, leadership and social capital. The program in Haiti also addresses the fifth domain of the WEAI regarding women's time poverty. They also appear to support one of the main findings of the Feed the Future Evaluation Synthesis: that leveraging the collective action of community-based organizations—including producer organizations—can be a means to break down gender gaps in access to markets and social capital.⁸

I. Breaking the glass ceiling of the mango export sector in Haiti

As a Feed the Future program in Haiti began assessing how to connect mango farmers to lucrative and stable export markets, they identified a significant constraint for women in the mango value chain: *Although women controlled much of the sales in the informal domestic mango trade, they held just 9 percent of leadership roles in the farmer associations that supplied the formal export market.*

How could the program support women's leadership in a more formal, efficient mango export sector?

MAKING THE “BUSINESS CASE” FOR GENDER EQUALITY AT HOME AND AT WORK

Feed the Future partners in Haiti identified two underlying constraints to women's membership and leadership in farmer associations: (1) low rates of literacy, and (2) disproportionate lack of time due to their domestic responsibilities.

To address the literacy challenge, Feed the Future coordinated with a local microfinance institution, Fonkoze, to pilot literacy training for

women in the area. The women worked to establish literacy skills, thereby gaining further confidence in their leadership abilities.

To address women's time constraints, mango Producer Business Group (PBG) members and their partners participated in project trainings and discussions where they made a “business case” for how everyone in the family would benefit if men and women shared domestic responsibilities, freeing up more time for women's leadership in the Producer Business Groups. As a result, 38 percent of leadership roles are now held by women, which is more than four times the average in Haiti's farmer associations.

UNDERSTANDING AND ENGAGING INFORMAL MARKETS

In Haiti, women make up the majority of mango traders in the local and informal markets. To ensure the growing export market didn't marginalize these traders—called *Madan Saras*—the program worked with them to ensure that women outside formal market channels benefited from the commercialized mango market. Producer Business Groups worked with *Madan Saras* to sell lower quality and volumes of mangos on the local market. Over time, the program developed mango sales networks comprising farmers, Producer Business Groups, *Madan Saras* and packing houses to sell mangos on local and export markets. Ninety percent of the mangos that were deemed unsellable on the export market for aesthetic reasons were sold by women on the local market for a competitive price.

THE BUSINESS CASE FOR WOMEN'S LEADERSHIP

Trainers used a metaphor of a bird, which soars only when both of its wings are strong. If the Producer Business Group was the bird, women and men were its two wings. By making the business case for women's participation in leadership—how this would help the groups, strengthen the mango sector and boost household incomes—the staff encouraged households to develop strategies to provide women with the time needed to assume those roles.

“We’re working together and growing stronger. We’re not just selling mangos now. We are doing everything.”

– MARIE-CARME, MANGO FARMER AND TRAINER IN A PRODUCER BUSINESS GROUP



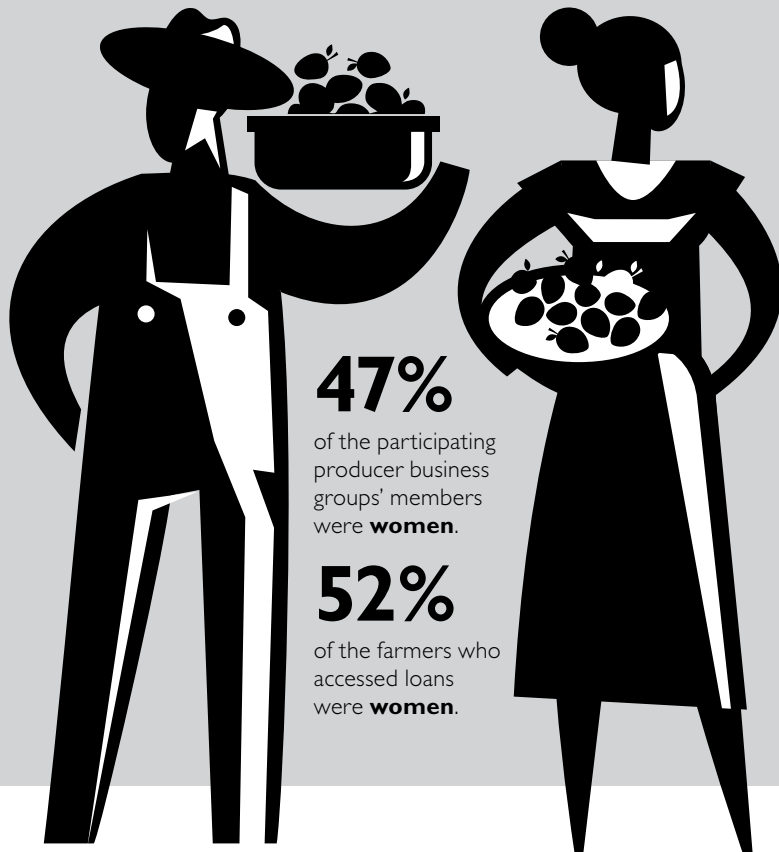
© DAVID ROCHKIND

MARIE-CARME’S STORY

After joining a local Producer Business Group called *Leve Kanpay*, or “Rise Up,” in 2013, Marie-Carme Fils-Aime and her husband improved their mango production techniques to earn USDA Organic and Fair Trade certification. They are now exporting their fruit to the United States and have used the profits to plant a 76-tree mango orchard and to buy seeds for other crops, diversifying their income-generating opportunities.

Marie-Carme leveraged the opportunities offered through Feed the Future to become a recognized leader in the producer group and

community. She is the producer group’s marketing agent, directly managing the sale of the group’s mangos to an exporter in the Haitian capital, and an agronomy trainer for other farmers. She has been part of decisions to invest some of the group’s profits in repairing the community’s water pump, and in farming tilapia to diversify the community’s source of income.



47%

of the participating producer business groups’ members were **women**.

52%

of the farmers who accessed loans were **women**.

Cultivating Success: Data and Results

Male and female mango farmers and traders produced a range of impressive outcomes with the support of Feed the Future, which helped more than ...

19,000 farmers organize **262** producer business groups — **94%** of which were profitable



38%

of leadership roles were held by women, which is more than four times the average in Haiti’s farmer associations.

This example comes from the Haiti Hope Project, which was co-funded by USAID, The Coca-Cola Company, and the Inter-American Development Bank, and implemented by TechnoServe.

II. Community agri-input businesses foster women's entrepreneurship in Zambia

Nelia Banda is the owner of the Small Small Agro Store in Sinda County, Zambia. Within the Small Small Supply Store are four shelves with several types of seeds—okra, tomato, rape (kale)—herbicides and pesticides, and other basic farming inputs. She says about 150 people come to her shop every day during planting season, some as far as Mozambique. Nelia also serves as a community extension worker, visiting farms to answer questions about crop health and planting techniques. From 2012 to 2016, Nelia has worked with Feed the Future's flagship program in Zambia learning new technologies and business management. In addition, the program's gender training has been an important part of agricultural livelihood improvements of her rural community. "If people learn about how gender roles can change, they can learn to work together, they can both support the work they do," she said.

Nelia is an exception in Zambia, where women have less access to agricultural inputs than men, and are even less likely to have jobs or own businesses in the input supply and agricultural extension sector.⁹ Feed the Future is working to change this dynamic in Zambia. It has taken a community-based approach to commercialize the input supply sector, which will make seeds, fertilizers, and production services more widely available to both male and women farmers. Of equal importance, this approach also ensures that women are not just buying the inputs, but selling them too.

A COMMUNITY-BASED AND PERFORMANCE-BASED APPROACH TO RECRUITING WOMEN ENTREPRENEURS

Two key elements to the program's approach enabled women to become successful input supply entrepreneurs. First, the approach was community-based, meaning that the project supported small, community-level enterprises to become a link between private sector service providers and rural communities. Called Community Agro-Dealers (CADs), they serve as input suppliers to neighboring farmers and teach improved production technologies on demonstration plots, such as conservation

farming methods to reduce labor and maintain soil fertility. Many of their clients are also women farmers who are part of community savings and lending groups. In fact, 76 percent of the 17,000 members of these groups are women and 79 percent of the leadership roles are occupied by women.

Second, it was a performance-based, graduation approach. This emphasis on graduated performance gave women with limited leadership or business experience the opportunity to start in a small leadership role and then grow into a larger one, learning along the way. For example, CADs began as demonstration host farmers, who provide extension services and information to other farmers. The program supports the best performing demonstration host farmers to become CADs, where they continue to provide extension services while also earning profits selling seeds, fertilizers and other inputs. Then, the program supports the best performing CADs to form producer companies, which are private sector trade enterprises that generate profits at a larger scale, making them even more attractive to potential private sector partners. In addition, as community-based wholesalers, they retain profits in the communities. Women comprise 24 percent of the members of newly formed Producer Companies.

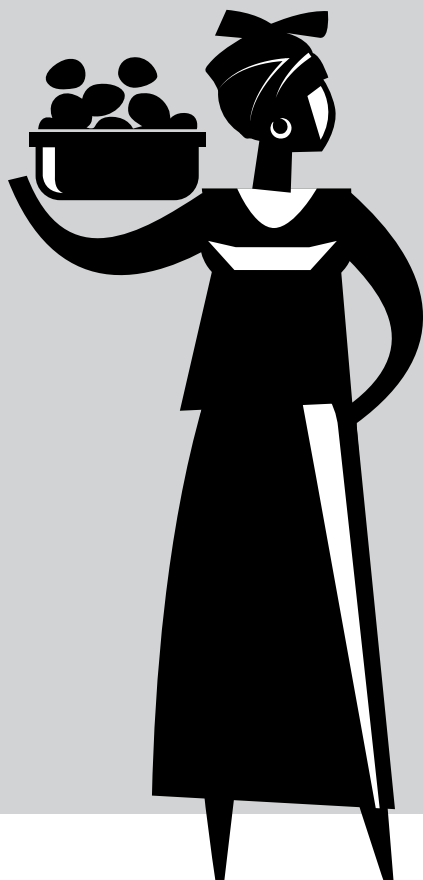
WOMEN'S ENTREPRENEURSHIP SUCCESSES AND CHALLENGES IN COMMERCIALIZED VALUE CHAINS

One of the significant achievements of the Zambia program is the number of women involved in all activities. A third of the demonstration host farmers and CADs are women, as are about a fourth of producer company members. Even more significant is the fact that women are 76 percent of the leadership roles in the savings and lending groups; altogether this adds up to more than 11,400 new leadership positions held by women. Yet, it also illustrates a persistent challenge: women make up a smaller proportion of leadership positions in the more influential and profitable roles of demonstration host farmers, CADs, and producer company members. However, it is important to understand the context: these are traditional roles for men.



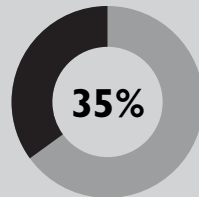
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While Feed the Future's programs in Zambia continue to fight this challenge, they have nonetheless been able to cultivate a significant presence of women in the input supply sector.

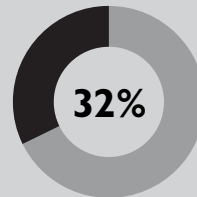


Cultivating Success: Data and Results

Women make up ...

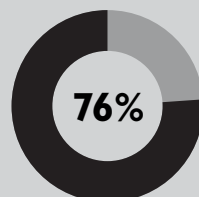


of community agrodealers and make up

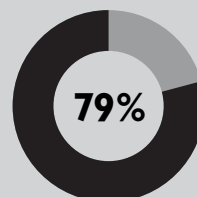


of demo host farmers.

CADs sell inputs and provide extension services to savings and lending groups, of which ...



of the 17,000 members are women, and



of the leadership roles are occupied by women.

Although there are fewer women than men CADs, women have performed better than men in general: **35% of women** DHFs became CADs, while only **26% of men** DHFs became CADs.

Female CADs make up **24%** of the Producer Companies' membership.

This example comes from the Profit Plus project, which is funded by USAID and implemented by ACIDI/VOCA. Another USAID program, Integrating Nutrition and Gender into Agriculture Extension Services (INGENAES) provides support to the community agro-dealers via Profit+.

III. Women lead in the way in increasing food production in Bangladesh



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“I was mesmerized to see such a robust maize crop in my fallow land ... it never came to my mind that such nice production of maize was even possible in this area.”

– WOMAN FARMER, BANGLADESH

FROM STRUGGLING FARMER TO ENTREPRENEUR

Monowara Begum and her family were struggling to make ends meet from growing only one rice crop per year. When a Feed the Future program introduced maize production in her community, she attended a training—together with her husband and

son—on intercropping maize with other crops. She became the first farmer in her region to cultivate hybrid maize, resulting in a profitable harvest.

Soon, Monowara Begum was chosen as leader of a women's farmers group, Golup Mohila Samity, which collectively grew maize intercropped with garden pea and bush bean. With their incomes, the group purchased a power tiller—a machine that eases the physical burden of preparing land for planting, while also improving the time efficiency—and a seeder machine, which they used to till and seed other farmers' lands for a fee. In 2013, Hunger Free World Bangladesh awarded Monowara Begum the prize of Best Entrepreneur.

A WHOLE-FAMILY TRAINING APPROACH TO CONNECTING MEN AND WOMEN FARMERS TO NEW AGRICULTURAL TECHNOLOGIES

Monowara and thousands of other farmers in Bangladesh availed themselves of Feed the Future trainings and demonstrations on agricultural techniques, cross-farm visits, and farm business management workshops. The program achieved its commitment to equal participation of women and men in these activities by applying a “whole family” training approach, where all family members attend trainings on seed production and storage, maize production for income generation and human consumption, cereal-based cropping systems, intercropping and business skills.

The program also focused on increasing women’s business and entrepreneurship capacities. For example, a workshop with women who had already initiated small businesses was held in collaboration with UN Women to identify women’s constraints in establishing and expanding a small business, and to link women-led small businesses with supermarkets, processors and enterprise associations.

WOMEN FARMERS’ GROUP MAKE THEIR INCOMES GROW

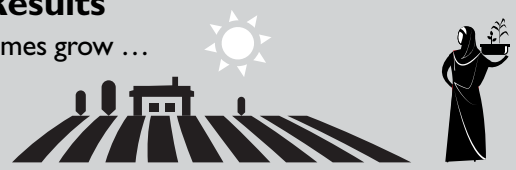
Overall, women farmers like Monowara comprised more than a third of the 56,000 farmers who took advantage of trainings offered through this Feed the Future-supported program in 2015 alone. Yet fewer—only around 12 percent in 2015—were able to apply the new skills they learned, representing an ongoing challenge and persistent gender gap.

Read more stories from women who were part of this Feed the Future Program here.



Cultivating Success: Data and Results

Women farmers like Monowara saw their incomes grow ...



Each woman of the Golup Mohila Samity group, led by Monowara, earned a return of **\$188 from garden pea and maize intercropping in 2014, with production costs being \$30.**

This nearly doubled the next year, with each of the 20 group members **earning \$439 from intercropping.**



They also earned additional income from selling preserved seeds to other farmers and could increase their land under cultivation.

This example comes from the Cereals Systems Initiative for South Asia in Bangladesh (CSISA-BD) project, which was funded by USAID and implemented jointly by International Maize and Wheat Improvement Center, CIMMYT, International Rice Research Institute, and WorldFish from October 2010–December 2015.

IV. Women's agribusinesses in Honduras add value and earn profits



Honduras differs from many low-income economies around the world in that women make up a minority of the workers in crop production. Yet with high poverty and unemployment levels, Honduran women need economic opportunities as much as men.

WOMEN'S ENTERPRISES ADD VALUE TO FRUIT, VEGETABLE AND COFFEE SUPPLY CHAINS

Feed the Future's partners in Honduras ensured that both women and men would benefit from new value chain opportunities by supporting post-production jobs and enterprises. This approach turned out to be an ideal opportunity for rural women. The majority—72 percent—of the woman-owned micro, small, and medium-sized enterprises (MSMEs) supported by the program focused on processing and value addition. For example, women formed off-farm MSMEs to produce and sell processed products such as pickled vegetables, plantain chips, roasted coffee beans, fruit concentrates, dried fruits, and baked goods, opening up a variety of income-earning opportunities for themselves and their families. The program provided a comprehensive and integrated package of training and support to the MSMEs, including trainings on good manufacturing practices, marketing, and business skills to support company registration, credit access, and identifying new buyers.



PHOTOS, TOP: © FINTRAC, INC.; BOTTOM: © HECTOR SANTOS

WOMEN WORK IN COFFEE? THE CAFÉ ARIMEL PROCESSING COMPANY

On average, women-owned MSMEs that partnered with the Honduras Feed the Future program improved their sales by 50 percent above baseline, resulting in an increase in net incomes of 81 percent. One of these businesses is Café ARIMEL, a coffee processing company run by two sisters in Santa Rosa de Copan. In 2012, with help from Feed the Future technicians, they conducted a business diagnostic to identify opportunities for growth. Based on this diagnostic, project specialists provided a suite of trainings in market-driven production, improved productivity, and finance and administration. With these interventions, Café ARIMEL increased its total sales by 35 percent over two years. "We expect to grow by at least

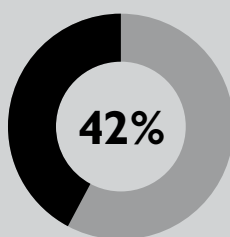
100 percent over the next five years," Eunice Arita said. The sisters have invested in new equipment and are expanding their distribution network. Moreover, their success is proving to the larger community that women are capable of running efficient and profitable businesses—something long assumed to be the purview of men.

"In my country, when we talk of a coffee producer, people think of a man in a sombrero. They did not believe all our coffee processing work was done by women."

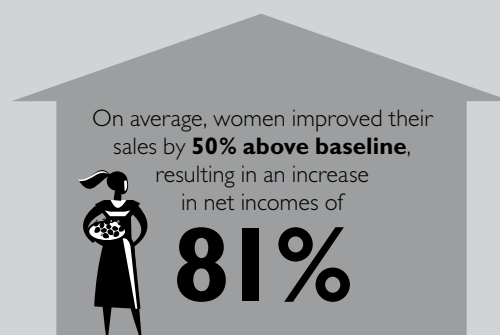
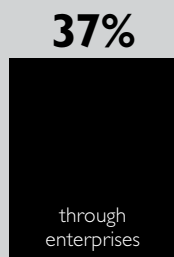
— KAREN ARITA, OWNER OF CAFÉ ARIMEL COFFEE PROCESSING COMPANY, HONDURAS

Cultivating Success: Data and Results

Nearly 2,000 woman-owned enterprises accessed new market opportunities through the project.



of enterprises supported by the program were made up of **women**.



Out of the total number of employment positions created through enterprises, **37% were for women**, compared to just **15% of positions** created outside of enterprises.

This example comes from the ACCESO project, which is funded by USAID and implemented by Fintrac.



VOICE AND AGENCY

Changing Norms, Amplifying Leadership

Feed the Future programs have worked to ensure that women are not just the beneficiaries of new opportunities in agriculture, as seen in the prior section, but are also leading the creation of new opportunities themselves. The following stories show how Feed the Future has enabled women to be leaders of change: as “gender champions” who lead the charge to increase women’s membership in producer groups in Senegal; as community organizers who advocate to their local government for more equitable infrastructure and distribution of resources in Honduras; and as academics in agriculture research who inform the research agendas with an eye to the needs and preferences of women farmers.

These stories reiterate how women’s leadership, membership in groups, social capital, and decision-making power are central elements of empowerment, as outlined in the Women’s Empowerment in Agriculture Index (WEAI). They also illustrate the Feed the Future Evaluation Synthesis finding that programs are increasing women’s leadership roles in their communities by working through community-based organizations, changing gender norms and engaging men to support women’s empowerment initiatives.¹⁰

RETHINKING NORMS: GENDER WORKSHOPS IN FEED THE FUTURE PROGRAMS

While integrating gender into technical trainings and approaches is important to promoting women’s empowerment across Feed the Future programming, the Feed the Future Evaluation Synthesis also gives examples of dedicated gender trainings that have had multiple positive impacts. For example, a Feed the Future program in Liberia held a life skills training for couples who learned about joint decision making, conflict resolution, mutual respect and how to prevent gender-based violence.¹¹ Another program in Tanzania incorporated gender training into Farmer Field Schools, covering topics of human rights, gender equality, gender-based violence, family planning and HIV.¹² Both trainings appear to have led to more cohesion and shared decision making between male and female partners.

A common theme of effective gender trainings is to engage men to challenge harmful norms about masculinities and support women in new gender roles. In addition to the gender equity trainings in Honduras discussed next, other examples in this report are found in the Commercializing Mango Sector in Haiti (p. 8) and the Women’s Entrepreneurship in Input Supply in Zambia (p. 10).

I. The power of groups: amplifying women's voices in Senegal



© USAID / SENEGAL / ZACK TAYLOR

“I want to help other women advance, too. I simply can't gain this new knowledge and success and not share it with other women. In fact, I can't see a future where more women are not doing what I and other women leaders have done. I see that this is already happening in my community—women come to ask me what I have done to get where I am, and I share my experiences and inspire them to become leaders and develop themselves further.”

– NIMNA DIAYTE, WOMAN FARMER IN SENEGAL

Many Feed the Future programs have found success through supporting women's leadership in groups at the community and national levels. Some programs focused on integrating women into leadership positions at existing, male-dominated associations, whereas others worked with women-majority groups. One program in Senegal did both.

A TURNAROUND STORY

In the early years of a Feed the Future program in Senegal, it became apparent that women were largely underrepresented in its agriculture value chain development activities: women comprised only 17 percent of participants in the training activities. Even a few years later, the program was only supporting two women's organizations, in rain-fed rice cultivation.

A new approach was clearly needed. The program began directly targeting women's groups for technical trainings and support services, particularly in irrigated rice, rain-fed rice (in the lowland zones) and maize. It did this by recruiting women as technical specialists

and “gender champions” to encourage women's involvement in trainings and demonstration sites on good agricultural practices. As a result, the program found that—in addition to increasing the capacity and leadership of women as lead farmers and trainers—the success of women-led and women-only producer groups had a significant impact on the role of these women as leaders in their respective communities.

WOMEN LEADERS: REDEFINING NORMS ABOUT WOMEN'S ROLES IN AGRICULTURE

Promoting “gender champions” through the economic empowerment of women in value chain activities has resulted in the emergence of female role models and leaders who are becoming known nationally and internationally through their staunch advocacy of women's economic empowerment.

Nimna Diayte is an example of one of these gender champions. During her participation with Feed the Future, she became the president

of the FEPROMAS maize producer's association, which has both male and female members. She attributes her newfound leadership both to capacity building provided by the project and the new opportunities that were created for women.

Nimna uses her leadership status to give voice to and advocate for women's economic empowerment. In addition to being president of the producers' association, she is on the municipal board and attends ministerial meetings in Dakar and meetings abroad, advocating alongside other women leaders to change policies that would improve women's access to land.

As the program took a more deliberate focus on targeting women's groups and recruiting women leaders like Nimna, it saw a dramatic increase in women's participation. Women's



© PEACE CORPS / LAUREN SEIBERT

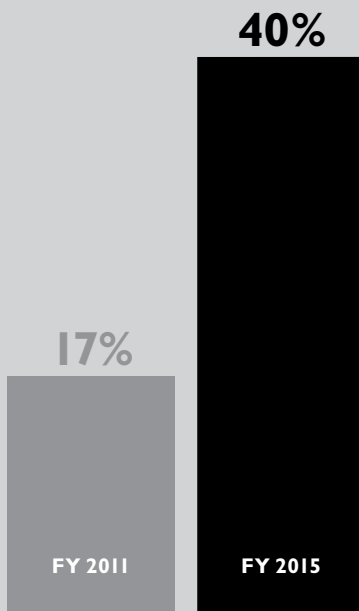
participation increased project-wide in all value chains, from 17 percent in 2011 to over 40 percent in 2015. This reflects the finding in the Evaluation Synthesis that higher numbers of female leaders in organizations can lead to greater participation of women as members.¹³ Overall, the program has supported more than 32,000 women farmers.

Use your mobile device to learn about Nimna's meeting with President Barack Obama here.

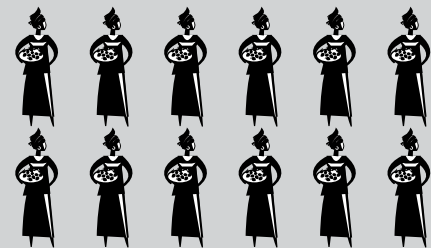


Cultivating Success: Data and Results

Gender champions in Senegal connected more women to resources and opportunities ...



Women's participation increased project-wide in all value chains, from **17% in FY 2011 to over 40% in FY 2015**. This is more than 32,000 female farmers.



As of 2014, Feed the Future was working with **12 women's associations** in irrigated rice, an increase from two the year before.

This example comes from the Nataal Mbay project, funded by USAID, which is being implemented by IRG, an Engility Company.

II. Community advocates bring gender equity to local government and rural financial institutions



Session to plan training with management team. SOL Inter-municipal Council, Santa Rosa Copán.
© LUTHERAN WORLD RELIEF

ADVOCATING FROM THE GROUND-UP

As the president of the Azacualpa Women's Network, Maria Benilda Rodriguez has learned that civil society and local governments have a role to play in promoting women's empowerment in agriculture. She participated in a series of workshops and activities offered by a Feed the Future program in Honduras that mobilized women's municipal networks to advocate for more equitable policies and resources at the municipal level. The program held a series of workshops for 2,721 female members of 10 municipal women's networks

"I used to be afraid of participating in meetings. I am now encouraging other women in the community to get involved in the rural credit institutions and the women's municipal network, because there are many benefits to joining."

– MARIA BENILDA RODRIGUEZ,
PRESIDENT OF THE AZACUALPA
WOMEN'S NETWORK IN HONDURAS

to help them better understand gender equality and how to advocate for economic resources and higher quality infrastructure.

IGNITING INSTITUTIONAL CHANGE FROM THE TOP-DOWN

The program also matched this grassroots advocacy approach with activities to make rural credit institutions and municipal government councils receptive to women's economic leadership and political voice. The program held masculinity workshops for 429 men from the Honduran government and rural credit institutions, which helped them see how perceptions of masculinity can contribute to or impede the achievement of gender equity. As a result, 56 rural credit institutions in Western Honduras have adopted practices that make credit more accessible to women, such as by instituting flexible collateral requirements or offering reduced fees or payment plans to recruit female members. They also have reportedly seen increases in the proportion of women represented in their loan portfolios.



Radio program for disseminating information about the municipal policy of Candelaria with the OMM coordinator and the RMM president.

© LUTHERAN WORLD RELIEF

Maria explains how this approach has helped her network: "We have been able to influence our government to turn over a 2 manzana plot of land to the network, and we have already planted 2,000 coffee plants there, which we were able to secure from the Mennonite Social Action Commission (CASM). In addition to generating some income for us, it is providing employment to people in the community because we need their labor to maintain the farm."



Cultivating Success: Data and Results

The gender equity efforts are paying off in Honduras ...

As of May 2016, councils from six municipalities have awarded more than **12 grants** for the women's municipal networks' agricultural enterprises and infrastructure proposals with a value of nearly

\$25,000 USD.

56

rural credit institutions in Western Honduras have adopted practices that make credit more accessible to **women**.

Women's proportion of rural credit institution loan portfolios has reportedly **increased**, although the exact amount is not yet known.

This example comes from the Gender in Agriculture: From Policy to Practice project, which is funded by USAID and implemented by Lutheran World Relief.

III. Connecting science to the soil: female leaders in agricultural research



A leader of one women's group leads a demonstration of improved techniques for making local cereal products. © USAID / ERA / YAYE FATOU SECK

Many Feed the Future programs focus on building women's leadership at the community level, whether through community-based organizations, in small or medium enterprises, or through informal leadership roles in the community. Yet women are also underrepresented as leaders in national agricultural fora, from national associations to researchers at universities. Women like Nyamizi Bundala, supported by Feed the Future programming, are working to change that.

INCREASING WOMEN'S LEADERSHIP IN AGRICULTURAL RESEARCH

Despite being half of the agricultural labor force, women represent only a quarter of the

agricultural researchers in Tanzania.¹⁴ Feed the Future has partnered with Sokoine University in Tanzania to change this trend. The university launched a mentoring program to expand opportunities for female agricultural scientists while uncovering and challenging biases of university stakeholders about the capabilities of women in agricultural research. Feed the Future investments in another program at the University of Ghana and Sokoine University have focused on connecting female graduate students with advanced research in poultry farming and on how to apply that information when working with poor, women farmers who are miles away from the university.

FROM THE RESEARCH LAB TO THE FARM

Meanwhile, a Feed the Future program in Senegal focused on bridging the gap among research institutions, agricultural education institutions and small-scale food processors. The program created connections between female researchers and leaders at Cheikh Anta Diop University of Dakar (UCAD) and women's group enterprises in rural Senegal. While these women's groups often received support from development projects and non-governmental organizations, they often felt shut out from the national system of education, training and research.

Once this new partnership began, the women's organizations learned from other women about the latest research in value-added agro-processing, while the research institutions and universities learned about the unique needs of women smallholder farmers and subsequently made their instruction more experiential and

better connected to community development needs. For example, the project helped foster a research and training partnership between the national Institute for Food Technology (ITA), which supports food fortification research, and a large women's group enterprise, Touba Darou Salam, which focuses on fortified instant flour production.

There was a big challenge from the start, however: Some university and research institute leaders did not consider collaboration with women's farmers' groups as being part of their mission. Eventually, however, they began to see the relationship as mutually beneficial: Universities and research institutes can contribute to women's empowerment and economic development while simultaneously enriching their own educational and research agendas. They began to value the practical wisdom of the group leaders, who in turn gained confidence in their own expertise and voice about advanced post-harvest handling and processing techniques and technologies.

As a result of this partnership, 56 different products from the women's group enterprises were certified for commercialization. Through the scaling up process, Cheikh Anta Diop University of Dakar has trained over 3,000 women in these new techniques. In addition, the female trainers are now sought-after consultants, creating a niche market not just for their high-quality local food products but also for their knowledge and leadership competencies.

These examples come from the The Innovative Agricultural Research Initiative (iAGRI) project in Tanzania and the USAID/Education and Research in Agriculture (ERA) project (see <http://www.oired.vt.edu/Senegal/welcome-era-senegal/>), funded by USAID and implemented by Virginia Tech's Office of International Research, Education, and Development (OIREd).

PHOTO, AT RIGHT: © AKDN / ZAHUR RAMJI

“Through the mentoring program, I managed to get a PhD scholarship,” said Nyamizi. “My supervisor taught me publication skills. I managed to co-author a manuscript and submitted to the Journal of Food, Agriculture and Nutrition Development ... She also gave me an opportunity to attend a workshop held in Addis Ababa to present on issues related to nutrition.”

– NYAMIZI BUNDALA, LECTURER IN NUTRITION AT SOKOINE UNIVERSITY OF AGRICULTURE IN TANZANIA. SHE WAS PROMOTED FROM ASSISTANT LECTURER AFTER ATTENDING A MENTORING PROGRAM SPONSORED BY FEED THE FUTURE.





EMERGING OPPORTUNITIES

Technology, Finance and Land

The WEAI emphasizes that control over income and access to and decision-making power about resources and assets—such as credit and land—are critical elements for increasing agricultural productivity and women’s empowerment. Although WEAI data are not yet available to show the extent to which Feed the Future has impacted these domains, the Feed the Future Evaluation Synthesis Report shows that there is still a lot to learn about what works.¹⁵

Nonetheless, some promising Feed the Future interventions are worth further exploration and testing for their impacts on gender parity in control over income and land, and access to credit. A Feed the Future program in Malawi found mobile technology to be a potential avenue for women to have greater autonomy over their money; a pay-for-performance program in Ghana created incentives for financial institutions to invest in female borrowers; and women in Senegal who joined a bio-reclamation activity claimed ownership over biodegraded land and made it fertile and profitable.

I. Does mobile technology foster financial autonomy for women?



© FHI360

“I used to keep money in a handbag but very often I could find that the money is not there. My husband would take the money regardless of where I hid it. With a mobile money account ... the problem is over. He does not even know the PIN for my account.”

– MELINA CHIZIMU, A FARMER IN MALAWI

Both men and women in rural, low-income communities generally lack a secure place to save their money. A growing body of literature suggests that women in particular would have greater control over income and expenditures if they had a safe space to secure and save their money. This could be a bank account, a physical lock box or a mobile account accessed through a cell phone.¹⁶

The Feed the Future Evaluation Synthesis did not find any programs that have rigorously tested and evaluated the gendered impacts of mobile money on women, control over income and household relations.¹⁷ However, a Feed the Future-supported program in Malawi that piloted expansion of mobile money accounts stumbled on one woman's story of how this secure place to save and spend her money gave her greater financial autonomy. While this pilot did not intend to test how mobile money impacted men and women differently, her story highlights the need for mobile money programs piloted in future Feed the Future-supported programs to explore and test the effects—both positive and negative, if any—of mobile money on women's control over income and expenditures.

MOBILE MONEY OFFERS A SECURE WAY FOR WOMEN TO CONTROL THEIR MONEY

In Malawi, where only 28 percent of women and 37 percent of men are banked,¹⁸ Feed the Future partners piloted a program to help 186 men and women start mobile money accounts. They delivered training on financial literacy and how to use mobile money accounts; they also subsidized the initial cost of the mobile handset to and delivered microloans to 48 of the participants (43 of whom were women) through their mobile money account.



© CNFA

Melina Chizimu is a 39-year-old woman who earns a living through farming and small-scale paid work. She said she used to hear about mobile money on the radio, but didn't have the confidence and understanding of how it worked to open her own account. After learning about and opening an account with help from the Feed the Future-supported pilot program, Melina saved MWK 3,600 (\$8.60) in her account. In the next month, she saved an additional MWK 5,000 (\$12). In addition to using the mobile money account to save money securely, she has been using it for many other things—as a wallet, for buying airtime, and for sending money.

She now has greater control over her own income and a way to keep her earnings safe and secure: “Now I plan to keep more money in my account the same way we keep money with Village Savings and Loan groups. I plan to accumulate savings to buy fertilizer to use in my garden.”

This example comes from the Feed the Future Malawi Mobile Money program, which is funded by USAID and implemented by FHI360.

II. Paying lenders to lend to women: expanding access to finance in Ghana

Feed the Future launched its agricultural financing program in Ghana with the understanding that reaching women-owned businesses would be a challenge. Women are often deemed less credit-worthy than men due to a lack of assets that can be used as collateral and because their work is usually concentrated in upstream segments of the value chain—as producers, primary processors, and small-scale trader—that are riskier, less profitable, and in need of smaller-sized loans.

CREATING INCENTIVES FOR THE FINANCIAL SECTOR TO WORK FOR WOMEN

First, the Ghana program created incentives for financial institutions and business advisory service providers to provide financing for all members of the value chain, including women. On realizing those incentives were not reaching

women as well as expected, the project mapped the value chain to better understand how women's businesses—which were concentrated in production, processing and informal trade—were connected to other, higher value agribusinesses (e.g., processors, traders, aggregators) that might be financed through the program.

The program also created incentives for financial institutions and business advisory service providers to provide financing for women. Not only did the project hire women-led business advisory services (BAS) providers who specifically targeted women and bundled them into larger-sized loans for financial institutions, but the project also used a pay-for-performance mechanism, where institutions and providers would get paid against their targets for lending to women.

GOING BEYOND TARGETS: LINKING WOMEN'S BUSINESSES TO FINANCIAL INSTITUTIONS AND BUSINESS ADVISORY SERVICE PROVIDERS

To support financial institutions and business service providers in reaching their targets, the program helped connect them with female clients through “mini-summits” in rural areas where upstream micro, small and medium enterprises—often managed by women—are located. This activity enabled service providers and financial institutions to identify new potential borrowers and clients, many of whom are women, while also expanding the businesswomen's understanding of the benefits of using such service providers.

A BANKING STORY: AGGREGATING FINANCING REQUESTS THROUGH BUSINESS ADVISORY SERVICES

One of the most successful strategies to ensure more women could access loans and other financial services was the aggregation of women's financing applications to banks and microfinance institutions into one larger application by business service providers. This strategy eased collateral requirements and reduced the transaction costs for the banks evaluating them, increasing the likelihood of loan approval. This model was widely used in Northern Ghana by the northern Bonzali Rural Bank, a financial institution in FinGAP's network. Leveraging a performance-based grant from USAID worth \$33,000, the bank has so far released \$140,000 in agribusiness loans to mostly female-dominated FBOs. Over 740 women from 91 different women's groups have expanded their agribusinesses because of these individual and group loans.



© USAID / GHANA

The program also sought out business advisory service providers that were owned or led by women to encourage greater on-lending to other women. At the start of the program, Feed the Future was working with BAS providers that were entirely owned by men. After a few years, they had brought five women-led BAS providers into their network, which in turn led to more female agribusinesses being served.

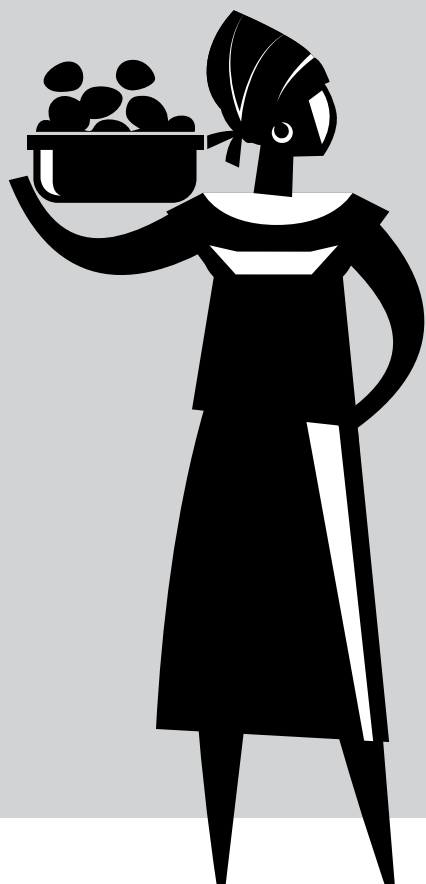
“Since joining the bank, I have been able to increase the number of bags I sell. I now operate from my own shop at Aboabo Market.”

– AYISHETU ADAMA, ENTREPRENEUR AND RECIPIENT OF CREDIT THROUGH FEED THE FUTURE-SUPPORTED PROGRAM

RESULTS: SUCCESSES AND CHALLENGES

The program results show progress as well as persistent challenges in financing women’s enterprises. Feed the Future was able to reach significantly more female clients, albeit indirectly via on-lending from enterprises receiving direct project support to access finance and investment. However, few women business owners are direct project beneficiaries, and, given their location upstream in the value chain, the overall value of loans made to women is lower than those made to male-owned agribusiness enterprises.

Top Business Advisory Services and Financial Institution performers can be found on FinGAP’s Agribusiness portal.



Cultivating Success: Data and Results

The financing model in Ghana produced impressive results ...

Through on-lent financing, **Feed the Future partners** reached



63,000

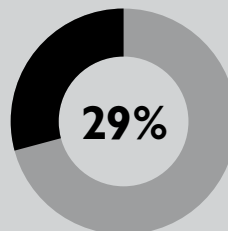
smallholder farmers and small traders, **40%** of whom were **women**.



\$90.1 million USD

facilitated in financing and investment directly to small, medium and large enterprises.

While women-owned enterprises supported directly by the project made up 29% of the 861 clients, the value of the loans to female clients is only 2% of the total financing/investment facilitated.



of the 861 clients were **women-owned enterprises**.

This example comes from the USAID Financing Ghanaian Agriculture Project (USAID-FinGAP), which is funded by USAID and is being implemented by CARANA Corporation, recently acquired by Palladium.

III. Climate-savvy landless women create opportunity out of barren terrain in Senegal

“My first reaction when I saw this site was that these people just wanted to make us tired. I thought that not even weeds could ever grow here. At first some of the other women were saying that we were working for nothing, but when we started harvesting okra and hibiscus, many came asking for parcels of land to do the same.”

– FATY SOW, MEMBER OF DAHARATOU WOMEN'S GROUP IN SENEGAL

Similar to women in other areas of Sub-Saharan Africa, Senegalese women are less likely to own and inherit land. The problem is exacerbated by the fact that Senegal is experiencing a loss in arable land as a result of years of intensive production and climate change.¹⁹ However, one Feed the Future program was able to use climate-smart agricultural practices to transform these challenges into an opportunity for landless women.

ACCESS TO LAND THROUGH BIO-RECLAMATION OF DEGRADED LAND

To increase women's access to land, Feed the Future partners worked with village leaders to secure new, long-term leases of at least 25 years or more to marginal, degraded land

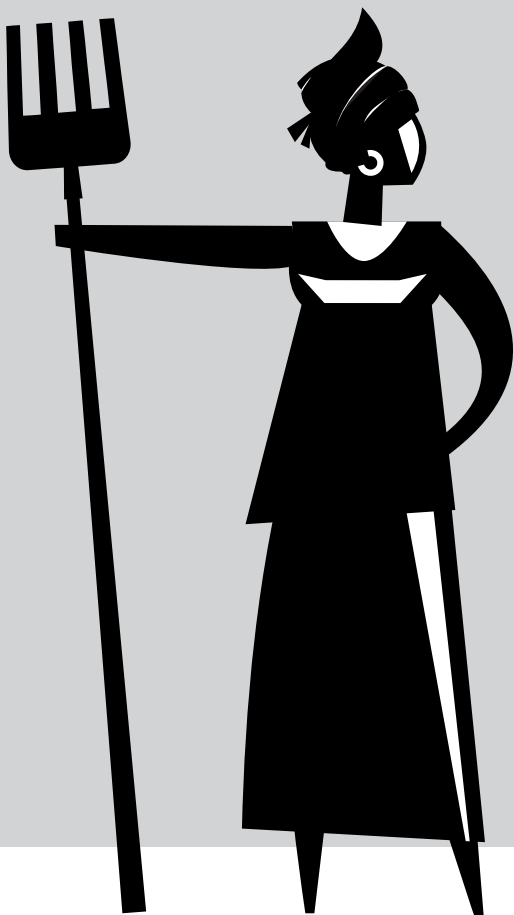
for more than 300 women. The program helped another 800 women to access new plots of biodegraded land through their families or community groups. By applying conservation agriculture practices to reclaim the barren land, these farmers have been able to increase food production, maintain ownership over their newly restored land, and improve their resilience to climate-related shocks.

Overall, the program trained 15,000 farmers—75 percent of whom were women—on how to restore and manage biodegraded land using conservation agriculture techniques like water catchments, composting, and starting with hardy crops like okra and hibiscus. In several seasons, the reclaimed soil has become rich enough to produce even more nutritious and lucrative crops.

These conservation practices, combined with efforts to increase women's access to and control over land, have improved women's equitable access to resources while also increasing the availability of nutritious foods. Though it reached a relatively small number of women, the intervention indicates a potential merging of objectives: reclaiming biodegraded land and connecting women to opportunities for land ownership.



PHOTOS, AT LEFT: © HEIFER INTERNATIONAL; AT RIGHT: © OLIVIER ASSELIN



Cultivating Success: Data and Results

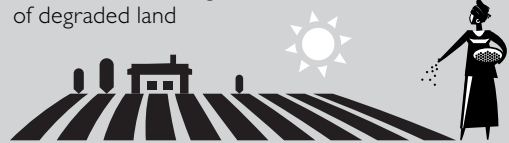
This climate-smart agriculture approach led to more women having control over their own land

75%

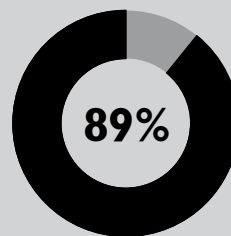
of the total 15,000 farmers trained on restoring and managing biodegraded land were **women**.



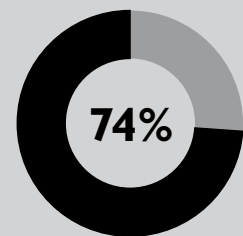
1,100 women gained access to nearly **240 hectares** of arable land through bio-reclamation of degraded land



Once they owned their own land, women could access credit; out of the **254 credit applications** submitted in 2013, a total of **225 were funded**.



of the 254 credit applications were funded



of the credit recipients were **women**.

This example comes from the Yaaeende Project, funded by USAID and implemented by NCBA/CLUSA.



What's Next for Women's Empowerment through Feed the Future

“Given the successes Feed the Future has seen over the last five years, there are things that we have to continue doing ... we know that we have to continue investing in women. Women still receive lower levels of agricultural assistance when compared to men, and yet we know they are more likely to reinvest their money in food and family—driving organic growth in agriculture and addressing challenges of undernutrition.”

– BETH DUNFORD, ASSISTANT TO THE USAID ADMINISTRATOR AND DEPUTY COORDINATOR FOR DEVELOPMENT FOR FEED THE FUTURE, SPEAKING AT “A FOOD-SECURE FUTURE” EVENT, MAY 20, 2016, WASHINGTON, DC.

STORIES OF SUCCESS AND PROGRESS

Guided by the Women's Empowerment in Agriculture Index, Feed the Future programs are using a range of interventions to create opportunities for women in agriculture. As a result, many rural and impoverished women have been able to take advantage of new income opportunities through production and non-production enterprises. They have been able to leverage the collective agency of producer organizations and civil society groups to access productive resources and inputs and advocate for government resources to build their asset base. Women have taken on leadership positions throughout the agriculture sector: as leaders of community groups, entrepreneurs in a growing input supply sector and researchers at academic institutions.

STORIES OF CHALLENGES AND OPPORTUNITIES

While these stories show many successes, they also reveal gaps and persistent challenges that

need ongoing and deliberate attention. For example, experiences in Zambia and Ghana show that deliberate gender strategies can increase women's leadership in groups, entrepreneurial leadership and access to finance. However, parity in women and men's leadership in higher value enterprises may take many years of deliberate, systemic change to achieve.

In addition, there is still not enough known about how to increase women's control over income. While the story from Malawi reflects findings from the broader literature that mobile money can have this effect, more deliberate studies are needed to better understand the impacts of such interventions—both positive and negative—on tensions within the household. Workshops that call for both women and men to reflect and rethink gender norms and power relations appear to be common in Feed the Future programs, but they also appear to be limited to a small scale of only a few thousand farmers, bankers, government officials, and businessmen and -women. Meanwhile, data and research for tracking and evaluating the extent to which these efforts contribute to empowerment are lacking.

Use your mobile device to learn about a national-level women's network in the agriculture sector by watching a video about the **Women in Agribusiness Leadership Network** in Ethiopia, launched through Feed the Future.



PUTTING TOGETHER THE PIECES OF THE FEED THE FUTURE STORY

The stories in this report comprise a small part of Feed the Future's broader story about women's empowerment in agriculture. To help Feed the Future agencies and partners use the evidence from the WEAI to create a holistic narrative about what they are doing to advance women's empowerment, USAID launched the Feed the Future Gender Integration Framework (GIF) in 2014. The GIF enables Missions and partners to organize their women's empowerment interventions and fill in the missing pieces.

They can use the GIF by applying data and information from their programs, the WEAI, and other sources to design, implement and track interventions that advance women's empowerment in agriculture. The GIF provides a structure for organizing information from various monitoring and evaluation and learning efforts, such as Feed the Future's monitoring

system, evaluations, gender analyses and national surveys. Across a country's Feed the Future efforts, the GIF facilitates a conversation about what aspects of women's empowerment in agriculture are most critical and relevant, how existing activities are addressing these priorities, and how to adjust programming and measure progress going forward to create a cohesive Feed the Future approach for the country to meaningfully and measurably advance priority aspects of women's empowerment. The release of the next round of WEAI data, expected in late 2016 and throughout 2017, will be an opportune time to apply the GIF to ensure all Feed the Future programs are collectively addressing the barriers identified in the WEAI.

Women's empowerment in agriculture will continue to be critical to global food security for years to come. By pioneering new tools and approaches to analyze, measure and track women's empowerment in agriculture, Feed the Future is helping build a food-secure future around the globe.



A COUNTRY-WIDE APPROACH TO WOMEN'S EMPOWERMENT IN AGRICULTURE: USAID IN BANGLADESH

USAID's Mission in Bangladesh exemplifies a country-wide approach to addressing the gender gaps and empowerment barriers revealed in the WEAI. When the Mission received the results from the baseline WEAI survey, they were surprised at how wide the empowerment gaps were between men and women.²⁰ Only about 25 percent of women in Bangladesh had achieved adequate levels of empowerment.²¹ The findings were a "wake up call and an incentive for the team to focus on women's empowerment in agriculture," said Mark Tegenfeldt, Deputy Director and Feed the Future Team Lead, USAID Bangladesh.



The Bangladesh Mission used a GIF process to analyze the results of the WEAI together with other data sources and research.²² They identified which of their programs were addressing the empowerment barriers revealed in the WEAI and where programming gaps existed. Some of the modifications they made to their programs included:

- encouraging women's participation in farmers' groups that include men in addition to targeting women-only farmers' groups;
- providing start-up grants for women-owned retailers of agricultural inputs and certifying women input retailers;
- building extension agents' capacity to engage with women producers and on topics relevant to them; and
- linking women-only producer groups with extension agents whose capacities are being built (as described above).

In addition, they introduced a new Feed the Future project, the Women's Empowerment Activity, to work in collaboration with the other programs to address these barriers. While still in its nascent stages, the Feed the Future Bangladesh Women's Empowerment Activity is based on market-driven, community-led interventions that specifically address the constraints to empowerment identified in the WEAI. Grounded in an enabling environment that engages men, families and communities, the Women's Empowerment Activity overlays Feed the Future's entire portfolio.

The Women's Empowerment Activity is building the skills, resources and social capital of women farmers and entrepreneurs by developing and supporting the organizational development and sustainability of women's groups and connecting them to microfinance institutions, input suppliers, local markets and service providers. The project also facilitates entrepreneurial literacy and agricultural technical training for both women and men. Activities promoting acceptance of women's empowerment target men's training groups and the broader community, and Local Advisory Committees comprising local male and female leaders support women's groups and facilitate community mobilization activities. In addition, the project connects women to other Feed the Future programs that offer additional opportunities and that match their skills and interests. For example, they are connecting participants to another Feed the Future program that trains and provides matching grants to women to become input retailers. Finally, the Women's Empowerment Activity serves as a resource for other Feed the Future programs in Bangladesh. It will be coordinating a Feed the Future Gender Working Group, composed of representatives from all Feed the Future programs in Bangladesh, to ensure coordination of their women's empowerment approaches for maximum impact.

The Bangladesh Mission continues to use the GIF in its program design.

ENDNOTES

- 1 This statement is based on numbers in the 2015 progress report.
- 2 This statement is based on numbers in the 2015 progress report.
- 3 Synthesis of Evaluations Related to the Feed the Future Learning Agenda. USAID. March 2016. <https://agrilinks.org/library/synthesis-evaluations-related-feed-future-learning-agenda>.
- 4 See the Call for Cases here: <https://agrilinks.org/blog/call-cases-feed-future-programs-learning-gender-integration-and-women%E2%80%99s-empowerment>.
- 5 Not all 19 Feed the Future focus countries had baseline data ready in time to include in the report. An abbreviated WEAI is being used to collect data in 2015–2016, but data won't be available until 2016–2017. The full WEAs will be collected again in 2017. This means that the interim collection in 2015–16 only allows for domain- or indicator-level comparison, and not WEAI (index)-level comparison over time, due to the abbreviated version that is being used at interim.
- 6 Read more about these findings in the report, *Measuring Progress Toward Women's Empowerment: Women's Empowerment in Agriculture Index: Baseline Report* by Malapit, Hazel Jean; Sproule Kathryn; Kovarik, Chiara; Meizen-Dick, Ruth; Quisumbing, Agnes; Ramzan, Farzana; Hogue, Emily; Alkire, Sabina. USAID, IFPRI, OPHI. 2014. https://www.feedthefuture.gov/sites/default/files/resource/files/ftf_progress_weai_baselinereport_may2014.pdf.
- 7 For a list of Women's Empowerment in Agriculture Resources: <https://feedthefuture.gov/lp/womens-empowerment-agriculture-index>.
- 8 Ibid.
- 9 Nicholas J. Sitko, Antony Chapoto, Steven Kabwe, Solomon Tembo, Munguzwe Hichaambwa, Rebecca Lubinda, Harrison Chiwawa, Mebelo Mataa, Simon Heck, and Dorothy Nthani. *Technical Compendium: Descriptive Agricultural Statistics and Analysis for Zambia in Support of the USAID Mission's Feed the Future Strategic Review*. Food Security Research Project Working Paper No. 52. Lusaka, Zambia. April 2011. <http://fsg.afre.msu.edu/zambia/wp52.pdf>.
- 10 Ibid., p. 49.
- 11 Final Evaluation for the Integrated Agriculture for Women's Empowerment project, Samaritan's Purse, 2016. http://pdf.usaid.gov/pdf_docs/PA00JZHH.pdf.
- 12 "Field to Families: Women Transforming Agriculture Farmer Field School Training Report," Canadian Physicians for Aid and Relief, September 2014, pp. 5, 12–14.
- 13 Ibid.
- 14 Agriculture Research and Development Indicators Factsheet, Agriculture Science and Technology Indicators, led by the International Food Policy Research Institute. Accessed May 31, 2016.
- 15 The Feed the Future Evaluation Synthesis found no evaluations that reported data for decision making over and access to credit. There were only two references to decision making over income, and data for those were also limited. See pp. 53 and 54 of the report.
- 16 The Intervention Guide for the Women's Empowerment in Agriculture Index (Michelle Stern, Lindsey Jones-Renaud, Marya Hillesland, 2016, p. 56) discusses the literature about links between having a secure place to save money—including mobile technology—and control over income. See also the Roadmap for Promoting Women's Economic Empowerment, by Mayra Buvinic, Rebecca Furst-Nichols and Emily Courey Pryor, p. 31. http://www.womeneconroadmap.org/sites/default/files/WEE_Roadmap_Report_Final.pdf.
- 17 The Evaluation Synthesis reviewed mobile money initiatives, but did not mention any gendered impacts. Outside of Feed the Future, there is a growing amount of research and literature on the gendered reach, usability, and impacts of mobile money. For example, *Financial Inclusion Insights*, by InterMedia (www.finclusion.org); "Promoting Women's Financial Inclusion: A Toolkit" from GIZ and DFID (2013); and the Grameen Foundation (see: <http://www.grameenfoundation.org/resource/use-mobile-financial-services-among-poor-women>).
- 18 FinScope Consumer Survey Malawi. FinMark Trust. 2014. Accessed July 15, 2016. http://finmark.org.za/dedi517.jnb2.host-h.net/wp-content/uploads/2014/08/Broch_Consumer_Malawi_2014-1.pdf.
- 19 "Senegal: Expanding access to environmental finance—Reversing the decline in forest ecosystem service," Millennium Development Goals Achievement Fund website, accessed May 31, 2017. <http://www.mdgfund.org/program/expandingaccessenvironmentalfinancereversingdeclineforestecosystems-services>.
- 20 Interview with Mark Tegenfeldt, Feed the Future Team Lead, USAID/Bangladesh <https://www.youtube.com/watch?v=cMb3l6jwIP4&feature=youtu.be>.
- 21 *Measuring Progress Toward Women's Empowerment: Women's Empowerment in Agriculture Index Baseline Report*, 2014. (https://www.feedthefuture.gov/sites/default/files/resource/files/ftf_progress_weai_baselinereport_may2014.pdf).
- 22 Learn about the process the mission took in applying the Gender Integration Framework in this webinar: <https://agrilinks.org/events/increasing-feed-future-impacts-through-targeted-gender-integration>.



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WELL-BEING

Quantitative measurement

Unlike *per capita GDP* or *standard of living*, both of which can be measured in financial terms, it is harder to make objective or long-term measurements of the quality of life experienced by nations or other groups of people. Researchers have begun in recent times to distinguish two aspects of personal well-being: *Emotional well-being*, in which respondents are asked about the quality of their everyday emotional experiences—the frequency and intensity of their experiences of, for example, joy, stress, sadness, anger, and affection— and *life evaluation*, in which respondents are asked to think about their life in general and evaluate it against a scale.[4] Such and other systems and scales of measurement have been in use for some time.

[edit]

Human Development Index

Main article: [Human Development Index](#)

Perhaps the most commonly used international measure of development is the [Human Development Index](#) (HDI), which combines measures of life expectancy, education, and standard of living, in an attempt to quantify the options available to individuals within a given society. The HDI is used by the [United Nations Development Programme](#) in their [Human Development Report](#).

[edit]

Other measures

The [Physical Quality of Life Index](#) (PQLI) is a measure developed by sociologist Morris David Morris in the 1970s, based on basic literacy, infant mortality, and life expectancy. Although not as complex as other measures, and now essentially replaced by the Human Development Index, the PQLI is notable for Morris's attempt to show a "less fatalistic pessimistic picture" by focussing on three areas where global quality of life was generally improving at the time, and ignoring [Gross National Product](#) and other possible indicators that were not improving.[5]

The [Happy Planet Index](#), introduced in 2006, is unique among quality of life measures in that, in addition to standard determinants of well-being, it uses each country's [ecological footprint](#) as an indicator. As a result, European and North American nations do not dominate this measure. The 2009 list is instead topped by [Costa Rica](#), the [Dominican Republic](#), and [Jamaica](#).[6]

[Gallup researchers](#) trying to find the world's [happiest](#) countries found [Denmark](#) to be at the top of the list.[7] [uSwitch](#) publishes an annual quality of life index for European countries. [France](#) has topped the list for the last three years. [8]

A 2010 study by two [Princeton University](#) professors looked at 1,000 randomly selected U.S. residents over an extended period. It concludes that their *life evaluations* - that is, their considered evaluations of their life against a stated

scale of one to ten - rise steadily with income. On the other hand, their reported quality of *emotional daily experiences* (their reported experiences of [joy](#), [affection](#), [stress](#), [sadness](#), or [anger](#)) levels off after a certain income level (approximately \$75,000 per year); income above \$75,000 does not lead to more experiences of happiness nor to further relief of unhappiness or stress. Below this income level, respondents reported decreasing happiness and increasing sadness and stress, implying the pain of life's misfortunes, including [disease](#), [divorce](#), and [being alone](#), is exacerbated by [poverty](#).^[9]

[\[edit\]](#)

Livability

The term *quality of life* is also used by politicians and economists to measure the liveability of a given city or nation. Two widely known measures of liveability are the [Economist Intelligence Unit's quality-of-life index](#) and [Mercer's Quality of Living Reports](#). These two measures calculate the liveability of countries and cities around the world, respectively, through a combination of [subjective](#) life-satisfaction surveys and [objective](#) determinants of quality of life such as divorce rates, safety, and infrastructure. Such measures relate more broadly to the population of a city, state, or country, not to individual quality of life.

[\[edit\]](#)

Crimes

Some crimes against property (e.g., graffiti and vandalism) and some "[victimless crimes](#)" have been referred to as "quality-of-life crimes." American [sociologist James Q. Wilson](#) encapsulated this argument as the [Broken Window Theory](#), which asserts that relatively minor problems left unattended (such as litter, [graffiti](#), or public urination by [homeless](#) individuals) send a [subliminal message](#) that disorder in general is being tolerated, and as a result, more serious crimes will end up being committed (the analogy being that a broken window left unrepaired shows an image of general dilapidation).

Wilson's theories have been used to justify the implementation of [zero tolerance](#) policies by many prominent American [mayors](#), most notably [Oscar Goodman](#) in [Las Vegas](#), [Richard Riordan](#) in [Los Angeles](#), [Rudolph Giuliani](#) in [New York City](#) and [Gavin Newsom](#) in [San Francisco](#). Such policies do not tolerate even minor crimes, it is argued, in order to improve the quality of life of local residents. However, critics of zero tolerance policies believe that such policies neglect investigation on a case-by-case basis and may lead to unreasonably harsh penalties for crimes.

[\[edit\]](#)

Popsicle index

The Popsicle Index is a quality of life measurement coined by [Catherine Austin Fitts](#) as the percentage of people in a community who believe that a child in their community can safely leave their home, walk to the nearest possible location to buy a [popsicle](#), and walk back to their homes.^{[10][11][12]}

[\[edit\]](#)

The science of 'subjective well-being' suggests that as well as experiencing good feelings, people need:

- a sense of individual vitality
- to undertake activities which are meaningful, engaging, and which make them feel competent and autonomous
- a stock of inner resources to help them cope when things go wrong and be resilient to changes beyond their immediate control.

It is also crucial that people feel a sense of relatedness to other people, so that in addition to the personal, internally focused elements, people's social experiences – the degree to which they have supportive relationships and a sense of connection with others – form a vital aspect of well-being.

Defining well-being

While academic debate continues about precisely how 'well-being' should be defined, for our purposes it is not essential to address all of its finer points. All of the elements cited above play a role in ensuring that people feel their lives are going well, although their importance may vary as circumstances change.

Well-being is most usefully thought of as the dynamic process that gives people a sense of how their lives are going, through the interaction between their circumstances, activities and psychological resources or 'mental capital'. The 2008 UK Government [Foresight Project](#) drew on [key thinking](#) commissioned from [nef](#) to define well-being in similar terms.

Because of this dynamic nature, high levels of well-being mean that we are more able to respond to difficult circumstances, to innovate and constructively engage with other people and the world around us. As well as representing a highly effective way of bringing about good outcomes in many different areas our lives, there is also a strong case for regarding well-being as an ultimate goal of human endeavour.

INCLUSIVE GROWTH

Rapid pace of growth is unquestionably necessary for substantial poverty reduction, but for this growth to be sustainable in the long run, it should be *broad-based* across sectors,² and *inclusive* of the large part of the country's labor force.³ This definition of inclusive growth implies a direct link between the macro and micro determinants of growth

Encouraging broad-based and inclusive growth does *not* imply a return to government-sponsored industrial policies, but instead puts the emphasis on policies that remove constraints to growth and create a level playing field for investment.

inclusiveness – a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions – is an essential ingredient of any successful growth strategy.

The inclusive growth definition is in line with the absolute definition of pro-poor growth, but not the relative definition. Under the *absolute* definition, growth is considered to be pro-poor as long as poor people benefit in absolute terms, as reflected in some agreed measure of poverty (Ravallion and Chen, 2003). In contrast, in the *relative* definition, growth is “pro-poor” if and only if the incomes of poor people grow faster than those of the population as a whole, i.e., inequality declines.

There is broad recognition that when poverty reduction is the objective, then the absolute definition of pro-poor growth is the most relevant (DFID, 2004). Using the absolute definition, the aim is to increase the rate of growth to achieve the greatest pace of poverty reduction.

pro-poor growth literature, which has traditionally focused on measuring the impact of growth on poverty reduction by tracking various poverty measures.

Issues of structural transformation for economic diversification therefore take a front stage.



“Flypaper effects” in transfers targeted to women: Evidence from BRAC’s “Targeting the Ultra Poor” program in Bangladesh[☆]



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ABSTRACT

Many development interventions target transfers to women. However, little evidence directly explores the “flypaper effects” of whether women retain control over these transfers once within the household and how reallocation of the transfers affects women’s empowerment. We study these dynamics in the context of BRAC’s randomized CFPR-TUP program in Bangladesh, which provides livestock and training to rural women in “ultra poor” households. Our analysis confirms previous findings that CFPR-TUP increased household asset ownership, but shows complex effects on targeted women. Women appear to retain ownership over transferred livestock, but new investments from mobilized resources are largely owned by men. CFPR-TUP also reduces women’s movement outside the home and control over income, consistent with transferred livestock requiring maintenance at home. However, beneficiary women also report “intangible” benefits such as increased social capital and, even with limited mobility, a preference for work inside the home given a hostile environment outside the home.

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1. Introduction

Many development interventions target transfers of resources to women.¹ This design feature is typically motivated by research that shows greater resource control by women can improve both women’s own intrahousehold bargaining position and their children’s health, nutrition, and education outcomes (e.g., see reviews in Quisumbing, 2003; Yoong et al., 2012). However, it is important to note that transferring resources to an individual does not necessarily guarantee that the individual’s overall resource control will increase. For example, another household member could take over control of the resources once transferred, or other resources previously in the targeted individual’s control could be reallocated away in response to the transfer. In effect, although an intervention may target an individual for the resource transfer, intrahousehold dynamics may determine how resources are eventually allocated, and the effect on the targeted individual may be theoretically ambiguous.

Moreover, evidence showing individuals within households may not share preferences or pool resources (e.g., Behrman, 1997; Haddad et al., 1997; Schultz, 2001; Strauss and Thomas, 1995) suggests that the intrahousehold resource allocation across individuals does matter. Theoretical models of household decisionmaking, ranging from bargaining models (Manser and Brown, 1980; McElroy, 1990; McElroy and Horney, 1981) to partly noncooperative models (e.g. Lundberg and Pollak, 1993) predict a relationship between individual resource control and bargaining power. In particular, the “threat point” of individuals within a household (or union) – that is, their utility from leaving the household – may determine their decision making power within the household. This threat point may be affected by resources controlled independently by each individual (which could be taken if leaving the household), as well as extra-environmental parameters that affect the desirability of leaving the household (laws governing the labor markets, marriage, and divorce) (McElroy, 1990). Empirical work shows support for this dynamic (Doss, 1999; Fafchamps, Kebede, and Quisumbing, 2009; Quisumbing and Maluccio, 2003; Thomas et al., 1997). This implies that since a transfer could either increase the relative resource control of the targeted individual (for example, if she retains control of it, all else equal) or decrease it (for example, if her spouse takes control of it, all else equal), how a targeted transfer affects intrahousehold bargaining is an empirical question.

These issues and their implications for program effects on intrahousehold dynamics have been relatively unexplored in the empirical literature. Although there is a literature on intrahousehold “flypaper

[☆] This paper focuses on the quantitative aspects of a larger study using mixed quantitative and qualitative methods (Das et al. 2013). Authors are those who worked on the quantitative component of the study.

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¹ For example, many conditional cash transfer programs worldwide (e.g., Oportunidades in Mexico, Bolsa Familia in Brazil) make transfers preferentially to women.

effects” – that is, whether a targeted transfer “sticks” to the targeted individual – this has generally been in the context of feeding programs targeted to children. For example, an early review of feeding programs (Bheaton and Gassemi, 1982) found that parents may compensate for food or supplements targeted toward specific members of the household by reducing at-home food consumption for those members, or by sharing take-home rations among other (non-targeted) household members. In the evaluation of the first phase of Mexico’s PROGRESA, a forerunner of many conditional cash transfer programs, one of the most serious operational problems found in the health component (Adato et al., 2000a) was that the targeted infants and young children received only a fraction of the nutrients that the program intended to provide, mostly because the supplement was shared within the household.

Very few studies directly explore these “flypaper effects” in the context of asset transfers targeted to women – that is, explore whether asset transfers targeted to women in fact remain in their control, increase their overall resource control, and eventually increase their bargaining position and empowerment.² We study these dynamics in the context of BRAC’s “Challenging the Frontiers of Poverty Reduction – Targeting the Ultra Poor” (CFPR-TUP) program in Bangladesh, a randomized intervention which targets asset transfers (primarily livestock) and provides training to rural women in “ultra poor” households. Previous research on the CFPR-TUP (for example, Krishna et al., 2012 and Emran et al., 2014 on the first phase; Bandiera et al., 2012 and Bandiera et al., 2013 on the second phase) has shown large positive household-level program impacts, with documented increases in households’ overall food expenditure, rates of self-employment and labor force participation, as well as household-level ownership of productive assets. However, there has been little exploration of how the targeted transfer as well as other assets were reallocated within the household and how this in turn shaped intrahousehold dynamics.

Although CFPR-TUP transfers resources to and provides training to women, the program’s explicit intention is not to promote women’s asset ownership. Instead, its aim is to build the asset base of poor households as an aggregate unit, by providing rural women – for whom socio-cultural norms favoring female seclusion prescribe staying within the homestead – with assets that can be maintained at home. However, given the targeting, there are several ways in which CFPR-TUP could plausibly shift dynamics within the household through asset transfer.

The primary mechanism we focus on is that the program could change relative resource control across individuals within the household, with implications for intrahousehold decisionmaking as predicted by bargaining models. As highlighted above, the direction in which the program changes the targeted woman’s relative resource control is theoretically ambiguous. If the transferred asset “sticks to” the targeted woman (that is, remains in her ownership and control), all else equal, her greater control of resources in the household could increase her relative bargaining position. Given that CFPR-TUP directed the training on asset management toward women (albeit without stating explicitly that the asset should be “owned” by women), it is plausible that women would retain control. However, women’s retention of the transferred asset is not a guarantee; the transferred asset could be diverted. Although there is little evidence on these dynamics in the context of asset transfers, there is suggestive evidence for intrahousehold diversion of resources targeted to women across literature on agriculture

commercialization, conditional cash transfers, and microfinance.³ Even if the asset is not physically taken from the woman, she may not retain all dimensions of “control” over the transferred asset. This scenario is particularly likely if the woman’s assertion of certain control rights over the asset goes against traditional gender norms and creates conflict within the household. In a context such as rural South Asia, where patriarchal norms and lack of social safety nets may make it challenging for women to live outside of a union (Brule, 2012), there may be incentive for women to give up certain control rights in order to “keep the peace.” This dynamic is also plausible in the context of CFPR-TUP. Since most of the assets transferred to women were cattle, which socioculturally are considered “men’s assets” in rural Bangladesh, it would be a transformation of traditional gender roles for women to take over all control rights such as using proceeds from cattle.

On the other hand, if the program leads to another household member (for example, the targeted woman’s husband) gaining control of resources relative to the woman, the targeted woman’s relative bargaining position could in fact worsen. One such scenario is if the targeted transfer does not “stick” with the woman, say if the woman’s husband takes over control of the transferred asset as described above. Another is if income generated from the transferred asset is used to buy additional assets, which are considered to be owned and controlled primarily by another household member rather than the woman. These assets could include agricultural productive assets, non-agricultural productive assets, consumer durables, and land, many of which are also typically considered “men’s assets” in rural Bangladesh. Again, if subverting gender norms creates conflict and if the external environment is hostile to women being single, the woman may voluntarily give up control of these other assets to “keep the peace” and remain in the union.

Control over resources could also be affected indirectly by the asset transfer if it changes women’s movements outside the homestead. Less movement outside the home may imply less ability to physically control resources – for example, to visit markets and purchase goods using income earned from the assets. If another member of the household (such as the woman’s husband) takes over this dimension of control over resources, there may be a shift in intrahousehold dynamics. There are at least two ways in which the program could reduce women’s movement outside the home. First, because the assets themselves (mostly livestock) require maintenance at home, they have potential to shift the location of women’s work and their time allocation from outside to inside the home. Second, because of sociocultural stigma against women working outside the home and unfavorable employment conditions for women (lower wages, harassment, etc.), evidence suggests that it is common in Bangladesh for women in poorer households to work outside the home out of necessity, while women in slightly better off households stay within the home, in part to indicate status (BRAC RED, 2009). In this context, if the asset transfer makes the targeted woman’s household less poor overall, the woman’s perceived need to work outside the home may itself change.

Although we are not able to rigorously disentangle these mechanisms, in this paper, we focus on exploring the relative resource control of targeted women and other household members, as well as various dimensions of intrahousehold dynamics. We examine who within the household has perceived ownership over various assets (both transferred and acquired through other means), how perceived ownership translates to rights, and how the program’s effect on these dynamics

² Although there has been considerable exploration of the empowerment effects of conditional cash transfer programs (e.g., Adato et al. (2000b), Attanasio and Lechene (2002), de Brauw et al. (2014), Duflo (2000, 2003)), the focus has been more on estimating overall impacts of transfers on women’s bargaining power or decisionmaking and less on exploring how control over the transfer itself was allocated within the household. Flypaper effects are more challenging to detect with cash transfers, as cash is fungible and more difficult to trace across household members than physical assets. Perhaps the most closely related work comes from laboratory or field experiments simulating transfer programs (Ashraf, 2009; Castilla and Walker, 2013), although the focus of these studies was on how spousal observability affects the allocation and use of transfers by husbands and wives.

³ Early evidence in the agricultural commercialization literature (Jones, 1983; von Braun and Webb, 1989) suggests that, when new crops were introduced to women in Cameroon and Gambia, men took control of those crops once they became profitable. Recent evidence from conditional cash transfer programs in Mexico and Brazil (de Brauw et al., 2014; Handa et al., 2009) suggests that cash transfers given to women may not be fully controlled by women, particularly in rural areas. Studies of the impact of microfinance in Bangladesh have also found that loans targeted to women, although taken out by women NGO members and increasing resources available to them, are often controlled by their husbands (Goetz and Gupta, 1996; Hashemi et al., 1996).

within the household translate to effects on decisionmaking and other measures of wellbeing for various household members. Our analysis draws on survey data from a randomized controlled trial, with information collected on sex-disaggregated asset ownership and control, decisionmaking, and measures of women's autonomy. We complement our analysis by drawing on qualitative work (Das et al, 2013), based on focus group discussions and key informant interviews in treatment and control communities that explored the sociocultural context and beneficiaries' own perceptions of impacts from the asset transfer program.

While our analysis confirms previous findings that the program significantly increases household-level asset ownership, it reveals new findings of ambiguous effects for the targeted individual in terms of ownership and control over various assets and decision making. Results do indicate that the transferred asset tends to remain under the targeted woman's ownership and control. In particular, for livestock – the primary assets transferred – the program slightly increases ownership by men but causes much larger increases in sole or joint ownership by women. These increases in women's livestock ownership are associated with some increases in women's control over the livestock, including the right to sell cattle, which is particularly notable because high-value livestock such as cattle are typically perceived as “men's assets” in the local context. However, we also find increases in household ownership of many other assets (not directly transferred by the program), which tend to be solely owned by men. For example, the program causes increases in men's sole ownership of many types of agricultural productive assets, non-agricultural productive assets, consumer durables, and land. For these assets, women tend not to experience increases in sole or joint ownership, and the ownership they do perceive is not associated with most dimensions of control, although they likely experience increases in the right to use some of the assets. These results suggest that when households make investments in new assets (rather than those transferred) due to the program, these assets are typically owned solely by men. Additionally, we find that the program does not change the proportion of women who work but does shift work from outside to inside the home, plausibly because the transferred asset (livestock) needs to be maintained within the homestead and potentially reducing mobility. Moreover, the program significantly decreases women's voice in a range of decisions – including control over their own income, purchases for themselves, and decisionmaking for household budgeting. These reductions are consistent with economic models that link individuals' relative control over resources to their intrahousehold bargaining position.

To complement the quantitative findings, we highlight insights from the qualitative work that was part of the overall study (Das et al, 2013). Qualitative findings are closely aligned with quantitative findings in terms of program impacts on ownership and control of assets, as well as on mobility. Female beneficiaries report retaining control and management of the transferred assets, with little evidence of program assets being taken over by husbands or other male household members. Qualitative findings also confirm that women's mobility outside the home has been reduced by the program, due in part to the need for maintaining the transferred asset at home and associated increased workloads. However, in the perceptions of targeted women themselves, the program's impact appears to be largely *positive*. In particular, the qualitative work suggests there were many “intangible” benefits to women that could not be easily explored quantitatively. For example, the training and support provided by the program, in addition to the improvement in economic circumstances, allowed women to gain confidence and increase social capital. Qualitative findings also highlight that work opportunities outside the home for poor women are often so poorly paid and stigmatizing given local norms of female seclusion that most beneficiary women *preferred* forgoing these in favor of generating income at home, even with the tradeoff of reduced mobility and increased workload. Finally, while the quantitative work found that the program reduced women's voice in household decisions, the qualitative work suggests that women themselves tended not to frame their own empowerment in terms of individual rights or material gains.

Rather, when asked about impacts of the program, they tended to describe more intangible outcomes – for example, feeling improved social status in the community and household simply by contributing to improving the economic condition of the household, taking satisfaction in being able to send children to school, etc.

Overall, our findings suggest that although the targeted livestock transfer appeared to stay with women, relative control over resources may have moved more toward men. This appears to have had considerable program impacts on intrahousehold dynamics, with mixed implications for the targeted women and with sociocultural context playing an important role in how women themselves perceive its impacts. More generally, the findings highlight that targeting an intervention to an individual may not guarantee benefits to that individual given intrahousehold responses, and that programs may have complex and somewhat ambiguous intrahousehold impacts even if they quite unambiguously increase welfare of the household in aggregate.

The paper proceeds as follows. Section 2 describes the program and its context in more detail. Section 3 describes the data collected in order to evaluate the program, including information on gender dynamics and assets. Section 4 describes our evaluation approach, which takes advantage of the program's randomized design. Section 5 presents estimates of program impacts on intrahousehold dynamics related to gendered asset ownership and decisionmaking, with additional insights from the qualitative work. Section 6 summarizes the findings and concludes.

2. Description of program and program context

In 2002, BRAC initiated the first phase of a large-scale grant-based program in rural Bangladesh called “Challenging the Frontiers of Poverty Reduction – Targeting the Ultra Poor” (CFPR-TUP or CFPR). BRAC designed CFPR based on several observations regarding the rural poor in Bangladesh: (i) poor households often lack both physical capital and skills, (ii) although men in rural Bangladesh typically work outside the home, women are perceived to typically stay on the homestead due to sociocultural norms, and (iii) while there have been many programs in rural Bangladesh directed toward women through women's groups, the ultra-poor are marginalized.⁴ CFPR thus provided a transfer of productive assets and training to women in ultra-poor households, selecting assets that could be used for income generating activities on the homestead, with the aim of sustainably increasing the households' economic and social capabilities. The first phase of CFPR ran from 2002–2006 and included 100,000 households from the poorest three districts in Bangladesh (Rangpur, Nilphamari, and Kurigram). Because selection into CFPR Phase I was targeted to particular types of households, evaluation of the program required a non-experimental methodology, with beneficiaries compared to a similar but non-random group of non-beneficiaries. Evaluations using these non-experimental methods (Das and Misha, 2010; Emran et al., 2014; Krishna et al., 2012) suggested that program participation caused significant improvements in the livelihoods of ultra-poor households, even if it did not have a significant impact on women's empowerment, based on a limited set of measures (Emran et al., 2014).⁵ Based on these promising findings, a second phase (2007–2011) was launched, with expanded coverage and a design that would provide a strong basis for impact evaluation.

This paper focuses on the second phase of the CFPR program, which ran from 2007–2011 and followed a randomized control trial (RCT) evaluation design. CFPR Phase II offered two different support packages to the ultra poor, based on household characteristics: a grant-based package for households characterized as the “Specially Targeted Ultra

⁴ For example, although microcredit programs are widespread in rural Bangladesh, extremely poor households often cannot participate due to lack of collateral.

⁵ Indicators of women's empowerment in the Emran et al. (2014) study included the ratio of saris to lungis, the presence of female children working, whether female children were able to read and write a letter, and the years of schooling of female children.

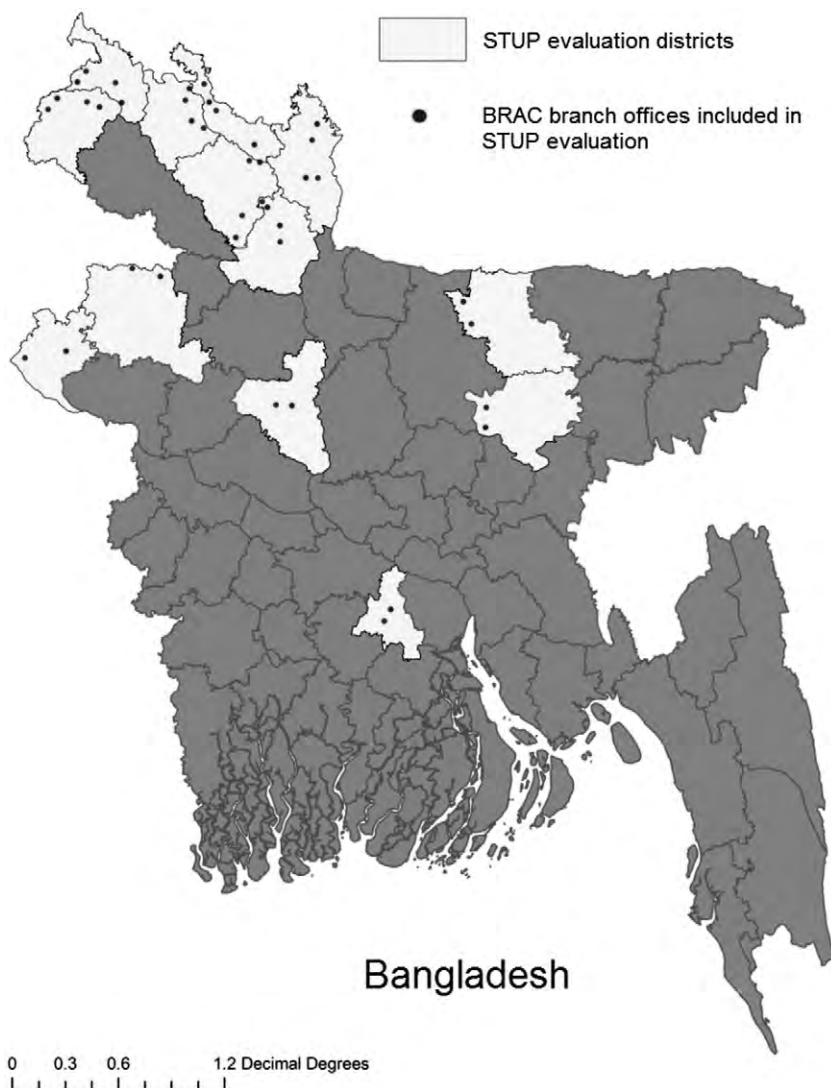


Fig. 1. Map showing STUP evaluation locations.
Source: Adapted from Bandiera et al, 2012.

Poor” (STUP) and a “credit-plus grant” package for households characterized as “Other Targeted Ultra Poor” (OTUP). In this paper, we focus on the STUP program.

STUP was allocated according to a cluster randomized control design. Within the 13 districts where the program was rolled out in the year 2007, one or two *upazilas* (subdistricts) from each district were randomly selected. Within each of the *upazilas*, two BRAC branch offices were randomly selected (see Fig. 1).⁶ One of these branch offices was randomly assigned to treatment and the other branch office to control. Thus, receipt of STUP was pairwise-randomly assigned at the level of branch offices, stratified by *upazila*. The randomization led to 20 treatment branch offices and 20 control branch offices. In treatment branch offices, coverage by STUP of eligible households extended to the coverage of the office location.

In both treatment and control branch offices, eligible households were identified through a wealth ranking exercise called Participatory Rural Appraisal (PRA), followed by a visit to the household by program staff to verify information. PRA (Chambers, 1994) allowed the community to identify households it considered to be in the bottom wealth ranks, referred to as the “community defined extreme poor.”

⁶ Each subdistrict typically includes more than two BRAC branch offices. These branch offices cover an area of about 6–7 km in radius.

Households falling in the category of “community defined extreme poor” were then visited to check requisite inclusion and exclusion criteria. To be eligible, STUP members must have met these criteria, described in Bandiera et al (2013). There were three exclusion criteria, all binding. If a household (i) was already borrowing from an NGO providing microfinance, (ii) was participating in a mainstream government anti-poverty program, or (iii) had no adult women among its members, then it was automatically excluded from the program. Furthermore, to be selected, a household had to satisfy three of the following five inclusion criteria: (i) total land owned including the homestead was not more than 10 decimals (100 decimals = 1 acre); (ii) there was no adult male income earner in the household; (iii) adult women in the household worked outside the homestead; (iv) school-going-aged children had to work; and (v) the household had no productive assets.⁷ A final round of verification was carried out by high-level BRAC staff to generate the final list of households eligible for CFPR STUP support.⁸

⁷ To our knowledge, “productive assets” was understood in practice to include cows, goats, poultry, rickshaws, boats, vans, or cars.

⁸ A back-of-the-envelope calculation based on samples described by Bandiera et al (2012) indicates that eligible households likely constituted about 6% of their communities, on average.

The program was carefully designed to minimize anticipation effects or contamination effects in the control group. [Bandiera et al \(2012\)](#) describe that the control group households were not told that they were the control for a study or that they would later receive a program, and the PRA exercise was justified to them as part of BRAC's regular activities since BRAC already operated in the selected communities.⁹ They also describe that the unit of randomization was chosen to be BRAC branch offices rather than communities to minimize contamination risk, both because neighboring communities within a branch office were closer together than neighboring branch offices (about 12 km apart) and because it minimized risk that program officers based at the branch would not follow the randomization.

Only in STUP treatment branch offices, women in households deemed eligible received the following: productive asset transfers for income generating activities on the homestead (such as cows or goats for livestock rearing, chickens or ducks for poultry rearing, etc); training on use of the productive assets for income generating activities (IGAs); a subsistence allowance of approximately 175 taka (about US \$2.50) per week; close supervision from program staff; health support (such as free medical treatment, regular visits by the health volunteers (*Shasthyo Shebika*) for preventive disease); and social development initiatives (community support, awareness raising training). Assets were transferred in 2007–2008.¹⁰ The program provided various combinations of productive assets (such as two cows, or a cow and five goats, similarly valued at about 9500 Taka or US\$140, according to [Bandiera et al \(2013\)](#)). Approximately 90% of households received at least one cow. The type of asset transferred to each participant household from the pre-specified assets depended on the capability and willingness of the participants to engage in the associated income generating activities, and suitability of the geographical locations for livestock-raising. The purpose of providing a subsistence allowance was to compensate beneficiaries' opportunity cost of time spent maintaining the IGAs until maturity and helping smooth households' consumption, as well as to deter beneficiaries from selling off the transferred assets to meet immediate consumption needs. This allowance was provided to beneficiaries for 8 to 12 months depending on the type of IGA undertaken.

While the asset transfer and other program assistance were targeted to women in the household, and while BRAC program staff encouraged women to use the assets for IGAs rather than selling them off, there was no explicit instruction regarding who in the household should have control and ownership rights over the assets and how income generated from the assets should be allocated within the household. In fact, program documents state that the objective of the program was to build up asset ownership of the household in aggregate, not specifically to increase assets owned exclusively by women. In particular, while women were designated responsible for maintaining the asset, the program did not require that women participate in such decisions as whether to sell or rent the asset, how to use income generated from the asset, etc. Rather, intrahousehold dynamics determined these factors. Our focus in this paper, therefore, is exploring these intrahousehold dynamics.

3. Evaluation design and data

3.1. Main impact evaluation survey

From 2007–2011, the BRAC Research and Evaluation Division (RED) collected panel data on households across both treatment and control branch offices in order to evaluate impacts of the STUP package.¹¹ This data collection included three rounds: 2007 (baseline, prior to

the start of intervention), 2009 and 2011. It focused primarily on household-level information, covering quantitative socioeconomic and health data. The sample included all households determined to be eligible per the PRA and verification, in each of the 20 treatment branch offices and in each of the 20 control branch offices. The overall sample across all 40 branch offices spanned 1409 communities (villages or parts of villages). At the time of the baseline survey in 2007, the sample included 7953 eligible households over treatment and control groups.¹² By the 2011 round, 6919 households were successfully followed up, representing 13% attrition from baseline. Details regarding the sampling design and baseline balancing in characteristics of treatment and control households for the main impact evaluation are found in [Bandiera et al. \(2013\)](#).

3.2. Gender and assets follow-up

3.2.1. Qualitative study

While the socioeconomic and health data included information on asset ownership at the household level, it did not include details on which individuals in the households owned and controlled these assets. In preparation for fielding a quantitative follow-up focusing on gender and assets, in February–June 2011, a small qualitative study was conducted in order to guide and complement the upcoming quantitative data collection. This qualitative study aimed to inform the development of the quantitative instruments for the 2012 survey, as well as provide insights into the prevailing local patterns of intrahousehold asset ownership and on respondents' perceptions of gendered impacts of the project. Details of the qualitative study are described in [Das et al \(2013\)](#). Fifteen focus-group discussions were conducted by BRAC RED in three districts (a subset of those included in the quantitative survey) and included groups of only female participants in beneficiary households, groups of only male spouses in beneficiary households, groups of only females from non-beneficiary households, and groups of only males from non-beneficiary households. In addition, in each treatment branch office in each of the three districts, two key-informant interviews were conducted: one with the CFPR-TUP Program Organiser and one with the local Gram Daridro Bimochon Committee (GDBC) member who had long-term experience with the program. Fieldwork was conducted in Bangla, and analysis of the qualitative data was conducted using QSR nVivo 9 based on English translation of the transcripts.

3.2.2. Quantitative gender and assets follow-up

The follow-up quantitative survey was fielded in January–April, 2012, focusing on gender and assets, including detailed questions on sex-disaggregated ownership and control over a large range of assets, dynamics of intrahousehold decision making, and women's autonomy. The present authors contributed to the design and implementation of this follow-up. The design of the gender and assets survey instrument drew extensively on preliminary findings from the qualitative work. For example, the list of assets included several that may not be commonly thought of as major assets but that were named as being often "owned" by and important to women. These included consumer durables (such as jewelry, sarees, and cooking implements), which can serve as stores of value as well as be important factors in acquiring other forms of capital (e.g., having suitable clothes or a space in the home considered a "living room" may be important in developing social capital).

Based on the qualitative work, a distinction was also made in the quantitative instrument between having "ownership" and specific "control rights" over assets. In particular, because it appeared that the notion of ownership did not translate to a fixed set of control rights and in some cases differed by asset, the two categories were considered separately.

⁹ It was originally intended that the control group would start receiving the program in 2011 ([Bandiera et al \(2012\)](#)), however this did not occur until after completion of the 2012 follow-up data collection used in this paper.

¹⁰ [Bandiera et al \(2013\)](#) note that different households received assets at slightly different times during program roll-out across spots within a branch. We do not have access to records of the exact date on which assets were transferred to each household.

¹¹

¹² The survey also included 19,012 non-eligible households in the sample, to assess spill-over effects on other wealth classes. This paper focuses on analyzing direct impacts on only the eligible households.

In the follow-up quantitative survey, respondents were allowed to use whatever their own notion was of ownership to characterize who owned each asset, while they were additionally asked about certain control rights over the asset. We focus on three specific dimensions of control rights in our analysis: (1) the right to use the asset: the use of an asset may increase an individual's well-being in various intangible ways (for example, use of good clothes improving self-esteem or social status), irrespective of whether the individual has any other rights over the asset; (2) the right to sell the asset: this dimension captures alienation rights, characterized as the defining feature of ownership in the property rights literature (Schlager and Ostrom, 1992); and (3) the right to decide how to use income generated from the asset: this dimension of rights may link most concretely to the individual's ability to obtain tangible economic benefits from the asset.¹³

Based on qualitative insights, the quantitative survey also allowed for not only “sole” ownership of assets by single individuals but for joint ownership across several individuals. Questions were asked such that two different indicators could be analyzed for women's role in ownership and control: whether women had “sole” ownership or control, as well as whether they had “any” ownership or control (sole, joint with spouse, joint with other household members, or joint with household as a whole).

Because this follow-up survey focused on how the program affected dynamics in households headed by a male and female partnership, the sample was restricted to households either with a male household head and female spouse, or with a female household head and male spouse. Attempts were made to re-interview all households included in the baseline round that met these criteria. At baseline, of the 7953 eligible households interviewed in total over treatment and control groups, 7392 households met these criteria. Of these, 6066 households were successfully followed up in the gender and assets survey – 3467 treatment households and 2599 control households – representing 18% attrition from the baseline sample. In all sampled households for the gender and assets survey, the primary respondent was the “main female” member of the household (either the female head or the female spouse of male head). Appendix Table A.1 shows this breakdown in further detail.

3.3. Sample attrition

As we note above, there was considerable attrition between the baseline round in 2007 and the follow-up round in 2012. Our analysis indicates that attrition is slightly but significantly correlated with baseline characteristics of households and individuals that may also be correlated with our outcomes of interest.¹⁴ The following characteristics are linked to higher probability of a household attriting from the sample between baseline and follow-up: being a treatment household; living in a “dilapidated” home at baseline; owning land; not owning its home; owning more saris; owning fewer goats/sheep; owning agricultural assets such as a pump; and living in certain branch offices. These correlates are generally in line with reports from the field that the high rate of non-response in the January–April 2012 round was because these months coincided with the “boro” planting and harvesting season in Bangladesh, when rural households become particularly busy. It is roughly consistent with this story that, all else equal, households with land and more agricultural assets were more likely to be busy, while somewhat better off households (those with better homes, for example) were slightly less busy, for example if they were able to hire labor

¹³ As defined by Schlager and Ostrom (1992), p. 251 “the alienation right is a collective-choice right permitting its holder to transfer all or part of the collective choice rights to an individual or to another group. Exercising a right of alienation means that an individual sells or leases the rights to management, exclusion, or both.”

¹⁴ Estimates of the probability of staying in the non-attrited sample are shown in Appendix Table A.2.

rather than serving as day laborers themselves. In any case, given that attrition appears to be non-random, we account for it in order to minimize bias in impact estimates. We do so by constructing inverse probability weights for each set of outcomes we study (asset ownership and control by men and women, decisions on work and expenditures, impacts on livelihoods), following the methodology of Fitzgerald et al. (1998).

Once attrition weights are incorporated, we find that household characteristics of our endline sample appear to no longer be systematically correlated with treatment status at baseline. Table 1 presents baseline means for characteristics of treatment and control households that remain in the sample for the 2012 follow-up round, as well as statistical significance of the differences between groups. Results indicate that these samples are balanced at baseline once attrition weights are applied.

4. Evaluation approach

Our approach to evaluating impacts of the STUP intervention on gender and asset outcomes takes advantage of the RCT design of the intervention. We wish to estimate the average difference between the outcomes of beneficiaries assigned to receive the program and the counterfactual outcomes of those same beneficiaries had they not been assigned to the program. While it is not possible to directly

Table 1
Balancing of baseline mean characteristics between nonattrited treatment and control groups, accounting for attrition weights.

Baseline characteristic	Control	Treatment	P-value of difference
Household's wealth rank (6 = lowest)	4.81	4.79	0.60
Whether household owns house (1 = yes, 0 = no)	0.83	0.84	0.47
Whether household owns land (1 = yes, 0 = no)	0.06	0.06	0.77
Area of household's owned land that is cultivated (decimals)	0.94	0.82	0.65
Value of household's owned land that is cultivated (taka)	2239.22	1824.64	0.52
Area of household's owned pond land (decimals)	0.02	0.03	0.39
Value of household's owned pond land (taka)	64.36	76.02	0.81
Area of household's owned land that is mortgaged out (decimals)	0.39	0.34	0.74
Value of household's owned land that is mortgaged out (taka)	1529.78	737.46	0.17
Number of cows owned by household	0.07	0.08	0.49
Number of goats/sheep owned by household	1.78	1.79	0.95
Number of power pumps owned by household	<0.01	<0.01	–
Number of plows owned by household	<0.01	<0.01	–
Number of cowsheds owned by household	0.09	0.11	0.12
Number of fishnets owned by household	0.02	0.03	0.59
Number of rickshaws owned by household	0.01	0.02	0.22
Number of trees owned by household	0.95	0.64	0.21
Number of radios owned by household	0.03	0.01	0.16
Number of electric fans owned by household	0.01	0.01	0.25
Number of bicycles owned by household	0.03	0.02	0.23
Number of chairs owned by household	0.23	0.21	0.34
Number of tables owned by household	0.16	0.14	0.15
Number of <i>choukis</i> (cots) owned by household	0.85	0.86	0.77
Number of sofas owned by household	0.01	0.01	0.83
Number of jewelry items owned by household	<0.01	<0.01	–
Number of saris owned by household	0.31	0.33	0.36
Whether main female works as a homemaker only (1 = yes, 0 = no)	0.96	0.97	0.11
Main female's years of education	0.55	0.60	0.25
Main male's years of education	0.56	0.60	0.42

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Note: All differences are statistically insignificant at the 10 percent level. “Main female” refers to female head or female spouse of head. “Main male” refers to male head or male spouse of head.

observe counterfactual outcomes, outcomes of the randomized control group in this study can serve as a reasonable proxy. The randomized assignment of a large sample of eligible households to treatment and control groups helps to ensure that observable and unobservable characteristics of the households were likely balanced across the two groups at baseline.

In the absence of nonrandom attrition, any differences between the treatment and control households at follow-up could then be interpreted as causal impacts of the program. As we show in Section 3, there was in fact considerable attrition in our sample by the 2012 follow-up; however, the use of inverse probability attrition weights balances a large set of observable baseline household characteristics across treatment and control groups in our non-attrited sample. With these attrition weights incorporated, any significant differences in outcomes between the non-attrited treatment and control groups in 2012 can reasonably be interpreted as attributable to the program.

We note that ideally we would have preferred to have baseline information on all our key outcomes, such that we could empirically confirm balancing in these indicators as well and use double-difference or ANCOVA estimates to account for any small differences in baseline values to improve precision of estimates. Because the baseline survey from the main impact evaluation did not contain information on our outcomes of interest related to intrahousehold dynamics, use of baseline information to explore impacts on these outcomes was not possible. However, given that the treatment was randomly assigned and that we find balancing in a large set of observable characteristics available at baseline with sample attrition weights incorporated, concern over baseline differences is minimized. As a further robustness check, we also estimate Lee (2009) attrition bounds in our main results.

We also note that our estimates of impact are average “intent to treat” impacts of the STUP intervention, relying on the randomized assignment to avoid any bias due to self-selection in takeup. However, because the takeup rate of the program was quite high, close to 90%, these intent to treat estimates are likely close approximations to average treatment effects on the treated.

The basic specification for single-difference estimation is as follows, for a household i in branch office b , with each outcome measure denoted as Y_{ib} the branch office's treatment indicator denoted as $Treatment_{ib}$, and the error term denoted as ε_{ib} : $Y_{ib} = \beta_0 + \beta_1 * Treatment_{ib} + \varepsilon_{ib}$. We estimate this specification accounting for inverse-probability attrition weights on each observation of household i in branch office b .

5. Results

5.1. Norms of gendered asset ownership

Understanding local gender norms regarding livestock ownership is useful in interpreting our impact estimates. The qualitative work in this study (Das et al., 2013) indicated strong gender norms in rural Bangladesh regarding ownership of livestock, the main type of asset transferred by BRAC. Focus group discussions indicated that small livestock such as poultry were typically seen as belonging to women – because poultry were kept near the homestead and usually fed and managed by women, because poultry keeping was a low-value and low-status economic activity, and because poultry were more likely than high-value livestock to be bought or sold informally without the need to be taken to markets (daily “bazaars” or weekly “haats”) that were seen as “men's places.” Meanwhile, larger livestock such as cattle were typically perceived as belonging to men. While they were also kept near homesteads and mostly tended and managed by women, they were both higher in value and more often traded in markets, such that their sale usually required an adult male's consent and help. Respondents tended to perceive nonlivestock assets as belonging to

men or women depending on whose activities they were more closely associated with. Assets associated with male income generation, particularly away from the home – such as cultivation equipment – were perceived as nearly exclusively controlled and “owned” by men. Assets associated with women's work – food preparation and cooking – were perceived as managed by women and sometimes lent, bought, or sold without a husband's permission. These patterns suggest that, among the assets transferred to women, the most valuable livestock assets – cattle – were typically considered assets owned by men in the study setting. Lower-value transferred assets of poultry were more typically considered assets owned by women. Moreover, most assets other than livestock that could be used away from the home and were not transferred by the program – such as equipment used for agricultural production – were typically perceived as owned by men. To provide further context for the program impacts we estimate below, we also present descriptive statistics in Appendix Tables A.3–A.8 for all our key outcomes, as measured in the control group in the quantitative follow-up round. The mean values shown for the control group, accounting for attrition weights, represent what the mean counterfactual situation would have been for the treatment group in the absence of the program, in terms of men's and women's asset ownership, women's work, and decisionmaking about women's income and household expenditures.

5.2. Assets received by beneficiary households

As additional context for understanding program impacts, it is useful to summarize the assets that beneficiary households received.¹⁵ Unfortunately we do not have access to the program's records on what package of assets was transferred to each household. However, in our 2012 round, we did attempt to collect beneficiaries' self-reports on what was transferred in 2007–2008 via recall. This information is missing for about 15% of treatment households in the sample. Of the 85% of treatment households in the sample for which we have information, 92% of the households report receiving a cow, while only 8% report not receiving a cow, consistent with what we know of the program. Table 2 summarizes these details.¹⁶

5.3. Program impacts

As described above, in all of our impact estimates, we estimate single-difference estimates, taking into account attrition weights. We moreover adjust standard errors to account for the intervention design and survey design. In particular, our estimates account for the stratification of randomization at the *upazila* level and the cluster-level randomization at the branch office level.

Our discussion of the impact estimates proceeds from immediate impacts of BRAC's asset transfer on intrahousehold asset ownership and control, to “downstream” impacts on work and decisionmaking that may arise because of the asset transfer.

5.3.1. Impacts on intrahousehold ownership of livestock assets

Because the program transfers livestock assets to ultra-poor households, we expect that the most direct impact of the program will be

¹⁵ We note that although treatment is random, the specific type of asset provided conditional on treatment is not random. As described in Section 2, both the household and the program had some role in choosing which package of assets the household received. For this reason we do not present impacts disaggregated by asset type, since asset type may be endogenous. Instead in our main results we present impacts on only the pooled treatment (over all asset types). In estimation over the pooled treatment and control, the fact that asset type was not random does not create any bias.

¹⁶ Although the reports of “which” assets were received are generally plausible and consistent with what we know about the program, the recalled reports of numbers received are considerably less plausible. For example, some beneficiaries report receiving 7 cows, which is not consistent with the program's protocol. We suspect these issues might be due in part to the long (though unavoidable for us) recall period.

Table 2
Transferred assets received by TUP, self-reported recall of treatment households in 2012.

Availability of self-reported recall on transferred assets		Conditional on non-missing report, % of HH reporting that they received any...	
Missing reports of transferred assets	15% (521)	Cows	92% (2703)
		Goats/sheep	33% (963)
		Chickens/ducks	21% (622)
Non-missing reports of transferred assets	85% (2946)	Nursery	<1% (3)
		Vegetable cultivation	<1% (9)
		Small business	<1% (25)
		Other assets	<1% (11)

Source: Authors' computations based on BRAC STUP evaluation data, 2012.

Notes: Number of relevant observations in parentheses. N = 3467.

on the ownership of the transferred assets themselves, namely livestock.¹⁷ However, it is not straightforward whether transferring livestock to women will lead to ownership of livestock remaining with women, or instead to livestock ownership being taken over by another household member. We begin by exploring these dynamics.

For each type of livestock asset listed, the survey asks how many total are owned in the household, then how many are perceived to be owned solely by the woman, solely by her husband, jointly between her and her spouse, jointly by her and other household members, and jointly by the household as a whole. We construct unconditional measures for the number of each type of livestock owned total in the household; owned solely by the female; owned in any part by the female (meaning, solely, jointly with her spouse, jointly with other household members, or jointly by the household); owned solely by her husband; or owned jointly by her and her husband.¹⁸ Table 3 shows that according to the main female's reports, at the household level, the program significantly increased ownership of livestock such as cows/buffalo, goat/sheep, and chickens/ducks. This increase is consistent with the program's direct transfer of livestock and indicates that households retained ownership of the assets rather than selling them off. A closer look at the intrahousehold distribution of livestock ownership indicates that the program increases livestock owned solely by men, as well as jointly by men and women, but causes the largest increases in livestock owned solely by women or in any part by women.

We interpret these patterns as indicating that TUP's transfer of livestock to women "stuck" mostly to women, at least in terms of perceived ownership.¹⁹ This pattern includes cows, which as mentioned above, is notable since sociocultural norms in Bangladesh tend to categorize high-value livestock such as cattle as men's assets.

¹⁷ Although the program protocol includes other possible asset transfers, in practice nearly all transfers were livestock, as reflected in beneficiaries' self-reported recall on transfers in our 2012 survey (Table 2).

¹⁸ Ideally we would have also analyzed "net" impacts on livestock ownership (i.e., subtracting the number of livestock directly transferred by TUP from the number owned in 2012). Unfortunately we do not have access to programs records on the exact package of livestock assets transferred to each beneficiary household. We attempted to collect this information through recall in our 2012 follow-up round, but while the types of livestock that households reported receiving were plausible, the self-reported numbers were often implausible (e.g., some reported 7 cows received, which is inconsistent with program protocol) such that resulting estimates would unlikely be informative. About 15% of treatment households also had missing information on transferred assets, such that focusing on net impacts would substantially (and possibly nonrandomly) reduce sample size.

¹⁹ We note that, although it is plausible that general equilibrium effects could also affect intrahousehold distribution of livestock ownership in program areas (for example, if the program's provision of livestock led to changes in livestock prices), existing evidence suggests these were unlikely to play a major role. Bandiera et al (2012) analyze program impacts on market prices for livestock and find a small decrease in poultry prices (by about 9%), but no change in cattle or goat prices. They also find no significant change in prices of output derived from livestock, such as milk and eggs. A small reduction in poultry prices seems unlikely to drive our results on livestock ownership or other subsequently presented results.

Table 3
Impacts on intrahousehold livestock ownership, by asset type.

Livestock	Treatment impact on number of livestock				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned jointly by male and female	Owned solely by male
Cows/buffalo	1.036*** (0.031)	0.817*** (0.031)	0.958*** (0.032)	0.129*** (0.014)	0.076*** (0.013)
Goats/sheep	0.220*** (0.037)	0.159*** (0.033)	0.192*** (0.036)	0.026** (0.011)	0.026*** (0.010)
Chickens/ducks	0.883*** (0.123)	0.779*** (0.116)	0.803*** (0.121)	0.027 (0.029)	0.079*** (0.023)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

5.3.2. Impacts on intrahousehold ownership of other assets

While the program directly transferred livestock (as well as the small cash allowances), it is possible that ownership of other types of assets was affected as well. As described in Section 1, even if the transferred livestock "sticks" to women (at least in terms of perceived ownership), it is possible that other assets "shift away" from the woman and toward other household members in response, such that the overall effect on intrahousehold asset ownership is more ambiguous. In order to explore the interplay in these dynamics, we group assets into several aggregate categories: livestock (the items described in Section 5.3.1), agricultural productive assets, non-agricultural productive assets, consumer durables, land, and cash. The survey asks questions about a range of items in each of these asset categories (chosen based on the qualitative work), analogous to the questions asked for livestock items. We first construct the number owned of each asset type over the same ownership categories as for the individual livestock items (i.e., owned by the household in total, by the female solely, by the female in any part, by the female and male jointly, by the male solely). Appendix Tables A.9–A.12 shows program impacts on these individual assets within each broad asset category.

Then, owing to the large number of assets types within each category, for brevity and ease of interpretation, we construct an aggregate measure of ownership for each category by calculating the overall value of assets owned within each of the main asset categories. In the survey, for each asset owned in the household, the total current value of the asset (in Taka) owned by the household was recorded. In order to construct the aggregate, for each asset type we impute the value owned in each ownership category by dividing the household's total owned value proportionally over the number in each ownership category.²⁰ Because there are active land and asset markets in rural Bangladesh, self-reported asset valuations can be considered a reasonable proxy for the true market value of the asset, permitting an aggregation based on asset value.

Table 4 shows program impacts on the aggregate values owned of each of the asset categories, incorporating both attrition weights and indicating attrition bounds below each estimate (Lee, 2009); all of the estimates, both at the household and intrahousehold levels, fall within the Lee bounds. At the household level, impacts on all of these aggregate asset categories in terms of value are fairly large and statistically significant. Intrahousehold impacts vary however by asset category.²¹

²⁰ We make the assumption that all units of a particular asset type are of the same value, regardless of who owns them. For example, if a household owns two cows which in total are worth 20,000 Taka, but one cow is solely owned by the woman and the other cow is solely owned by the man, we assume the woman solely owns 10,000 Taka worth of cows and the man solely owns 10,000 Taka worth of cows. In fact men typically own higher-value items than women even within an asset type, this assumption would overestimate the value owned by women and underestimate the value owned by men.

²¹ Both household and intrahousehold impacts based on aggregate values are consistent with the pattern of impacts on the number of each asset type presented in Appendix Tables A.9–A.12, giving further support to use of the self-reported valuations.

Table 4
Impacts on intrahousehold asset ownership by asset categories, in terms of aggregate value (Taka).

	Treatment impacts on aggregate value of...									
	Total owned in household		Owned solely by female		Owned in any part by female		Owned jointly by male and female		Owned solely by male	
Livestock	11,703*** (410)		9,090*** (401)		10,768*** (420)		1,511*** (192)		942*** (148)	
Lee Bounds	11,237*** (346)	to 14,131*** (240)	8,770*** (306)	to 10,857*** (235)	10,367*** (340)	to 12,965*** (277)	1,463*** (175)	to 1,952*** (160)	886*** (118)	to 1,412*** (98)
Agricultural	725*** (82)		173*** (25)		343*** (65)		98*** (37)		375*** (48)	
Lee Bounds	647*** (79)	to 1,072*** (71)	143*** (21)	to 331*** (18)	292*** (65)	to 602*** (59)	81*** (34)	to 196*** (32)	346*** (45)	to 556*** (36)
Non-agricultural	1,055*** (137)		26 (48)		356*** (88)		153*** (40)		681*** (93)	
Lee Bounds	850*** (119)	to 1,938*** (101)	-25 (47)	to 363*** (33)	236*** (78)	to 941*** (62)	135*** (34)	to 250*** (30)	601*** (90)	to 1,222*** (76)
Consumer Durables	4,894*** (785)		767*** (295)		2,093*** (513)		704*** (209)		2,437*** (388)	
Lee Bounds	3,317*** (771)	to 9,249*** (640)	124 (276)	to 2,888*** (163)	950** (468)	to 5,427*** (333)	483*** (172)	to 1,935*** (140)	1826*** (356)	to 5,129*** (235)
Land	13,676*** (4,278)		1,808 (1,630)		2,460 (2,975)		-56 (386)		11,292*** (2,670)	
Lee Bounds	7,027* (3820)	to 40,621*** (2,535)	217 (1504)	to 11,948*** (1,129)	-918 (2780)	to 19,571*** (1,770)	-208 (444)	to 539*** (145)	8,101*** (2,703)	to 28,502*** (1,843)
Cash	1,279*** (85)		1,050*** (59)		1,218*** (74)		148*** (42)		61* (35)	
Lee Bounds	1,233*** (78)	to 1,626*** (71)	1,017*** (53)	to 1,319*** (46)	1,175*** (67)	to 1,536*** (60)	142*** (37)	to 194*** (36)	59 (37)	to 93*** (36)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Each cell represents a separate regression. Treatment impacts in shaded rows are single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering are shown in parentheses. Lee bounds below each shaded row represent the lower and upper bounds for each treatment impact, with standard errors in parentheses. All estimated coefficients and standard errors are rounded to the nearest whole number. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. $N = 6066$.

For aggregate livestock, we see that, consistent with the impacts on each distinct type of livestock shown in Table 3, the overall impact on aggregate value of livestock owned is highest for women. The program causes a significant increase of about 9090 Taka in women's sole perceived ownership and about 10,768 Taka in women's any perceived ownership (including joint). The aggregate value of livestock that is perceived as owned solely by men increases significantly as well but by only about 942 Taka.

However, the pattern is reversed for the aggregated categories of agricultural productive assets, non-agricultural productive assets, consumer durables, and land. The overall impact on aggregate value of each of these categories is highest for men's sole perceived ownership. In the case of agricultural productive assets, the program significantly increases men's sole ownership by about 375 Taka, while it increases women's sole ownership by about 173 Taka and any ownership (including joint) by about 343 Taka. In the case of non-agricultural productive assets, the program significantly increases men's sole ownership by about 681 Taka, while there is no significant impact on women's sole ownership and an increase of about 356 Taka for any ownership (including joint). In the case of consumer durables, the program significantly increases men's sole ownership by about 2437 Taka, while women's sole ownership increases by about 767 Taka and any ownership (including joint) increases by about 2093 Taka. The difference is most stark for land. In the case of land, the program significantly increases men's sole ownership by about 11,292 Taka, while it has no significant impact on women's sole ownership or any ownership (including joint). This reflects that the large significant increase in land ownership at the household level is highly concentrated in men's exclusive ownership.

Finally, Table 4 shows the impacts reported on perceived ownership of cash. Here impacts are again highest for women. The program significantly increases women's sole perceived ownership by about 1050

Taka and any perceived ownership (including joint) by 1218 Taka; the impact on men's sole perceived ownership is a weakly significant increase of 61 Taka.

Overall the pattern in ownership impacts over asset categories shows that the program causes the biggest increases of value in perceived ownership of livestock and cash for women, while it causes the biggest increases of value in perceived ownership of agricultural productive assets, non-agricultural productive assets, consumer durables, and land for men. Given that, in addition to the livestock transfers provided to women, TUP also provided small cash grants, we interpret both these increases to be indicative of program features "sticking" to women, at least in terms of perceived ownership.

Program impacts on males for the other asset categories suggest that income generated from the transferred assets were mobilized into new investments in non-livestock assets, falling along patterns of gender norms. Appendix Tables A.9–A.12 highlight these patterns. Within agricultural productive assets, the increases at the household level appear to generally come either from complementarity with receiving a livestock transfer (e.g., a cow shed for cattle) or from new investments in agriculture outside the home (e.g., chopper, plows, axes). Given norms in Bangladesh of agricultural work outside the home being associated with men, it follows that if increased income in households from the transfer translated to new investment in agricultural assets, those assets would be perceived as owned by men. Within non-agricultural productive assets, new investments in household ownership tend to translate to increased sole ownership by males, particularly for assets related to increased mobility or work outside the home (e.g., bicycles, rickshaws) but also for some that theoretically could be owned by either males or females (e.g., mobile phones). Within consumer durables, new investments in household ownership again tend to translate to increased sole ownership by males even for assets that theoretically could be

Table 5
Women's rights over livestock assets, conditional on ownership, by treatment status, 2012.

Livestock		% of HH that own any	Conditional on HH owning, % of HH in which woman has the right to (...)		% of HH in which woman owns in any part	Conditional on woman owning in any part, % of HH in which woman has the right to (...)	
			Sell	Decide how to spend money generated from		Sell	Decide how to spend money generated from
Cows/buffalo	C	17	54	78	13	62	85
	T	70	65	73	62	71	79
Goats/sheep	C	13	69	85	11	76	92
	T	25	67	72	22	76	81
Chickens/ducks	C	34	84	90	33	85	91
	T	47	76	78	44	81	82

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Includes all livestock assets asked about in 2012 survey, except those which few households in either intervention arm reported owning (horses, pigeons, other; these are included in the aggregate measure in Table 4). N = 6066 (2599 control [C] and 3467 treatment [T]).

Table 6
Women's rights over agricultural assets, conditional on ownership, by treatment status, 2012.

		% of HH that own any	Conditional on HH owning, % of HH in which woman has the right to (...)			% of HH in which woman owns in any part	Conditional on woman owning in any part, % of HH in which woman has the right to (...)		
			Use	Sell	Decide how to spend money generated from		Use	Sell	Decide how to spend money generated from
Choppers	C	57	99	59	81	43	99	76	89
	T	67	99	43	60	42	99	66	80
Stored crops (kg)	C	4	100	55	77	3	100	72	92
	T	12	100	37	52	6	100	71	85
Cowsheds	C	27	99	54	81	20	99	69	88
	T	48	99	41	60	29	99	65	81
Ladders	C	3	100	42	55	2	100	66	72
	T	4	97	37	60	2	100	72	81
Mowing machines	C	78	99	60	82	56	99	76	91
	T	75	99	51	70	51	99	72	86
Plows	C	1	86	17	60	<1	100	42	85
	T	2	86	14	55	<1	95	36	68
Axes	C	31	99	39	71	15	99	67	87
	T	43	99	31	56	20	99	59	80

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Includes all agricultural assets asked about in 2012 survey, except those which few households in either intervention arm reported owning (tractors, threshing machines, ladders, deep tube wells, pumps, spray machines, carts, other; these are included in the aggregate measure in Table 4). N = 6066 (2599 control [C] and 3467 treatment [T]).

owned by either males or females (e.g., furniture, appliances, cooking instruments, clothing, housing infrastructure, notably even gold jewelry). Similarly, within land, new investments in household ownership translate almost exclusively to increased sole ownership by males, consistent with gendered norms of land ownership in Bangladesh.

5.3.3. Rights associated with perceived ownership over assets

As described in Section 3.2, our qualitative work showed that respondents' notion of ownership did not necessarily translate to a fixed set of control rights and in some cases differed by asset. To further interpret the patterns of intrahousehold program impacts we find on perceived ownership, we present descriptive analysis on which control rights typically translate to perceived ownership.

In all households in our 2012 survey, for each asset owned by the household, the female respondent was asked about her rights over the asset.²² We use these responses to assess how women's perceived

ownership is associated with rights and how this depends on treatment status.²³

Table 5 focuses on livestock. The table describes how ownership over each type of livestock translates on average to women's rights over the livestock, depending on whether women are in the treatment or control group. For each livestock asset owned by the household, we construct conditional indicators for the woman's right to sell it and the right to decide how to spend income generated from it (the right to "use" is not relevant for livestock). Statistics are broken down in two ways: conditional on anyone in the household owning the livestock asset, then conditional on the woman's perception that she herself owns the asset (solely or jointly). Table 5 shows that, relative to women in cattle-owning control households, women in cattle-owning treatment households are somewhat more likely to have rights to sell the cattle but slightly less likely to have rights to decide how to spend income generated from the cattle. Within the subset of households in which women perceive that they themselves own the cattle, the same pattern

²² The questions on rights were asked of the woman respondent in all households. Due to field budget constraints, in only a randomly pre-selected 20% of households, the rights questions were also asked of the woman's husband for purposes of comparison. Within these 20% of households, for any asset owned by anyone in the household, nearly all men in both treatment and control groups reported having all of the rights asked about. Even when men reported that the asset in question was owned solely by their wives (and not solely or jointly by the men themselves), over 95% of men in both treatment and control groups reported that they had all of these rights over the asset. The only exception was in women's clothing, for which about 70% of men reported having these rights. Based on these findings, we focus our analysis for the full sample on women's rights, with the assumption that men in our sample typically have rights over all assets in the household regardless of who is perceived to own them.

²³ Here we focus on associations rather than impacts. The survey asked only about rights over assets that were owned in the household in 2012, rather than hypothetical rights over assets not owned. An alternative to presenting descriptives on conditional indicators might have been to estimate impacts on these conditional indicators. However, conditional impact estimation is problematic, since to estimate rights over livestock for example, we would likely compare treatment households (that had livestock at follow-up but may not have in the absence of the program) with initially better-off control households (that had livestock at follow-up even without receiving the program). Correcting for the selection bias in owning livestock, as required for valid conditional impact estimates, would require strong assumptions on determinants of livestock ownership in the control group that would also be problematic.

Table 7
Women's rights over non-agricultural assets, conditional on ownership, by treatment status, 2012.

		% of HH that own any	Conditional on HH owning, % of HH in which woman has the right to (...)			% of HH in which woman owns in any part	Conditional on woman owning in any part, % of HH in which woman has the right to (...)		
			Use	Sell	Decide how to spend money generated from		Use	Sell	Decide how to spend money generated from
Bicycles	C	9	92	15	52	3	90	25	47
	T	11	75	7	27	4	70	13	32
Mobile phones	C	17	98	26	56	12	98	33	61
	T	24	98	12	37	13	97	19	45
Bamboo materials	C	68	99	74	88	59	99	83	92
	T	60	99	61	76	48	99	73	85
Trees	C	30	99	45	74	17	99	71	87
	T	38	98	34	57	19	98	65	83
Rickshaws	C	4	90	14	57	1	77	22	66
	T	5	75	5	34	1	68	13	50
Fishnets	C	3	89	40	63	1	89	68	72
	T	6	87	18	46	1	91	46	56

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Includes all non-agricultural assets asked about in 2012 survey, except those which few households in either intervention arm reported owning (motorcycles, CNGs, sewing machines, computers, small business materials, boats, husking equipment, cottage materials, other; these are included in the aggregate measure in Table 4). N = 6066 (2599 control [C] and 3467 treatment [T]).

Table 8
Women's rights over consumer durables, conditional on ownership, by treatment status, 2012.

		% of HH that own any	Conditional on HH owning, % of HH in which woman has the right to (...)		% of HH in which woman owns in any part	Conditional on woman owning in any part, % of HH in which woman has the right to (...)	
			Use	Sell		Use	Sell
Chairs	C	34	99	41	21	99	60
	T	43	99	33	24	99	54
Beds	C	85	99	53	57	99	66
	T	89	99	41	52	99	61
Almirahs	C	31	99	54	24	99	66
	T	40	98	40	26	98	59
Tube wells	C	33	99	32	18	98	53
	T	46	99	31	24	99	56
Cooking instruments	C	99	99	74	92	99	78
	T	99	99	62	84	99	72
Men's clothing items	C	68	–	27	52	–	30
	T	79	–	11	59	–	13
Women's clothing items	C	99	99	77	98	99	78
	T	99	98	67	95	98	70
Silver jewelry items	C	11	98	77	10	98	77
	T	9	92	58	9	92	58
Gold jewelry items	C	39	96	58	38	96	58
	T	50	92	51	47	92	54

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Includes all consumer durables asked about in 2012 survey, except those which few households in either intervention arm reported owning (radios, TVs, cameras, VCRs, fans, watches, mosquito nets, living rooms, latrines, solar, other; these are included in the aggregate measure in Table 4). N = 6066 (2599 control [C] and 3467 treatment [T]).

over treatment and control holds. Although a larger share of women across both groups report rights in this subset than in the overall sample, even within this subset considerably fewer than 100% of women tend to report that they have the rights asked about, reflecting that these rights for women are not considered necessary conditions for women's perceived ownership. The pattern for goats/sheep and chickens/duck is similar to that for cattle; relative to the control, ownership in the treatment translates to fairly similar rights to sell, but slightly lower rights on spending decisions. We emphasize that these differences in conditional averages cannot be interpreted as impacts; the average control household that owned livestock in 2012 was likely different even prior to the program from the average treatment household that owned livestock in 2012, given that the program itself transferred livestock. However, the descriptives support the possibility that, when livestock is transferred to women by TUP rather than obtained in some other way, women's perception of "owning" the livestock translates to their having similar or greater sale rights over the livestock but

slightly lower spending-decision rights. This finding would suggest that Table 4's positive program impacts on women's perceived livestock ownership may translate to women having strengthened alienation rights over livestock (again particularly notable for cattle, given prevailing gender norms), but perhaps not strengthened rights to obtain concrete economic benefits from livestock.

Tables 6 to 9 show analogous statistics for agricultural productive assets, non-agricultural productive assets, consumer durables, and land.²⁴ We construct conditional indicators for the right to use (relevant for all), the right to sell (relevant for all), and the right to decide how to spend generated income (relevant for all except consumer durables). Across

²⁴ The questions on rights are not as directly relevant to cash (e.g., there is no clear counterpart to "using" cash without depleting it or to "selling" cash), so we do not show similar tables. However, the analysis of impacts on control over earnings and expenditures shown later in Sections 5.3.5 and 5.3.6 gives some indication that women's perceived ownership over cash may translate to limited rights over it.

Table 9
Women's rights over land assets, conditional on household ownership, by treatment status, 2012.

Land		% of HH that own any	Conditional on HH owning, % of HH in which woman has the right to (...)			% of HH in which woman owns in any part	Conditional on woman owning in any part, % of HH in which woman has the right to (...)		
			Use	Sell	Decide how to spend money generated from		Use	Sell	Decide how to spend money generated from
Homestead land	C	51	99	37	69	26	99	69	84
	T	59	99	28	47	24	99	66	76
Cultivable land	C	4	98	33	75	2	98	63	85
	T	8	98	26	47	3	98	66	73

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Includes all land assets asked about in 2012 survey, except those which few households in either intervention arm reported owning (uncultivated land, garden, pond, other; these are included in the aggregate measure in Table 4). N = 6066 (2599 control [C] and 3467 treatment [T]).

the statistics for all of these asset categories, three patterns emerge. The first is that for most assets (though not all), the woman's right to use the asset appears to be independent of whether she herself owns the asset; nearly 100% of women in both treatment and control groups have use rights over most of these assets conditional on anyone in the household owning them. There do appear to be some exceptions to women's use rights including for bicycles and rickshaws, particularly in the treatment group, although it is difficult to determine whether these come from mobility issues or are artifacts of the small sample of households owning the assets to begin with. Second, in nearly all cases, the share of women reporting rights over each asset conditional on ownership is higher in the control group than in the treatment group. This pattern appears conditional on household ownership as well as conditional on the woman's own perceived ownership (although again shares are slightly higher within the latter subset than in the full sample). It also applies to both sale rights and spending-decision rights. Again these descriptive statistics cannot be interpreted as causal impacts of the program. However, they again support the possibility that, when livestock is transferred to women by TUP, women's perception of "owning" non-livestock assets translates to their having slightly lower sales and spending-decision rights than in the absence of the program.

Taken together, these findings suggest several implications for how impacts on ownership may translate to control rights. Given the large significant household-level program impacts shown in Table 4 and the fairly consistent association between household ownership and women's use rights, women's rights to use a large range of livestock and non-livestock assets were likely strengthened by the program. Findings also suggest that the large positive program impacts on women's perceived ownership of livestock may translate to somewhat strengthened alienation rights, but limited rights to obtain concrete economic benefits from livestock. Moreover, although Table 4 showed some positive program impacts in women's perceived ownership of agricultural productive assets, non-agricultural productive assets, and consumer durables, these may not translate to meaningful alienation rights over the assets nor strengthened rights to obtain concrete economic benefits from them.

Overall, although the program significantly increased women's perceived ownership of livestock and may have particularly strengthened their alienation rights over high-value cattle, results suggest that the increases in women's control rights over other assets may have been limited to use; in particular, it appears unlikely that the program meaningfully increased women's rights to decide how to spend income generated from any asset. Under the assumption (described in footnote 22) that men typically have control rights over nearly all assets in the household regardless of who is perceived to own them, these findings suggest that although there were likely meaningful increases in women's control over livestock, looking across asset categories, men's relative resource control likely increased more than women's.

5.3.4. Intrahousehold decision making related to livestock

Having explored individuals' relative resource control within the household, we then turn to examining intrahousehold decisionmaking.

We start by exploring program impacts on who makes decisions regarding livestock management. Table 10 shows that the program increases women's voice in all dimensions considered of decisionmaking relevant to livestock. For decisions related to the livestock itself (e.g., buying a cow, selling a cow, etc.), we see that the program significantly increases women's sole decisionmaking in addition to joint decisionmaking. Given that social norms in Bangladesh typically categorize buying and selling of high-value assets like cattle as in the realm of men, this finding is notable. In terms of milk, the program does not increase women's sole decision making, but does increase joint decision making. These findings are consistent with the descriptive results on control rights; women's increased alienation rights over livestock align with greater decisionmaking power on sales of the cattle themselves, but limited changes in the right to spend generated income aligns with more limited decisionmaking power on what to do with the milk produced by cattle.

5.3.5. Ultra-poor women's decisions to work and use their earnings

We next turn to program impacts on women's decisions to work. Our survey asks whether women are "doing any work or business that brings in cash, additional food, or allows you to accumulate assets for your household," then asks whether this work is inside the home, outside the home, or both. We construct indicators for whether the woman works at all, for whether the woman works inside the home (potentially in addition to outside the home), and for whether the woman works outside the home (potentially in addition to inside the home). Table 11 Panel A shows that while the program does not affect the proportion of women who work, it does change where women work. The program causes about a 17 percentage point increase in

Table 10
Intrahousehold decisionmaking regarding livestock.

Treatment impact on women's decisionmaking	Treatment impact on women's decisionmaking			
	Woman solely decides	She has any voice in deciding	She and her husband jointly decide	Her husband solely decides
Whether to buy a cow	0.046*** (0.009)	0.182*** (0.024)	0.124*** (0.016)	0.002 (0.003)
Whether to sell a cow	0.082*** (0.008)	0.242*** (0.016)	0.132*** (0.011)	0.011*** (0.003)
Whether to lease a cow	0.069*** (0.008)	0.210*** (0.017)	0.121*** (0.011)	0.004 (0.003)
Dairy maintenance expenses (buying feed, medicine, etc)	0.145*** (0.009)	0.424*** (0.017)	0.233*** (0.012)	0.024*** (0.005)
Selling milk	0.131*** (0.008)	0.365*** (0.016)	0.201*** (0.011)	0.009*** (0.003)
Giving milk to children	-0.006 (0.006)	0.031*** (0.009)	0.034*** (0.007)	0.000 (0.002)
Giving milk to other members of the household	-0.017 (0.017)	0.117*** (0.013)	0.137*** (0.018)	0.002 (0.005)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

Table 11

Decisions regarding women's work, location of work, and control of earnings from women's work.

Decision	Impact estimate
<i>Panel A: Women's work and location of work</i>	
Treatment impact on Whether the main female works	0.009 (0.015)
Whether the main female works inside the home	0.167*** (0.024)
Whether the main female works outside the home	−0.080*** (0.017) 6066
<i>Panel B: Control over earnings of women who work</i>	
Treatment impact on whether the main female works and Keeps all of the income earned	−0.077*** (0.015)
Keeps any of the income earned	−0.044** (0.019)
Keeps none of the income earned	0.053*** (0.014)
<i>Panel C: Decisionmaking over earnings of women who work</i>	
Treatment impact on whether main female works and She solely decides how to spend the money she earns	−0.092*** (0.015)
She has any voice in deciding how to spend the money she earns	0.006 (0.015)
She and her husband jointly decide how to spend the money she earns	0.105*** (0.016)
Her husband solely decides how to spend the money she earns	0.003 (0.006)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

women working inside the home, relative to the control group, and about an 8 percentage point decrease in women working outside the home. Since the types of assets provided to women by the program require maintenance at home, the implications for time allocation may explain this pattern. We also note that this finding may imply a reduction in women's mobility as a whole, since the qualitative work indicates that women tend to have limited ability to leave the homestead unless their work directly requires it.

We then analyze impacts on what women do with the income they earn. Our survey asks whether women give all the money they earn to their husbands/other family members, give some to their husbands/other family members, or keep it all. We construct the following indicators from these responses: whether the woman works and keeps all of the money; whether the woman works and keeps any of the money; whether the woman works and keeps none of the money. These indicators are defined unconditionally such that, for the first for example, a woman who does not work is coded with 0, a woman who does work and does not keep all of the money she earns is coded as 0, and a woman who does work and does keep all of the money she earns is coded with 1. Table 11 Panel B shows that the program significantly decreases the proportion of women who work and keep all or any of the money they earn (by about 8 percentage points or 4 percentage points respectively), while the proportion that keeps none of the money earned increases by about 5 percentage points.

Finally, we analyze who decides how to use the money earned by women who work. Our survey asks "Who usually decides how to spend the money you earn?", with response options of "yourself; your husband; self and husband; self and other HH member; and someone else." We construct four indicators from these responses: whether the woman works and solely decides how to spend the money she earns; whether the woman works and has any voice in deciding how to spend the money she earns; whether the woman works and her

husband solely decides how to spend the money she earns; and whether the woman works and she and her husband jointly decide how to spend the money she earns. Again, these are unconditional indicators. Table 11 Panel C shows that the program significantly reduces the proportion of households where a woman works and solely decides how to use the money she earns (by about 9 ppt), while it significantly increases the proportion of households where the decision is made jointly between the woman and her husband (by about 10 percentage points).

Taken together, these findings raise the possibility that the shift in location of women's work due to the program may also shift control and decision-making over the income earned by women. In particular, given social norms of female seclusion, women who do not work outside the home may not have reason to leave the home at all. A shift to working exclusively inside the home may translate to no longer having the mobility to make use of income independently (e.g., going to the market), but rather giving the money earned to another household member who will leave the home and deciding jointly what to do with it.

5.3.6. Intra-household decisionmaking related to expenditures

We then turn to impacts on decisionmaking on issues more broadly affecting the household. Table 12, Panel A, shows how the program affects who has a voice in decisions relevant to credit and savings. We see that the program significantly increases women's role in decisionmaking relevant to loans – both in whether to take one and how to spend it – in terms of sole and joint decisionmaking. Husbands' sole decision making is not substantially affected in terms of loans. This pattern is consistent with the program facilitating loans to women. Program participant women are eligible to take BRAC microfinance loans after two years of grant supports, and earlier evidence showed that about 68% of TUP program participants took loans from BRAC during the three year period after they completed the TUP program support-cycle (Das and Shams, 2010). However, in terms of saving, the program significantly decreases women's sole decision making and significantly increases joint decisionmaking.

Table 12, Panel B, shows impacts on who decides about specific categories of expenses. Patterns of impacts across food, housing, and health care are very similar. The program significantly reduces the proportions of households in which women solely decide or have any voice in deciding how to spend on these categories, while it significantly increases the

Table 12

Decisionmaking relevant to credit, savings, and specific categories of household expenditures.

	Treatment impact on decisionmaking			
	Woman solely decides	She has any voice in deciding	She and her husband jointly decide	Her husband solely decides
<i>Panel A: Decisions on credit and savings</i>				
Whether to take a loan	0.079*** (0.008)	0.273*** (0.016)	0.176*** (0.014)	0.007** (0.003)
How to spend proceeds of a loan	0.078*** (0.008)	0.274*** (0.016)	0.179*** (0.013)	0.006* (0.003)
How much to save	−0.106*** (0.015)	0.000 (0.008)	0.123*** (0.016)	0.002 (0.008)
<i>Panel B: Decisions on specific household expenditure categories</i>				
Food	−0.130*** (0.015)	−0.030** (0.015)	0.098*** (0.016)	0.030** (0.015)
Housing	−0.126*** (0.014)	−0.050*** (0.015)	0.078*** (0.016)	0.050*** (0.015)
Healthcare	−0.124*** (0.014)	−0.051*** (0.015)	0.079*** (0.016)	0.051*** (0.015)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

proportion of households in which husbands solely decide or in which decisions are made jointly.

Table 13 shows that the program significantly reduces the proportion of women controlling the money needed to buy food or items for themselves. There is approximately a 15 percentage point reduction in women controlling the money needed to buy food from the market, a 12 percentage point reduction for clothes for themselves, a 15 percentage point reduction for medicine for themselves, and a 7 percentage point reduction for cosmetics for themselves.

These impacts are consistent with the previous results showing that the program causes women to shift work inside the home and have less control over their earnings. Here we find that, even beyond reducing women's control over their own earnings, the program causes them to have less control and decision making power over household expenses as a whole.

5.4. Additional insights from qualitative findings

To add nuance to the quantitative findings on program impacts for targeted women, we summarize some insights from the qualitative study regarding beneficiaries' own perceptions (Das et al, 2013). In terms of sex-disaggregated asset ownership and control, results from the qualitative study are remarkably consistent with results from the quantitative analysis. Both men's and women's focus groups drawn from beneficiary households stated that the transferred livestock assets either belonged to women or were jointly owned. Even when the asset was seen as jointly owned, women were seen to have authority and veto power over such decisions as whether to sell the asset or to give it to a relative. These findings closely match the quantitative impact estimates on women's ownership and control over livestock. Focus group participants indicated that their stance was encouraged by the mode of operation of the TUP program which, without explicitly stating that the asset was being transferred to women, directed support and on-going training in managing the asset toward women. There was little direct exploration in the qualitative work on how resources were mobilized to purchase new assets and who owned and controlled these new assets. However, as noted in Section 5.3, the prevailing patterns of asset ownership described in Section 5.1 are consistent with nearly all non-livestock assets being perceived as owned by men.

Qualitative findings also support the quantitative finding that the program caused beneficiary women to more likely stay within the homestead and less likely be employed outside the home. Focus groups reported that transferred livestock required maintenance at home and raised women's workloads between about one to three hours per day.

However, the qualitative work highlighted many *intangible* benefits perceived by targeted women, which were not easily explored through the quantitative work. One striking finding was that, while many beneficiary women described reduced mobility and heavy workloads due to the program, there was consensus that their situation was nonetheless *preferable* to working outside the home given low pay and high stigma

Table 13
Whether women control the money needed for purchases of food or items for themselves.

Treatment impact on whether the woman herself controls the money needed to buy ...	
Food from the market	−0.151*** (0.017)
Clothes for herself	−0.120*** (0.018)
Medicine for herself	−0.153*** (0.017)
Cosmetics for herself	−0.068*** (0.019)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.
Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression.
*** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

associated with the options commonly available to extremely poor rural women (e.g., work as domestic servants, agricultural day labor, employment by others in small businesses such as weaving with handlooms). Respondents described the stigma as a particularly important factor. Work outside the home was considered not respectable because it forced women to transgress religious and social norms of segregation, which could lead to reputational damage. Reputation was considered especially important to maintain for extremely poor women, as they felt they could become physically vulnerable, socially excluded, or harassed if socially stigmatized or considered of ill repute.

Similarly, while quantitative impacts on decisionmaking suggested that the program significantly reduced women's voices in several tangible dimensions, the qualitative work indicated that female beneficiaries felt greater empowerment in many *intangible* dimensions. Many reported that they had gained confidence and social status, both in communities and in households, by helping to improve the economic conditions of their households. A specific way in which women described gaining confidence is in fact consistent with the quantitative finding that the program increased household ownership of consumer durables, which could be "used" by women even if owned by men — some women reported that having access to improved clothing made them more likely to be included in community activities and no longer uncomfortable to go places where they used to feel humiliated because of torn clothes. Beneficiary women also reported being less ashamed of their homes and now being able to use their own sanitary latrines rather than having to ask a neighbor. They also reported now having enough confidence to participate in local mediation hearings. In summary, while the quantitative analysis showed decreases in several tangible domains associated with empowerment (such as having a voice in decisionmaking), the qualitative showed increases in several intangible domains (such as feeling self-confident and gaining social capital).

In fact, very few of the program impacts that women themselves cited were focused on individual rights or explicitly on material gains. Rather, they framed perceptions of impact more in terms of intangibles: social capital, self-confidence, satisfaction in contributing to the household, etc. These observations highlight the importance of considering what outcomes are valued by beneficiaries themselves given their context, in addition to considering outcomes perceived as important more generally.

6. Summary and conclusions

6.1. Summary of findings

Overall the quantitative findings, complemented with the qualitative study, suggest two key points. First, consistent with the findings of Bandiera et al (2013), the program significantly increased household-level well being as measured by ownership of various assets; however, as measured by both quantitative and qualitative work, the program's impacts in terms of "tangible" outcomes on targeted women are quite ambiguous. While women's ownership and control over the transferred livestock are significantly increased (including over high-value assets such as cattle, typically thought to be a "men's asset"), there appears to be a greater increase in men's sole ownership over new investment in other assets (agricultural and non-agricultural productive assets, land, consumer durables). Moreover, the program tends to shift women's work inside the home (likely because the transferred livestock requires maintenance on the homestead), which combined with the increased workload, appears to reduce women's mobility outside the homestead. Consistent with reduced mobility, the program also significantly reduces women's voice in a range of decisions, both related to purchases for themselves and related to household savings and expenditure.

Second, nonetheless, when "intangibles" and context are taken into account based on qualitative analysis, the overall program impacts on targeted women appear far more favorable (if still mixed). Beneficiary women themselves frame project impacts more in terms of intangibles

(such as social capital, self-confidence, satisfaction in contributing to the household, etc.) than in terms of individual rights or material gains. Their reports indicate that the program increased their social capital and self-confidence in ways that are in fact consistent with the quantitative findings – for example, having access to improved clothing (even if owned by men) that made them more likely to be included in community activities and less likely to feel humiliated and uncomfortable going to certain places. They also report that their *contribution* to the economic improvement of their households (not necessarily their own individual rights over the economic gains) increased their confidence and social status within their households and communities. Additionally, the qualitative work indicates a consensus among beneficiary women that, given the numerous hardships associated with work outside the home for extremely poor rural women (most notably the social stigma given norms of female segregation as well as the generally hostile and unsafe external labor market environment for women), they *prefer* work inside the home even with the tradeoff of limited mobility. Thus, beneficiary women's perceptions indicate they value intangible outcomes in addition to tangible outcomes, and also frame certain tangible outcomes more favorably given the local context than might be perceived from an external viewpoint.

6.2. Conclusions

A number of compelling implications emerge from this study. First, we find strong evidence that asset transfers targeted to women *can* increase women's ownership and control over the transferred asset. This outcome may occur even in contexts where the transferred asset is not typically thought of as a "woman's asset," as was the case for high-value livestock in this study. This finding in itself represents a small transformation of gender norms. A caveat, however, is that we do not know whether this finding would be sustained over the long term. Given that beneficiary focus groups cited the intensive support from BRAC as supporting women's ownership and control over the transferred livestock, it is possible that women's retention of the asset would fade somewhat as program support was eventually withdrawn.

Second, however, an increase in a woman's ownership and control over a transferred asset may *not* necessarily increase her overall control over resources or bargaining position in the household. In this study, only the assets directly transferred to the targeted woman appeared to remain in her control, while control over assets purchased from the generated income appeared to follow prevailing gender norms. Specifically, the program appeared to cause greater increases in men's sole ownership and control over new investments across several categories of non-livestock assets (agricultural and non-agricultural productive assets, consumer durables, and land) than in women's ownership and control. It also reduced women's mobility (potentially reducing ability to physically control resources) and their voice in a range of decisions concerning themselves and their households. Consistent with theoretical models in economics that relate control over resources to decision making power, it appears that women's overall control over resources decreased relative to men's, along with their relative intrahousehold decision making power.

Third, in the context of asset transfer, if the transferred asset requires maintenance at home, targeting the asset to women may shift women's work inside the home. The desirability of working inside the home may depend on the local context (as highlighted in this study), but if it reduces mobility outside the home, it may also reduce women's decisionmaking power over the use of resources.

Fourth, individuals may value both tangible and intangible outcomes. While tangible measures are more readily captured in quantitative analysis, it is important to also account for intangible factors (such as self-esteem and social capital) when studying benefits and costs of a program.

Fifth, in a broad sense, nuance is required in assessing whether interventions improve "women's empowerment." The study highlights that even if a program's "household-level" impacts are quite unambiguously

positive, effects on individuals within the household (such as the targeted women in this study) may be more ambiguous and complex. Additionally, some outcomes valued by individuals may be "intangible," and some that seem negative from an external viewpoint may be seen more favorably in the local context. These findings are consistent with other work in Bangladesh (e.g. Becker, 2012) suggesting the possibility that women in rural Bangladesh may in fact value contributing to the household more than having individual rights within the household. One possible dimension to this preference relates to women facing a potential tradeoff between asserting individual rights and maintaining family support. In sociocultural contexts where women's potential to function in society is limited without the support and protection of their husbands or other male household members, benefits of creating conflict within the household to assert individual rights may be outweighed by costs of losing family support. For example, Brule (2012) finds, in the context of rural India, that land inheritance laws do not increase women's inheritance because women forgo claiming their legal rights in favor of retaining their family safety net. In effect, due to the need for both daily-life and old-age support systems from family, women may not find it worthwhile to assert individual rights at the cost of household relations, finding instead that contributing to the household serves them better. A second dimension however is that, for sociocultural or other reasons, women's perception of benefits in rural South Asia may simply differ from prototypical Western norms.

Lastly, nonetheless, if increasing women's asset ownership and decision making power are explicit goals of a program, a focused intervention such as a targeted asset transfer may not be sufficient. In a context such as rural Bangladesh, interventions aimed at increasing women's decision-making power may need to engage not only women, but also other household members (including men) and communities, in an effort to fundamentally transform sociocultural norms.

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Appendix A

Appendix B. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.jdeveco.2015.06.004>.

Table A.1

Attrition of households eligible for gender analysis between 2007 and 2012 rounds.

	Total	Treatment	Control		
Total households eligible in 2007 sample	7392	4493	2899		
Lost from sample by 2012 round	1326	1026	300	22.9%	10.4%
Stayed in sample through 2012 round	6066	3467	2599	77.1%	89.6%

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Eligible households refers to households that were eligible for the Specially Targeted Ultra Poor (STUP) program and were headed by a male–female partnership (i.e., either a male head with female spouse, or female head with male spouse).

Table A.2

Probit estimation of probability of staying in sample between 2007 and 2012 rounds.

Baseline characteristic	Coeff	Baseline characteristic	Coeff	Baseline characteristic	Coeff
Treatment indicator	−1.412** (0.656)	Male head's years of education	−0.021 (0.013)	Household's number of goats/sheep	0.017** (0.009)
Whether household's residence is dilapidated	−0.101* (0.054)	Whether male head has completed secondary school	0.690 (0.487)	Household's number of power pumps	−2.044* (1.133)
Household's wealth rank	−0.033 (0.051)	Whether main female works as homemaker	−0.143 (0.121)	Household's number of plows	−0.165 (0.489)
Whether household owns land	−0.766** (0.375)	Main female's years of education	−0.017 (0.013)	Household's number of cowsheds	0.066 (0.089)
Household's area of cultivated land	−0.009 (0.006)	Whether main female has completed secondary school	−0.257 (0.684)	Household's number of shop premises	0.085 (0.327)
Household's value of cultivated land	0.000 (0.000)	Household's number of radios/cassette players	−0.116 (0.089)	Household's number of boats	−0.055 (0.320)
Household's area of pond land	5.522 (245.559)	Household's number of electric fans	−0.080 (0.202)	Household's number of fishnets	0.070 (0.131)
Household's value of pond land	−0.001 (0.049)	Household's number of bicycles	0.062 (0.163)	Household's number of rickshaws/vans	0.102 (0.179)
Household's area of mortgaged land	0.010 (0.011)	Household's number of chairs	0.033 (0.050)	Household's number of trees	0.010 (0.012)
Household's value of mortgaged land	0.000 (0.000)	Household's number of tables	−0.003 (0.073)	<i>Observations</i>	7392
Household's total savings	0.000 (0.000)	Household's number of <i>choukis</i>	0.017 (0.041)		
Household's total loans	−0.047 (0.059)	Household's number of sofas	0.123 (0.257)		
Whether household owns home	0.162*** (0.059)	Household's number of mosquito nets	0.060 (0.043)		
Whether household has a latrine	0.663* (0.349)	Household's number of jewelry items	0.478 (0.482)		
Whether household has a tube well	0.112 (0.342)	Household's number of saris	−0.088** (0.035)		
Whether household has a kitchen	0.139 (0.122)	Household's number of cows	0.128 (0.087)		
Household's food deficit	−0.030 (0.055)	Household's number of chickens and ducks	−0.006 (0.040)		

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Estimation also includes branch dummies, interviewer code dummies, and dummies for missing values of indicators, as well as characteristics of the main female's predictions for her sons' and daughters' futures. Standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.**Table A.3**

Control group intrahousehold livestock ownership, by asset type.

Livestock	Number of livestock				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned jointly by male and female	Owned solely by male
Cows/buffalo	0.23	0.13	0.18	0.04	0.04
Goats/sheep	0.34	0.26	0.30	0.03	0.04
Chickens/ducks	1.44	1.21	1.39	0.11	0.03

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Control group means, accounting for attrition weights. N = 2599.

Table A.4

Control group intrahousehold ownership of agricultural assets, by asset type.

Asset	Number of agricultural assets				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned solely by male	Owned jointly by male and female
Choppers	0.63	0.33	0.47	0.16	0.10
Stored crops (kg)	4.24	1.12	2.83	1.40	1.37
Cowsheds	0.29	0.16	0.22	0.07	0.04
Deep tube wells	0.01	0.00	0.00	0.00	0.00
Ladders	0.03	0.01	0.02	0.01	0.01
Mowing machines	1.32	0.58	0.87	0.44	0.20
Plows	0.01	0.00	0.00	0.01	0.00
Axes	0.38	0.09	0.18	0.19	0.05
Pumps	0.00	0.00	0.00	0.00	0.00

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Control group means, accounting for attrition weights. N = 2599.

Table A.5
Control group intrahousehold ownership of nonagricultural assets, by asset type.

Asset	Number of nonagricultural assets				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned solely by male	Owned jointly by male and female
Bicycles	0.09	0.01	0.03	0.05	0.00
Mobile phones	0.18	0.03	0.12	0.05	0.01
Sewing machines	0.00	0.00	0.00	0.00	0.00
Bamboo materials	1.19	0.77	1.05	0.14	0.22
Trees	1.68	0.53	0.93	0.76	0.17
Cash (taka)	447.43	264.33	337.93	30.21	51.47
Rickshaws	0.03	0.00	0.01	0.02	0.00
Fishnets	0.06	0.02	0.03	0.02	0.00
Cottage materials	0.02	0.01	0.02	0.00	0.01

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Control group means, accounting for attrition weights. N = 2599.

Table A.6
Control group intrahousehold ownership of consumer durables, by asset type.

Asset	Number of consumer durables				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned solely by male	Owned jointly by male and female
Chairs	0.61	0.17	0.40	0.21	0.14
Beds	1.27	0.46	0.85	0.35	0.25
Almirahs	0.33	0.17	0.26	0.07	0.06
TVs	0.01	0.00	0.00	0.00	0.00
Tube wells	0.32	0.09	0.18	0.14	0.06
Cooking instruments	3.78	2.67	3.52	0.25	0.60
Men's clothing items	5.46	0.12	3.40	2.04	0.06
Women's clothing items	6.81	3.64	6.71	0.08	0.10
Silver jewelry items	8.38	6.82	8.23	0.03	0.21
Gold jewelry items	1.75	1.29	1.73	0.01	0.01

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Control group means, accounting for attrition weights. N = 2599.

Table A.7
Control group intrahousehold ownership of land, by asset type.

Land	Area of land				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned solely by male	Owned jointly by male and female
Homestead land	2.06	0.56	0.93	1.12	0.02
Cultivable land	1.01	0.19	0.51	0.45	0.01
Pond	0.02	0.00	0.01	0.01	0.00

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Control group means, accounting for attrition weights. N = 2599.

Table A.8
Control group decisions regarding women's work, location of work, and control of earnings from women's work.

Decision	Control group mean
<i>Panel A: Women's work and location of work</i>	
Whether the main female works	0.82
Whether the main female works inside the home	0.50
Whether the main female works outside the home	0.71
<i>Panel B: Control over earnings of women who work</i>	
Proportion of households in which main female works and	
Keeps all of the income earned	0.38
Keeps any of the income earned	0.65
Keeps none of the income earned	0.17
<i>Panel C: Decisionmaking over earnings of women who work</i>	
Proportion of households in which main female works and	
She solely decides how to spend the money she earns	0.42
She has any voice in deciding how to spend the money she earns	0.80
Her husband solely decides how to spend the money she earns	0.03
She and her husband jointly decide how to spend the money she earns	0.31

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Control group means, accounting for attrition weights. N = 2599.

Table A.9
Impacts on intrahousehold ownership of agricultural assets, by asset type.

Asset	Treatment impact on number of agricultural assets				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned jointly by male and female	Owned solely by male
Choppers	0.121*** (0.028)	−0.007 (0.022)	0.006 (0.027)	0.018 (0.013)	0.114*** (0.017)
Stored crops (kg)	4.905*** (1.246)	1.440* (0.832)	2.590** (1.069)	0.018 (0.475)	2.238*** (0.589)
Cowsheds	0.258*** (0.023)	0.075*** (0.015)	0.121*** (0.019)	0.036*** (0.009)	0.138*** (0.012)
Deep tube wells	0.006 (0.004)	0.001 (0.002)	0.005 (0.003)	0.003 (0.003)	0.001 (0.003)
Ladders	0.009 (0.007)	0.003 (0.004)	−0.001 (0.005)	−0.006*** (0.002)	0.009** (0.004)
Mowing machines	0.069 (0.057)	−0.017 (0.032)	0.025 (0.048)	0.023 (0.027)	0.038 (0.034)
Plows	0.020*** (0.007)	0.002 (0.002)	0.007** (0.003)	0.001 (0.001)	0.012** (0.006)
Axes	0.162*** (0.022)	0.039*** (0.011)	0.073*** (0.016)	0.025** (0.010)	0.088*** (0.017)
Pumps	0.010*** (0.002)	0.002* (0.001)	0.004*** (0.002)	0.001 (0.001)	0.005*** (0.002)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

Table A.10
Intrahousehold ownership of nonagricultural assets, by asset type.

Asset	Treatment impact on number of nonagricultural assets				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned jointly by male and female	Owned solely by male
Bicycles	0.026*** (0.009)	−0.002 (0.002)	0.008 (0.006)	0.002 (0.001)	0.020*** (0.007)
Mobile phones	0.076*** (0.014)	−0.005 (0.005)	0.018 (0.011)	0.000 (0.003)	0.053*** (0.008)
Bamboo materials	−0.089 (0.059)	−0.111** (0.044)	−0.164*** (0.056)	−0.055* (0.029)	0.073*** (0.022)
Trees	1.768*** (0.563)	0.461* (0.274)	0.878*** (0.300)	0.364*** (0.085)	0.887* (0.476)
Rickshaws	0.018*** (0.006)	−0.001 (0.001)	0.001 (0.003)	0.001 (0.001)	0.016*** (0.005)
Fishnets	0.025* (0.013)	−0.017** (0.007)	−0.009 (0.009)	0.003 (0.002)	0.033*** (0.009)
Cottage materials	0.041** (0.017)	0.033*** (0.010)	0.031** (0.015)	−0.002 (0.008)	0.009* (0.005)

Source: Author's computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

Table A.11
Intrahousehold ownership of consumer durables, by asset type.

Asset	Treatment impact on number of consumer durables				
	Total owned in household	Owned solely by female	Owned in any part by female	Owned jointly by male and female	Owned solely by male
Chairs	0.244*** (0.035)	0.051*** (0.018)	0.096*** (0.030)	0.023 (0.019)	0.149*** (0.024)
Beds	0.180*** (0.033)	−0.025 (0.023)	−0.009 (0.036)	0.025 (0.026)	0.204*** (0.029)
Almirahs	0.104*** (0.021)	0.011 (0.015)	0.024 (0.018)	0.001 (0.008)	0.076*** (0.012)
Tube wells	0.136*** (0.017)	0.054*** (0.010)	0.061*** (0.013)	0.004 (0.008)	0.074*** (0.013)
Cooking instruments	0.278*** (0.103)	0.063 (0.098)	−0.079 (0.113)	−0.115* (0.063)	0.357*** (0.058)
Men's clothing items	1.461*** (0.196)	0.021 (0.022)	0.805*** (0.146)	−0.028* (0.017)	0.636*** (0.091)
Women's clothing items	0.734*** (0.239)	0.076 (0.126)	0.554** (0.252)	−0.078*** (0.024)	0.176*** (0.051)
Silver jewelry items	−1.379 (1.094)	−1.176 (0.950)	−1.365 (1.086)	−0.208 (0.177)	−0.032 (0.034)
Gold jewelry items	0.538* (0.324)	0.054 (0.216)	0.319 (0.296)	−0.003 (0.004)	0.035*** (0.009)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** p < 0.01, ** p < 0.05, * p < 0.1. N = 6066.

Table A.12

Intrahousehold ownership of land, by asset type.

Treatment impact on area of land					
Land	Total owned in household	Owned solely by female	Owned in any part by female	Owned jointly by male and female	Owned solely by male
Homestead land	0.539*** (0.120)	0.060 (0.053)	0.108 (0.072)	0.028* (0.016)	0.420*** (0.092)
Cultivable land	0.542** (0.217)	0.134* (0.071)	0.072 (0.140)	−0.001 (0.006)	0.519*** (0.149)

Source: Authors' computations based on BRAC STUP evaluation data, 2007 and 2012.

Notes: Single-difference estimates with attrition weights; robust standard errors adjusted for survey design and clustering in parentheses. Each cell represents a separate regression. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. $N = 6066$.

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The Feed the Future Zone of Influence in Bangladesh: Changes in Selected Indicators from 2011 Baseline to 2015 Midline

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Presentation at BFS/USAID
Washington, DC
March 17, 2016



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Storyline

- Poverty, Income, and Hunger
- Food consumption, diets, and child nutritional status
- Agricultural land use, rice productivity, input use, and profitability
- Women's empowerment in agriculture

Created a comprehensive database for the Feed the Future ZOI

- IFPRI-PRSSP's Bangladesh Integrated Household Survey (BIHS): the most comprehensive, nationally representative rural household survey to date. Largest panel survey.

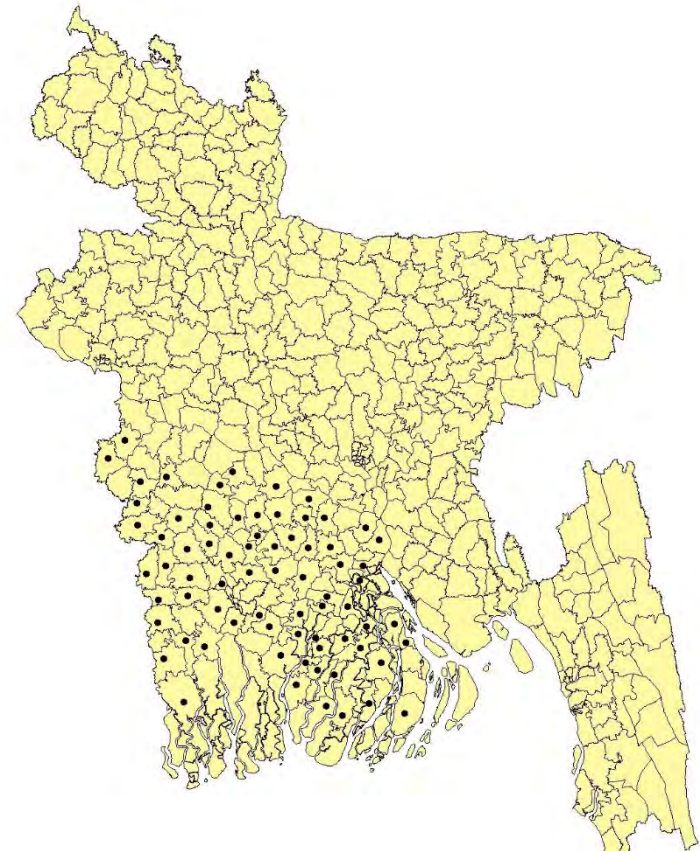
- A part of BIHS has been designed to serve as the baseline, midline, and endline for estimating change in a set of FTF indicators.

- BIHS sampling is statistically representative
 - ➔ nationally of rural Bangladesh,
 - ➔ rural areas for each of the 7 administrative divisions,
 - ➔ FTF Zone of Influence.

BIHS Baseline-Midline FTF sample

- Two-round panel:
 - FTF baseline (Nov-Dec 2011):
2,040 HHs
 - FTF midline (Jan-Mar 2015):
2,017 HHs

- Low attrition: 1.3%/year



Map of Bangladesh showing the survey upazilas in the Feed the Future sampling frame.

BIHS: Big data, big impact



- Downloads of 2011/12 BIHS dataset: **600 (2013) → 8,000 (now)**
- Diverse users across 6 continents

Change in FTF Indicators from 2011/12 to 2015: **Poverty, Income, and Hunger**

Prevalence of poverty:

Percent of people living on less than \$1.25/day

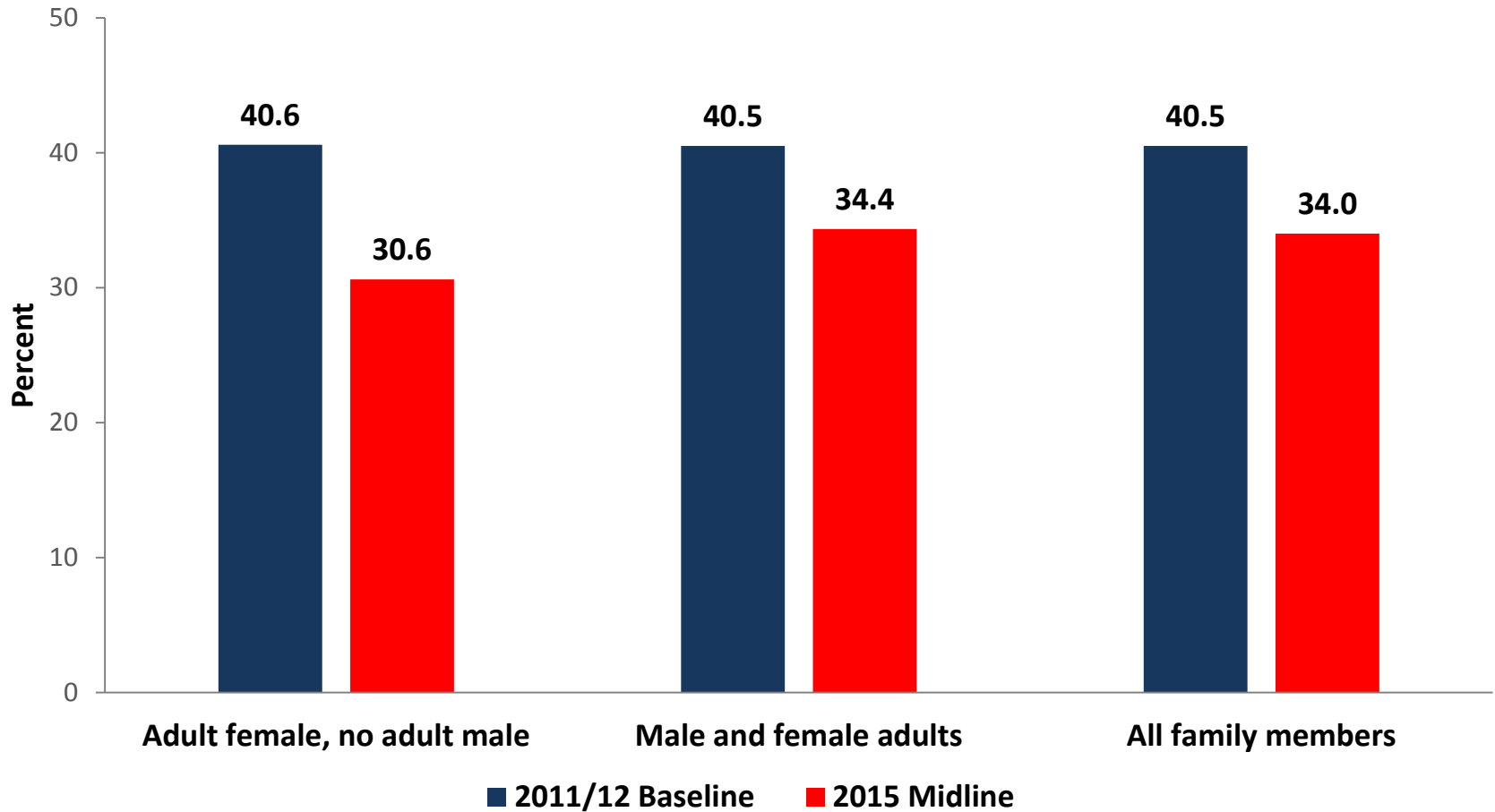
(FTF Ref #: 4 (17))

FTF ZOI population living on less than PPP \$1.25 a day fell by 6.5 percentage points (or by 16%):

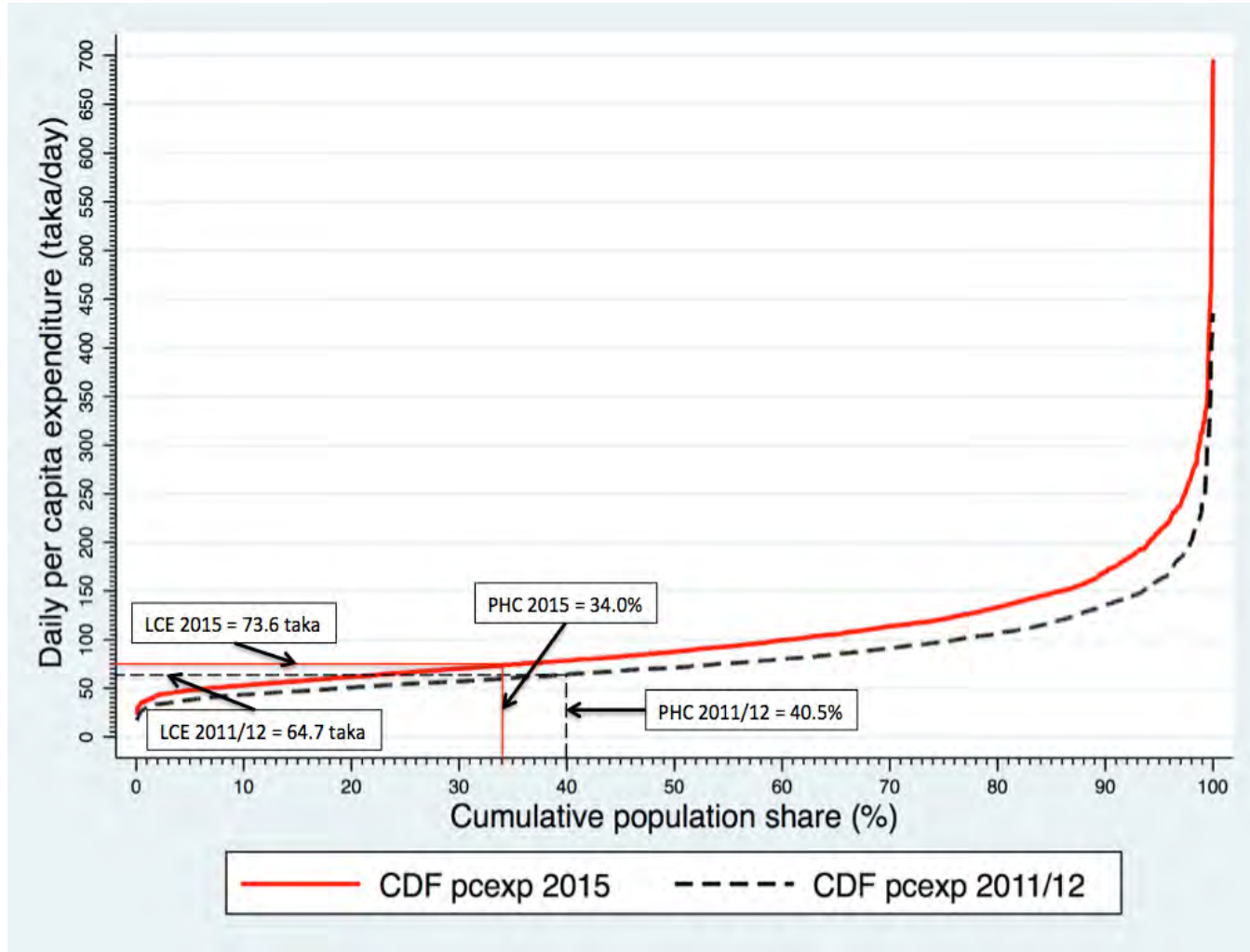
❖ **40.5 %** in 2011/12  **34.0 %** in 2015

- *Daily per capita consumption expenditures from 2011/12 and 2015 IFPRI household surveys were adjusted for inflation using Basic Needs Price Index (2005 base year) obtained from the World Bank*
- *Used the international poverty line of \$1.25 per day, measured at 2005 purchasing power parity (PPP) exchange rate for Bangladesh: PPP\$1.00=25.494 taka (World Bank)*
- *Calculated local currency equivalent of PPP \$1.25 a day poverty line using 2012 and 2015 BNPI estimates*

Disaggregated prevalence of poverty: Percent of people living on less than \$1.25/day (FTF Ref #: 4 (17))



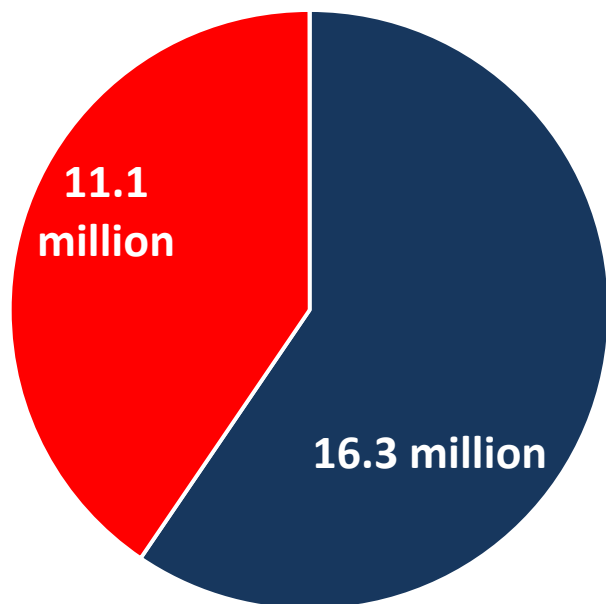
Income distribution and headcount poverty rates in FTF ZOI: 2011/12 and 2015



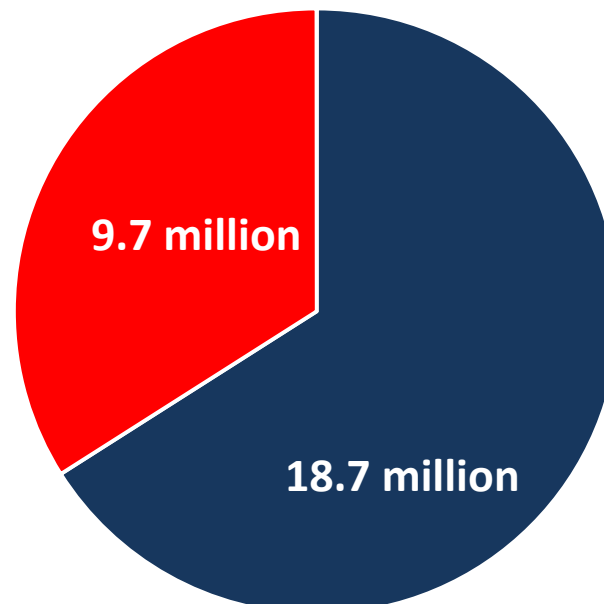
Change in the number of poor in the FTF ZOI: 1.4 million fewer people in poverty in 2015

2011/12 Baseline population: 27.4 million

2015 Midline population: 28.4 million



■ Nonpoor ■ Poor



■ Nonpoor ■ Poor

Axioms of poverty: Desirable properties that a poverty index should respect

Monotonicity axiom

- This class of axioms states that, *ceteris paribus*, a decrease in the income of a poor person should increase the poverty index, and vice-versa.

Transfer axiom

- This class of axioms states that, *ceteris paribus*, a transfer of income from a lower income poor person to a higher income poor person should increase the poverty index and vice versa.

The P_α class of poverty measures

(FGT poverty measures—Foster, Greer, and Thorbecke, 1984)

$$P_\alpha = \frac{1}{n} \sum_{i=1}^q [(z - y_i)/z]^\alpha$$

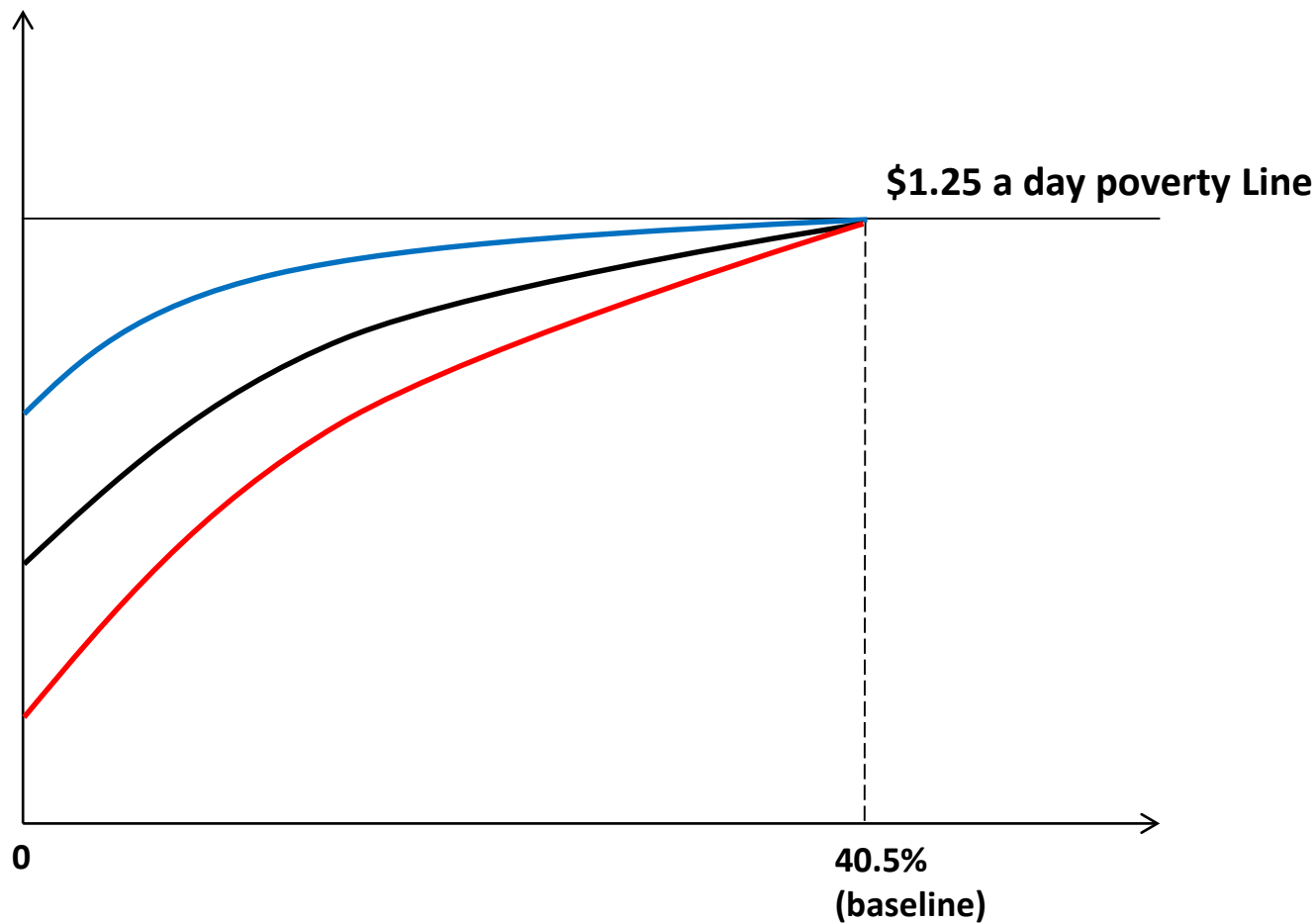
$$P_0 = \frac{1}{n} \sum_{i=1}^q [(z - y_i)/z]^0 = \frac{q}{n} = H$$

$$P_1 = \frac{1}{n} \sum_{i=1}^q [(z - y_i)/z] = H\bar{I}$$

$$P_2 = \frac{1}{n} \sum_{i=1}^q [(z - y_i)/z]^2$$

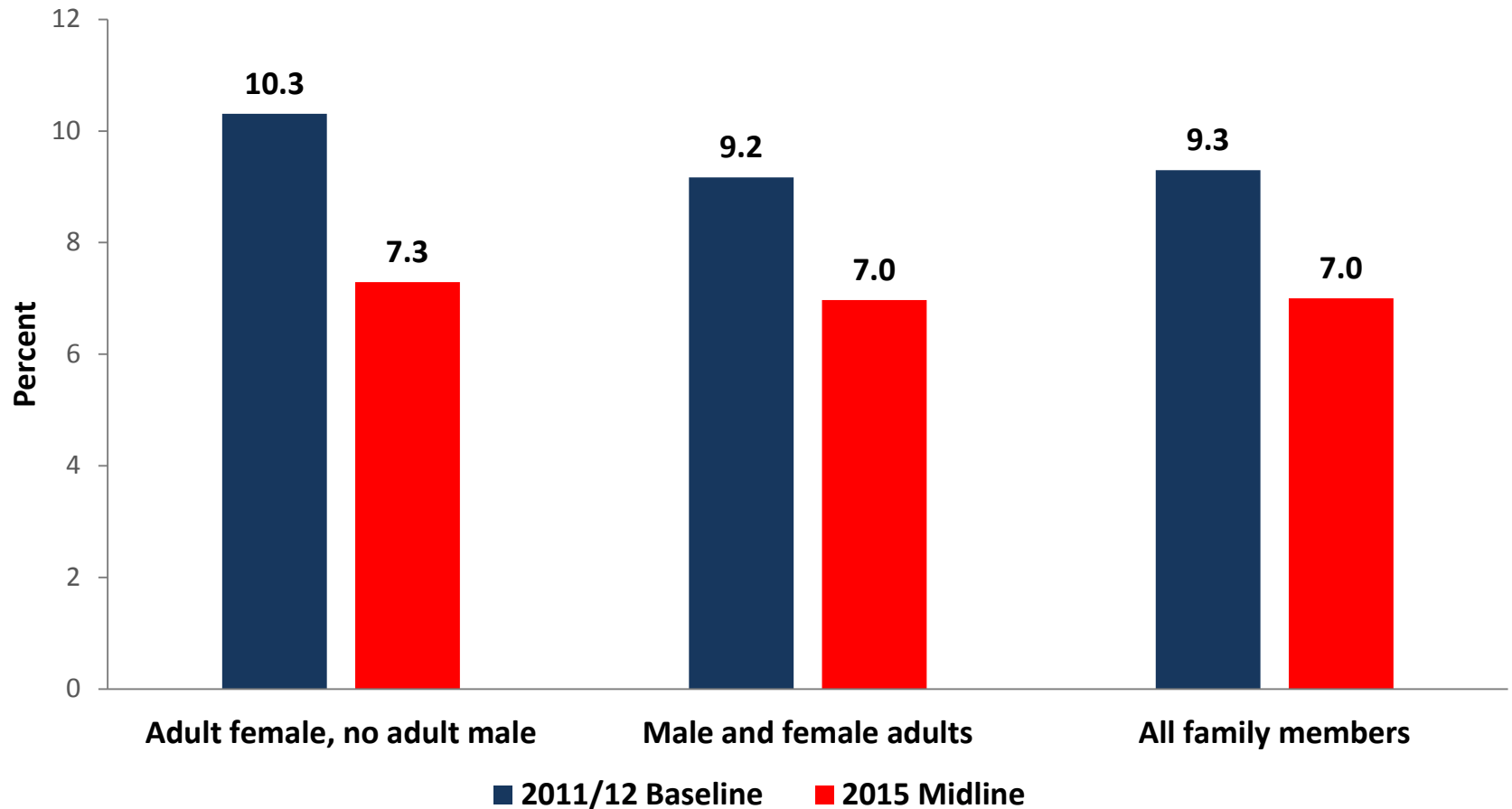
- General FGT poverty measure
- Poverty headcount ratio
 - *Does not satisfy any axioms of poverty*
- Per capita income gap (or poverty gap index or depth of poverty)
 - *Satisfies monotonicity axiom*
- Squared per capita income gap (or squared poverty gap index; it is distributionally sensitive)
 - *Satisfies monotonicity and transfer axioms*

Headcount poverty is insensitive to changes among the poor

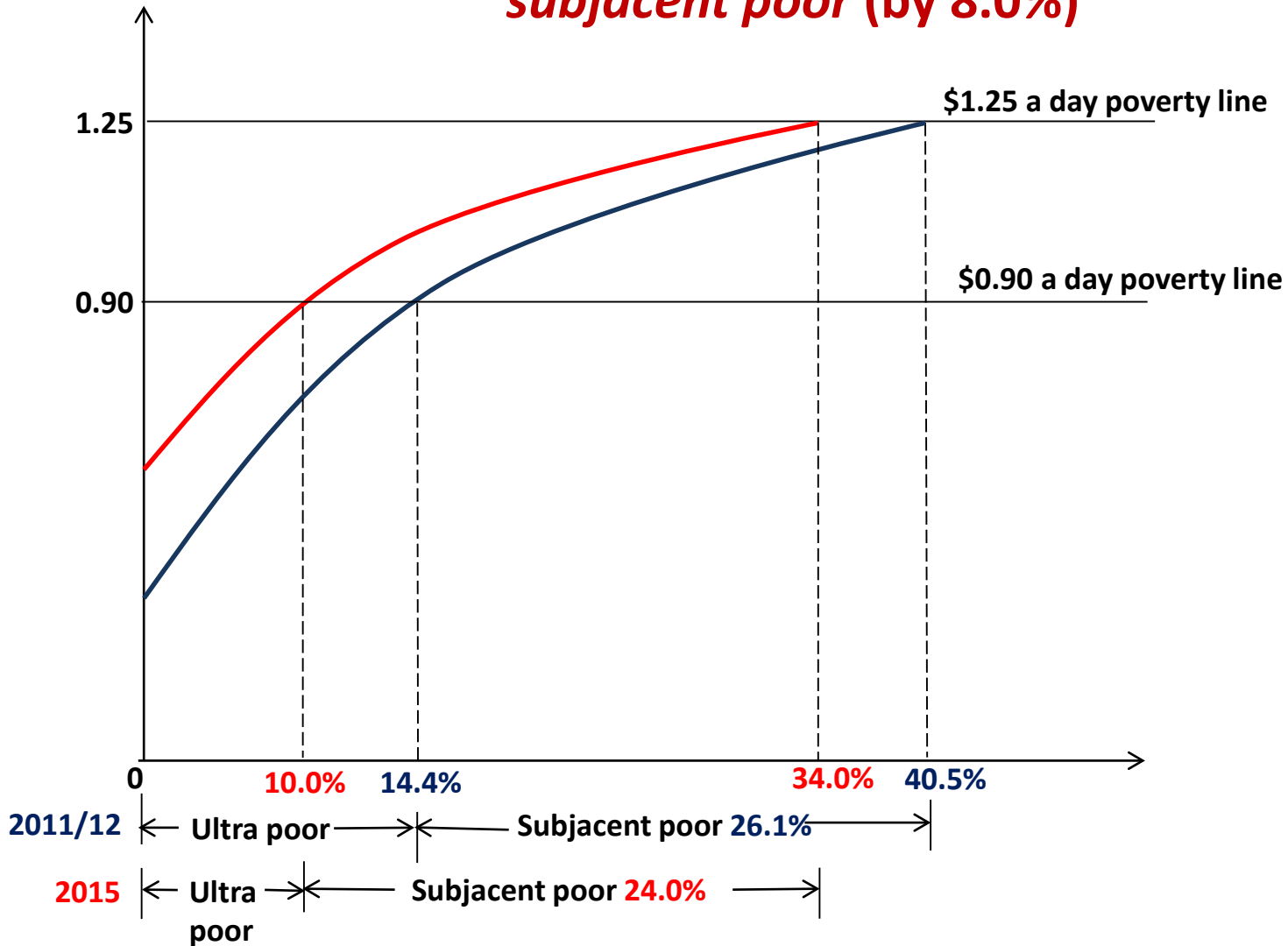


Depth of Poverty: Mean percent shortfall relative to the \$1.25 poverty line

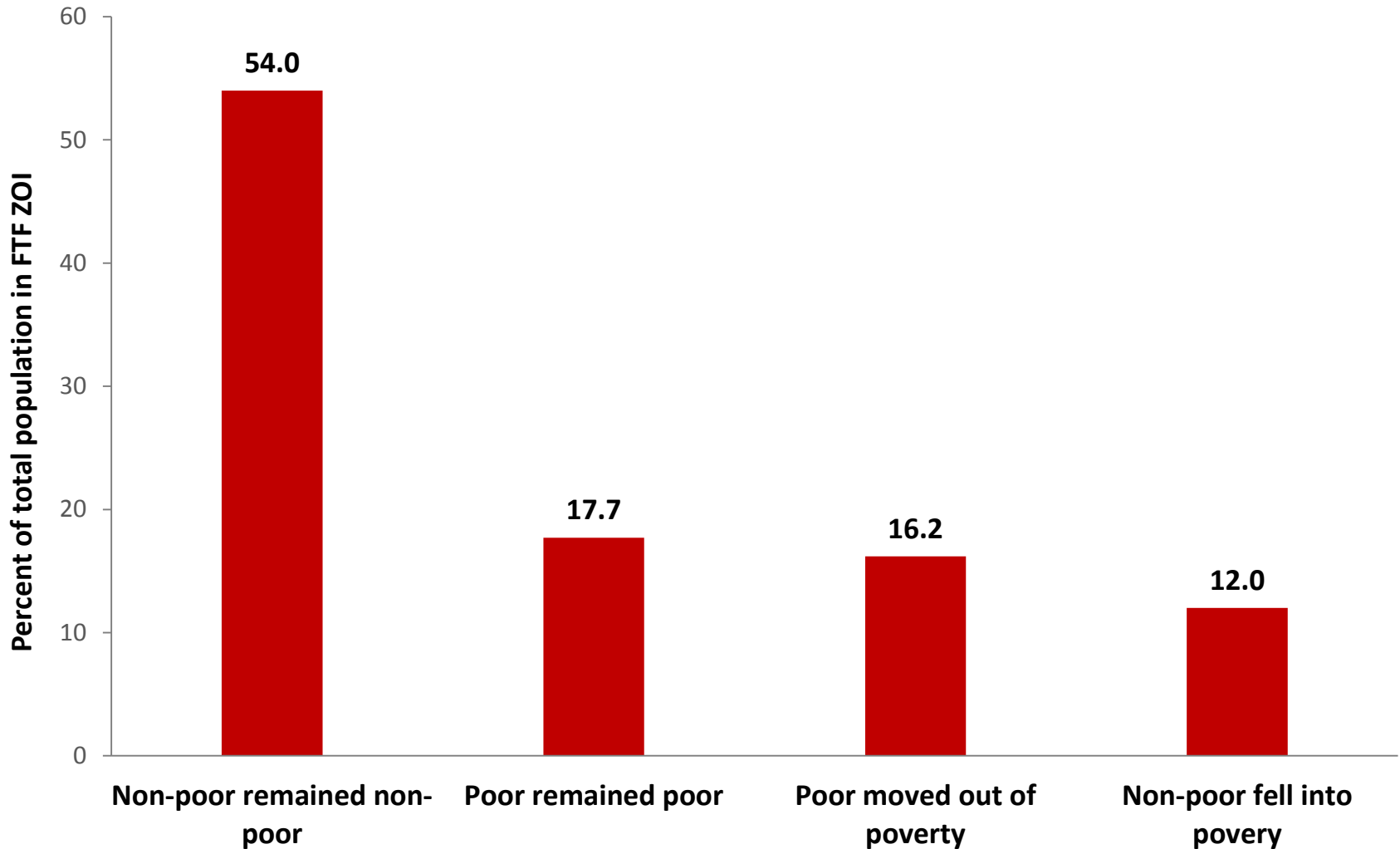
(FTF Ref #: 4 (TBD8))



Poverty declined more for the *ultra poor* (by 30.6%) than the *subjacent poor* (by 8.0%)



Dynamics of poverty in the FTF ZOI: Changes from 2011 to 2015



Why do poor remain poor?

Using multinomial logit regression and the panel data, we examined probable reasons why the poor remained in poverty from 2011/12 to 2015. Main factors that increase the likelihood of remaining in poverty are:

- ❖ Low levels of human and physical assets: Lack of schooling of household head, land holding, and reduction in total value of other assets
- ❖ Decrease in nonfarm income share in total income
- ❖ Decrease in women's empowerment in agriculture (measured by WEAI score)
- ❖ Decrease in savings
- ❖ No access to electricity and no ownership of cell phone
- ❖ Increased dependency ratio and household size
- ❖ If social safety net transfer is less than 15% of total household income of SSN participants.

Key results from multinomial logit regression suggest households are more likely to fall into poverty if:

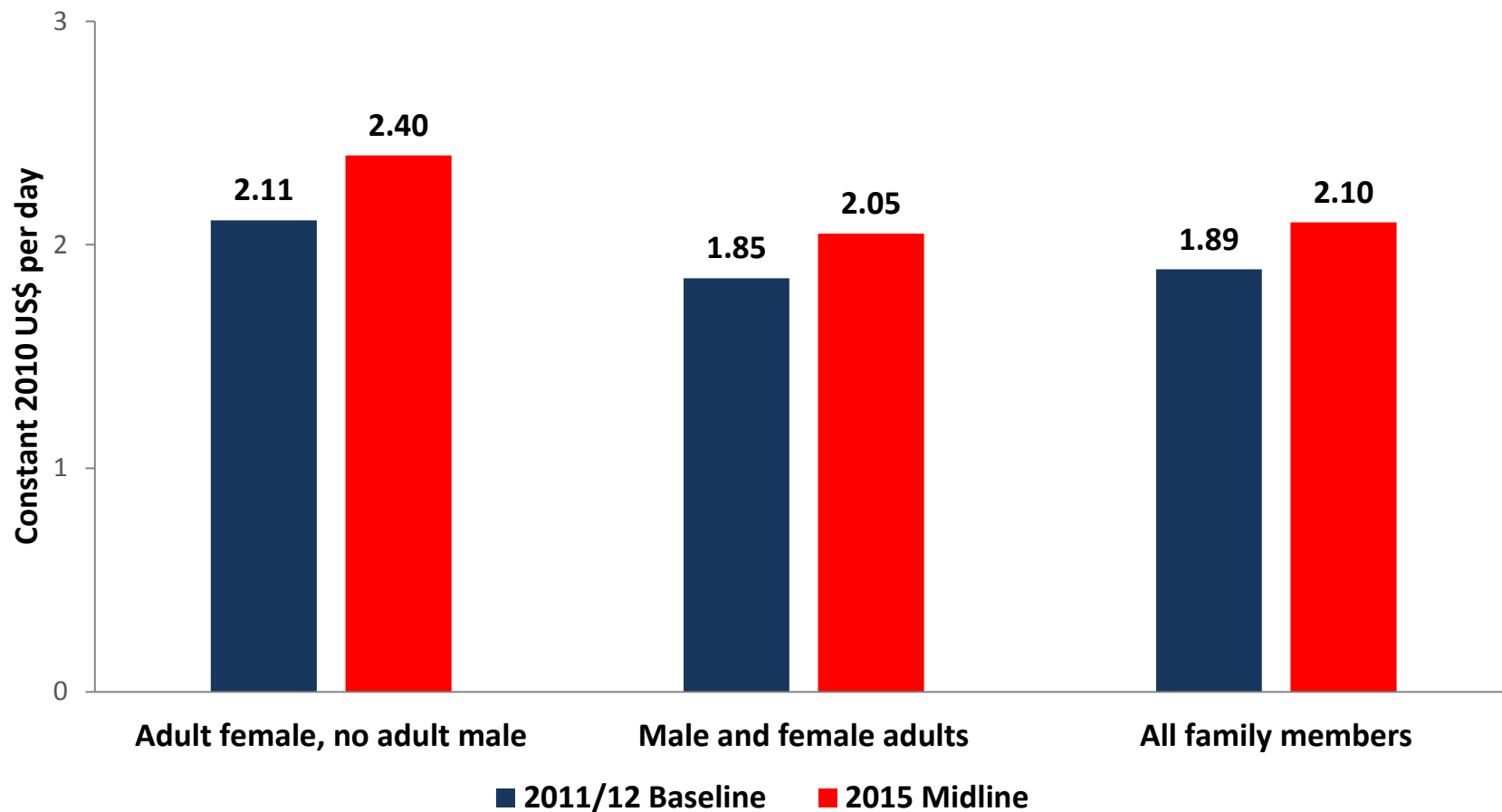
- ❖ The number of household members and dependency ratio increases
- ❖ Household incurs crop losses from floods, droughts, pests, and diseases

The following factors tend to prevent households from backsliding into poverty:

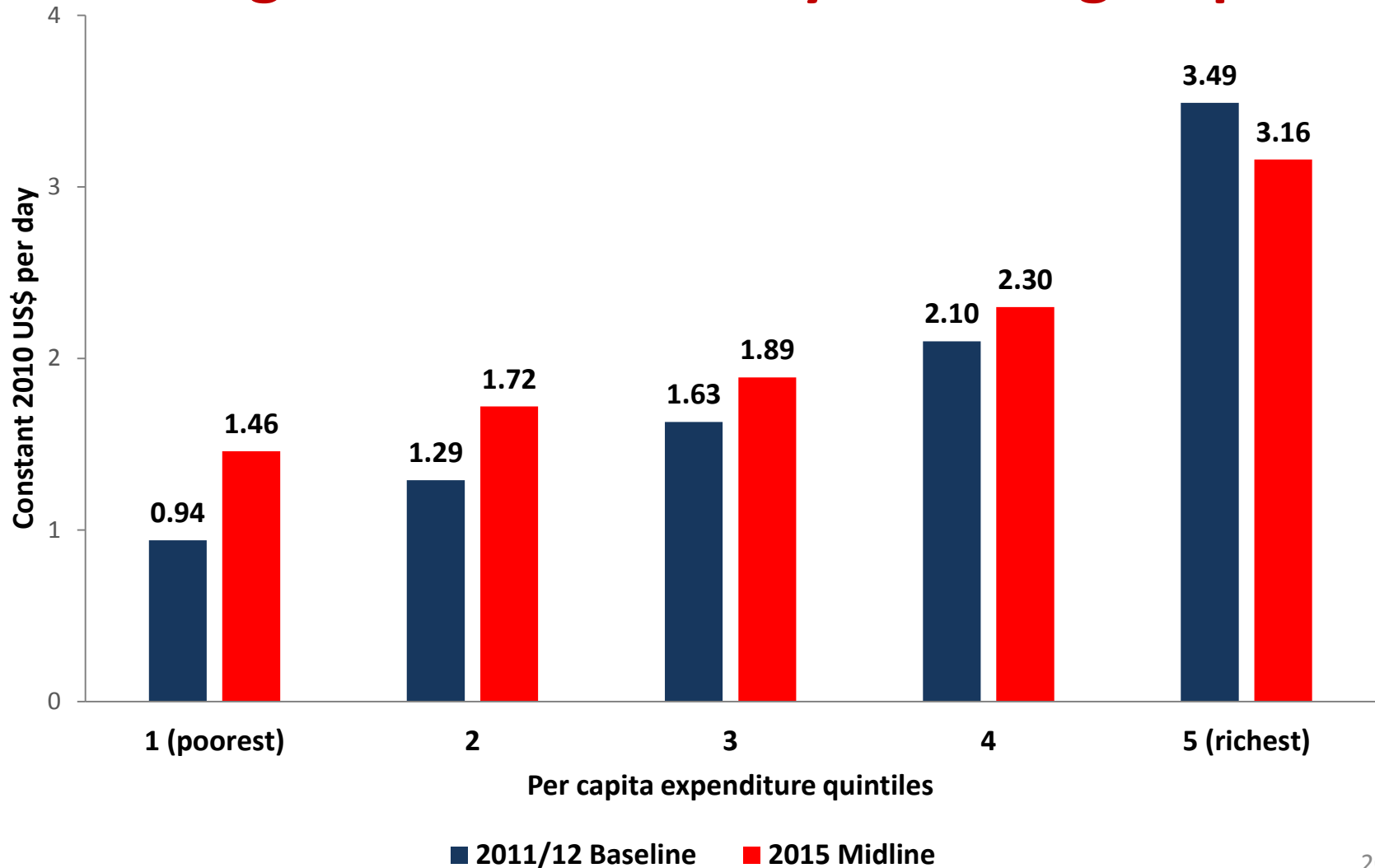
- ❖ More years of schooling of the head of household
- ❖ Higher share of income from nonfarm sources
- ❖ Higher value of asset holding and increase in savings
- ❖ Increase in owned land
- ❖ Access to electricity
- ❖ If social safety net income is more than 15% of total household income of SSN participants.

Daily per capita expenditures (as a proxy for income) in FTF ZOI

(FTF Ref #: 4.5-9)



Income increased relatively more for the poor: Change in real income by income groups



What factors affect farmers' income?

Using random effects panel regression and sub-sample of FTF farm households, results show that farmers' income increases if:

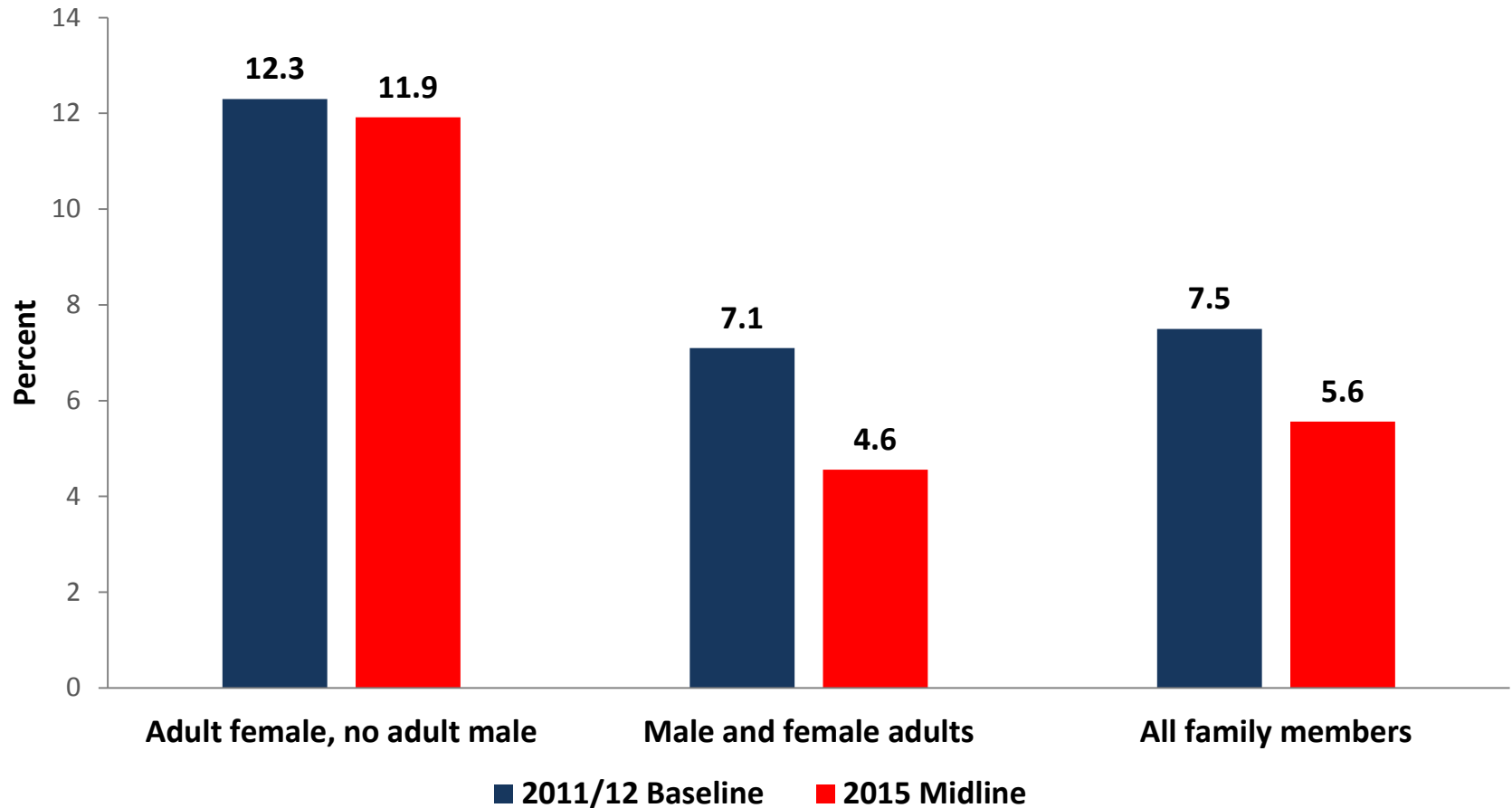
- ❖ Household male head and female spouse have more schooling
- ❖ They use mechanized irrigation, have access to commercial loans
- ❖ Women are more empowered (measured by WEAI)
- ❖ Operated land area, total value of assets increase
- ❖ They increase MoP fertilizer use per hectare
- ❖ Non-farm income share increases; have access to electricity (solar panel or national grid) and own cell phone
- ❖ Domestic and international remittances increase

Farmers' income tends to decrease when:

- ❖ Share of cropped land under rice cultivation increases
- ❖ Dependency ratio and household size increase

Prevalence of households with moderate or severe hunger

(FTF Ref #: 3.1.9-3 & 4.7-4)

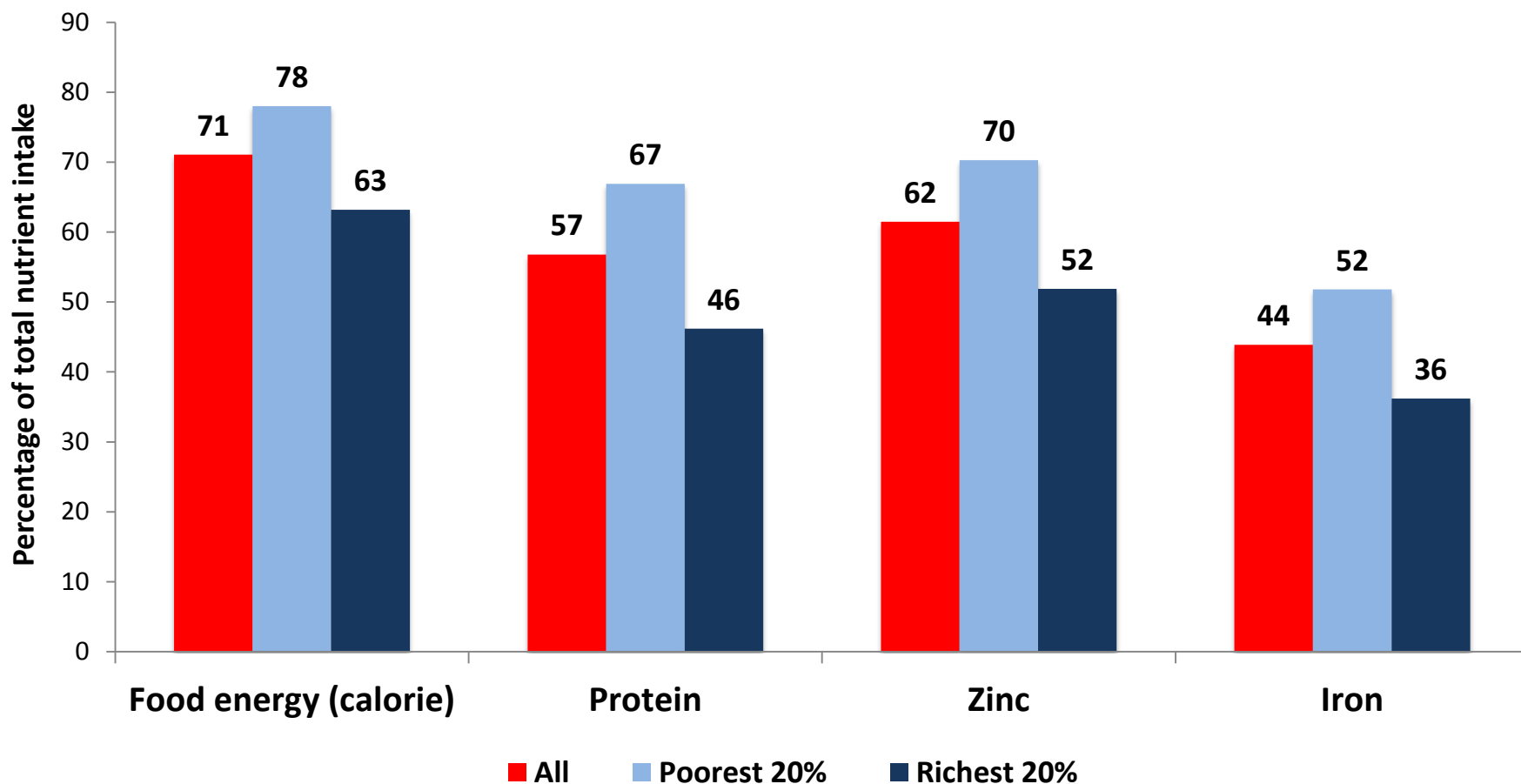


Change in FTF Indicators from 2011/12 to 2015:

**Food Consumption, Diets, and
Nutrition**

Overwhelming dominance of rice in diet

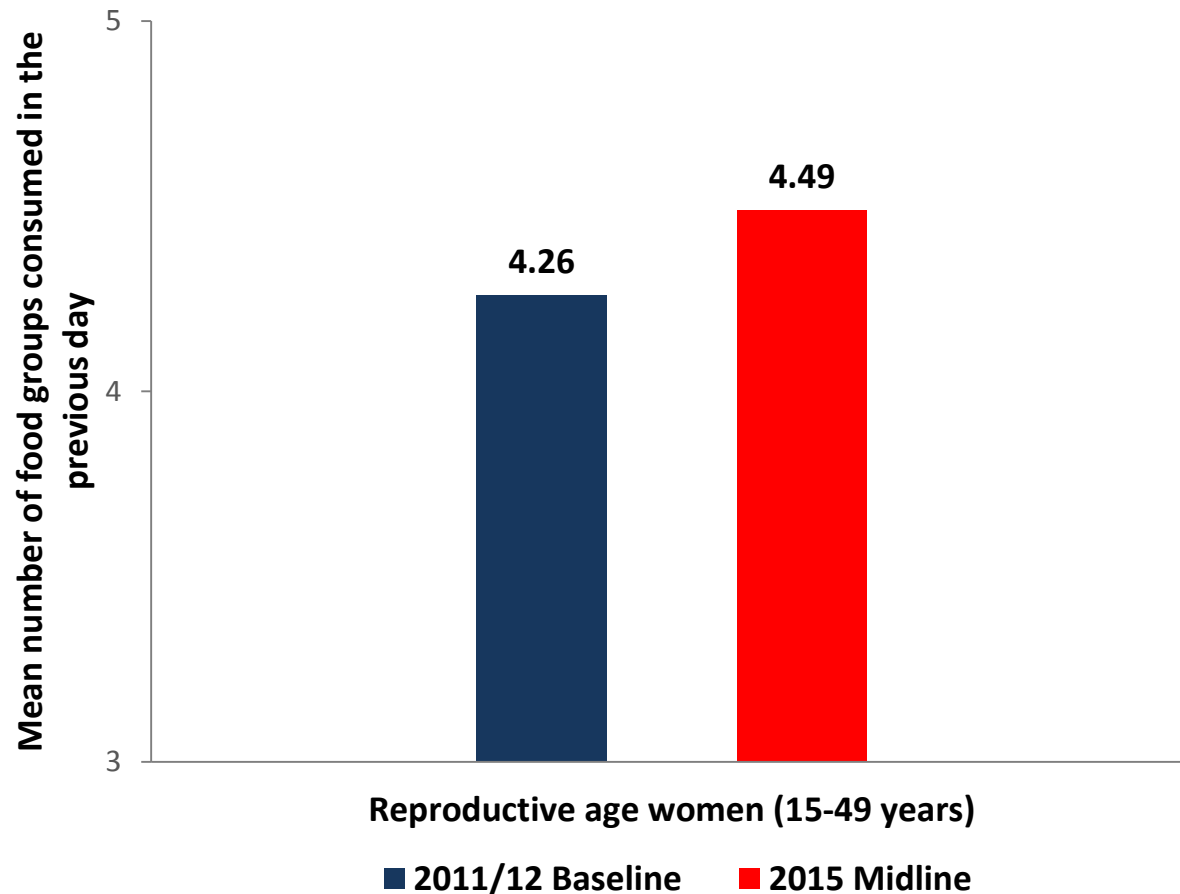
Share of nutrient from rice in total nutrient intakes of Bangladeshis



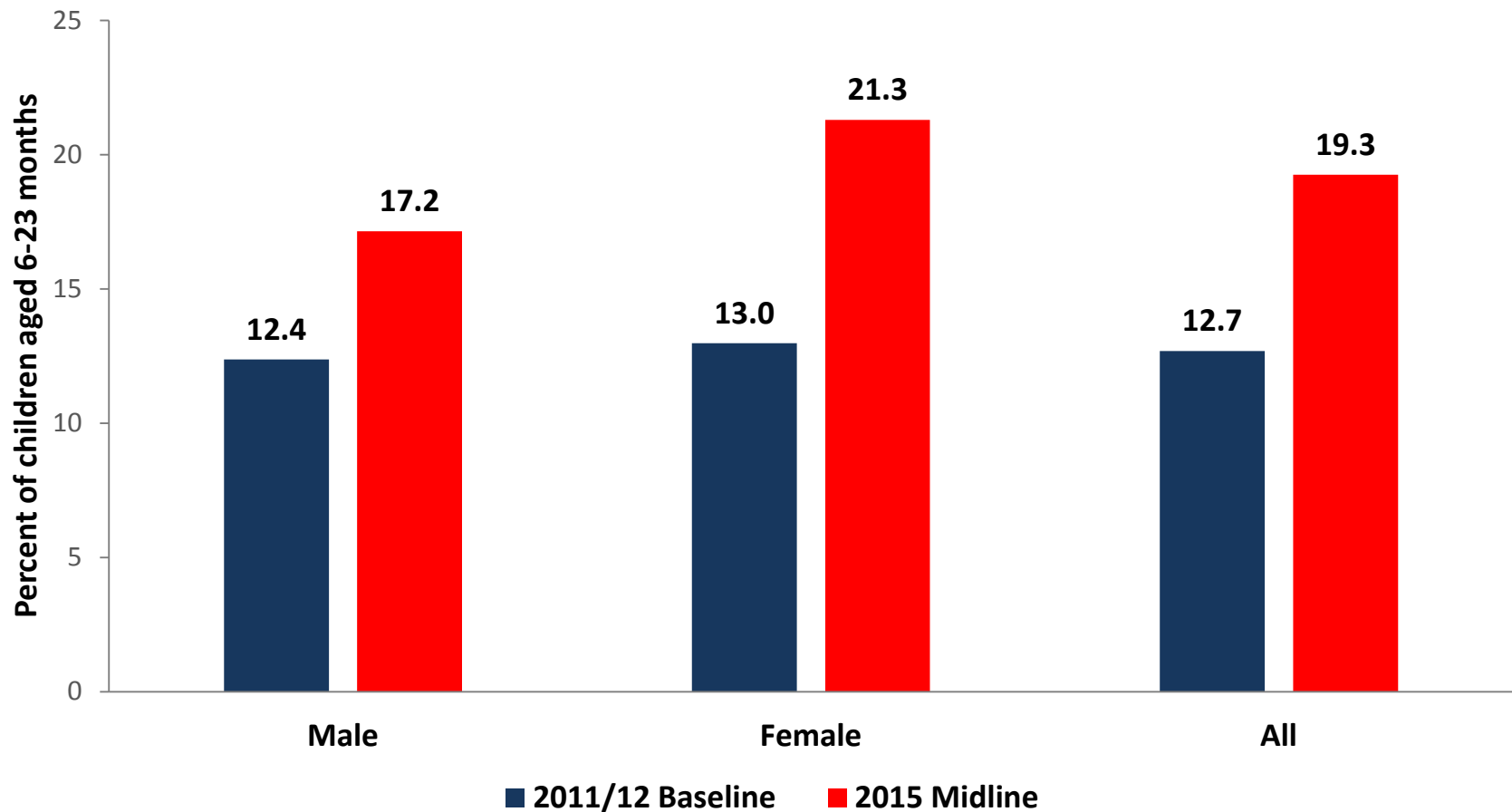
Source: IFPRI Bangladesh Integrated Household Survey (BIHS): 2011/12 Baseline

Women's dietary diversity (mean number of food groups consumed by women of reproductive age)

(FTF Ref #: 3.1.9.1-2)



Prevalence of children 6-23 months receiving a minimum acceptable diet in the previous day (FTF Ref #: 3.1.9.1(1))



Calculation of the WFP Food Consumption Score

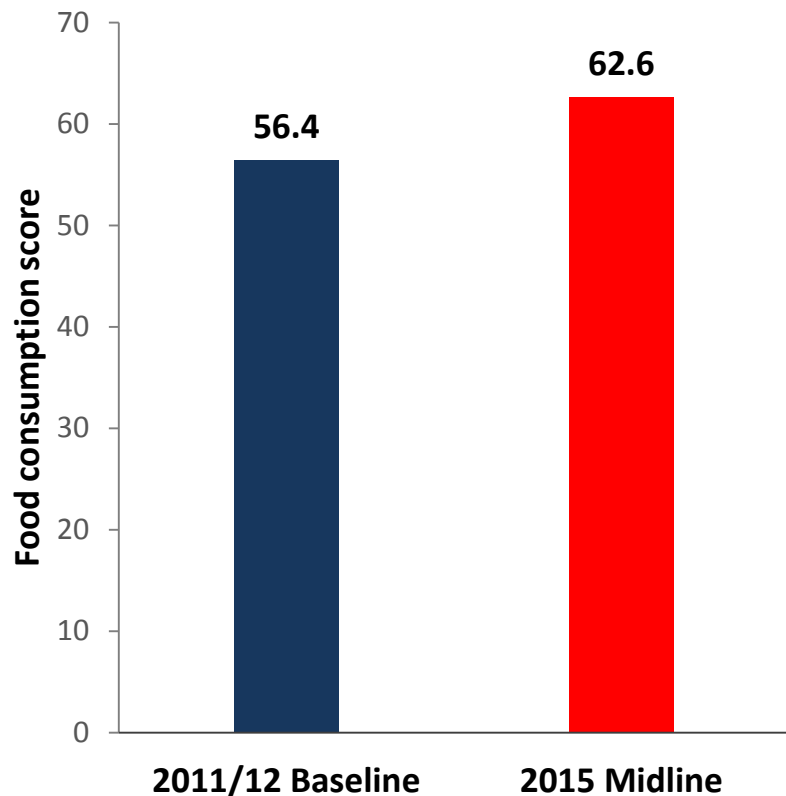
(# of days consumed of each food group, weighted by “nutritional importance”)

Group	Food items	Food group	Weight
1	Rice and other cereals	Staples	2
2	Beans, lentils, peas and nuts	Pulses/legumes	3
3	Vegetables and leaves	Vegetables	1
4	Fruits	Fruits	1
5	Beef, goat, poultry, eggs, and fish	Meat, eggs and fish	4
6	Milk, yogurt, and other dairies	Milk	4
7	Sugar, sugar products, and honey	Sugar	0.5
8	Oils, fats, and butter	Oil	0.5

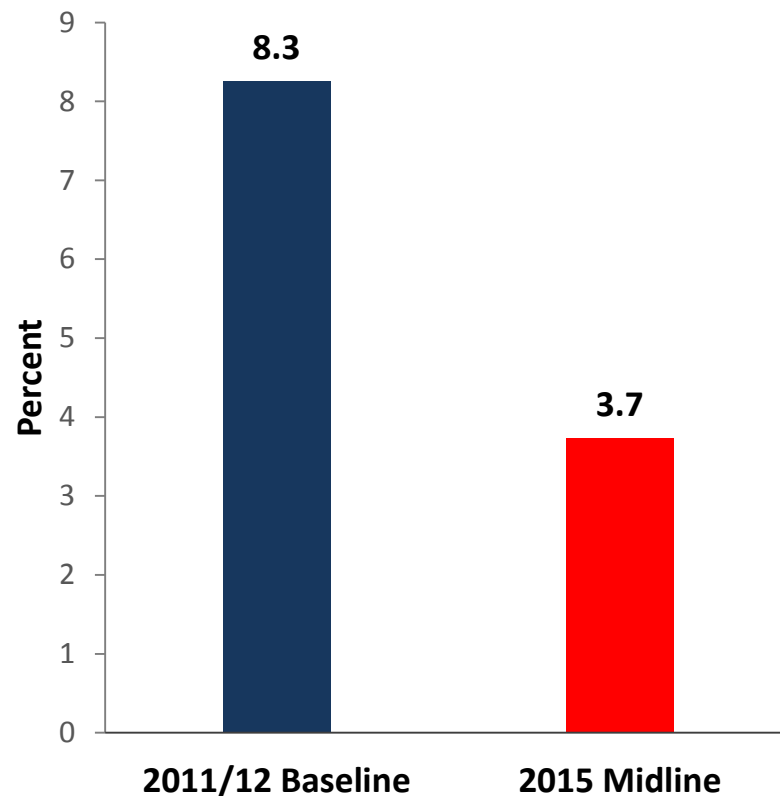
Household diet quality improved

(using WFP's Food Consumption Score: 0-112)

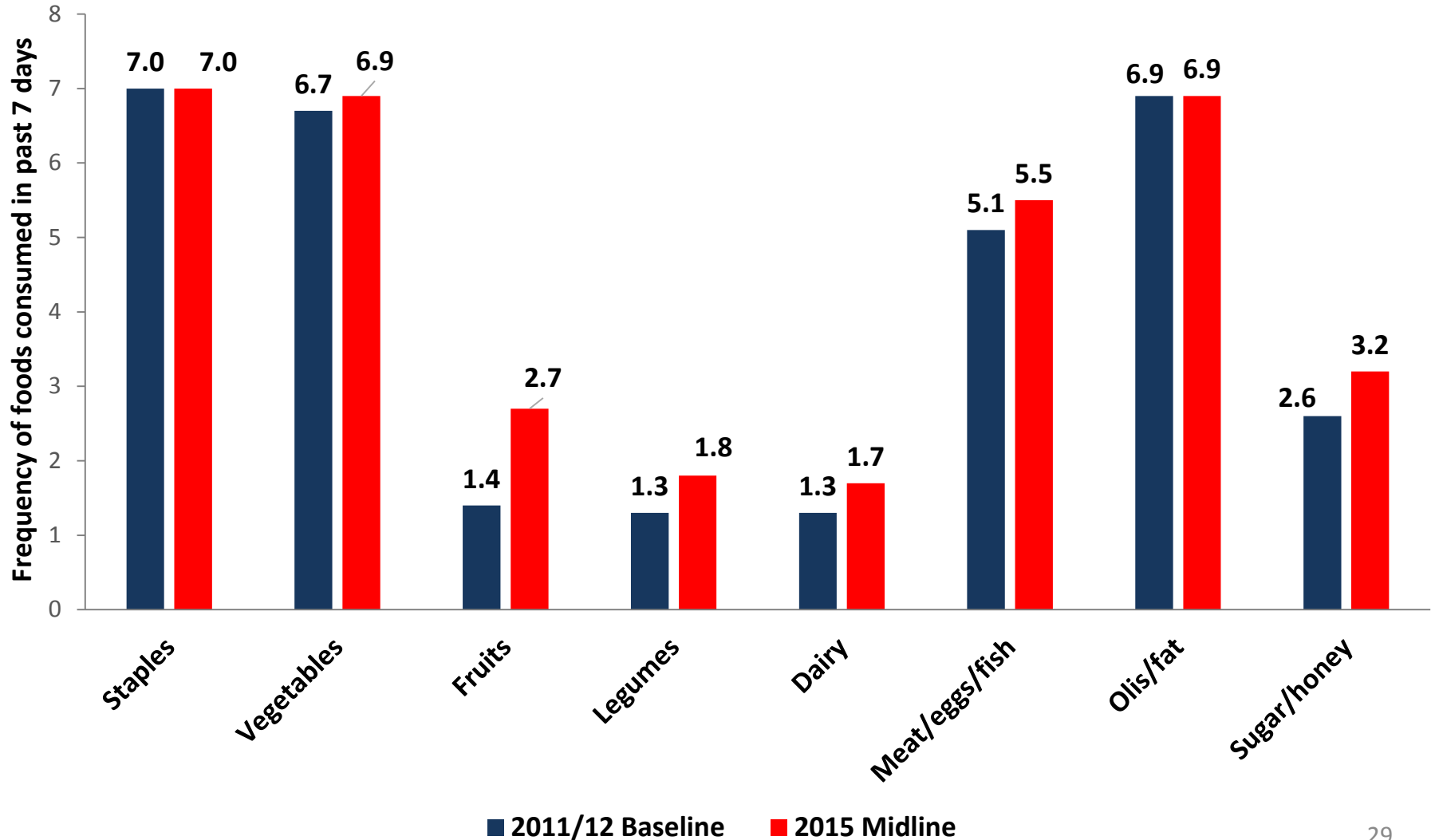
Average FCS



Percentage of households with low FCS (<35)



Frequency of food groups consumed in past 7 days



Explaining diet quality in the FTF ZOI

Using random effects regression and panel data, results show that household-level diet quality (measured by Food Consumption Score) improves if:

- ❖ Household male head and female spouse have more schooling
- ❖ Household agricultural production diversity increases (increased number of non-rice food crops grown, and milk-cow and poultry reared)
- ❖ Rice price (inflation adjusted) increases → consume less rice and more non-rice foods
- ❖ Women are more empowered (measured by WEAI)
- ❖ Non-farm income share increases

Explaining diet quality in the FTF ZOI (cont'd)

Household-level diet quality improves if:

- ❖ Total value of assets increases
- ❖ Have access to electricity (solar panel or national grid)
- ❖ Use mechanized irrigation
- ❖ Own cell phone
- ❖ Domestic and international remittances increase

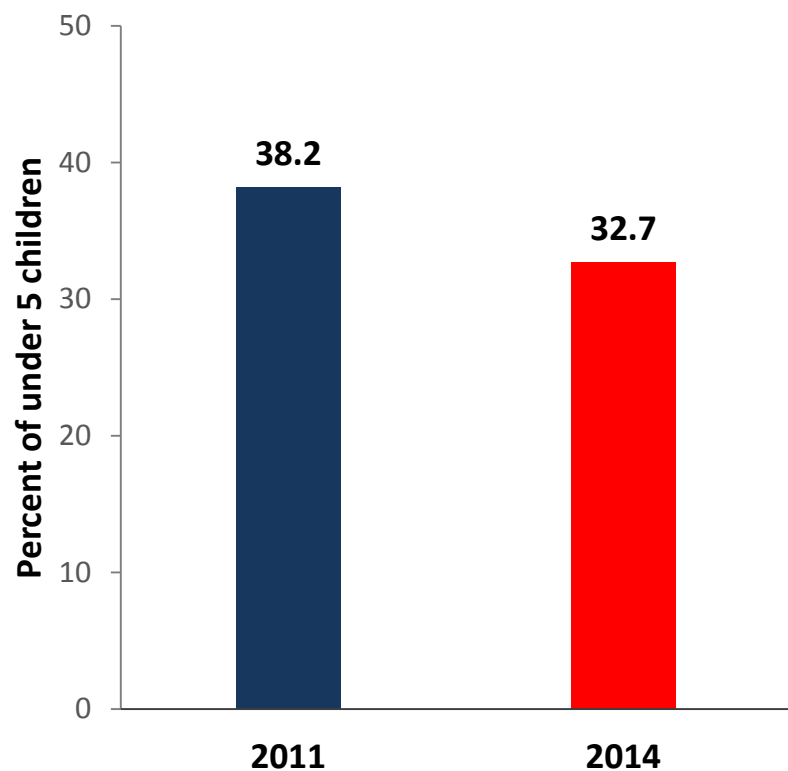
Household-level diet quality deteriorates if:

- ❖ Household grows rice
- ❖ Household is located in the coastal belt of the FTF ZOI.

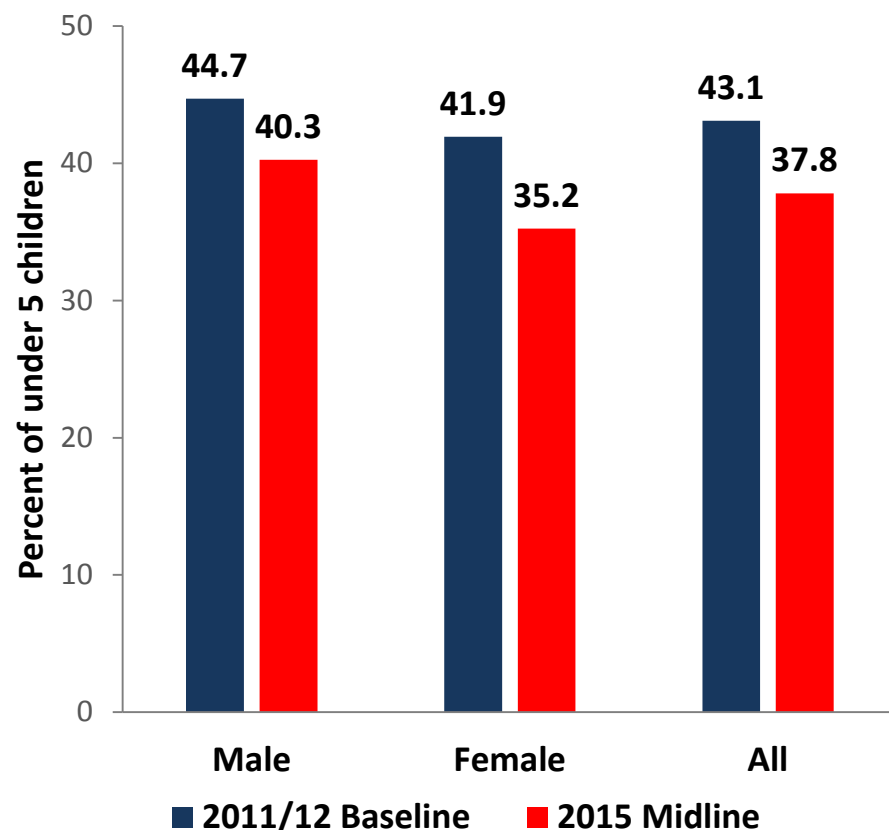
Prevalence of stunted children under five years of age

(FTF Ref #: 3.1.9(11))

DHS data for Barisal and Khulna Divisions (used by USAID)



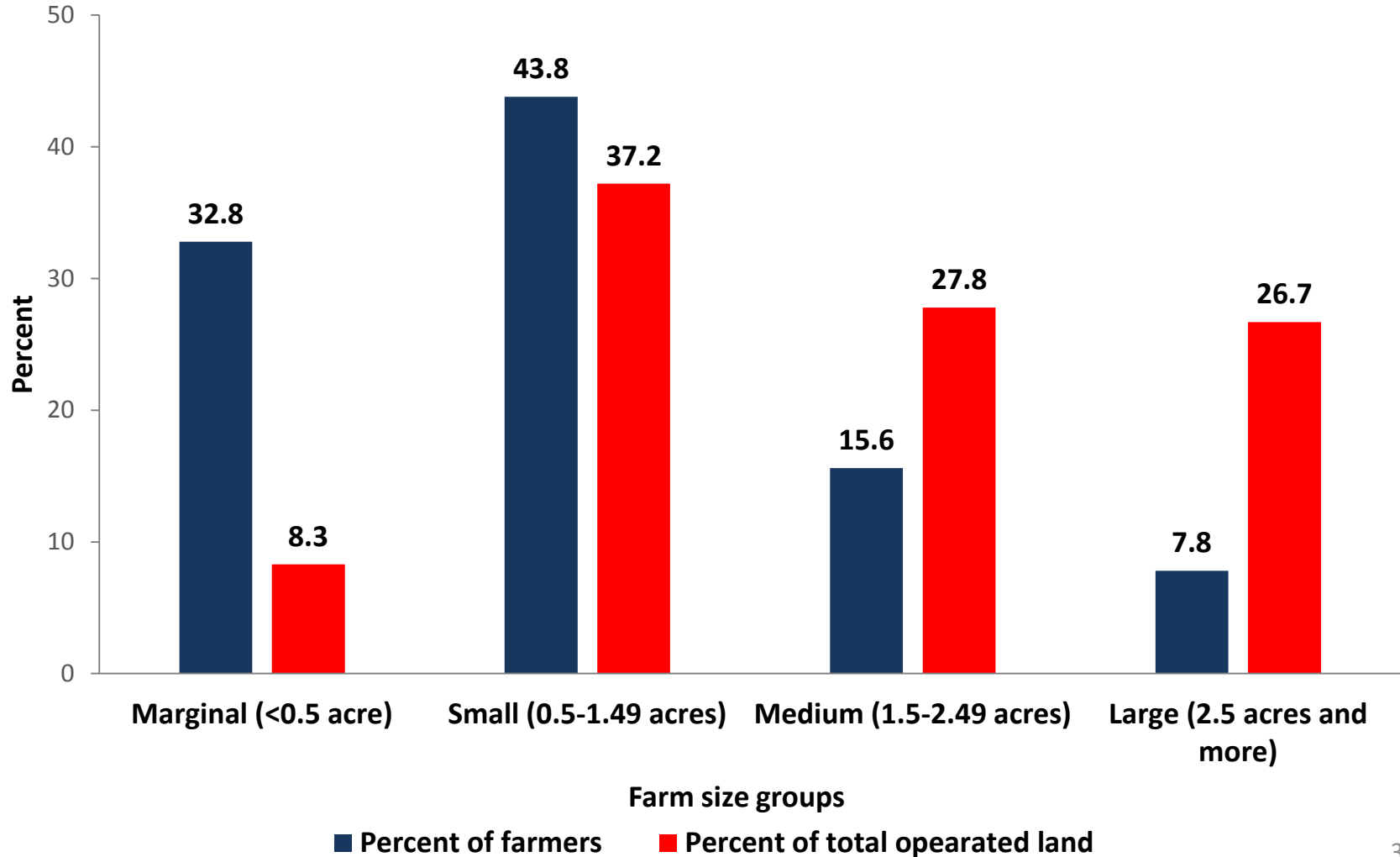
IFPRI BIHS data for the FTF ZOI (not used by USAID)



Change in FTF Indicators from 2011/12 to 2015:

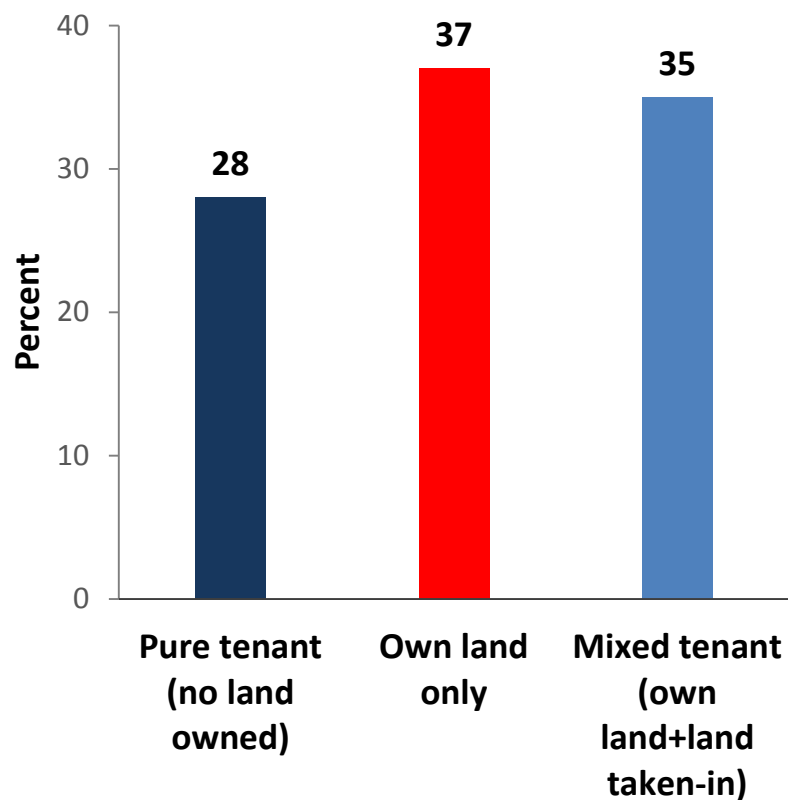
Agriculture

Distribution of operated land by farm size groups in FTF ZOI at baseline

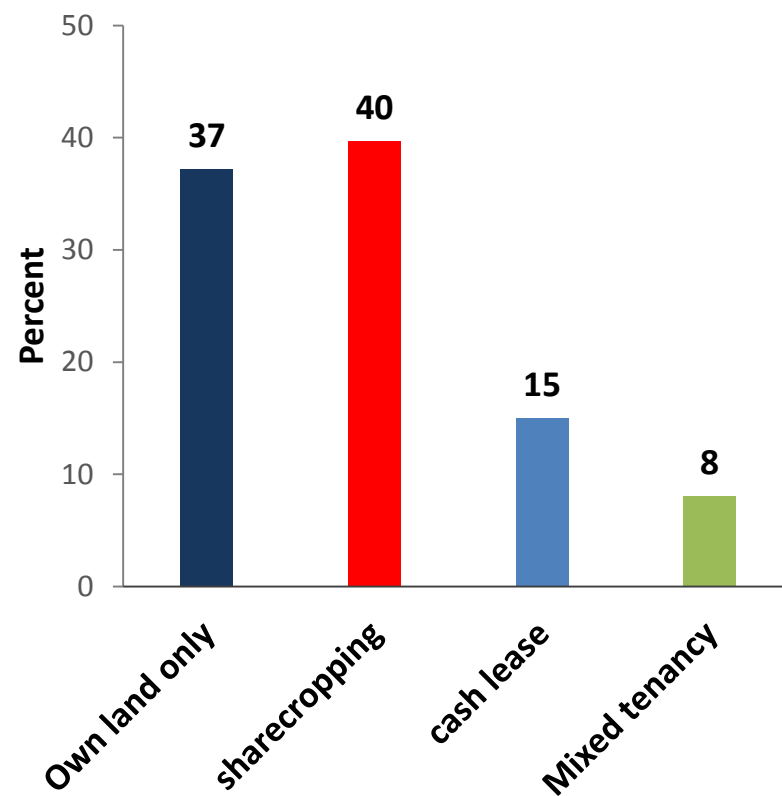


Land tenure patterns and forms of tenancy in FTF ZOI

Land tenure patterns

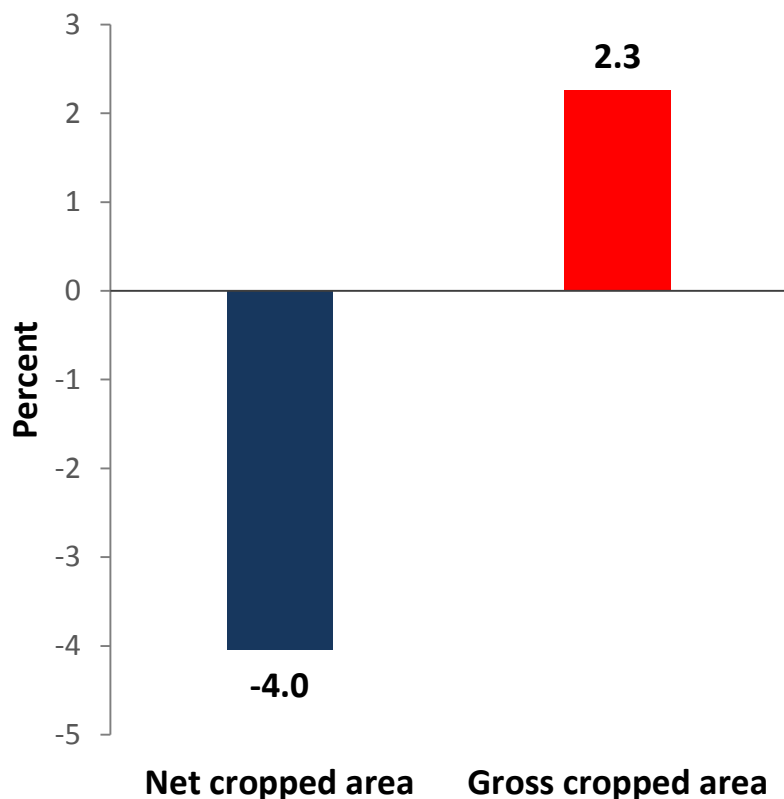


Forms of tenancy

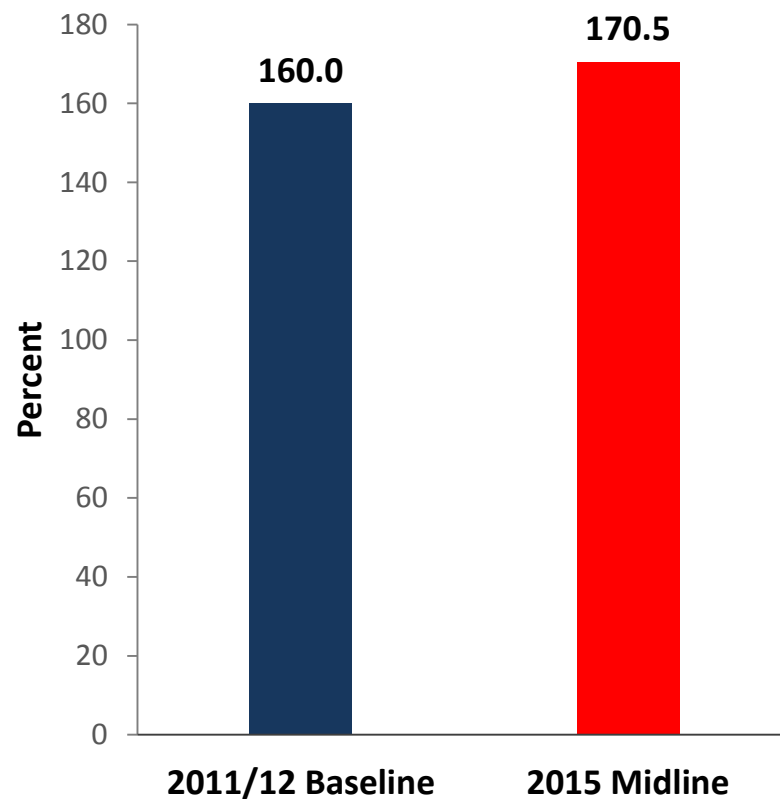


Change in cropped area and cropping intensity in the FTF ZOI from 2011/12 baseline to 2015 midline

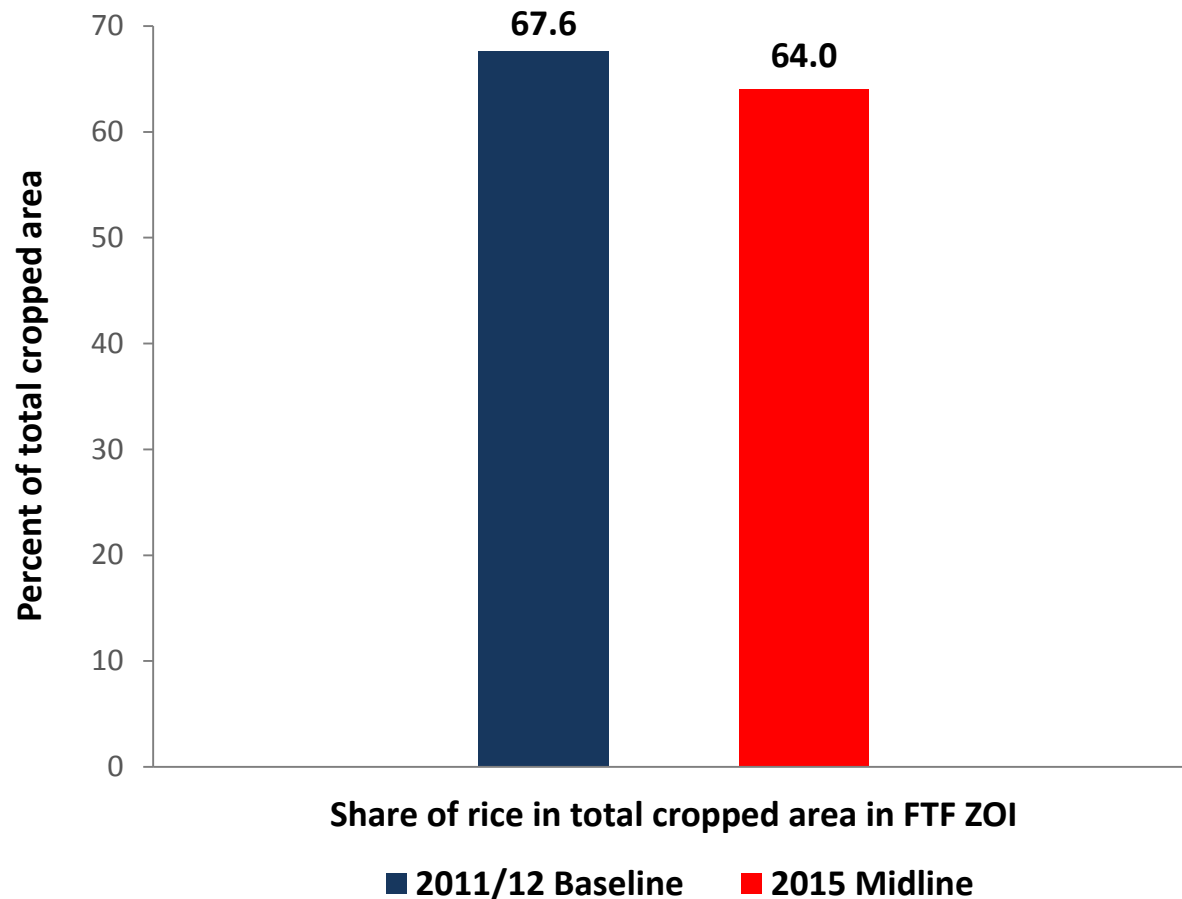
Change in cropped area



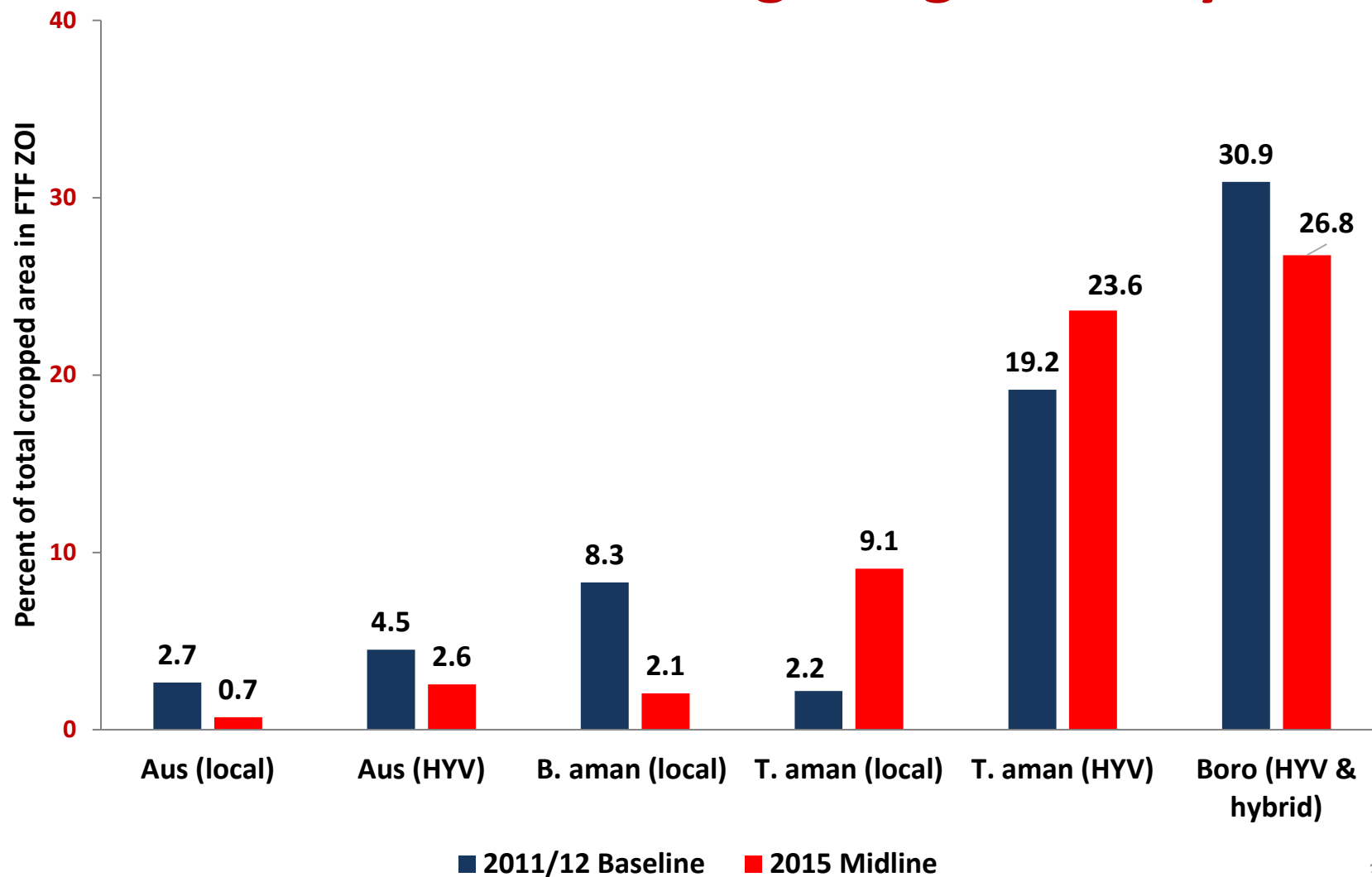
Change in cropping intensity



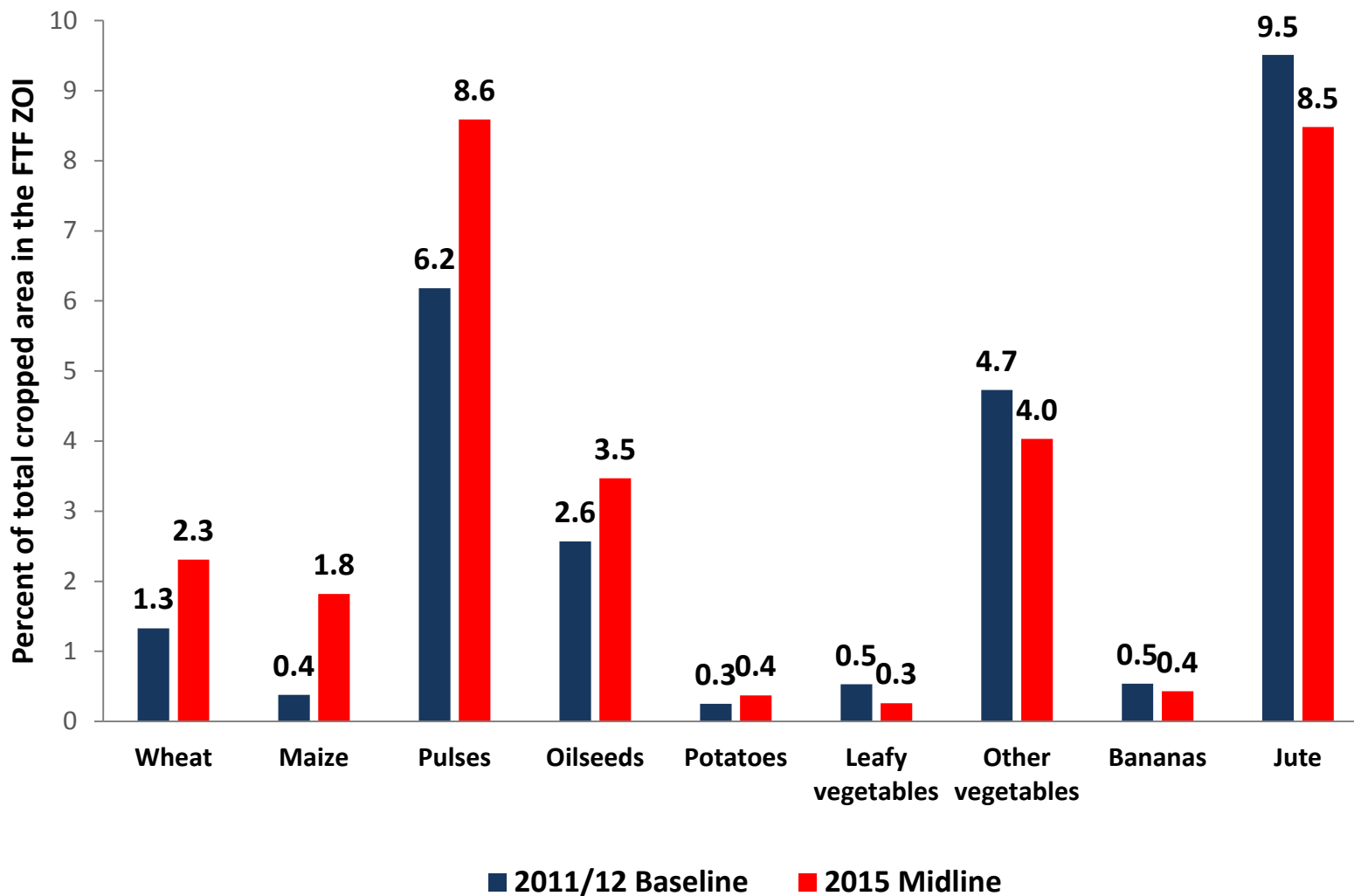
Share of rice in total cropped land decreased by 3.6 percentage points



Share of different types of rice in total cropped area in FTF ZOI changed significantly

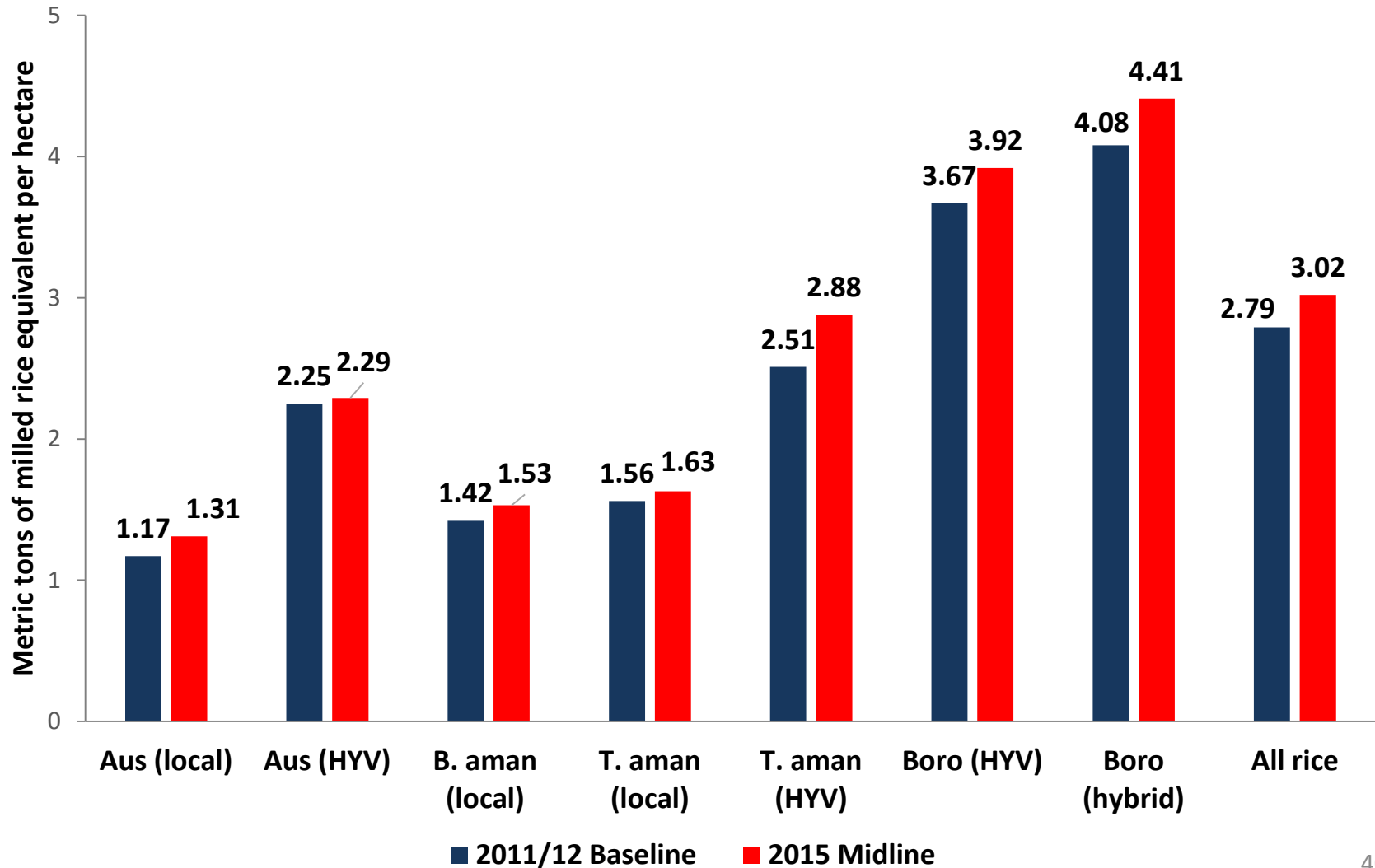


Share of non-rice crops in total cropped area in FTF ZOI also changed considerably

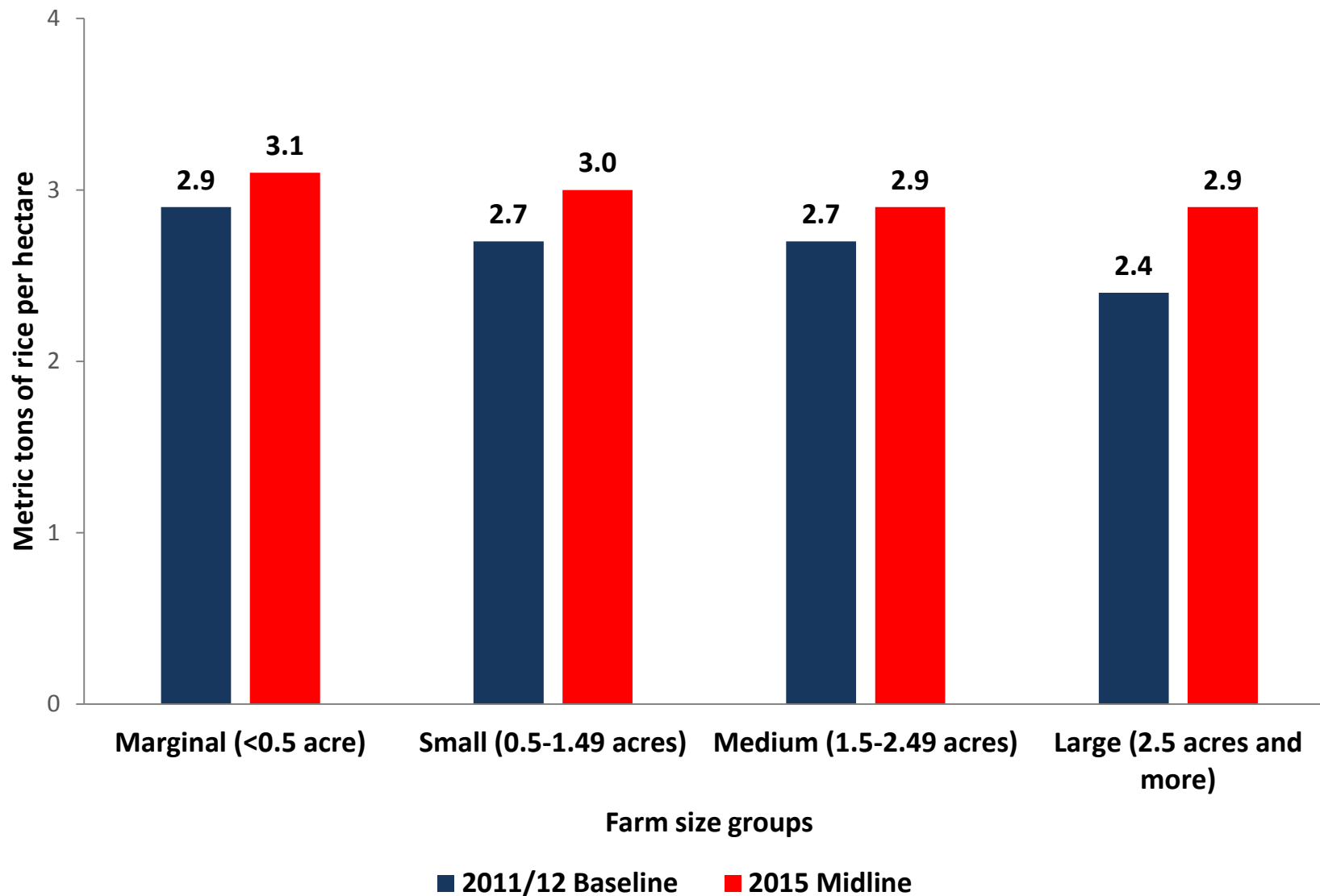


Overall rice yields increased 8.3%

(Total rice production in FTF ZOI increased 3.2% despite the decline in rice area)

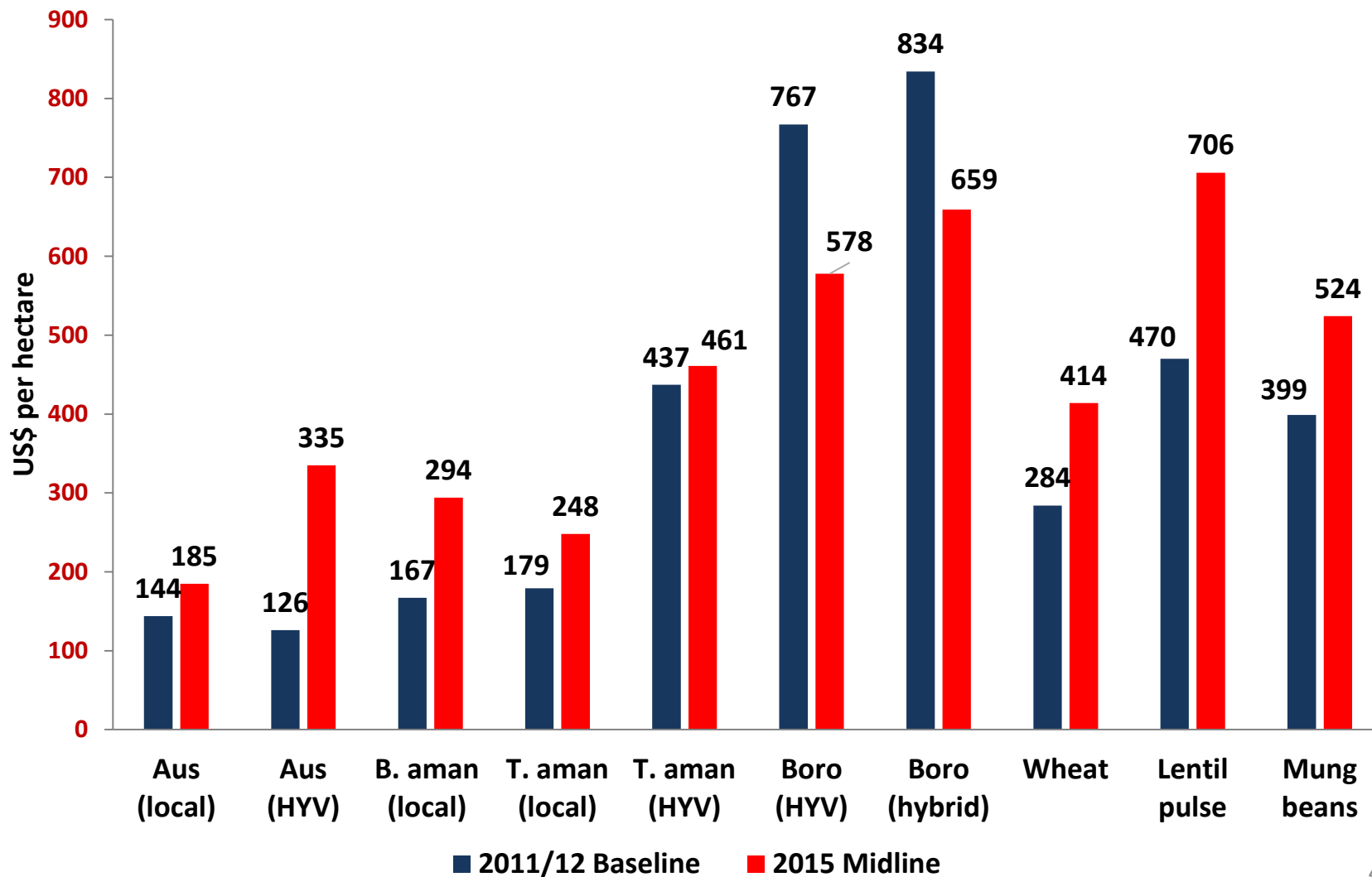


Rice yields by farm size groups

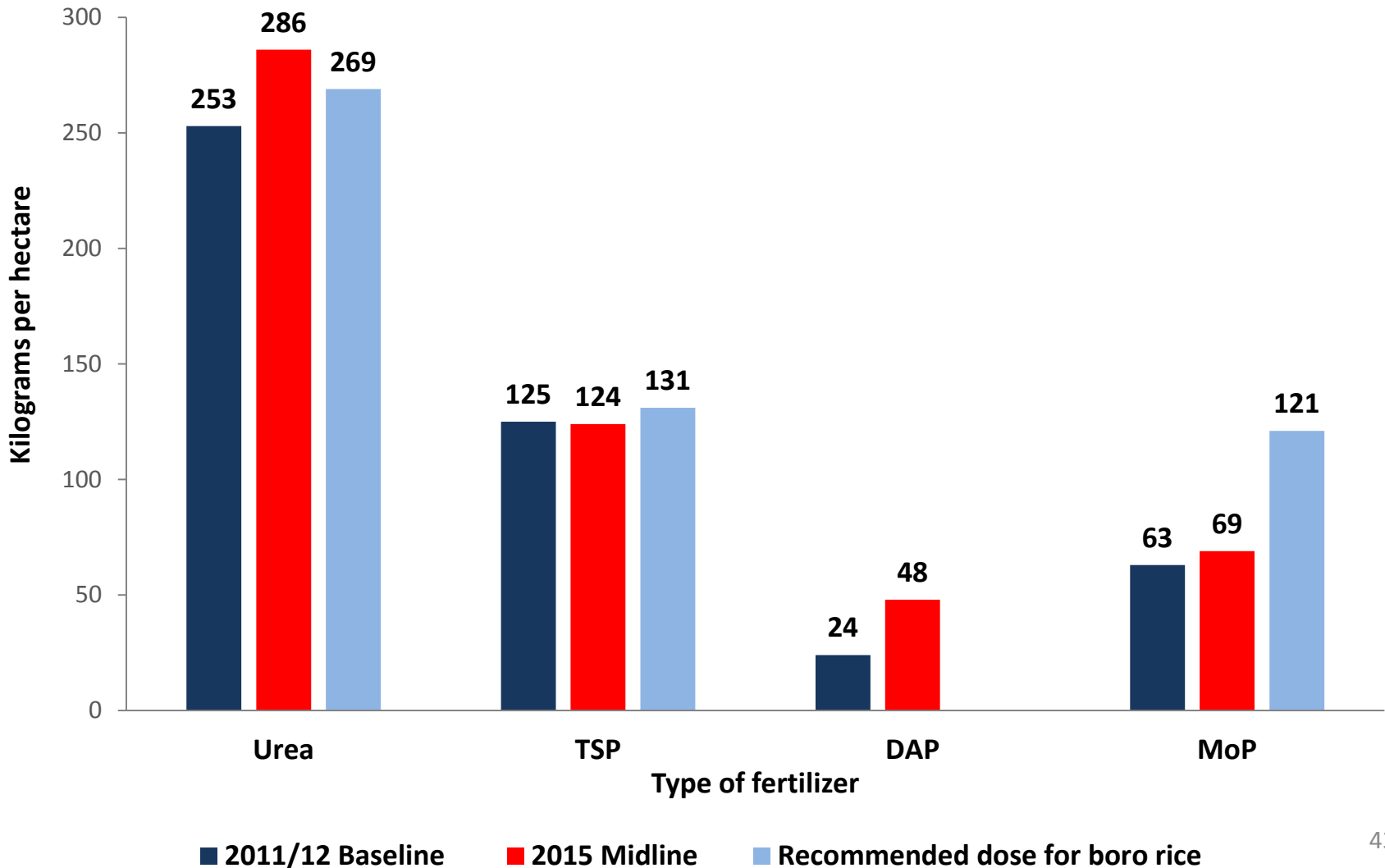


Gross margin of selected crops per hectare

(FTF Ref # 4.5-16-18)

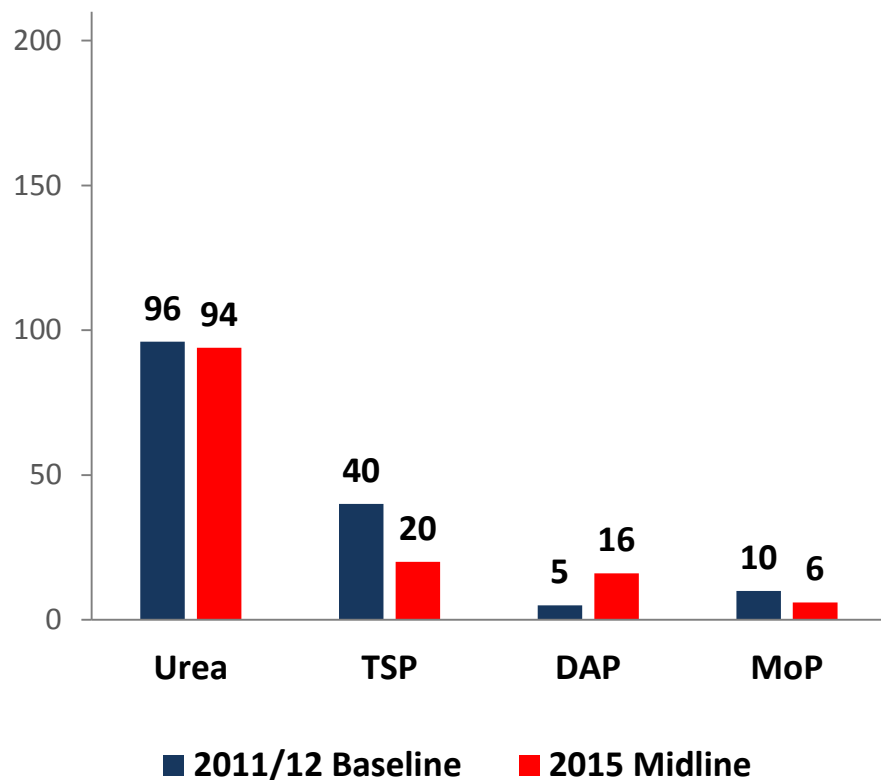


Rate of fertilizer use for HYV & hybrid boro rice cultivation

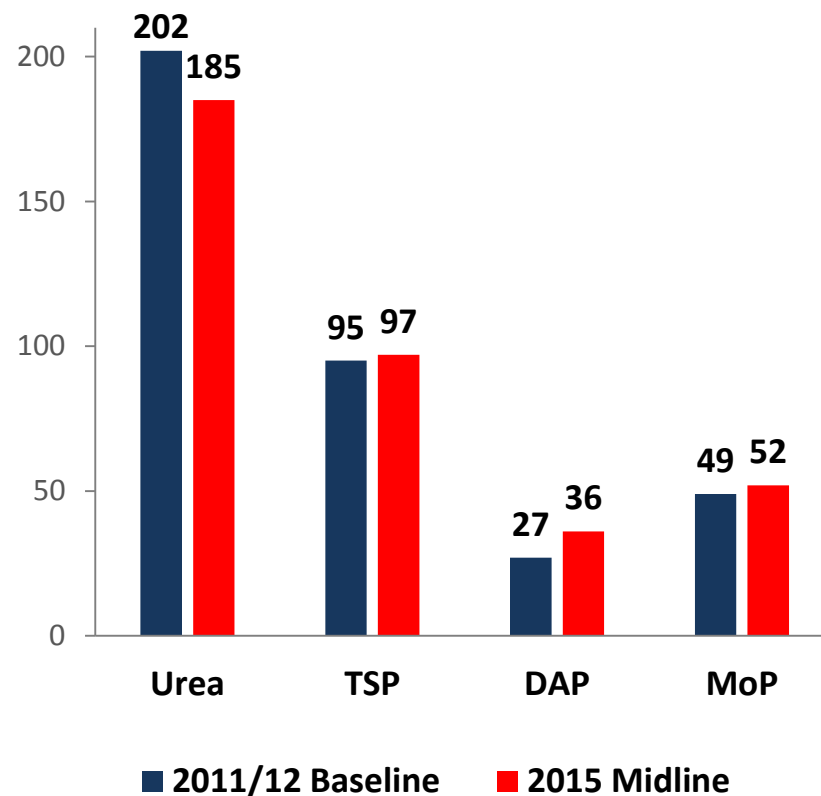


Rate of fertilizer use for t. aman rice cultivation (kilograms/hectare)

Local t. aman rice

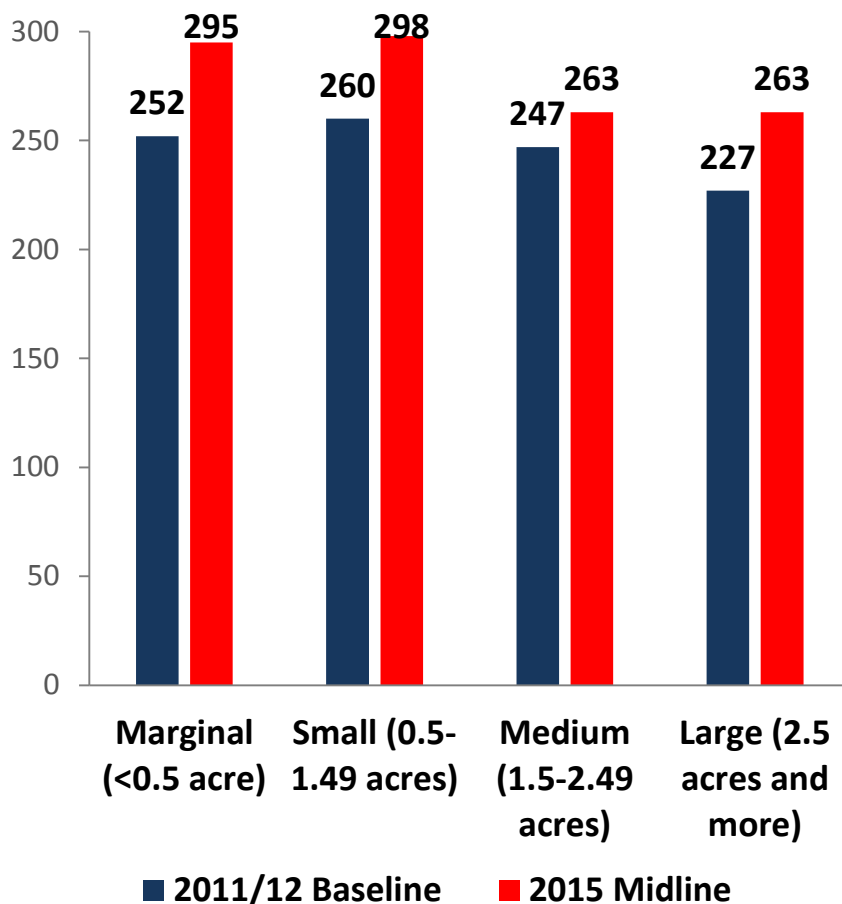


HYV t. aman rice

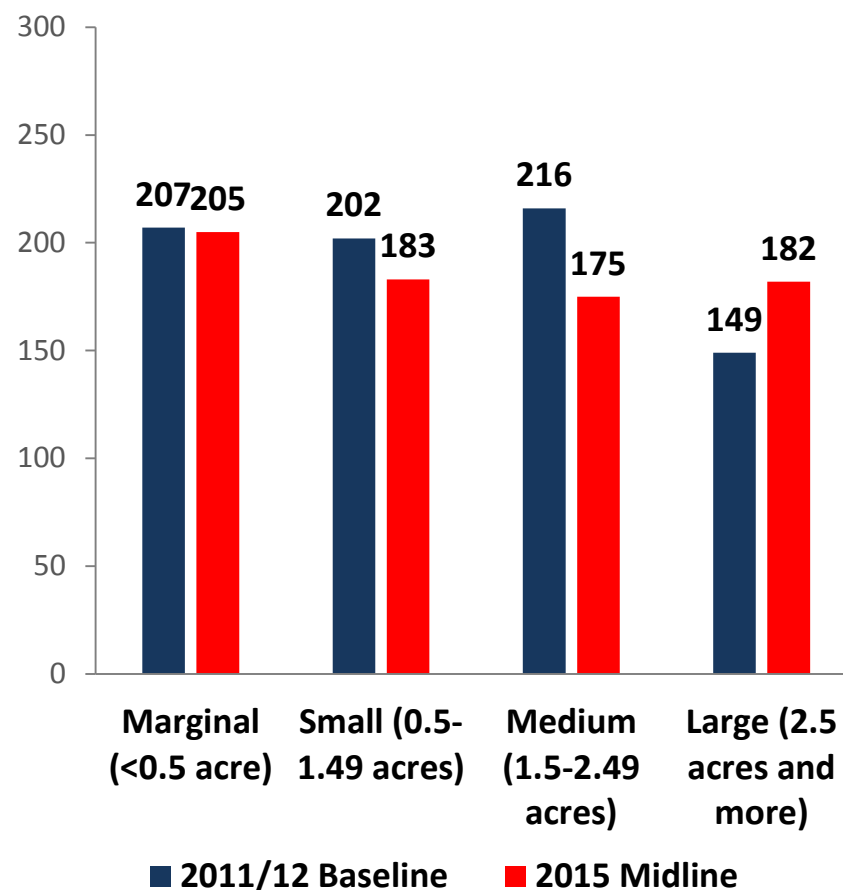


Rate of fertilizer use by farm size groups (kilograms/hectare)

HYV & hybrid boro rice

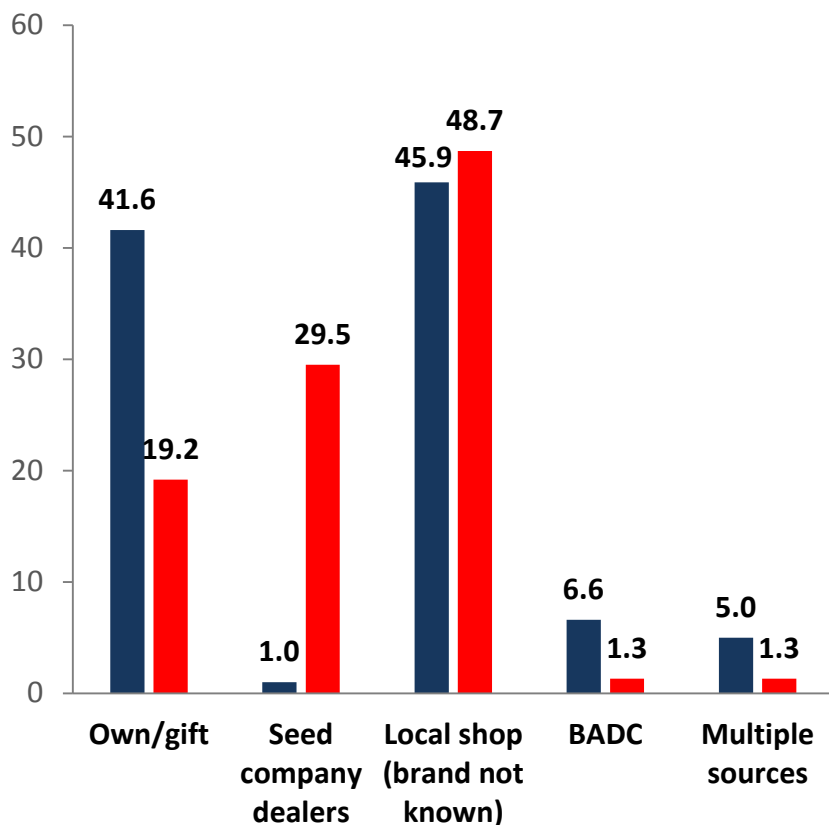


HYV t. aman rice



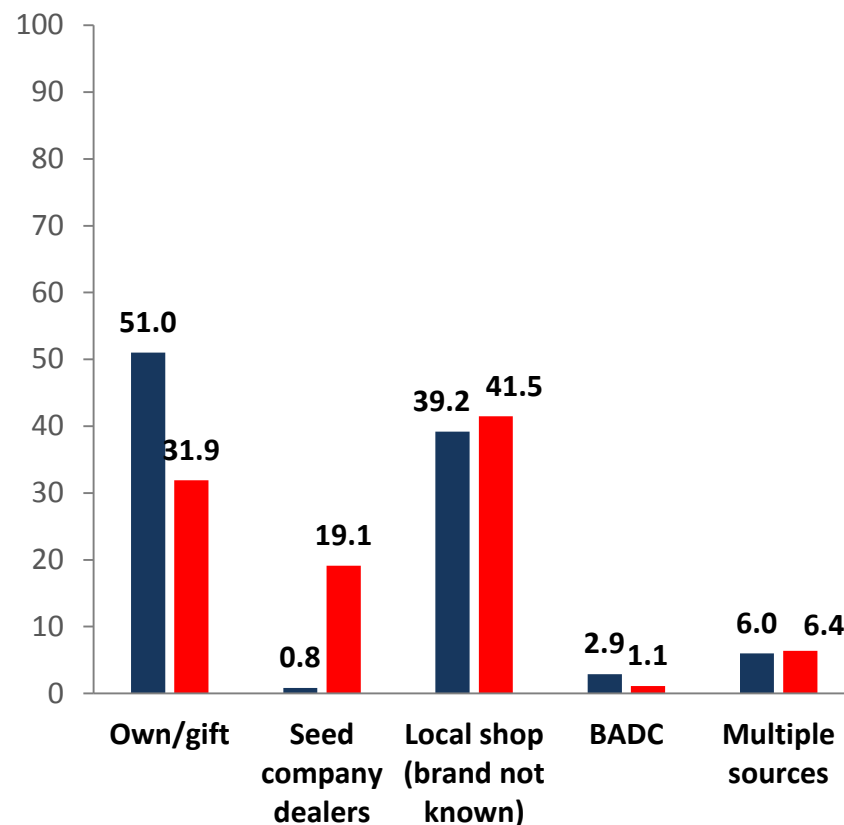
Source of seeds for rice cultivation (percentage of farmers)

HYV boro rice



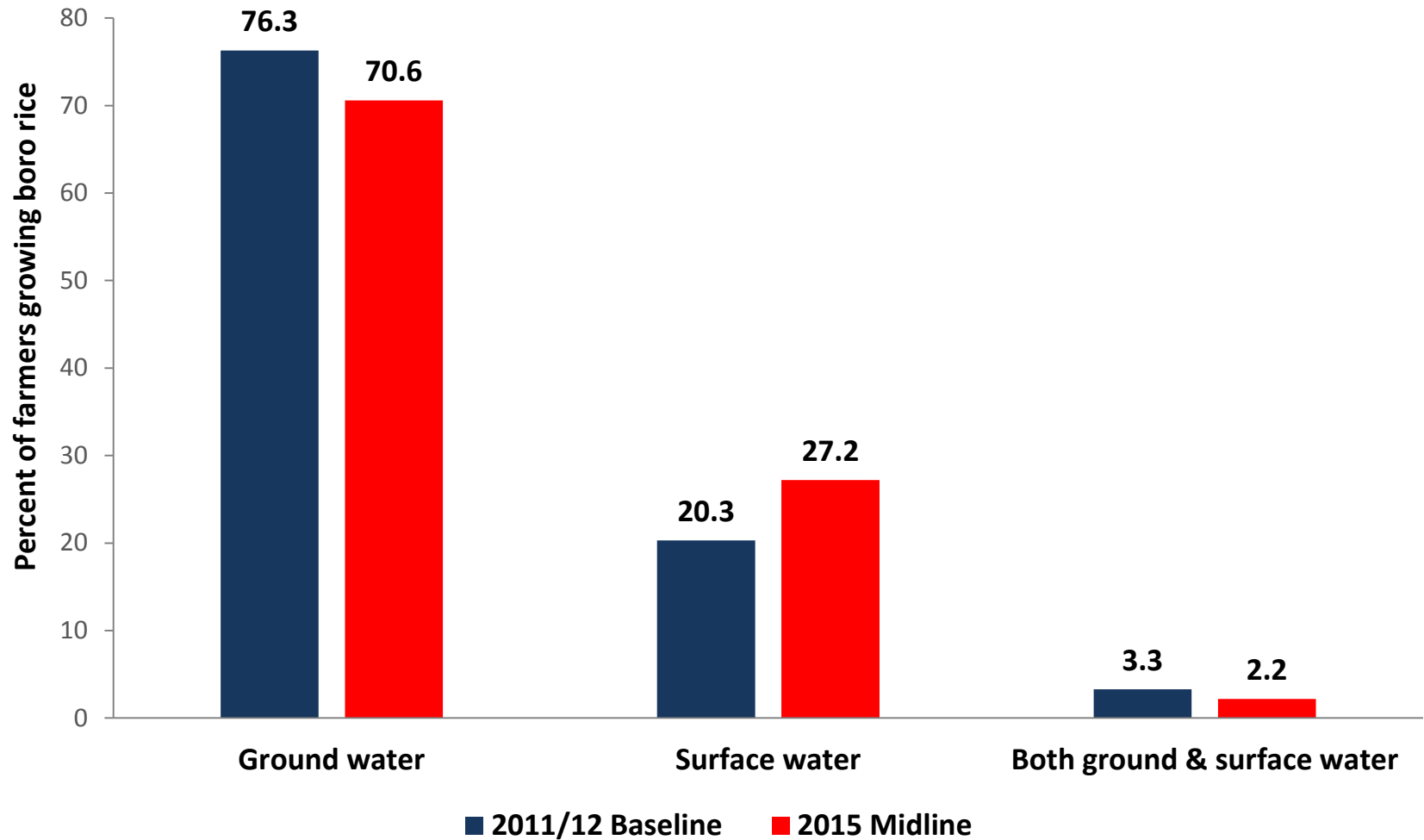
■ 2011/12 Baseline ■ 2015 Midline

HYV t. aman rice

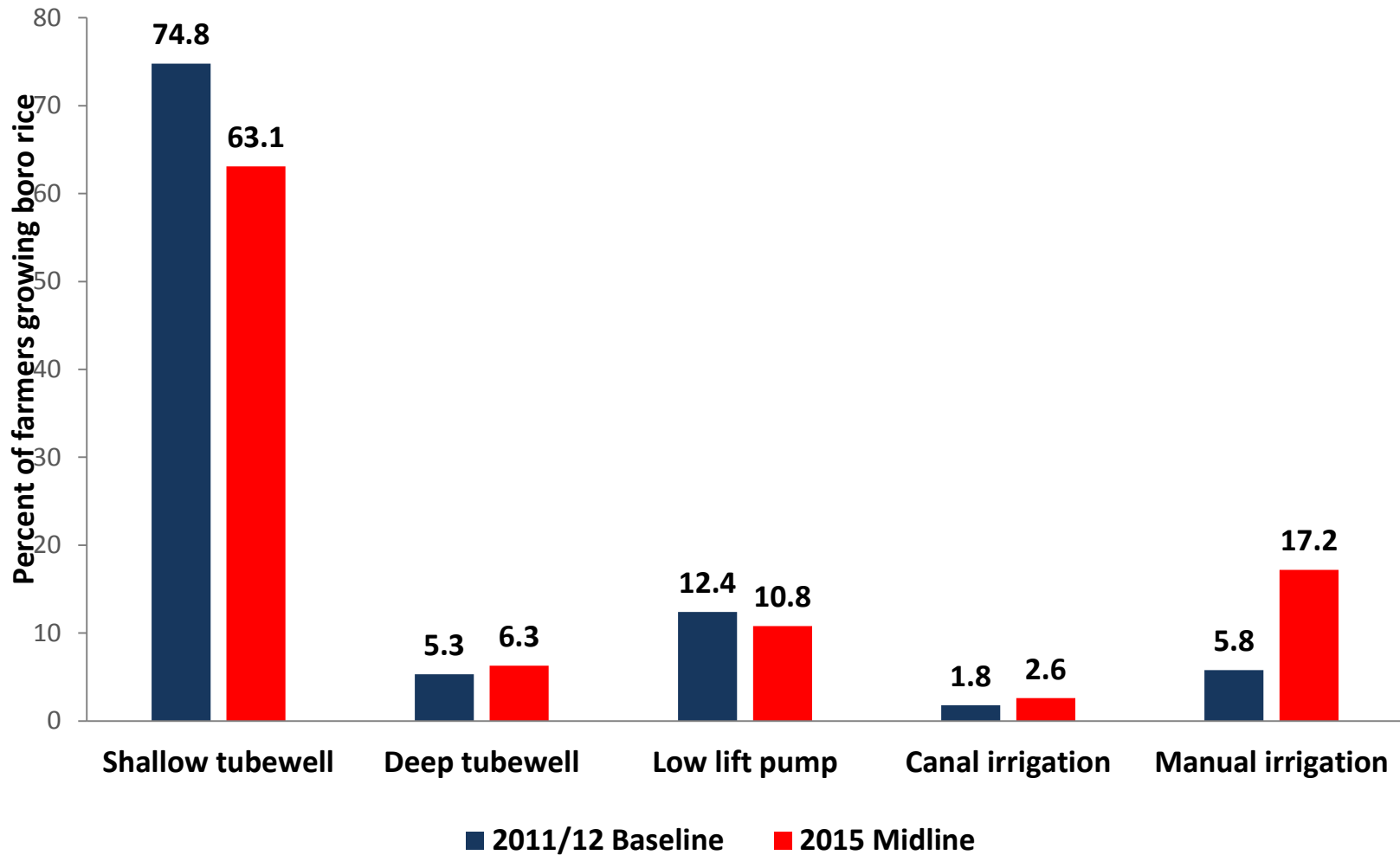


■ 2011/12 Baseline ■ 2015 Midline

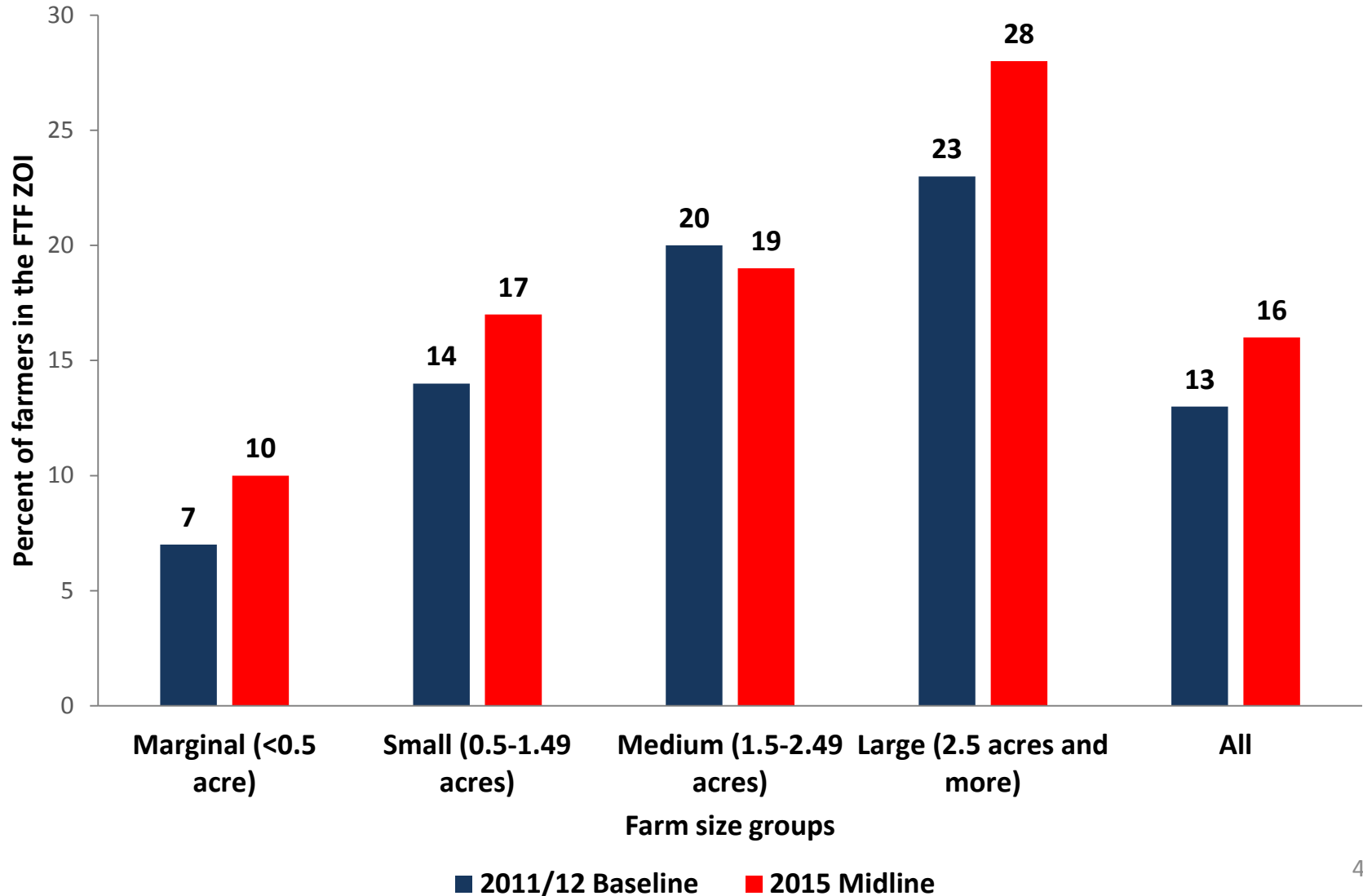
Source of irrigation for boro rice crop



Method of irrigation used for boro rice crop



Percentage of farmers who received GOB agricultural extension service in past 12 months



Change in FTF Indicators from 2011/12 to 2015:

Women's Empowerment in Agriculture

Women's Empowerment in Agriculture Index

(FTF Ref #: 4.5 (19))

- ❖ Survey-based index Developed by USAID, IFPRI and the Oxford Poverty and Human Development Initiative to measure empowerment and inclusion of women in the agricultural sector.
- ❖ IFPRI's Bangladesh Integrated Household Survey (BIHS) was specifically designed to measure the WEAI.
- ❖ Bangladesh is the first country to have WEAI data representative of the FTF ZOI as well as all rural areas of the country.
- ❖ IFPRI administered the full version of the WEAI module in 2011/12 and 2015 BIHS.

How is the WEAI constructed?

WEAI is made up of two sub indices

Five domains of empowerment (5DE)

A direct measure of women's empowerment in 5 dimensions

Women's Empowerment in Agriculture Index (WEAI)

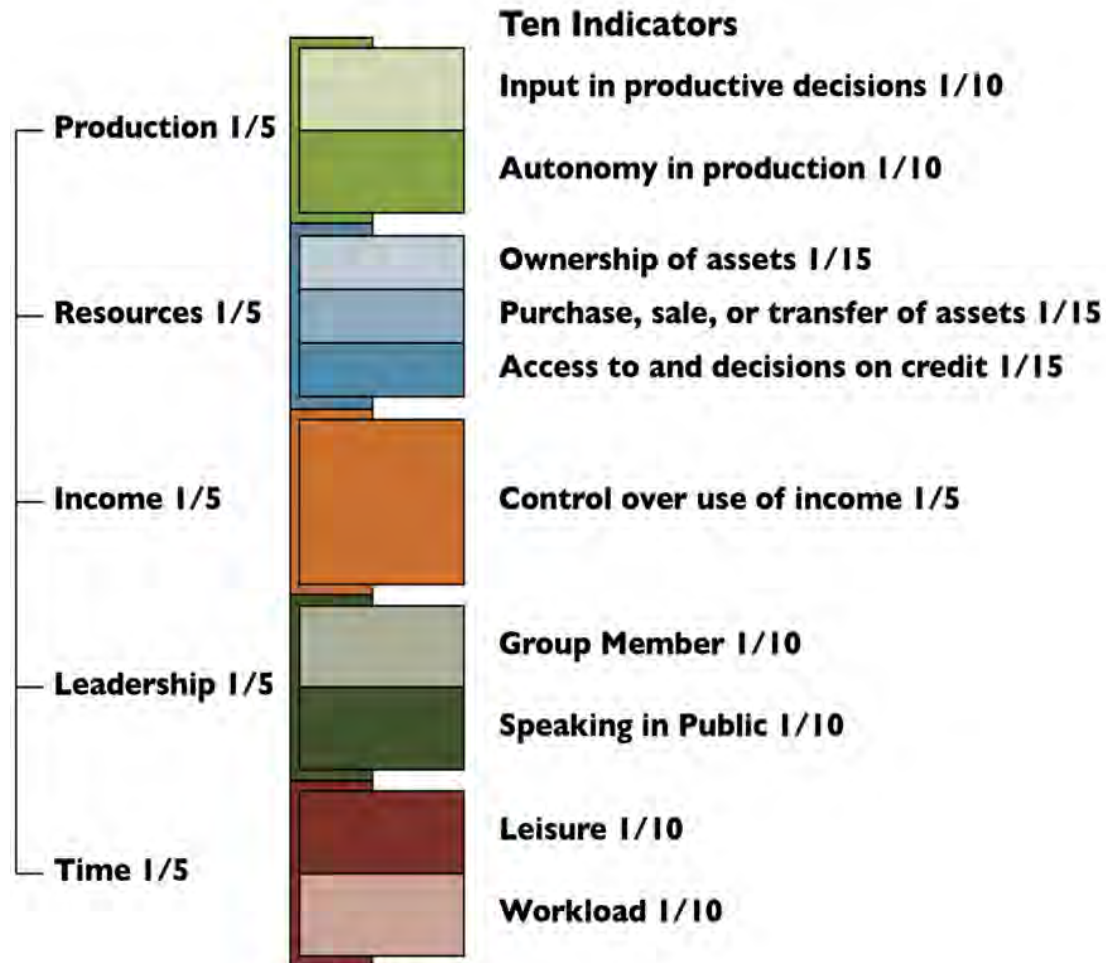
All range from zero to one;
higher values = greater empowerment

Gender parity Index (GPI)

Women's achievements relative to the primary male in hh

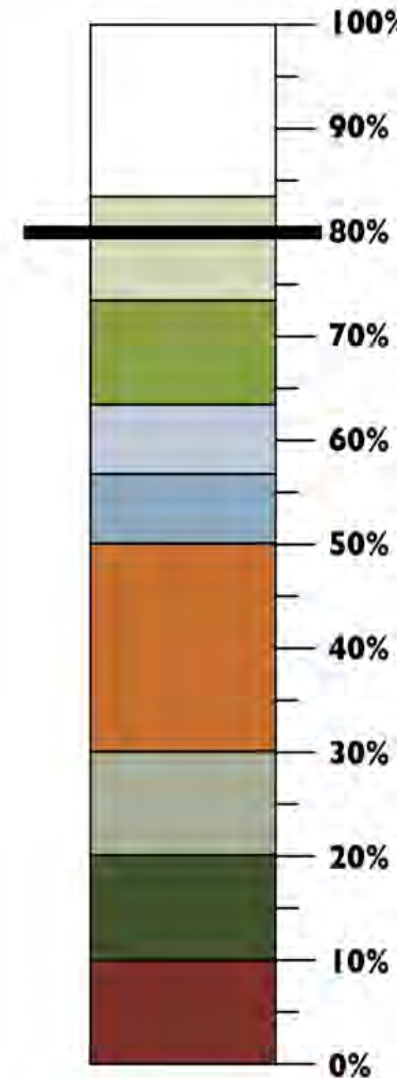
A woman's empowerment score shows her own achievements

Five domains of empowerment

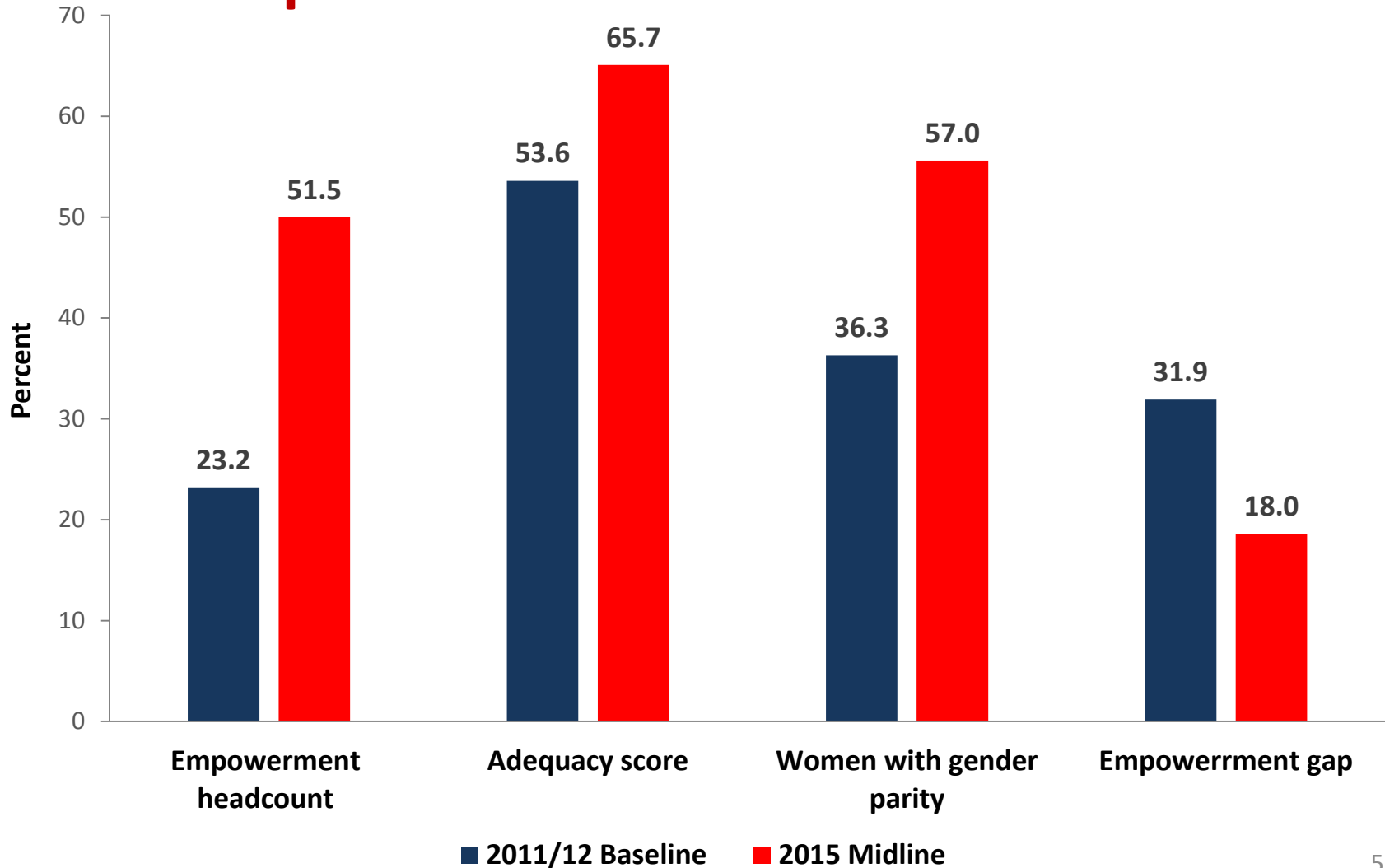


Who is empowered?

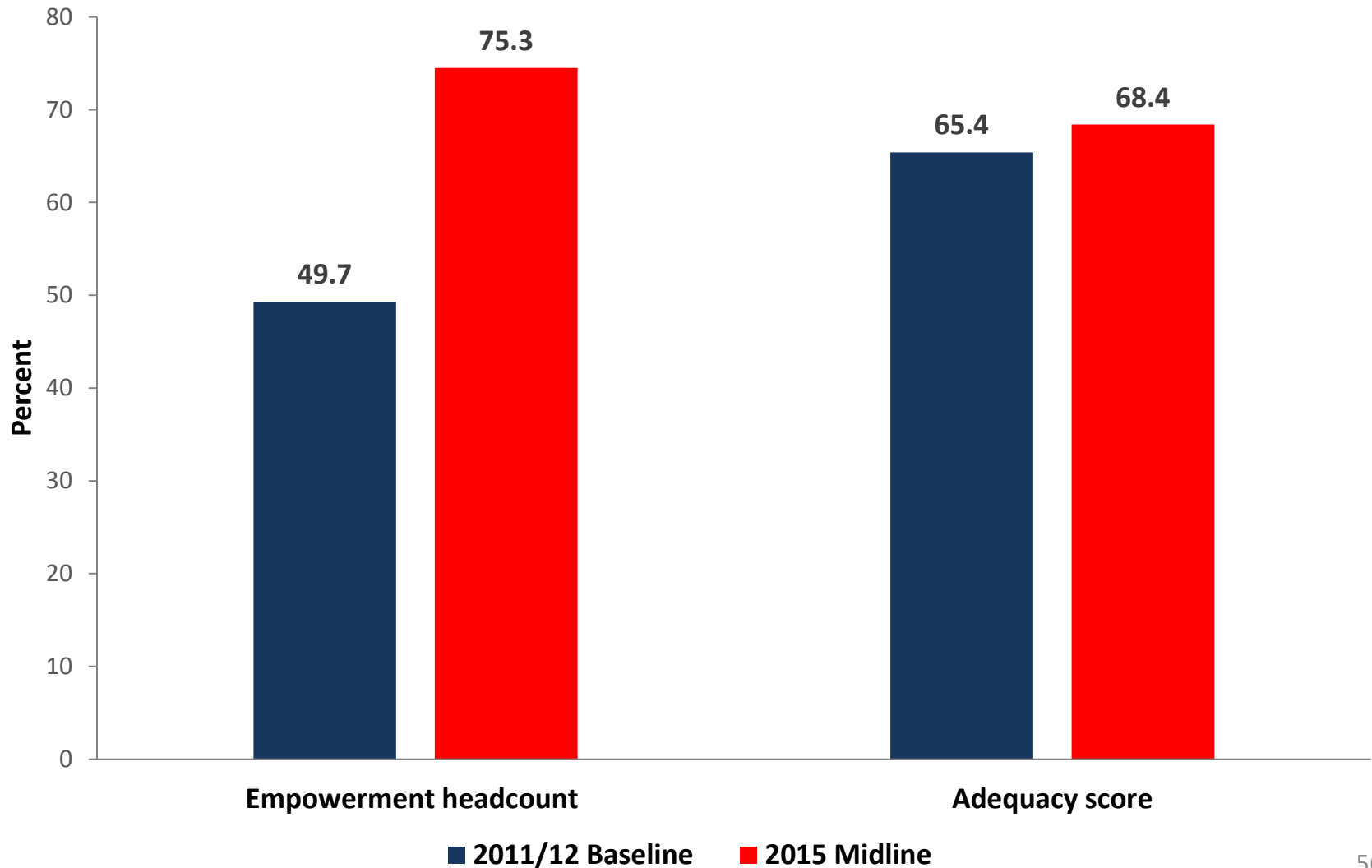
A woman who has achieved
'adequacy' in 80% or more of the
weighted indicators
is empowered



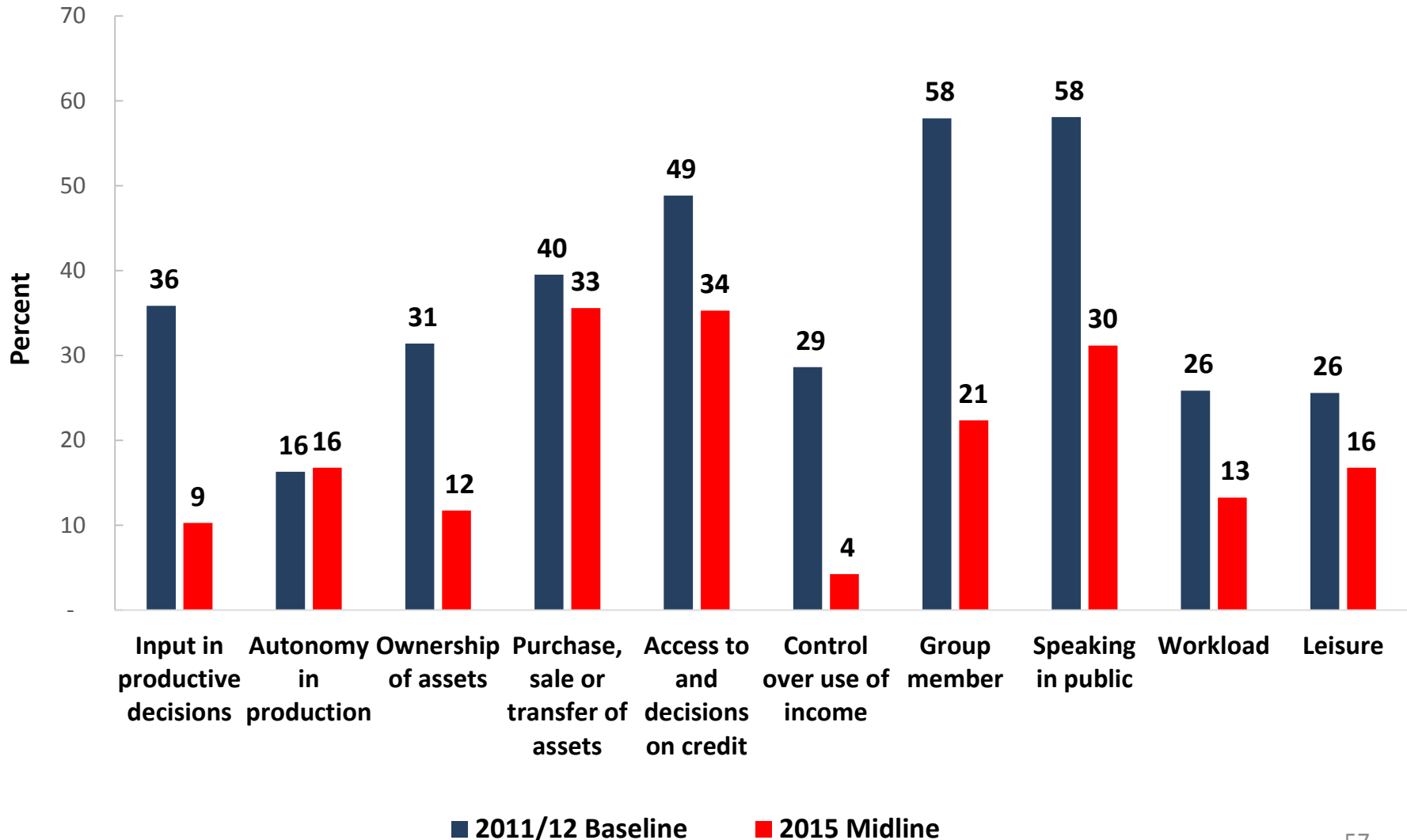
Remarkable improvement in women's empowerment status in the FTF ZOI



Men's empowerment status improved as well



Changes in WEAI disempowerment headcount in 10 sub-domain indicators



Conclusions

- ❖ Poverty has declined in the FTF ZOI by 16% from baseline to midline. Poverty decline was more for the poorest of the poor than those who are less poor.
- ❖ Key factors that help households move out of poverty are education, non-farm income, women's empowerment, access to electricity, physical asset holding, and savings. If the size of safety net transfer is at least 15% of income of recipient households then safety net participation tends to prevent households from backsliding into poverty.
- ❖ Household incomes, measured in terms of per capita expenditures, increased in the FTF ZOI by 18%. The magnitude of increase was much higher for the poor.
- ❖ Increased farmers' income is positively associated with education, mechanized irrigation, access to commercial loans, women's empowerment in agriculture, access to electricity, ownership of cell phone and solar panel, as well as non-farm income.

Conclusions

- ❖ Increased incomes and poverty reduction contributed to the decrease in the prevalence of households with moderate or severe hunger, indicating an improvement in household-level food security.
- ❖ Dietary diversity of reproductive-aged women in the FTF ZOI shows a modest 5% increase. Although the proportion of all children aged 6-23 months receiving a minimum acceptable diet increased, only about one-fifth of children meet the minimum dietary requirements. Women's and children's dietary diversity are improving, but these areas still call for greater attention.
- ❖ Increased dietary diversity is positively associated with education, agricultural production diversity, women's empowerment in agriculture, access to electricity, mechanized irrigation, remittances, non-farm income.

Conclusions

- ❖ While the share of rice on total cropped land fell from 68% to 64% of total cropped land in the FTF ZOI, rice yields grew 8.3%, resulting in 3.2% increase in total rice production in the ZOI.
- ❖ The share of land in total cropped area for input-intensive boro rice crop declined 13% due to reduced profitability. On the other hand, many farmers switched to higher value and high-nutritive value crops like pulses. However, the declined share of land under vegetables needs attention.
- ❖ Only 23% of women in the FTF ZOI were empowered at baseline. In 2015, half in the ZOI were empowered. women's empowerment in agriculture improves dietary diversity, increases farmers' income, and helps households move out of poverty. Therefore, promoting women's empowerment should remain paramount to the FTF agenda to attain complementary development goals.

Gender violence and development discourse in Bangladesh

Farida C. Khan

Introduction

In the year 2000 the United Nations (UN) rated Bangladesh as having the worst record of violence against women. The UN Human Development Report 2004 also listed Bangladesh as ranking 110th out of 144 countries with respect to the gender-related development index. Reaction to this from activists, academics, and practitioners has not been one of surprise. Bangladesh is also ranked 138th out of 177 countries in the Human Development Index, a broad measure of poverty developed by the UN. There is an accepted link between poverty and discrimination against women that can be summarised in a statement made by the World Bank:

Evidence is growing that gender-sensitive development strategies contribute significantly to economic growth as well as to equity objectives by ensuring that all groups of the poor share in programme benefits. It is essential, then, to integrate gender analysis into poverty diagnosis and to ensure that participatory consultation and planning processes are specifically designed to give voice to all sectors of society women and men, as well as different age, ethnic, and cultural groups. (World Bank 2001)

During the 1990s, Bangladesh was considered to have made significant progress in the areas of poverty alleviation, economic growth, and economic development. The economy was growing at an annual average rate that was well above 5% and the incidence of poverty as

measured by nutritional standards was significantly lowered. The general optimism this had bred was now somewhat thwarted by the negative indictments regarding the condition of women. How could economic development occur without improving the condition of women? How is an escalation of violence possible given manifest progressive changes such as increased NGO experimentation with women and collection of gender data, a rising female

labour force participation and bank borrowing, falling birth rates, public policy designed to bring about more protection for women both at home and at work, and the recognition of sex work as a bona fide profession? How, after all these strides, can this excess violence be explained? This paper frames these questions in the current context of increased international gains for women's rights and examines how

such gains inform the understanding of women's rights in Bangladesh. It considers how the conditions for women have changed with increased globalisation and modernisation and what the resulting public discourse regarding the situation of Bangladeshi women has been. It concludes that both women and the state are unable to exercise adequate agency in the current circumstances.

The integration of Bangladesh into the global context has meant the inflow of aid

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agencies, NGOs, migration, neo-liberal policies, and greater commodification in society. While these have altered the lives of women and the domain in which they must function, there have not been corresponding improvements in social and legal protection from violence. We find therefore that women continue to be subject to old and new forms of violence; the policies that attempt to empower women are not informed by these transformations, do not give them sufficient importance, and therefore fail to address them adequately.

The international arena of women's rights

To understand the context of gender policy discourse in Bangladesh, we must turn to the language and evolution of international gender rights. Feminist theorists in the West have long maintained that **political thought does not deal very well with the power that men have over women in every arena of social and political life.** The modern idea of a social contract as articulated by Hobbes, Locke, or Rousseau describes social relations between men and nation states while women are relegated to the private sphere. A common interpretation of individual rights is to ascribe to women a status of gender-neutrality, if they are assumed to be included as participants in social contracts – as all citizens presumably are. Even Rawls, who attempts to integrate universal and particular concerns side-steps differences in male and female interests by assuming that the “family is just” (Rawls 1975).

Feminists such as Young or Iragaray say that Rawlsian distributive justice misses the way in which the powerful enact and reproduce their power (Fermon 1998). While the coercive relationships that women are in are not so visible, these relationships reinforce and reproduce their existence every day. A state, even if it intends to be democratic and just, often operates in the same manner. Charlesworth *et al.* (1991) maintain that states are patriarchal both because women are excluded from positions of power and because the state is a domestic monopoly which uses force for concentration and control of power. They also regard international organisations as “functional extensions of the state”

that allow states to act collectively towards their own interest. They re-affirm the position that **traditional law operates in a public realm and is therefore unable to intervene within the house and family where much of the disempowerment of (and violence against) women takes place. They say this public/private distinction is an ideological construction rationalising the exclusion of women from the sources of power.**

Feminists have struggled to make their voices heard in the post Second World War international human rights movement. The Universal Declaration of Human Rights of 1948 proclaims the equal rights of human beings without regard to their sex. Articles 16 and 25 make special reference to women and families. Following this the UN established other instruments that affirmed the rights of women. A partial list (Fellmeth 2000) includes the 1949 Convention for the Suppression of the Traffic in Persons and of the Exploitation for the Prostitution of Others, the Fourth Geneva Convention which forbade the assault, rape, or forced prostitution of women, the 1951 Convention Concerning Equal Remuneration for Men and Women Workers for Work of Equal Value, the 1953 Convention on the Political Rights of Women, The 1957 Convention on the Nationality of Married Women, and the 1962 Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages.

The UN (1997) has continued to adopt further resolutions pertaining specifically to women. Thus, there is the Declaration on the Elimination of Discrimination against Women, adopted in 1979 and finally, the Declaration on the Elimination of Violence against Women adopted in 1993. Resolution 48/104 (<http://www.unhchr.ch/html/intlinst.htm>) explicitly recognises at the outset that the former human rights and anti-discrimination resolutions have tried to address the problems associated with violence but that a more concerted (and complementary) ruling is needed. Hence, the first and second articles of this resolution say the following:

For the purposes of this Declaration, the term “violence against women” means any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including

threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.

Violence against women shall be understood to encompass, but not be limited to, the following:

(a) Physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation;

(b) Physical, sexual and psychological violence occurring within the general community, including rape, sexual abuse, sexual harassment and intimidation at work, in educational institutions and elsewhere, trafficking in women and forced prostitution;

(c) Physical, sexual and psychological violence perpetrated or condoned by the State, wherever it occurs.

Such a ready definition can be employed in any country context so that violence can be measured, monitored, and addressed and international data gathered for assessing the condition of women in different countries. Such information can be used to fund programmes under the United Nations Development Fund for Women (UNIFEM), the arm of the UN dealing specifically with women's issues, with a view to correct institutional, social, and policy barriers to gender betterment.

Gender violence in Bangladesh

The presence of Western observers in Bangladesh has led to the casting of significant attention on the domain of gender rights. The UN says that: "Incorporating women's concerns into policy is a new idea that is gaining momentum among decision makers in Bangladesh as a result of technical assistance to the Government as part of its strategy which is aimed at mainstreaming gender" (UN Women Watch 2001).

Based on the notion that the first step to formulating problems and solutions is record keeping, the response from the government and international organisations has been to collect large amounts of new gender data. The Bangladesh media have routinely reported the findings of such data and its analysis in addition to publishing daily stories of violence – rape, murder, sex trafficking, and numerous forms of

cruelty – as they have hunted for stories that catch the attention of readers by objectifying the ravaged bodies of the women and children who suffer violence. Violence against women has entered public discourse to a degree that would have been unimaginable 30 years ago when stories narrated and words used in policy reports, newspapers, and other media today would not have been uttered for fear of disgrace and shame.

In this paper, classification is made of two forms of gender violence in Bangladesh: one a traditional form that takes place inside the home or the private sphere; the other more public and modern in nature, often associated with transitions in the particular locality, with displacement, or with globalisation.

Traditional violence

Traditional violence involves those kinds of private acts that are relatively concealed, typically occurring within the household, and have continued over time as society has continued to reproduce itself over generations. Some examples are child or coerced marriages, maltreatment from family members including one's own family, in-laws or husband, and a lack of rights with respect to divorce or child custody. Property rights that exist in the Muslim *Shariah* and under Hindu Law in Bangladesh have not gone through any kind of gender-progressive reform. Also, women's property rights are almost never enforced. This allows the perpetuation of various forms of domestic violence on daughters, sisters, wives, female relatives, and widows.

Empirical studies find that domestic violence is used to establish and enforce gender roles, especially in the initial years of marriage (Azim 2001, Yasmin 2002). Men, frustrated by poverty and social expectations to provide for their families, also react with violent behaviour. Newspapers abound with stories about wives being killed or battered. It is said that in Bangladesh 50% of all murders are of wives by husbands (Heise 1993). Some common causes for battering and murder that are listed by a lawyer are: torture of his first wife by a man who wants a second wife, torture of his first wife and their young children after a second marriage,

vendetta on a wife on grounds of founded or false accusation of an illicit relationship with someone else, and torture of wives by husbands or in-laws to realise more dowry (Khondker 1990). Traditionally, Muslims in Bangladesh exchanged *Din-Mahr* (bride price) but this seems to have been gradually supplanted by *Joutukh* (dowry), although this is illegal. Demographers attribute this to a “marriage squeeze”. By custom, teenage girls marry men who are in their twenties. Because infant mortality has declined, parents have had to marry away the resulting excess of younger marriageable girls by offering dowry.

The International Food Policy Research Institute recently measured the distribution of food consumption in rural households in Bangladesh and found that preschool boys were most favoured and received a disproportionate share of animal and food products. It was also found that adult women received less than their share of preferred foods (UN 2000).

Although these private, traditional forms of violence continue, they have come to the attention of the general public because they are reported far more than they have ever been, and have come under the purview of the law. The perpetrators have changed – husbands more often than other relatives as families have become nuclear. The victims may have altered – abandoned women and children as husbands have left or greater numbers of children given to the care of extended relatives. The reasons may also be different now – a more acute sense of impoverishment as the existence of great levels of affluence pervades common knowledge and an invasion of the public sphere into the home leading to perceptions of a loss of traditions and family ties.

No mistake should be made regarding the importance of private violence in Bangladesh. A recent study by Naripokkho, a domestic women’s activist organisation, found that 62% of violence requiring institutional involvement occurs within women’s own homes. Battering and torture for dowry are the most prevalent forms (Azim 2001). Bangladesh National Women’s Lawyers Association (BNWLA) collects data on domestic violence on an annual basis and has found that 94 of the 249 cases that came to its notice resulted in murder (BNWLA 2000).

Socio-economic changes

With the onset of globalisation and modernisation, which can be said to have taken place most notably in the past 30 years, observers have reported significant changes in the nature of violence against women. First, an identification of the particularities of the modernisation/globalisation project in Bangladesh may be useful. Since Bangladesh became an independent nation in 1971, numerous foreign aid agencies and non-governmental organisations (NGOs) have begun experimenting with a variety of poverty alleviation and development projects in the country. During the 1970s, emigration to the Middle East and other countries became a major phenomenon. This led to a simultaneous increase in rural-urban migration, particularly to Dhaka, which has grown from a city of 1 million in the 1970s to more than 7 million in 2000.

Government economic policy has been neo-liberal since the 1980s, turning a relatively modest and closed market into one that is booming with consumer goods and imports, despite their availability to a small number of households with adequate purchasing power. Micro-credit programmes have turned rural women into fast-talking borrowers, negotiating delivery of hand-woven cloth over cell phones. Garment factories, the showcase success of trade reform policies, have employed tens of thousands of female workers who had never previously stepped out of their *bari* or courtyards. This is also true for other export-oriented manufacturing such as shrimp production and a few instances of electronics assembly.

An important point to note is that in every area of domestic economic growth – ready-made garments, handcrafted items for the urban or export market, services, and NGO activity – women have been the overwhelming majority of participants. Only one significant source of growth for Bangladesh – worker remittances from abroad – has come from primarily male workers.

Migration, emigration, and sex trafficking

Bangladesh has seen phenomenal rural-urban migration and emigration in the past four

decades. Beginning with the Middle East in the 1970s, destinations include India, Malaysia, Japan, Europe, and the US. Often, married women are left behind in the villages but often they migrate themselves, sometimes leaving their children behind. **As mentioned earlier, when women have formed nuclear households with their husbands in new environments, domestic violence has often increased** (Azim 2001, Koenig *et al.* 2003).

Migration to the urban areas is usually by single men or entire families. When women and children are also migrants, female migrants are very likely to enter the labour market. A study of 399 families in squatter settlements finds 80% of migrants end up in domestic work and the informal industry where they perform a range of small low-skill tasks (Huq-Hussain 1995). The International Labour Organisation finds that 83% of child domestic workers among migrants to cities are females (Dostie & Vencatachellum 2002). **The displacement of families to urban areas is also associated with a rise in prostitution. Girls who come from destitute families are often sold into prostitution.** Areas such as Tan Bazaar or Kandiputti are well-known prostitute districts in the Dhaka area. Physical abuse by clients and pimps is routine. Those sex workers who have been ousted from the prostitute districts, referred to as “floating sex workers”, face far more brutality, particularly from the police as their activities are considered illegal. The recent attempted reclamation of the city of the Tanbazaar area for commercial development has led to the creation of a large number of such floating workers.

The emigration of women from Bangladesh often involves sex trafficking. Trafficking began when women were illegally transported to the Middle East in the 1970s and apparently intensified in the early 1980s. Women who first went to the Middle East complained of sexual harassment, overwork, beating, and rape. In many trafficking cases, women were singled out for prostitution and handed over to brothels by pimps who posed as recruiting agents for other types of work. Most of these women who were sold or sent as maids were between the ages of 12 and 25 (Paul and Hasnath 2000). Some women were resold in sex markets within the countries they were sent to. An estimate of the number of women sent is not easy to make. The Bangladesh

National Women Lawyers Association (BNWLA) estimates that over 2 million women have been trafficked out of Bangladesh during the last decade (BNWLA 2000) and Pakistan’s Lawyers for Human Rights and Legal Aids reports that more than 200,000 Bangladeshi women between 12 and 25 have been trafficked to Pakistan.

Although the vast majority are sold to the Middle East, many engage in prostitution or are slaves in India and Pakistan. Kolkata, New Delhi, and Karachi are major centres for the purchase and sale of trafficked women from Bangladesh who are used as slaves, maids, “wives”, or prostitutes. The price per woman varies between \$50 and \$2,000, depending on beauty and age. Auctions are usually held in the dead of the night. Stories of deception and sale are told only by those who manage to escape, the plight of thousands is untold.

Increased labour force participation

The Bangladesh Labour Force Survey of 2002 places the labour force participation rate of women at 56%. The vast majority of women have always been employed as unpaid family workers in agriculture. This has shifted to paid work for others with increased landlessness; 62% of females are said to be economically active (Yasmin 2002). Although labour force participation is far higher than in the past, most women are engaged in domestic work. Females constituted 8% of the economically active population in industry in 1999, down from 14% in 1980, whereas in services they have risen from 5 to 15%. **Average female wages are less than half that paid to men, and even lower than that in the service sector.** While they are pressured to go outside their homes to seek work and pay, the conditions under which they may do so is severe. Domestic work usually means being on call 24 hours a day, with few or no days off, and an open-ended job description along with being beaten and in some cases, sexually harassed or molested.

Garments factories have emerged as a major source of employment since the 1980s. There are over 3000 factories that have provided



Victims of acid attacks in Bangladesh perform a dance routine to mark International Women's Day in Dhaka, 7 March 2005. AFP/Farjana K. Godhuly

work to over 1 million women. Ninety per cent of workers in these factories are said to be women (CPD 2001). **The feminisation of this industry has led to a corresponding lack of labour rights and to job insecurity. Garment workers are primarily migrant women from rural areas. Women primarily perform low rung tasks – cutting, sewing, hemming, stitching, ironing, buttoning, and folding – the tasks which are paid the least and on which the largest surplus is generated – whereas men primarily do packing, machine maintenance, security, and supervision.** During the last 20 years, these garment workers have gradually learnt to be more vocal and organised and somewhat more aware of their rights as workers, using diverse and individual resistance strategies to fight their exploitative situations. In 1990 and 1997 many garments factories were affected by fires, reportedly started by electrical short circuits. Worker strikes were called and over 20,000 garments workers marched the streets calling for safety measures. An outcome of this was the establish-

ment of a broad-based garments workers union, which collaborated with various other women's activist organisations.

One commonly reported newspaper item is **the rape of garment workers as they travel to and from work. Harassment is common and workers try to walk together or share transportation to work in groups when possible (Zaman 2001).** A recent case of sexual harassment entailed the harassment of Simi Banu by local males because of her "late hours" and freedom of movement. When they threatened to kill her brother if she continued to go to work and the police were dismissive of her complaints, she committed suicide (Siddiqui 2002).

Although women are also employed in shrimp export facilities and other types of export oriented production where they face problems that are very similar to those in the garments industry, these sectors are fewer in number compared with ready-made garments, which has been one of the largest sources of export growth in the past two decades.

Non-governmental agencies

Another sphere in which the participation of women has increased is NGO projects such as micro-credit, health and family planning, and literacy programmes. These organisations are both domestic and international in origin. Over the last 30 years, the numbers of projects and their variety and scope have multiplied manifold. Large NGOs such as Bangladesh Rural Advancement Committee (BRAC), Grameen Bank, and Proshika serve millions of households so that a large proportion of rural households are involved, affected, or influenced by NGO activity. It would be fair to say that NGOs have become a part of everyday life among rural households. Households have also responded to government economic incentives such as receiving a cup of rice to send girls to school. Many of these programmes and associated groups have organised women around issues that aim to empower them within their households and communities. Women have been involved in them in an attempt to change their lives but these activities have not been free of backlash from guardians of the home and community.

Case studies on microcredit are ambivalent as to whether credit programmes encourage or discourage beating at home. Women who are economically successful and whose incomes provide the main source of household support appear to be relatively free of domestic violence. In many cases, the money is simply turned over to the husband. There are other cases where men beat their wives in a tussle over the funds. The religious leaders of the village – the *Mullahs* – are disgruntled about the decline of *pardah* or veil among women, particularly women who participate in NGO projects or work at jobs with men (Shahabuddin 1999). Always ready to wreak vengeance on this public outpouring of women, the *salish* or the group village leaders may suggest social boycott, lashes, or even stoning at the slightest pretext, depending on the crime that they allege.

Does development alleviate or breed violence?

The presence of women in the public sphere has, to some degree, moved violence – or at least the

perpetrator – outside their homes. Rape outside the house when travelling to work, school, or the market is far more common. As women come into contact with the outside, which is brutally patriarchal, the prevalence of violence outside the home increases. Rapes and gang rapes are not uncommon and when women attempt to report these to the *salish* for restitution, there may be additional punishment such as ostracising or lashes. While rape carries strict punishment, socially disadvantaged women have found cases made by them to be overturned when the perpetrator has used economic resources to influence law enforcement agencies (BNWLA 2000). Many women who have sought help from the police have been harassed, maltreated, and, in some cases, raped by the police themselves.

Rape by police has been brought to public attention in the famous cases of Yasmin, a 15-year-old, who asked for police protection when travelling and was raped, killed, and dumped in a paddy field, and Shimu, a garment worker who was arrested when walking home with her boyfriend and drugged and raped under custody (Azim 2001). Another incident that was splashed on the media in July 2003 was that of the entry, arrest, and physical assault by police of large numbers of female students in a university dormitory in Dhaka.

Acid throwing has emerged as a new form of attack on young women. Sulphuric, hydrochloric, or nitric acid are used to cause severe burns, mostly to the faces of women who have scorned or rejected sexual advances or marriage proposals from men. Although some women die from these attacks, those who survive are marked for life and taunted for their maimed appearance. The number of acid victims has been consistently on the rise. In 2001, it was estimated at 252 and estimates from Odhikar, a human rights organisation, place attacks at 400 for 2003. Although the government has instituted the Acid Control Act in 2003, placing restrictions on the production, transportation, and stocking of acid, there seems to be little effect and it is an inexpensive weapon of choice against identified victims.

Finally, the rise of communal violence since the 1980s is worth noting. Although Taslima Nasrin, the well-known Bangladeshi writer in exile, chronicles such violence as being routine, it has intensified and become larger in scale during communal attacks in 1992 in reaction to the

tearing down of the Babri Mosque by Hindu fundamentalists in India, and in 2001 when the interim government took over from the ruling Awami League and Hindus were used as scapegoats in the general violence between the two major parties – the Bangladesh National Party (BNP) and the Awami League (Daily Star, 26 October 2001). Also during the 1980s and 1990s, indigenous women of Chakma ethnicity in the Chittagong Hill Tracts in South-Eastern Bangladesh suffered a disproportionate number of rapes at the hands of soldiers and thugs. Recent newspaper and human rights reports show that these circumstances are still prevalent in many parts of the nation, including the Hill Tracts. While the political narratives behind these incidents are well beyond the scope of this paper, all of these ethno-religious conflicts have been aggravated by weak legal rights and state protection for marginal groups and the larger international ethnic conflicts which have been played out at local levels in the country.

International monitoring and domestic responses

In 2000, when Bangladesh was rated as having the worst record for violence against women, the government had to take heed. It is, after all, a country where donor funds can make or break governments, the allocation of such funds being tied to progress made in development, which includes the condition of women. International perceptions that women are not being treated appropriately and that Islamic fundamentalism is on the rise were both counts against the relatively new democracy that had come about since popular movements ousted the military government in 1991. Attention quickly focused on the gender arena.

The governance focus

At the same time, domestic perceptions regarding a “law and order” breakdown had come about with the removal of the army and the establishment of a police force which revealed itself to be a tool of repression by whichever of the two major political parties happened to be in power at the time. The opposition frequently called for strikes, leading to the disruption of all

economic activity in urban areas so that international donors declared “political instability” to be one of the major causes for slow development. Law, order, and governance were quickly becoming another focus of the time. Finally, the lowest ranking for Bangladesh in Transparency International’s 2002 corruption index perpetuated the idea that there was indeed a governance situation to be fixed in Bangladesh.

There have been a number of curious responses to the above concerns. During the 1990s, individual cases of gender violation had already begun to receive much publicity through the media. These were often redressed in full public view, and set up as examples of correction. One example was the hanging of Munir, the son of an affluent physician who had stabbed his wife, Reema. Reema’s father was a journalist who had been martyred in the Independence War of 1971 and the sympathetic journalist community championed this case to ensure adequate punishment for the killer. Another case of custodial rape by the police occurred when the Prime Minister of Bangladesh, Khaleda Zia, was attending the Fourth World Women’s Conference in Beijing. Domestic NGOs were outraged at this, causing the female Prime Minister such embarrassment in Beijing that she turned her attention to the matter immediately upon her return. Appropriate and exemplary punishment was meted out to the officers involved in addition to restitution for the family of the child (Zaman 1999).

Establishment of gender empowerment agencies and policies

Bangladesh has been a signatory to the UN CEDAW since 1984. A 1997 CEDAW meeting concurred that the government, assisted by non-governmental organisations, had taken various measures towards education of girls, 30 seats had been reserved for women in the Parliament in addition to the 300 seats elected from geographical constituencies, and Bangladesh was a signatory to the Beijing Declaration, endorsing its Platform for Action.

A Ministry of Women and Children Affairs (MOWCA) was established to facilitate and ensure the implementation, coordination, and

monitoring of Women in Development Programmes (CPD 2001). In 1997, the National Council for Women's Development was created. This body, composed of 44 members and chaired by the Prime Minister, adopted a National Action Policy and a corresponding Plan. MOWCA is the focal point for gender related activities carried out by the government. It has partnered with other state agencies to mainstream gender activities into various areas of government. **Among other actions, it has translated the National Action Plan to the vernacular so that all local offices could access it, ensured gender-disaggregated statistics collection, and assessed the gender-differentiated impact of flood, manpower, and labour policies.**

A new law was enacted – the Women and Children Repression (Special Provisions) Act 2000 which improved the previous ordinance of 1995. This law had several components – making sex offenders economically liable for children born under rape, 5–10 years of prison for custodial rape, and a life sentence for sex traffickers. This also superseded the earlier Suppression of Immoral Trafficking Act of 1993, which provided punishment for forcing a girl into prostitution.

An Asian Development Bank study says that the role of MOWCA is unclear and institutional mechanisms to implement its role, if defined, is lacking. A Permanent Law Commission has been established to review existing laws and enact new ones to safeguard women's rights and prevent gender violence. Contrary to these trends, however, the ban on visas for emigrant domestic workers is currently in the process of being lifted.

Media reporting on women

The media, which began to flourish under the new democratic conditions, took to reporting these policy and legal changes. For many years the media, particularly newspapers, had few resources and limited freedom and therefore concentrated reporting on the activities of important government officials and visiting international dignitaries. In addition, brief details of a few local issues or crimes would follow.

In the 1990s, the number of newspapers grew significantly and **media reports of murders, rapes, and assaults, especially on women and**

children, escalated. Reports of human rights violations by Amnesty International and other human rights watch groups also began to appear frequently in newspapers. **Readers could not discern whether the press was finally reporting atrocities that had always been committed and therefore acting as a watchdog for the democratic process or whether these crimes were now on the rise.** Naripokkho, a domestic women's activist organisation, reports that news of violence against women, especially from rural areas, was often used as "fillers" for empty columns (Azim 2001).

In 1999, police closed down Tan Bazaar, the oldest and largest brothel located on the outskirts of Dhaka. The prostitutes in this red light area organised with all possible allies, including women's activist groups, and ensured a High Court ruling that prostitution is not illegal. The judges hearing the case ruled that the police had illegally closed down the brothels and condemned their action saying that they had acted on behalf of the landlords who owned the land where the brothels were located. Although the prostitutes were allowed by law to return, they have yet to do so – the area continues to be fenced in and guarded by police and no one is allowed in. This marked a special victory for women's rights in that sex work was ruled as a legitimate profession and open demonstrations by sex workers, supported by domestic activists, led to media sympathy and a policy gain for a group that had previously been considered an outcast from civil society.

NGOs and development practitioners

NGOs in Bangladesh, by targeting the most impoverished and vulnerable, have automatically found themselves working with women. Many NGOs have served as havens for and performed advocacy on behalf of women. However, **they have always had to be careful not to be perceived as entering the domestic arena or intervening where community leaders have traditionally had their say because most NGOs are considered outsiders by the traditional power structure to which women are ultimately subject.** While most NGOs carry out activities that empower women, they also

monitor, report, and discuss issues related to violence. The government has collaborated closely with NGOs to develop official strategies to counter gender violence. A national plan of action against sexual abuse and exploitation of children includes NGOs as partners in addition to other government groups and community and religious organisations. NGO activities among sex workers focusing on HIV/AIDS prevention as well as education have been another approach to address the condition of women to break new generations of children out of sex work.

Casual conversations with people in academia, NGOs, or the government in Bangladesh suggest that the situation of women is getting better – they have come out of their homes, are a greater part of the formal economic and political life, are receiving more education, have lowered the rates at which they bear children, etc. The implicit response regarding violence is that there is far more reporting and media coverage than before and that it is an expected outcome of the increase in criminality and legal breakdown which are both manifestations of economic and political “underdevelopment”. There is rarely a distinction made between older hidden forms of violence and the newer forms discussed above.

Violence in the language of gender development

Gender empowerment discourse has evolved to include the private realm in the language of human rights. At the same time, violence has altered its structure in the private arena and increasingly become public. UNICEF says: “civil society, including community and religious leaders, could promote an integrated approach to curb domestic violence by supporting legal literacy, education and employment opportunities” (The Independent, 2001).

This language of public policy is based on the idea that gender violence, which is primarily private, will be reduced with increased economic development. It suggests that as growth occurs and per capita incomes increase, violence against women will diminish. This language fails to understand that the changes wrought by economic development throw women – who were previously in dependent patriarchal structures – into new situations of violence, especially when

development policies are not set by groups that have a clear understanding of how women are affected by social change. There is a presupposition that economic development is automatically beneficial to women. It attributes gains made by women in the West to economic development and growth rather than to their political and social struggles. This confused understanding of the link between gender violence and economic progress places an unwarranted burden on economic development to reduce private and public crimes against women. However, with economic development, new forms of violence have emerged in many countries, including Bangladesh. As these have emerged, the current language of gender development hopes that the importation of gender management concepts into the Bangladesh context will somehow set things right.

Note this paragraph from the World Bank World Development Report 2002: “The report finds that simplifying judicial procedures can increase efficiency without sacrificing fairness. Alternative conflict resolution systems, such as those based on social norms, also can improve poor people’s access to legal services. For example, in Bangladesh a non-governmental organisation offers women free mediation services that settle most village disputes in under two months, compared to three years for a similar case in court” (taken from the Executive Summary).

This presumes that market-oriented mediation services can provide answers to complex scenarios of conflict and violence faced by women. It also undermines the long hours of effort and struggle by well-meaning women’s groups who have tried to mediate for desperate women and have sometimes been successful.

Another problem may be the failure to recognise that the driving forces of globalisation, modernisation, and economic development may in fact be collaborative with local patriarchal forces. And when they are in conflict, the local patriarchy may use women to vent its rage whenever possible. Oloka-Onyango and Tamale (1995) say that gender oppression in the third world emanates from two dimensions – one the local forces of patriarchy and exploitation and the other transnational forces such as corporations, banks, and arms dealers. Often it is the collaboration and contradiction of these two forces that further the predicament that women

find themselves in. In Bangladesh, there may be close friendship or enmity between *mullahs* up in arms against NGOs and owners of export-oriented factories where women face sexual harassment. Either case may lead to different challenges for women.

Because of the inequities that women already suffer, changes in the social fabric that occur as a result of modernisation, economic development, and globalisation affect women in ways that lead to newer and severe forms of disempowerment. If public policy does not redress the vulnerable situations that women face during these changes, their conditions will worsen and lead to new predicaments. Because public policy in Bangladesh is primarily informed by international agencies such as the development finance institutions, adequate and appropriate attention is not given to the complex but vital situation of women. Their special case is often added on as a marginalised component of a policy that emphasises growth. Although women's groups, activists, and NGOs are present during participatory development workshops, their recommendations do not become part of the central thrust of development policy. Only through legitimate partnerships with representatives of all classes, religions, and ethnicities of women – rather than one which is full of ready buzzwords and the absence of a truly democratic consensus – will legal and economic steps be taken to assure the well being of women in Bangladesh.

Conclusion

The involvement of large numbers of international organisations in development activities in Bangladesh, including gender development, has led to an attempt to shake up internal patriarchal autocracies and hierarchies. Education, health and credit programmes financed through international donor funds and/or involving domestic NGOs have changed the lives of women. Women have come to the fore far more than ever before.

But this has also meant resistance from traditional forces in the community and the home. It has also meant violence and risk from people outside the home and community – supervisors at work, random people on the streets, commercial brokers of women, and even the police. There has not been adequate institutional

preparation for the arrival of women into the public sphere. In a society where women have remained invisible for generations, economic development through private and public initiatives has very quickly thrown them outside their protected, albeit discriminatory private settings. The exploitation of their vulnerability and powerlessness in the marketplace as well as the backlash from the traditional patriarchy have left them with little safeguard and, hence, agency.

The new forms of violence that have come about are rarely distinguished from those that have always existed. While rapid commodification has ploughed through the society in both rural and urban areas, increasing consumption and Western images, this fast quest for modernisation has also led to the ravaging of vulnerable women by those who have either treated them as quick sex items to be consumed and discarded or their entry into their new status.

The state has passively accepted development programmes funded by international donors, thereby relinquishing its own agency. This has been particularly true regarding public policy with respect to women, who have traditionally been neglected in the process. The outfitting of gender empowerment as part of the overall development agenda has emerged as a new form of disregard for the urgency of women's problems. It is evident that women have contributed to a major portion of growth in the economy but, as they lack the ability to influence public policy, their contribution is given residual status.

Stories of ravaged women are incorporated in public discourse both for consumption (re-living of the sexual act of rape by readers with details on such acts) and nation building. The themes are recurrent – women are being violated – this time not by the Pakistani army as in 1971 but by local hooligans who are running the streets because law and order fails to prevail. Since the police and legal system cannot be trusted to take care of this, the verdict is that these failures in the development and modernisation project are attributable to local governance. There is little questioning of the extent to which women and religious and ethnic minorities are democratically represented in national policy. Instead, the state continues on its neo-liberal agenda, funded by donors, stepping up the pressure to do better on numerical rankings, and finding quick fixes for its “governance problems”.

One wonders, no matter how much Bangladesh fine-tunes society in accordance with international measures, whether its rankings will ever be sufficient to please the local elites who formulate public policy. Also, as programmes and plans are whipped up to ensure success with the rankings, the presence of the

international bureaucracy is ever expanding – through financial support to both the government and NGOs. **It is no secret that the fastest growing sector in Bangladesh is the NGO sector. In the meantime, women who are the objects of violence continue to face new forms of torment.**

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GENDER ASSESSMENT USAID/BANGLADESH

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GENDER ASSESSMENT USAID/BANGLADESH



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Acronyms

AAD	Activity Approval Document
ADB	Asian Development Bank
ADS	Automated Directive System
AL	Awami League
ANC	Antenatal Care
AusAID	Australian Agency for International Development
BAMU	Budget Analysis and Monitoring Unit
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BDF	Bangladesh Development Forum
BDHS	Bangladesh Demographic and Health Survey
BRAC	Bangladesh Rural Advancement Committee
BUPF	Bangladesh Union Parishad Forum
BWCCI	Bangladesh Women's Chamber of Commerce and Industries
CAARP	Cyclone Affected Aquaculture Rehabilitation Project
CBNRM	Community-based natural resource management
CBO	Community-based organizations
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CIDA	Canadian International Development Agency
COP	Conference of the Parties
DAI	Development Alternatives International
DFID	Department for International Development, United Kingdom
DG	Democracy and Governance Office
EAG	Expert Advisory Group
EG	Economic Growth Office
EKN	Embassy of the Kingdom of the Netherlands
FAO	Food and Agricultural Organization
FBCCI	Federation of Bangladeshi Chambers of Commerce and Industries
FHI	Family Health International
FP	Family Planning
FWA	Family welfare visitors
FWV	Family Welfare Visitor
GA	Gender Assessment
GAD	Gender and Development
GAP	Gender Action Plan
GBV	Gender-based violence
GDP	Gross domestic product
GHFSI	Global Hunger and Food Security Initiative
GIOs	Gender Integration Opportunities
GOB	Government of Bangladesh
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation)
HAP	Harmonization Action Plan

HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HKI	Helen Keller International
HNPSP	Health, Nutrition, and Population Sector Program
ICDDR	International Centre for Diarrheal Diseases and Research, Bangladesh
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Center (An International Center for Soil Fertility and Agricultural Development)
IGA	Income generating activity
IGWG	Interagency Gender Working Group
ILO	International Labor Organization
ILSAFARM	Integrated Livelihood for <i>Sidr</i> Affected Rice Farmers
INGO	International Non-governmental Organization
IPAC	Integrated Protected Area Co-Management
IUD	Intra-Uterine Device
IWID	Investing in Women in Development
LA/PM	Long acting/Permanent method
LCG	Local Consultative Group
M&E	Monitoring and Evaluation
MAB	Municipal Association of Bangladesh
MCH	Maternal and Child Health
MCWC	Maternal and Child Welfare Centre
MDGs	Millennium Development Goals
MIS	Management Information System
MOE	Ministry of Education
MOEF	Ministry of Environment and Forests
MOHFW	Ministry of Health and Family Welfare
MOLGRDC	Ministry of Local Government, Rural Development and Co-operative
MOWCA	Ministry of Women and Children's Affairs
MPs	Members of Parliament
NGO	Non- governmental Organization
NRM	Natural resources management
NSVs	Non-scalpel vasectomies
NWDP	National Women's Development Policy
OFDA	Office of Foreign Disaster Assistance
OP	Operational Plan
PRICE	Poverty Reduction by Increasing the Competitiveness of Enterprises
PROGATI	Promoting Governance, Accountability, Transparency and Integrity
PROHURI	Protecting Human Rights in Bangladesh
PRSP	Poverty Reduction Strategy Paper
REDD	Reducing Emissions from Deforestation and Degradation
RFA	Request for Assistance
RFP	Request for Proposal
RTI	Reproductive Tract Infection
SBAs	Skilled Birth Attendants

SDLG	Strengthening Democratic Local Governance
SIDA	Swedish Development Agency
SOW	Scope of Work
SSF	Smiling Sun Franchise
SSS	Society for Social Services
STI	Sexually Transmitted Infection
SWAP	Sector Wide Approach
TA	Technical Assistance
UN	United Nations
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
USAID/B	United States Agency for International Development/Bangladesh
USG	United States Government
VAW	Violence against women
WAGE	Women's Advancement and Gender Equality (Local Consultative Group)
WB	World Bank
WHO	World Health Organization
WID	Women in Development

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Photographs courtesy of Charla Britt, Zarina Rahman Khan, and Dr. Younus Ali.

Executive Summary

This Gender Assessment (GA) analyzes the impact of programs and projects on gender relations, and makes recommendations for incorporating gender issues/concerns in the future. USAID/Bangladesh's (USAID/B) portfolio is examined to offer suggestions for mainstreaming gender, and to make actionable recommendations that can be implemented in the short (one to six months), medium (one to two years), and long-term (for the five-year strategy). This study also updates the Mission's gender action plan (GAP), and provides background for a new Mission strategy for 2011-2015. It is divided into two parts.

Part One provides an overview of USAID Automated Directive System's gender requirements and past activities related to gender in USAID/B, as well as the methodology. Human development outcomes, key policies of donors, and the Government of Bangladesh relating to gender, and current political openings are also examined.

Part Two presents the Gender Action Plan (GAP). It reviews gender dimensions of ongoing USAID/B programs and projects, and the four key sectors for USAID/B's upcoming Strategic Plan (democracy and governance, food security, health, and climate change). Lastly, steps for mainstreaming gender in Mission policies, procedures, and activities, and cross-sector recommendations are provided.

Bangladesh is widely regarded as a positive outlier among developing countries. This is because despite low levels of per capita income, repeated natural disasters, weak governance, and the confrontational politics of a young democratic system, it has achieved dramatic improvements in education, fertility, mortality, immunization, water and sanitation, rural roads, rural electrification, and micro-credit.

Over the last two decades, Bangladesh has maintained an economic growth rate of between 4 to 6% annually. Poverty levels which were at 57% in the early 1990s have declined to 40% in 2005. The population growth rate declined from 2.5% in the 1980s to 1.5% more recently. The net primary enrollment in schools has increased from 55% in 1988 to 91% in 2007, with gender parity in primary and secondary student ratios. Infant mortality has declined from 145 per 1,000 live births in 1970 to 40 in 2007, with child mortality dropping from 239 per 1,000 in 1970 to 61 in 2007. Micro-finance reaches about 65% of the country's poor, and the majority of these beneficiaries are women. Furthermore, the impacts of natural disasters have diminished due to better disaster response management.

However, what is commonly referred to as the "Bangladesh paradox," is not without a negative side – especially when viewed through a gender lens. Labor force participation of women is low by South Asian standards at about 26%. Domestic violence is common. One in two women experience physical violence in the home. Women's property ownership is rare. Less than 10% of all women are named as owners of marital property. Maternal and neonatal mortality and malnutrition rates remain unacceptably high. Maternal mortality is about 320 per 100,000 live births, and neonatal deaths account for two-thirds of all infant deaths. An estimated 30% of adult Bangladeshi women are malnourished. Furthermore, in the last 30 years there has been a shift from a marriage regime of "bride price" to dowry, resulting in an increase in dowry-related violence against women.



Bangladesh is a young country at a unique political place in its history. Following nearly two years of control by the Caretaker Government, elections were held at the end of 2008. The electorate turned *en masse*, including women who accounted for more than 50% of voters, demonstrating the people's preference for a representative democratically-elected government. In 2009 the Awami League (AL) came into office with a strong mandate to implement its election promises, which included restoring women's rights to inheritance through legal reform in family laws and to place women in key governance positions by enforcing the reservation of seats for women in Parliament, local government, and all levels of government service. The AL is pushing for the implementation of the proposed National Women's Development Policy, which will establish gender equality at all levels of national life, and help to ensure

the economic and political empowerment of women. The long-awaited Domestic Violence Act is about to be enacted by Parliament, and the Local Government Law has reserved seats for women to be directly elected. The government has also promoted women to the level of Secretary in ministries (the highest civil administrative position), including that of Foreign Affairs and Home Affairs, and appointed women Members of Parliament (MPs) as chairs and members of important Parliamentary Standing Committees. Furthermore, the AL is supporting the electoral reforms proposed by the Election Commission, including a revised voter list and provisions for national identity cards to each registered voter (50% of whom are women). These cards have given women a new identity, not as a daughter or wife (only), but as individual citizens who are part of a larger society.

These steps toward gender equality are long sought and long over-due. The AL's large electoral mandate is an endorsement of its political commitments, including those designed to address gender discrimination and empower women. However, this political opening may prove fleeting. To gain traction and take hold, it is critical that the proposed policies be formulated, adopted, and implemented, with sufficient time and political will for follow-up as and when necessary. The big question is whether the AL will be able to deliver on the promises for change that it has made.

USAID/B's programs support poverty reduction by promoting democratic institutions and practices, expanding economic opportunities, and improving the quality of life for the people of Bangladesh. Each activity addresses one or more of the following three goal areas: democracy and human rights, economic prosperity, and investing in human capital. Cross-cutting themes are corruption, youth, gender, outreach, and cross-sectoral linkages. Because of time-constraints, the Gender Assessment Team was asked to undertake field visits to four projects: Poverty Reduction by Increasing the Competitiveness of Enterprises (PRICE; leather and aquaculture); Promoting Governance, Accountability, Transparency, and Integrity (PROGATI; anti-corruption); Smiling Sun (healthcare services); and Cyclone Affected Aquaculture Rehabilitations Project (CAARP; food security). The gender analysis principles applied in the review of these projects are meant to be used as a guide for integrating gender in other USAID/B programs, projects, and activities.

USAID/B and its partner organizations recognize the importance of gender integration, but implementation remains uneven. Non-governmental organizations (NGOs) have successfully channeled resources toward providing different services (especially micro-credit, community health, sanitation, and education), but they have been less successful in integrating gender and addressing gender concerns. Many NGOs continue to believe that by focusing on women beneficiaries they are addressing gender. Moreover, gender is sometimes treated as an "add on" – and not sufficiently woven into planning and design, implementation, and monitoring and evaluation. Furthermore, while indicators are mostly disaggregated by sex, they tend to offer little information on changes in gender relations. As a result, important gender integration opportunities (GIOs) are being lost.

Violence against women is a stark marker of inequality in power relations, with important implications for human rights and gender equality. PROHURI (Protecting Human Rights in Bangladesh) is a new program that is already in the pipeline. It aims to reduce the high prevalence of domestic violence in Bangladesh, and other related human rights violations through policy reform and advocacy, and increased public awareness and dialogue between the government and civil society. As a part of this it will be important to continue to assess the roots of VAW through a gender lens. For example, research should be undertaken to examine what kinds of incentives work against dowry, and which initiatives have been more effective in order to better understand where and how interventions can succeed. Moreover, support should be given to efforts aiming to secure the adoption and implementation of the National Women's Development Policy and long-awaited Domestic Violence Act.

The upcoming strategic plan (2011-2015) will concentrate on four key sectors: democracy and governance, food security, health, and climate change. Gender remains a crucial cross-cutting theme.

The assessment reviews these sectors and future programming through a gender lens, and makes recommendations for gender integration and concerns of GBV. Strategies for mainstreaming gender in the Mission portfolio and cross-sectoral recommendations are also provided.

Key concerns and recommendations related to GBV include:

Labor-force participation: Increasing access to income and productive resources will improve women's ability to access services, support themselves and their children, and avoid coercive and high risk activities that increase vulnerabilities. However, the social and economic consequences of imbalances in opportunities available to men and women in the labor force need to be considered. Even though women's participation remains low, low-skill and low-wage jobs for women may begin to exceed formal sector opportunities for men. Labor force participation for 20-24 year old women more than doubled over the period 1995-2000, but declined for men in the same age group. The demographic bulge in the youth cohort could further exacerbate the situation, with growing resentment and frustration sustaining (or even increasing) the already unacceptable levels of VAW.

Low status and intra-family food distribution: Women have subordinate status *vis-à-vis* men and senior women in the family, and reproductive roles and cultural practices encourage early marriage and child bearing, as well as food restrictions. Women are often the last to eat the already limited quantities of food available for the family because culturally, and even when pregnant, they are expected to defer to their husbands, children, and mother-in-law. As a result, maternal and neonatal mortality and malnutrition rates remain unacceptably high. A woman's education level and ability to control household resources are strongly associated with improvements in nutrition status for the entire family. When women are able to make decisions about the types of food to prepare and feeding preferences among siblings, nutrition levels improve – even in households that have similar budgets. The best way to address malnutrition is to empower women through a combination of education, income generation, and behavior change strategies targeted at men and women.

Maternal and neonatal mortality: A high maternal mortality ratio is one of the strongest indicators of gender inequity. Poverty and the disempowerment of women – low status, lack of power, lack of access to information, limited mobility, lack of decision-making and choice, early age of marriage, and violence – contribute to maternal mortality, unintended pregnancies, problems in preventing and treating HIV/AIDS, and gender-based violence. Gender equity and positive health outcomes are mutually reinforcing. Women's control over financial resources and decision-making are fundamental to their capacity to access and use health information, make informed decisions about their health and fertility, and to negotiate and insist on safe sex practices.

Key cross-sectoral recommendations include the following:

Improve trainings for staff on the meaning of gender and sector-specific GIOs: All managers and staff involved in project implementation should be trained on gender and sector, or project-specific GIOs. In addition, there should be a gender point person who is responsible for guiding and supporting the progress of gender-related activities. This person should have sufficient resources and authority to make programmatic changes to improve gender-related outcomes.

Monitor and evaluate activities through gender lens: All work plans should have activities or strategies for addressing gender disparities. Baseline, midline, and endline surveys should include gender indicators and/or ways to track changes in gender relations.

Maximize opportunities for behavior change outreach among men: Focus on men and youth, especially sharing the experiences of “positive deviants” and benefits of gender equality. Use progressive leaders and role models to promote gender equality.

Include gender analysis and gender competency in all sector assessments: At least one team member with gender competency should be included in all sector assessments to collect data on gender relations, roles, and identities in correlation with the needs or problems to be addressed. This information will help to identify gender-based constraints and opportunities early in the planning process, and improve development outcomes.

Improve staff and management ratios, and the quality and ratio of trainers: Be flexible and creative in recruiting women staff for field and management levels. Re-advertise positions, allow more flexible work schedules, change qualification criteria, and promote capable women into management. Also, budget for training programs to increase technical capacity and to double-up women field staff to increase security and mobility (if this is the main impediment). Trainers should be gender-aware and sensitive to women's time-constraints and workload burdens. They should be interactive and participatory in their approach.

Track changes in gender relations through indicators that better measure gender-related inputs, outputs, and outcomes: Use a mix of different types of indicators to better monitor results. In addition to quantitative indicators, use qualitative, process-oriented, and proxy indicators to better capture changes in gender relations and how these are affecting development outcomes. If targets are not being achieved, the project should revisit its initial gender analysis and/or seek gender expertise to identify opportunities and constraints.

Create opportunities for sharing information about gender in ongoing projects and among partners: Establish a forum to facilitate networking among gender specialists and gender focal points, to better share information about gender integration in ongoing projects. Monitor for gaps in communication and understanding between International NGO (INGO)/National NGOs and local NGOs and community-based organizations (CBOs).

Increase youth-focused activities, especially at the nexus of gender and inclusion: Youth are the future. Research indicates that young men and women are more flexible in their perceptions of gender roles and identities. Focusing on youth helps to reinforce and encourage shifts in norms.

Gender should not be viewed as an “add-on:” Gender objectives should be identified from the very beginning. There is a tendency to think of gender as somehow outside the purview or scope of a program, project, or activity. USAID believes that attention to gender makes development assistance more equitable, more effective, and more sustainable.

Concentrate on ways to increase dialogue between men and women: Social capital and shared understanding builds when groups (men and women) are brought into a dialogue or otherwise work on activities which benefit everyone.

Disaggregate data and analysis: Disaggregated data and analysis are essential for tracking gender-related outcomes. Without this information it is difficult to gauge changes in gender relations.

Increase voice, agency, and influence through coalitions and federations: Broader coalitions are better able to hold accountable the institutions that affect them. However, within these it is important to guarantee women's representation (at least 33%) in groups or coalitions (especially in office-holder positions and/or committees with decision-making authority).

Support GOB initiatives to be more gender-responsive and accountable: Use different tools and methods to increase awareness, accountability, and responsiveness of the GOB toward gender. Examples include: gender budgets, gender audits, gender scorecards, and gender-sensitive disaggregated data in national surveys, census, and client satisfaction surveys.

Introduction

In Bangladesh, development experience indicates that programs and projects that are not gender-aware risk exacerbating inequalities. Despite more than 30 years of development activity and poverty reduction strategies targeted at the “ultra-poor,” disaggregated data reveal gender gaps in human development outcomes. To support conditions for gender equality, concrete actions must be taken to ensure that gender concerns are adequately understood and integrated.

The purpose of this Gender Assessment (GA) is to analyze the impact of programs and projects on gender relations, and to make recommendations for ongoing and future programs and projects. As stated in the Scope of Work, the focus is on “how to incorporate gender issues/concerns,” rather than “what are the issues.” USAID/Bangladesh’s (USAID/B) portfolio is examined to offer suggestions for mainstreaming gender, and to make actionable recommendations that can be implemented in the short (one to six months), medium (one to two years), and long-term (for the five-year strategy). The intent is to build on past actions and assessments, ensure continuity in learning, and support a more holistic approach to understanding gender integration opportunities (GIOs). Recommendations will reflect socio-cultural sensitivities to minimize backlash and maximize on opportunities. The objective is to strengthen future activities in order to reduce poverty and improve development outcomes.

This study will also serve to update the existing USAID/B gender action plan, and provide background for a new USAID/B strategy for 2011-2015. It is divided into two parts.

Part One provides an overview of USAID Automated Directive System (ADS) gender requirements and past activities related to gender in USAID/B, as well as the methodology. Human development outcomes, key policies of donors and the Government of Bangladesh (GOB) relating to gender, and current political openings are also examined.

Part Two presents a Gender Action Plan (GAP). It reviews gender dimensions for ongoing USAID/B programs and projects, and makes recommendations for the short, medium, and long term. Four key sectors for USAID/B’s upcoming Strategic Plan (democracy and governance, food security, health, and climate change) are examined through a gender lens, with recommendations offered for future programs. To better implement the GAP, steps for mainstreaming gender in USAID/B policies, procedures, and activities, and cross-sector recommendations also are provided.

PART ONE

1. Gender in USAID

The Automated Directive System (ADS) guidelines relating to gender affirm the importance of gender integration, and define steps for gender analysis at each stage of the programming process. USAID issued its first Gender Plan of Action in 1996, stating that “through attention to gender issues, our development assistance programs will be more equitable, more effective and – ultimately – more sustainable.”¹ The ADS requires program managers and staff to incorporate gender considerations into the design of new contracts, grants, and cooperative agreements. These requirements were further reinforced in November 2009, when USAID’s Acting Administrator made gender analysis *mandatory* in all strategic plans, projects, and activities.² The Agency’s Guide to Gender Integration and Analysis is now electronically linked to the ADS to facilitate its use in conducting the required analysis.

The ADS specifies that: “In order to ensure that USAID assistance makes possible the optimal contribution to gender equality in conducting gender analyses for projects or activities, Operating Units must consider the following two questions:

- How will the different roles, responsibilities, and status of men and women and men within the community, political sphere, workplace, and household (e.g., roles in decision-making and different access to and control over resources and services) affect the work to be undertaken?
- How will the anticipated results of the work affect women and men differently?”³

In addition, the ADS notes that addressing these questions “involves taking into account not only the different roles of men and women, but also the relationship between and among men and women as well as the broader institutional and social structures that support them.”⁴

2. Methodology

This assessment was conducted from January to March 2010. The research process included key-informant interviews and field visits. It is based on a careful review of relevant documents from USAID, donors, partner organizations, and the GOB. In-depth discussions and interviews were conducted with key stakeholders and implementing partners, and with representatives from other organizations who are grappling with how to effectively mainstream gender. Interviewees included project beneficiaries, project implementers, international and national non-governmental

¹ Statement by J. Brian Atwood, Administrator USAID; accessed online February 23, 2010 at: <http://www.usaid.gov/policy/ads/200/gplana96.pdf>

² Action Memo, Acting USAID Administrator Alonzo Fulgham, November 5, 2009 (emphasis added).

³ The ADS elaborates that: “The purpose of the first question is to ensure that: (1) the differences in the roles and status of women and men are examined; and (2) any inequalities or differences that will impede achieving project or activity goals are addressed in the project or activity design.” And that the second question requires “another level of analysis in which the anticipated project or activity results are: (1) fully examined regarding the possible different effects on women and men; and (2) the design is adjusted as necessary to ensure equitable and sustainable project or activity impact.” (see ADS 203.6.1) (“Summary of Gender Requirements in the ADS,” from WID Office, March 2010)

⁴ *Ibid.*

organizations (INGOs and NGOs), civil society representatives, key USAID/B personnel, and representatives of other donor agencies in Bangladesh.

The team consisted of four consultants: Team Leader Dr. Charla Britt, a development sociologist from Monterey, California; Dr. Nasrin Jahan, a medical doctor and lecturer at Cyberjaya University College of Medical Science; Malaysia, Dr. Zarina Khan, a professor in Public Administration at Dhaka University; and Dr. Younus Ali, a medical doctor with a Masters in Primary Health Care Management.

The Scope of Work (SOW) for this assessment is attached as Annex A. Annex B identifies the people consulted and interviewed. Important gender-related definitions are given in Annex C. Annex D offers a list of relevant references and websites for further reading on gender, gender analysis frameworks, and gender integration and mainstreaming manuals. Per a request from the USAID/B Program Office, three key messages and recommendations of “what to do” for implementing gender integration are outlined in Annex E. Annex F consolidates the actionable recommendations identified for the four projects visited in the field. Annex G provides a summary of gender requirements in the ADS. Lastly, Annex H lists the consulted references for the gender assessment.

3. USAID/Bangladesh: Past Activities Related to Gender

In 2002, USAID/B contracted an Investing in Women in Development (IWID) fellow as a Gender Advisor to support efforts to mainstream gender. In consultation with other USAID/B staff, she conducted an extensive gender audit from September 2003 to June 2004⁵ and prepared a GAP. The GAP outlined what needed to be done, by whom, and when; it was designed as a “living document” to remain contemporary with USAID/B’s gender goals. As part of this process a gender working group was formed to help meet gender integration goals.⁶ This raised the profile of gender concerns within USAID/B. It also resulted in the creation of a new position within the Program Office dedicated to gender. A Gender Advisor was hired in 2005, and the parameters of the position were later expanded to Project Development Specialist for Gender and Donor Coordination.

Unfortunately, some of the momentum from the 2002 to 2007 period has been sidelined due to workload burdens. The Gender Working Group, which was meeting regularly up until 2007, is currently inactive. USAID/B staff members recognize certain individuals as focal points for gender, and the Project Development Specialist for Gender is available to meet regularly with Mission staff and partners to discuss programmatic and gender issues. However, given competing obligations and time constraints, there seems to be little opportunity to meet and discuss programmatic and organizational gender concerns. USAID/B’s Mission Order on Programming Policy (effective July 28, 2009) offers guidance on gender, describing what to include in Gender Statements and identifying the need for adequate and appropriate gender analyses in pre-obligation requirements.

⁵ USAID/B was the first USAID Mission to complete a full gender audit (pers. comm. Harvey, January 2010).

⁶ Information was to be shared regularly among offices through a newsletter devoted to gender issues (following the format of USAID TIPS sheets). In addition, a “Gender Team Charter” and “Guiding Principles for Mainstreaming Gender in USAID Activities in Bangladesh” were drafted in 2006 and 2007, respectively, but have not been finalized. According to the Charter, the purpose of the Gender Team is: “To ensure that USAID/B complies with all USAID gender requirements, including mainstreaming gender into all relevant aspects of USAID/B operations.”

Largely through the networking and leadership of the Project Development Specialist for Gender and Donor Coordination, USAID/B has been active in facilitating the sharing of information about gender and development with other donors in the Women's Advancement and Gender Equality Local Consultative Group (WAGE-LCG). WAGE-LCG was established in the early 1990s. Meetings are convened every 6-8 weeks, but do happen more often if there are pressing events or issues. The group offers a forum for discussing operational issues, multi-sectoral strategies, and program concerns related to gender. Updates about new initiatives, best practices, and gender mainstreaming are also discussed.⁷

4. Context

4.1 Gender Relations and Human Development Outcomes⁸

Bangladesh is widely-regarded as a positive outlier among developing countries. This is because despite low levels of per capita income, repeated natural disasters, weak governance, and the confrontational politics of a young democratic system, it has achieved dramatic improvements in education, fertility, mortality, immunization, water and sanitation, rural roads, rural electrification, and micro-credit.

Over the last two decades, Bangladesh has maintained an economic growth rate of between 4 to 6% annually. Poverty levels which were at 57% in the early 1990s have declined to 40% in 2005. The population growth rate declined from 2.5% in the 1980s to 1.5% more recently. The net primary enrolment in schools has increased from 55% in 1988 to 91% in 2007, with gender parity in primary and secondary school student ratios. Infant mortality has declined from 145 per 1,000 live births in 1970 to 40 in 2007, with child mortality dropping from 239 per 1,000 in 1970 to 61 in 2007. Micro-finance reaches about 65% of the country's poor, and the majority of these beneficiaries are women. Furthermore, the impacts of natural disasters have diminished due to better disaster response management.

However, what is commonly referred to as the "Bangladesh paradox" is not without its negative side – especially when viewed through a gender lens. Positive outcomes in fertility and education have occurred despite low age at marriage, but labor force participation of women remains low by South Asian standards at 26% (though this is higher than in West Bengal). Women's property ownership is rare. Less than 10% of all women (and less than 3% of younger women) have their names on marital property. Domestic violence is common. A staggering one in two women experience physical violence in the home. Furthermore, in the past 30 years there has been a shift from a marriage regime of "bride price" to dowry.⁹ Studies indicate that inflation in dowry demands is associated with a likelihood of a woman experiencing domestic violence, and attempts to meet escalating demands can render poor families destitute.

⁷ Mahmuda Rahman Khan, USAID/B, and Mahal Aminuzzaman, gender focal point for the Danish Embassy, have been the co-chairs of this group since 2008.

⁸ This section draws on the following sources, from which more detailed information about gender relations and human development outcomes is available: GOB (2007), GOB (October 2008), World Bank (2009), World Bank and AusAID (2008), Thomas, Helen T, et al. (2004 and 2005), and Oxford Policy Management and Social Development Direct (June 2008).

⁹ Under the tradition of bride price, a payment is offered by the groom's family to the bride's family during marriage. For dowry, there is a payment in cash or kind by the bride's family to the groom's family. Though dowry is largely perceived as a Hindu custom, and bride price a Muslim practice, there has been a shift away from bride price and toward dowry in Bangladesh over the past three generations. (Center for Social Science 1992)

Low status within the household and cultural practices associated with childbirth and intra-family food distribution are another form of discrimination against women. Women have a subordinate status *vis-à-vis* men and senior women in the family, and reproductive roles and cultural practices encourage early marriage and child bearing, as well as food restrictions. Women are often the last to eat the already limited quantities of food available for the family because culturally they are expected to defer to their husbands, children, and mother-in-laws even when pregnant. As a result, maternal and neonatal mortality and malnutrition rates remain unacceptably high. Maternal mortality is about 320 per 100,000 live births, and neonatal deaths account for two-thirds of all infant deaths. An estimated 30% of adult Bangladeshi women are chronically malnourished.¹⁰

Women's empowerment does not necessarily result from increases in their income or micro-credit access. A woman's control over her earnings is often limited, and increasing her income does not automatically correlate to an increase in her ability to make autonomous (or joint) decisions about how that income should be used. Change in a woman's status within a household as a result of income may depend on the value of that income to the household, and forms of awareness-raising that can help to alter power relations in households. If increased income is augmented by behavior change messages and examples of positive deviance, then changes in a woman's status within the household is more likely.

Gender disparities affect the life-choices of both men and women. Over the past decade, there has been growing recognition that men need to be more actively involved in challenging the values and practices that perpetuate gender discrimination. In the context of Bangladesh, development programs and projects need to find ways to more constructively engage men in advancing gender equity. The main question is how to involve men in transforming the gender disparities and inequalities that currently privilege them.¹¹



4.2 NGOs, INGOs, and Donors

As a percentage of Bangladesh's GDP, aid has gone from almost 5% in 1990 to about 2%. The NGO sector is huge; there are more than 300,000 I/NGOs registered in Bangladesh.¹² NGOs account for 9% of healthcare expenditures, and 8% of primary enrolments are in NGO-run schools.

¹⁰ The most recent Bangladesh Demographic Health Survey (BDHS) notes that 30% of women are malnourished, with a body mass index below 18.5 (GOB 2007); this is slightly lower than the 34% reported in BDHS for 2004.

¹¹ UNDP 2000.

¹² NGOs are registered under different authorities as follows: 2,479 local and foreign NGOs under the NGO Affairs Bureau; 55,000 under the Department of Social Welfare; 152,000 under the Department of Cooperatives; 10,000 under the Office of the Registrar, Joint Stock Companies and Firms; 501 under Micro-Credit Regulatory Authority; 16,030 under the Department of Women and Children Affairs; and 100,000 under the Department of Youth Development. Cited in *The Daily Star*, Dhaka, January 26, 2010, "Over 20,000 NGOs to Lose Registration."

Bangladesh is well-known for its extensive NGO-based micro-credit network, due largely to the work of the Grameen Bank and the Bangladesh Rural Advancement Committee (BRAC).

USAID/B partner organizations recognize the importance of gender integration, but implementation remains uneven. NGOs have successfully channeled resources toward providing different services (especially micro-credit, community health, sanitation, and education), but they have been less successful in integrating gender and addressing gender concerns. Many NGOs continue to believe that by focusing on women beneficiaries they are addressing gender.

Most donor organizations and I/NGOs have tended to focus on their need to disburse aid, meet targets, and demonstrate results. Gender is sometimes treated as an “add on” – it is not sufficiently woven into planning and design, implementation, and monitoring and evaluation. Indicators are mostly disaggregated by sex, but generally offer little information on changes in gender relations. Important GIOs are being lost.

A number of donors do integrate gender in their programs and projects, especially GTZ (German Technical Cooperation), the Danish Embassy, Embassy of the Kingdom of Netherlands (EKN), and Asian Development Bank (ADB). In all cases there was strong and consistent leadership (from the country director and headquarters) to mainstream gender both organizationally and operationally. In addition, gender focal points were given sufficient authority, responsibility, and motivation to monitor gender integration (or not) in projects and programs. Gender analysis and checklist tools have been designed for specific sectors, with clear gender objectives and indicators outlined. Furthermore, appropriate time allocation for review and analysis of gender impacts is incorporated into the terms of reference or scopes of work.

There are increasing efforts to harmonize activities among donors. These include the Local Consultative Group (LCG) system, the Harmonization Action Plan (HAP), the Bangladesh Development Forum (BDF), and sector-specific consortia.¹³ Gender mainstreaming is not explicitly addressed, with the exception of the Local Consultative Group of Women’s Advancement and Gender (LCG-WAGE) which focuses on gender and women’s equality.¹⁴

There are 18 sector and thematic LCG subgroups. LCG-WAGE is largely considered a model group among the different LCGs. Though sometimes derided for being more talk than action, the group has made a number of important contributions, including comments for the World Bank’s consultative Poverty Reduction Strategy Papers (Interim-PRSP, and PRSP1 and PRSP2) and, more recently, the Bangladesh Development Forum. Moreover, it is likely that the newly-appointed Secretary of the Ministry of Women and Children’s Affairs (MOWCA), Razia Begum, may be tapped to regularly attend, if not be a co-chair for LCG-WAGE (with the other co-chair being from a donor organization).¹⁵ This will help to reinforce the ideals of the joint-cooperative strategy –

¹³ Harmonization activities have been prepared for health and education sector-wide approaches (SWAP), including: pooled accounts, procedures for pool-funded procurement, performance based financing, joint implementation and supervision activities, and common audit and reporting requirements.

¹⁴ A task group that focuses on gender was formed to advance the Health Nutrition Population Sector Program (HNPS) in the health SWAP. The Gender Equity Voice Task Group has been an active in advancing initiatives, such as Women Friendly Hospitals, Demand Side Financing, Promotion of Stakeholder Participation, the Gender Equality Stock-take, and the Tribal Health Plan.

¹⁵ This was announced by the Minister for MOWCA, Dr. Sharmin Shirin Chowdhury, at the Multi-Sectoral Program on Violence Against Women, January 26, 2010.

namely, that the GOB and donors should work more closely to improve communication, align aid priorities, and reduce transaction costs.

4.3 Political Openings and Key GOB Policies

Political opportunities are cracks in the polity that sometime result from changes in the government or policies, the expansion or contraction in institutional structures, the ideological disposition of those in power, and the dynamic leadership of individuals or small groups of people. Bangladesh held a historic election at the end of 2008. The Awami League (AL) was elected by an overwhelming majority. The AL's election platform included promises to restore women's rights to inheritance through legal reform in family laws and to place women in key governance positions, by enforcing the reservation of seats for women in the Parliament, local government, and in all levels of government services.¹⁶ Furthermore, the AL has vowed to end discriminatory laws by implementing the proposed National Women's Development Policy (NWDP) and CEDAW (Convention on the Elimination of All Forms of Discrimination against Women).¹⁷

NWDP aims are to establish gender equality at all levels of national life, and to ensure the socio-economic and political empowerment of women. The demand for a uniform Family Law Civil Code to end discriminatory inheritance laws is gathering momentum, putting pressure on the government to adopt and implement the NWDP. To the relief of many, the long awaited law against Domestic Violence has been recently approved by the cabinet for enactment in Parliament.

Bangladesh ratified CEDAW with reservations that impact religion-based personal laws on women's rights in the private sphere. Initially, there were reservations for Articles 2(a)(f), 13(a) and 16.1(c)(f). Later all but reservations for Article 2(a) and 16.1(c) were withdrawn. Article 2(a) pertains to achieving equality of men and women in national constitutions or other appropriate legislation and in practical realization. Article 16.1(c) ensures the same rights and responsibilities for men and women during marriage and at its dissolution. The Women's Movement has lobbied successive governments to withdraw the reservations on Article 2 on the grounds that it contradicts Bangladesh's constitution. The proposed NWDP, if adopted, will create the basis for doing this.

The objective of CEDAW is to abolish all discriminatory laws, and initiate legal reforms to ensure the rights of women in public and private spheres. CEDAW's Optional Protocol allows individuals or organizations to submit written claims of violations to the Committee that monitors CEDAW compliance. It also gives the Committee a mandate to investigate violations in countries that are signatories. CEDAW has been employed by advocates of women's human rights in many countries. In Bangladesh, a case brought by the Bangladesh National Women's Lawyers Association, challenged the High Court to prohibit sexual harassment although there was no national law against it. In 2009, the Court issued a decision prohibiting sexual harassment, based

¹⁶ The AL manifesto read "in order to ensure women's empowerment and equality in rights and opportunities, the National Women's Development Policy formulated by the Awami League in 1997 will be revived. The number of reserved seats for women by direct election in the Parliament will be increased to 100. Necessary measures will be taken for appointment of women in senior posts in the administration and in all spheres of employment. Strictest legal measures will be taken to stop oppression of women." (The Election Manifesto of Bangladesh Awami League-2008, in *The Daily Star*, Election special Issue, December 16, 2008).

¹⁷ Bangladesh ratified CEDAW in 1984 (it was one of the first Asian countries to do so), and signed on to the optional protocol in 2000. It also endorsed the Beijing Platform for Action in 1995, and followed-up with the National Action Plan for Women's Advancement: Implementation of the Platform for Action" (prepared by MOWCA in 1998).

on CEDAW and Constitutional guarantees.¹⁸ The Court's guidelines against sexual harassment will remain in place and serve as "Law" until legislation can be passed.

To remove gender imbalance at higher decision-making levels, the current government under the AL party will make contractual appointments, with quotas continued and increased.¹⁹ The Local Government Law, enacted by the government in 2009, has reserved seats for women to be directly elected. Moreover, the government is promoting women to the level of secretaries (the highest civil administrative position in ministries), and to fill more mid-level decision-making positions. On forming the Government, the AL allocated non-traditional cabinet positions to women (including that of Foreign Affairs and Home Affairs ministries), and appointed women MPs as chairs and members of important Parliamentary Standing Committees. MOWCA is led by the Prime Minister and Party Chief, and has a professional female lawyer and women activist as her Deputy Minister. The assigned gender focal points in key ministries for coordination and integration of gender in policy and implementation are being reactivated under the direction of the MOWCA.

In addition, the current government is supporting the electoral reforms proposed by the Election Commission, in keeping with its pledge to achieve targets for electoral commitments by 2021 (Vision 2021). It nominated and supported a number of women to contest from key constituencies for the first time. Reform initiatives included a revised voter list, and provision for a national ID card to each registered voter. This has given women a new identity, not as a daughter or wife (only), but as individuals who are also part of society. An indication of the enthusiasm created among female voters as a result of this is evident in the finding that in a majority of the polling stations the number of women voters was larger than men.²⁰

These positive steps toward gender equality are long sought and long over-due. The AL's huge electoral mandate is an endorsement of its political commitments, including those designed to address gender discrimination and empower women. This has created political opportunity spaces to incorporate women in all spheres of public life and integrate gender-aware policies and approaches, as mandated by the Constitution (Articles 10, 28 [1][2] and [4], in particular). However, to gain traction and take hold, it is critical that these policies be formulated, adopted, and implemented, with sufficient time and political will for follow-up as and when necessary. Furthermore, measures already taken should be backed up with laws, and reinforced by the continuing support from civil society and donor agencies. The big question is whether the AL will be able deliver on the promises for change that it has made.

¹⁸ http://www.unifem.org/cedaw30/success_stories/ February 27, 2010. Another success in this regard was through the Bangladesh University Grants Commission. In 2008, it established a code of conduct for the prevention of sexual harassment in higher educational institutions. Chittagong University was the first to adopt this code in August 2009.

¹⁹ At least 30% of positions will be reserved in all policy and decision making bodies as per the country's commitment to the UN Economic and Social Council Recommendations.

²⁰ See Women's participation in Elections: study report, sponsored by the Royal Netherlands Embassy, Dhaka, January 2009.

PART TWO: GENDER ACTION PLAN

5. USAID/Bangladesh Strategy: Ongoing Programs and Projects

USAID/B is in the initial stages of updating its strategy (see discussion in Section 8). Ongoing programs and projects support poverty reduction by promoting democratic institutions and practices, expanding economic opportunities, and improving the quality of life for the people of Bangladesh. Each activity addresses one or more of the following three goal areas: democracy and human rights, economic prosperity, and investing in human capital. Cross-cutting themes are corruption, youth, gender, outreach, and cross-sectoral linkages.

USAID/B is providing assistance for five priority objectives. These are listed below, along with the types of projects undertaken:

- Peace and Security
 - Combating trafficking in persons
 - Community policing
- Governing Justly and Democratically
 - Anti-corruption
 - Civil society advocacy
 - Local government decentralization
 - Political participation and leadership in representative government
 - Human rights (domestic violence prevention)
- Investing in People
 - Population
 - HIV/AIDS
 - Tuberculosis
 - Health
 - Nutrition
 - Education
- Economic Growth
 - Private sector competitiveness
 - Energy
 - Environment
 - Food Security
- Humanitarian Assistance
 - Disaster preparedness and mitigation
 - Non-emergency food aid programs

6. Selected Projects: Gender Dimensions

Because of time-constraints, the Gender Assessment Team was asked to undertake field visits to the following projects:²¹

- PROGATI (anti-corruption)
- PRICE (leather and aquaculture)
- Smiling Sun (healthcare services)
- CAARP (food security)

This section focuses on promising practices and gender concerns identified through field visits and key informant interviews. Actionable recommendations are made for the short, medium, and long-term, and potential gender-sensitive indicators are listed by sector. The gender analysis principles applied in the review of these projects are meant to be used as a guide for gender-integration in other USAID/B programs, projects, and activities.

6.1 Democracy and Governance: PROGATI

Democracy and Governance office programs are designed to advance political party reforms, and promote transparent and accountable government. The idea is to build the capacity for participatory democracy, strengthen institutions for good governance, promote human rights, and offer support to Bangladesh's culture of tolerance among different religious and ethnic groups. In early meetings with the office we were asked to focus on these questions: How to increase women's participation and leadership; and how to orient men to accept women in those roles?

The Promoting Governance Accountability Transparency and Integrity (PROGATI) project aims to improve transparency and accountability in public resource management by strengthening institutions that provide public sector oversight. It focuses on four key sectors to decrease the level of corruption in Bangladesh: media, civil society, public institutions, and Parliament. In media, the project is expanding opportunities for female journalists to pursue investigative journalism through a fellowship program. In civil society, activities at the Union Parishad level are engaging communities (including women leaders) to monitor health and education services through a citizen scorecard process and other forms of dialogue. In public institutions, PROGATI is supporting activities to make more transparent and accessible the offices of the Comptroller and Auditor General to civil society and the media. Lastly, in Parliament, it has supported the formation of "Budget Analysis and Monitoring Unit" (BAMU) in the Secretariat. BAMU will provide services to MPs for analyzing and monitoring the impacts of the national budget expenditures. As part of developing a "community of practice," civil society organizations, think-tanks, and journalists are encouraged to interact and otherwise enhance their watchdog and/or investigative capacities.

PROGATI training workshops are an important part of its overall design for raising awareness about what can be done to reduce corruption. Training modules include discussions on: the concepts of corruption, transparency, and accountability; the concept of monitoring; using community scorecards to monitor public services; publicity mechanisms (to increase mass awareness, transparency, and accountability); and campaigns (collective action to increase awareness, transparency, accountability, and support the right to information). Anti-corruption

²¹ To the extent opportunities arose, Team members also visited Mayer Hashi, SUCCEED, REAL, and Jibon O Jibika.

training programs for women entrepreneurs have also been conducted, with modules focused on promoting ways for businesswomen to avoid corruption.

In 2008, PROGATI conducted a national survey on the perceptions of corruption to gather data on how Bangladeshis experience corruption in the public and private sectors. The majority of respondents believed that women are more victimized than men by public sector corruption (71%) and private sector corruption (69%). The reasons given were social status, security issues, and limited mobility. However, men and women reported nearly identical levels of corruption with different public and private sector institutions.²²

Gender Assessment team members met with women entrepreneurs and local NGO and community-based organization (CBO) representatives who participated in anti-corruption trainings held by PROGATI. It was clear from the discussion that the training workshops have resulted in greater feelings of empowerment from the information about legal rights and remedies conveyed. However, some shortcomings were also identified. The local NGO/CBO groups remained unclear about their roles in the project. There seemed to be a lack of clarity and/or limited formal understanding between the national-level NGOs and local NGOs/CBOs. Local level NGOs/CBOs were expected to provide attendees for the workshops, and encouraged to seek-out women participants. Some succeeded at doing this, while others did not. The training workshops rarely achieved the objective of 50% participation of women. In addition, the modules provided limited gender-related information, and the intensity of the scheduling was not conducive to women’s multi-tasking workloads (especially for the women entrepreneurs).

Table I. Actionable Recommendations (PROGATI)	Short Term	Medium Term	Long Term
Training workshop schedules should be made more sensitive to women’s workloads and time constraints	√		
Training workshops should include appropriate gender-related information (e.g., gender balance in staff and trainers, and gendered impacts of corruption – examine why survey respondents believe that women more victimized than men by corruption?)	√		
Training workshops should be followed up with “what next” activities	√	√	
Work closely with NGOs modifying training modules to include gender perspective	√	√	
Maximize on collective action by supporting initiatives taken by trainees and offering leverage through networks or coalitions	√	√	
Include individuals from service providers known for perpetuating corruption (e.g., banks, taxation offices) to participate in anti-corruption workshops and training programs – especially in role plays	√	√	
Involve household members (e.g., couples) in trainings so they share learning, understanding, and responsibility	√	√	
Trainers should have good training skills, be gender-sensitive, and encourage participation	√	√	√

There were also complaints about the lack of follow-up or understanding of “what next”? The women entrepreneurs described the discrimination they experience in trying to secure bank loans, and at licensing and tax offices. Following the anti-corruption training workshop they felt empowered with new information. A group of women decided to go to a bank, and complain about the discrimination they face in trying to get loans. They received a positive response in the

²² PROGATI 2010: mimeo.

presence of higher officials initially, but now bank staff members barely acknowledge their presence and/or continue to seek bribes and “favors” for processing applications. This is an unfortunate outcome. It is disempowering for women entrepreneurs who are, in effect, business “pioneers” and role models for other women. Follow-up and leverage (support from larger coalitions or media publicity) could help to produce a more positive and empowering result.

PROGATI plans to expand its activities related to the impact of gender and anti-corruption in 2010. It will begin working with two national gender-based coalitions – Steps Toward Development and the Durbar Network – to adapt existing training modules to address specific issues related to gender and corruption. It is hoped that this will significantly expand training and campaigns in order to increase the number of activities and range of issues and participating organizations.

Gender-sensitive indicators:

- **Anti-corruption Reforms**
 - Number of anti-corruption reforms promoted that would benefit women
 - Number of anti-corruption reforms that were adopted and benefited women
- **Training Programs**
 - Number of people in target group trained on anti-corruption activity (e.g., citizen scorecard), disaggregated by sex and other social variables (i.e., age, economic class, location, sector, industry, occupation)
 - Number of trained people adopting new behavior/practices (based on follow-up survey), disaggregated by sex and other social variables
 - Number and percentage of trainers, disaggregated by sex
 - Levels of participant satisfaction with training, disaggregated by sex
 - Number of trainings offered, disaggregated by location and training timing (and perception of convenience for women and men)
 - Number and percentage of participants who engage in an anti-corruption action (in the year following the training), disaggregated by sex

6.2 Economic Growth: PRICE

USAID/B’s Economic Growth office seeks to reduce poverty through improving private sector competitiveness, promoting livelihoods and good governance in natural resource management, building and expanding the energy sector, and increasing food security. In early meetings with the office they asked us to focus on the following questions: How to reach out to women? How to identify what they want, what they need? And, how to get that done? Gender Assessment Team members visited Bay Footwear Factory in Gazipur, and an aquaculture group and Society for Social Services (SSS) in Tangail.

The PRICE (Poverty Reduction by Increasing the Competitiveness of Enterprises) Project aims to increase sales, jobs, and investment throughout the aquaculture, horticulture, and leather value chains, with particular benefit to women, young adults, and small and medium enterprises. It focuses on enhancing the competitiveness of Bangladeshi firms, products, and services globally while increasing opportunities for the poor by designing strategic sector-wide activities, facilitating sales transactions, and advocating for policy reform. In July 2008, a sector-based gender analysis

report was done to assess gender equity issues in aquaculture, shrimp, and leather value chains, identify gender roles in value chains and interventions for gender equity, and recommend ways of integrating gender equity and monitoring for those interventions in future activities.²³

SSS is the local NGO responsible for organizing all-female fish-farmer groups. Since May 2009, more than 1,100 smallholders have been formed into female farmers' groups in four districts. PRICE has also trained 420 women farmers on improved farming technology, and 480 women farmers on improved farm management. The women's group reported that their households were benefiting from the increased production of fish, and the technical assistance provided by SSS. They felt that through their participation in the project their importance or status in the family had improved. They noted that shared decision-making (among husbands and wives) had increased, and domestic violence and divorce rates had declined (the latter was attributed to women-only micro-credit opportunities that men want to utilize). Women's access to micro-credit seems to be the main criteria in establishing their value to the family. Much of the labor for cleaning the ponds and feeding, collecting and selling the fish was done by husbands or male helpers. The fish value-chain is dominated by male middle-men. The increase in income is helping many of the families to send their children to school.

Bay Footwear is a private company that works with PRICE's leather product sector initiative by employing trainees in its factory. Since November 2008, PRICE has trained 2,722 women and 924 men in leather working and stitching. The majority of these trainees are being employed in the booming leather industry,²⁴ though wages remain low and opportunities for upward mobility (into management level) are minimal. The trainees are being drawn from areas near leather industry hubs, as the project has discovered that the social and economic constraints of relocation are prohibitive if they train in places that are far away from factories.

The Government of Bangladesh has given big incentives to the leather industry as part of its 2008 and 2009 stimulus packages. However, no provisions have been made for marginal groups and women. Leather is a \$70 billion global market, with Bangladesh's share standing at just .5% of this total. There is scope for tremendous growth, and factory owners expect to grab more market share because of the low wages in Bangladesh. In order to create advantages for workers and the industry, however, tanneries should be prepared to comply with international

Table 2. Actionable Recommendations (PRICE)	Short Term	Medium Term	Long Term
Encourage partner NGOs to involve men and women in training programs so they share the learning and responsibility	√	√	√
Support initiatives to promote women into management level positions (e.g., training for management roles and/or providing examples of successful women managers and factories that have promoted women)	√	√	
Review policies and incentive structures for retaining female workers in small and medium enterprises (focus on differences between enterprises that are retaining workers and those that have high attrition rates)	√	√	
Review incentive structures within NRM local institutions (agreed rule of use) from a gender perspective	√		
Support reform initiatives for tanneries to comply with international standards for labor and environmental protection		√	√

²³ USAID 2008.

²⁴ PRICE estimates that the leather goods and footwear industry will need at least 5,000 more skilled workers per year.

standards for labor and environmental protection, as have many factories or hatcheries in the shrimp, garment, and footwear industries.

Bay Footwear Factory is compliant with International Labor Organization (ILO) standards. It has a punch time clock, a medical center, and clearly marked exits, as well as a crèche, a canteen, and separate toilet facilities. There are about 500 workers, 78% of whom are women. There are very few women in management or supervisory levels. When questioned about why this is the case, the manager said he did not believe that women could handle the negotiation or multi-tasking demands expected of management. Most workers learn their skills on the job, but the PRICE trainees are in demand because they are already trained in stitching techniques. The salary range is between Taka 2,500 and 4,500 (US\$37-66) per month, with equal wages for men and women. Overtime hours are regularly 10-12 hours per week, for which workers are paid double. However, the turnover rate of workers is high at 60% per year, suggesting that the incentive structures (perhaps in wage levels or opportunities for promotion) are not adequate. Moreover, the differences in opportunity structures for men and women in employment and positions can further exacerbate and reinforce gender inequalities. Not promoting capable and qualified women to supervisory or management positions sends a message that women are inferior to men.

Comprehending the link between gender relations and macroeconomic policies can be challenging. The leather and footwear industry is scaling up in much the same way that the garment industry grew in the 1980s. Some of the lessons from that experience could be helpful in understanding gender concerns. Potential impacts include: the socio-economic effect of the influx of young female migrants to urban areas on gender relations and household economics in both the city and rural communities they left behind; the flow of remittances to rural areas; the effect on school enrollments due to changes in the expectations of girls' employability; and early drop-out rates from middle-school education for girls seeking available jobs.

Gender-sensitive indicators:

- **Small and Medium Enterprise and Vocational Training**
 - Number of women who received fair wages commensurate with their abilities and skills
 - Number of women promoted to management-level positions
 - Number and percentage of entrants trained in non-stereotypical ("un-gendered") and emerging opportunity occupations, disaggregated by sex
 - Number and percentage of entrants employed in "un-gendered" jobs, disaggregated by sex
 - Number and percentage of women-owned businesses

- **Agriculture Production**
 - Number and percentage of participants cultivating cash crops, disaggregated by sex
 - Number and percentage of producers who adopt new cash crops, disaggregated by sex
 - Changes in income for producers of new crops, disaggregated by sex
 - Changes in household nutritional status, disaggregated by sex and position within the household (e.g., mother-in-law, daughter-in-law, daughter, son)

- **Income Generation Activities**
 - Change in women’s or household’s income and spending
 - Number of women who become engaged in new home-based economic activities
 - Analysis of time-use and division of labor, disaggregated by sex
 - Number and percentage of entrepreneurs engaging at higher levels in the value chain, disaggregated by sex
 - Number of “female value chains” disaggregated by sector or products
 - Change in income of women engaged in “female value chains” measured annually
 - Number of links established with Fair Trade organizations for women’s products or good
 - Annual sales from Fair Trade contracts, disaggregated by sex

- **Natural Resources Management and Governance**
 - Changes in the types of resources, intensity of use, and need for resources, disaggregated by sex
 - Changes in perceptions about natural resource problems and solutions, disaggregated by sex
 - Changes in men’s and women’s workloads (time and task allocation, disaggregated by sex)
 - Number of hours spent collecting fuelwood or water before and after project’s inception, disaggregated by sex
 - Qualitative changes in local men and women’s involvement in decision-making about resource management
 - Number of new jobs created from forward and backward links to tourism (e.g., handicrafts, small hotels, eco-tourism, and other cultural activities), disaggregated by sex

6.3 Humanitarian Assistance: CAARP

The Office of Food, Disaster, and Humanitarian Assistance (OFDHA) provides emergency response and short-term humanitarian assistance in the event of a natural disaster. Their programs focus on increasing household incomes through food or cash-for-work programs, developing income generation skills, and assistance for households.



The Cyclone Affected Aquaculture Rehabilitation Project (CAARP) is implemented by WorldFish through local NGO partners. The objective is to rehabilitate 262,000 farmers who, because of the scale of their overall losses and poverty, have been unable to resume farming following devastating cyclones. The implementation strategy includes training and technical assistance, consolidation of private sector input supply and marketing, and integrated fish pond and vegetable farming to increase household incomes and improve food security. The project also addresses concerns of gender, environment and climate change, and nutrition awareness. The idea is to increase the social and economic resilience of poor families

living in vulnerable locations so that they can recover from and better respond to the aftermath of a natural disaster.

CAARP initially formed male (28%), female (5%), and mixed (67%) groups for training on the best fish for cultivation in small ponds. Because most of the ponds were close to their homes, women took over the responsibility for fish cultivation, and ultimately were identified as the *de facto* “owners” of the pond. Due to technological inputs from CAARP, the farmers were able to harvest the fish within a short period of time. Vegetable farming on the banks of the ponds was also introduced. The fish and vegetables were sold in the market and eaten by the families, thus raising both household incomes and family nutrition levels. Intra-family nutrition distribution has also improved. In 2005, the consumption difference between men and women was about 1 kilogram per household; in 2008 this had declined to around 200 grams.

As the “owners” of the pond women are better able to retain greater control over their earnings, and the number of husbands and wives who are jointly taking decisions about expenditures for family needs has increased. In a small group meeting with men, 83% of male respondents mentioned that their wives retain their income for meeting basic family needs; the remaining 17% offered that while they possess their wives’ earning, they have started to make decisions about expenditures jointly. In a small group meeting with women, over 50% noted that men were becoming more involved in household activities (e.g., childcare or care for elderly, and cooking). About 80% of these women mentioned that they were able to control how the money they had earned from fish farming would be spent. The women said that mostly money went toward expenses for their children’s education, and that they had learned to negotiate the price of fish for maximum profits. They believe that the changes in men’s behavior were due to the economic contributions women were now able to make toward the household.

Prior to CAARP the small ponds were not used in any way. With appropriate technology and knowledge-sharing among members of households, the ponds have been converted into assets for ultra-poor families. Given the demonstrated benefits, community resistance to women working at fish farming is now almost gone. While CAARP initially segregated groups into male and female categories, the project discovered that mixed group meetings were more effective for sharing experiences and gaining greater acceptance of women’s roles in fish farming. This has increased women’s status within the household. It was observed that women remain most responsible for cooking, childcare, and care-giving, but that some husbands have started to assist their wives in household-related work (e.g., water collection, bathing children).

The staff of WorldFish and all partner NGOs and CBOs were trained on gender. Also, in selecting partner organizations, WorldFish gave priority to NGOs that were headed by women or had a better gender-balance in their staff ratio. This has helped WorldFish and its partner organization identify and address barriers to women’s participation in training programs, and in working outside the home. In future, however, benefits could be extended by having a gender-objective strategy and identifying gender-sensitive indicators to better monitor progress and increase awareness. One area of noted concern was the prevalence and frequency of illness of family members. This is a major drain on resources, both economic and physical, and the responsibility for caretaking and seeking medical services often falls on women. In future, the project should provide more information for both men and women about basic sanitation and cleanliness practices, the

importance of a balanced diet to health, and ways of seeking appropriate medical care when required.

Gender-sensitive indicators:

- Number and percentage of beneficiaries trained on homestead food production, disaggregated by sex
- Number and percentage of Village Model Farmers/pond owners who are women
- Percentage of women who control their earnings from homestead production
- Percentage of male participation in community group meetings where issues of nutrition, healthcare, and intra-family food distribution are discussed
- Number and percentage of female volunteers trained in emergency preparedness

Table 3. Actionable Recommendations (CAARP)	Short Term	Medium Term	Long Term
Survey disaster response infrastructure and mobilization strategies to determine whether physical security needs of women and girls are being sufficiently addressed	√	√	
Include a gender-objective in future documents outlining project objectives	√	√	
Incorporate information about ways to stay healthy in training sessions to reduce the frequency illnesses	√	√	
Integrate basic health and nutrition awareness activities targeted at both men and women	√	√	

6.4 Investing in People: Smiling Sun Franchise Program

Health programs funded by USAID/B include family planning and reproductive health, maternal and child health, HIV/AIDS, and tuberculosis. These are carried out in underserved areas and specifically target the poor. Women and children are the main beneficiaries.

Smiling Sun Franchise (SSF) is impressive for its scale and service provision. It provides integrated family planning and health service coverage to 20 million (14% of the population) in both urban and rural areas, through 318 clinics, 8,000 satellite clinics, and 6,000 community workers. From the field visit it was apparent that the medical practitioners are very competent, accessible, and sensitive to their patients. However, some of the satellite clinics lack adequate light and privacy for examinations and counseling.

The clinics have expanded medical services from an initial focus on women to families and, more recently, the “community.” However, this information has not changed the clientele very much. It was estimated that less than 10% of patients are men, and husbands rarely accompany their wives or kids (even when they are not otherwise engaged in work). Moreover, many women are not informed about male methods of contraception. This appears to be the case, even as they have no other option but to stop contraception or switch to different contraceptive methods due to health issues or other complications.

Based on disaggregated data from monthly clinic reports, immunizations are almost equal among boys and girls, and households from all socio-economic levels. However, this data is compiled at the central level with no disaggregation. This is a missed opportunity to monitor broad trends in immunization practices.

It will be important to better understand the differences in the way women and men use and benefit from health care services, and how this affects everyone in the household. Health service

provider's attitudes toward and knowledge of gender concerns can be a key factor in changing gendered behavior in reproductive health decisions taken by their clients and spread throughout the community. SSF should work to increase men's involvement in reproductive health, including delivery and post-natal check-ups. One underutilized avenue for doing this may be clinic counselors and/or doctors, who could share information on male contraceptive options. Peer education, men-to-men group discussions, special men-only hours at the clinic, and media could be used to emphasize behavior change messages that challenge traditional notions of "masculinity" and men's roles, and support models of "positive deviance."

The involvement of men, however, must be done carefully. In the past, efforts to include men in family planning initiatives in other countries have inadvertently sent messages that reinforced stereotypical attitudes of men as the sole decision-makers, thereby reducing women's reproductive choices. Emphasis in outreach should be on the importance of shared decision-making between husbands and wives (and other family members) for family health.

Gender-sensitive indicators:

- Number of staff/providers trained on gender from a reproductive health perspective
- Number of couples offered counseling services related to reproductive health
- Number of couples offered counseling services related to contraceptive choices (for both men and women)
- Number of men using male contraceptive methods
- Number and percentage of families offered counseling services related to intra-family nutrition
- Number and percentage of malnourished women and children
- Number and percentage of anemic women
- Number of males bringing sick children to clinic
- Number and percentage of counselors or providers trained in GIOs and gender-sensitive behavior changes messages
- Number of women who completed ANC
- Number of high-risk pregnant women identified
- Number of high-risk pregnant women who delivered at hospital
- Number of neonatal mortality

Table 4. Actionable Recommendations (SSF)	Short Term	Medium Term	Long Term
Include sex disaggregated data in compiled information management reports at the central level	√	√	√
More effectively combine women-to-women services with a family health approach inclusive of men		√	√
Promote men's responsibility in sexual practices, domestic work, and violence against women through men-to-men counseling and examples of positive deviance		√	√
Address household member's insistence on boy-child, problems of domestic violence, and intra-family food distribution through clinic counseling		√	√
Promote women's autonomy in decisions about fertility and decision-making in the household through clinic and community-level counseling and health education	√	√	
Spread the message (using media, billboards, word-of-mouth) that SSF provides medical services for both men and women	√	√	√
Analyze choices in contraceptive methods from a gender perspective, focusing on how to attract more men	√	√	
Use satisfied male-method contraceptive users (NSV) to counsel other men and advocate for this approach in outreach (media, billboards, word-of-mouth)	√	√	√
Procure female condoms for protection against STI/RTI/HIV/AIDS		√	√

- Knowledge of HIV/AIDS prevention methods among men and women
- Knowledge of increased nutrition and medical needs during pregnancy
- Changes in attitudes toward violence against women, disaggregated by sex

7. Engendering Key Sectors for USAID/B's Strategic Plan 2011-2015

USAID/B's funding is expected to grow substantially. It anticipates using resources from the Global Hunger and Food Security Initiative, the Global Health Initiative, the Climate Change Initiative, the Global Engagement Initiative, and Food for Peace Title II to fund core investments in family planning, health approaches to nutrition, agriculture and food security, and governance. Gender remains a critical cross-cutting theme. This section reviews future programming through a gender lens, and makes recommendations for integrating gender in new strategy sectors.

7.1 Democracy and Governance

Gender equity is relevant to all areas of effective governance. Bangladesh is a young nation at a unique place in its political history. USAID/B is committed to creating an enabling environment for women to participate in public life and facilitate their entry into leadership positions within politics and the civil service. At present two programs are in the pipeline: Strengthening Democratic Local Governance (SDLG) and Protecting Human Rights in Bangladesh (PROHURI).

The goal of the SDLG program is to promote and expand decentralization by improving transparent and participatory public administration at the local level, and enhancing legal and policy reform at the national level. There is an emphasis on creating tools and practices that enable local governments to become more democratic, effective, and responsive institutions of governance. The SDLG will support women and men to enhance their leadership and management skills, with leadership training for female local representatives and local council candidates as well as the newly-elected female Vice Chairs of Upazila Parishads and Union Parishads representatives prioritized. It also plans to expand women's political skills by consolidating the women's wings of the Municipal Association of Bangladesh (MAB) and Bangladesh Union Parishad Forum (BUPF).

Bangladesh has a highly centralized government structure, making it difficult to hold public service providers accountable. In its 2008 manifesto the AL promised effective action against corruption and to increase the power of local government. Among other things, priority was given to establishing good governance through public administration, electoral, and civil service reforms. Legal reforms have shifted service delivery to local government, but without the capacity and resources to perform. This is the result of unresolved control issues between the central government and MPs, as well as a legacy of the dominant role given to the local civil administration and government line departments.

There is a need for strong advocacy, particularly by organized coalitions (e.g., local government associations and women's caucuses) to strengthen local government reforms and expand programs for capacity-building of elected representatives. Provisions have been made for the reservation of seats for women through direct election. However, past experience demonstrates that securing their entrance into such positions in the Union Parishads is not sufficient for securing their participation or strengthening the councils. Further measures should be taken to ensure their active participation and empowerment.

Women's political mobilization around quotas or reservation of seats is controversial. It is true that an increase in the number of women representatives does not necessarily lead to better outcomes for women, because of strong and entrenched gender biases which undermine the impact of women's voices and presence in public life.²⁵ However, women's political power and leverage increase as they begin to vote en bloc in response to a political party's platform. At issue is not whether quotas are the best mechanism for increasing women's political participation or voice, but how elected and administrative public officials can be incentivized to meet the needs of poor women.

In India, close to a million women came into power in the early 1990s as a result of Constitutional amendments which created an active *panchayat* system of village, block, and district councils, and reserved one-third of seats in *panchayat* councils and one-third of council presidencies for women. Though women initially found it very difficult to work effectively, they have received greater acceptance and brought about big changes in political priorities (e.g., clean water instead of roads, nurses and teachers rather than buildings). Furthermore, there are now more than the one-third threshold of women who have been elected into office. At present, the Indian Parliament is considering a

similar reservation approach for the national level. The quota created a foundation on which women were able to develop and prove their leadership skills. As Tarr-Whelan (2009) explains, "In India, as in South Africa, quota has been a floor, not a ceiling."

The situation in Bangladesh is ripe for increasing the influence of women in public decision-making and political and administrative bodies. According to Horowitz (2009), conditions that positively affect women's political participation include: high levels of political party competition (especially the prevalence of left-leaning parties), a strong central government with constitutional

**Box 1: Getting Good Government for Women:
Examples of Select Mechanisms**

Increasing Political Voice

- Affirmative action in electoral politics and internal party politics, including quotas and reservations
- Training and support programs for local and national representative
- Women's wings in political parties
- Women's manifestos
- Recruitment, mentoring, and leadership development in political parties
- Women-friendly institutional structures (e.g., timing of meetings, travel safety, child support)
- Equal opportunity structures in civil service (e.g., anti-discrimination bureaus, merit protection agencies, equal opportunity commissions)
- Party-independent bodies that provide financial and moral support to female candidates and link leaders to gender constituency
- Organizing women and girls to promote their political awareness, leadership, and advocacy abilities
- Gender quorums in community meetings

Securing Administrative Accountability

- Ministries/agencies of gender in national and local governments
- Gender focal points in sectoral ministries and decentralized departments
- Organizational gender policies and structures, such as gender working groups
- Advisory councils on women's issues
- Affirmative action in the public administration
- Gender-sensitive complaint mechanisms
- Female field workers
- Gender-responsive budgets
- Gender-sensitive design and implementation of programs and projects
- Gender-disaggregated and gender-sensitive monitoring indicators

Reinforcing Client Power

- Women's self-help groups in governance
- Affirmative action in user group membership
- Gender-sensitive citizen monitoring and auditing

* Adapted from Horowitz (2009).

²⁵ Goetz 2002 and Hassim 2006, cited in Horowitz 2009.

commitment to gender equality in decentralization reforms, and a growing awareness of gender as a mobilizing identity within the sociopolitical sphere. The political, social and institutional context in Bangladesh is becoming closer to these conditions. Voters turned out in mass for the 2008 elections, demonstrating the people's preference for a representative democratic government. A majority of these voters were women. The current government's platform includes support for decentralization reforms and commitment to gender equality.

Quotas enable women to enter, hold, and implement their authority in male-dominated institutions which otherwise would likely remain closed to women. Quotas should be designed to promote competition among female candidates, and remain for a limited period of time (until a critical mass is achieved). The current government should be encouraged to implement its election promise to expand and facilitate women's participation through quotas.

Violence against women is a stark marker of inequality in power relations, with important implications for human rights and gender equality. PROHURI aims to reduce the high prevalence of domestic violence in Bangladesh and other related human rights violations (e.g., sexual harassment, child marriage, and other root causes of domestic abuse) through policy reform and advocacy, and increased public awareness and dialogue between the government and civil society. Specific components include: capacity-building for key actors who are involved in the protection and promotion of human rights, increasing access to justice, providing survivor services, and advancing public education and outreach.

For future programs, it will be important to identify and support power-balancing mechanisms that have proven effective in making the public sector more responsive to reforms that favor outcomes for women. In particular, institutional design features that strengthen women's representation in political and governance processes or build the capacity and incentives of the public sector to provide quality services that are accessible to and fit the needs of women.

Key questions include:

- How to build the capacity of beneficiaries, advocates, NGOs, CBOs, and community leaders to participate more effectively? (e.g., by forming coalitions, forming or working with federations, or providing training in advocacy?)
- What kinds of data, research, and presentation skills do advocates need to work more effectively? And, how can these be developed or imparted?

Recommendations: SDLG

- Inspire political parties to achieve 33% women in decision-making positions sooner than 2020, and to increase support for and nomination of women candidates.
- Formalize women's oversight and management roles through reserved quotas in any decision-making bodies.
- Offer special recognition or awards to representatives and/or civil servants who are responsive to local needs and providing effective government services.

Recommendations: PROHURI

- Include counseling for men which focuses on anger management techniques and highlights examples of positive deviance.
- Support efforts to adopt and implement the National Women’s Development Policy and Domestic Violence Act.
- Continue to assess the roots of VAW through a gender lens.
- Research what kinds of incentives work against dowry, and which initiatives have been more effective to better understand where and how interventions can succeed.

7.2 Food Security (agriculture, income generation, and nutrition)

The 2009 Global Hunger and Food Security Initiative (GHFSI) Implementation Plan provides a framework for all related USG-funded programs and identifies gender as one of the underlying causes of poverty, hunger, and under-nutrition in Bangladesh. At issue are ways to address gender disparities in access to resources, wage differentials, labor productivity, and agricultural extension services. This is especially crucial for female-headed households. It is estimated that up to 30% of households are *de facto* headed by women.²⁶ Most of these families are extremely poor and vulnerable to exploitation. Moreover, because the most vulnerable tend to live in the most vulnerable locations, they are also most prone to the effects of climate change and natural disasters.

Agriculture

The division of labor between men and women in agriculture remains poorly understood.²⁷ Because they are often deprived of land ownership and much of their work in crop production is unpaid and produced for the household, few women are considered “farmers” even though their contributions are great. Women’s involvement in agricultural production varies by region and household income levels. In poorer households, women more-visibly contribute to all aspects of agricultural production. In higher-income households, their contribution is less. It is thought that few women outside the Chittagong Hill tracts and other tribal areas engage in field-based crop production. However, women everywhere play major roles in post-harvest activities (cleaning, grading, husking, drying, and packaging).²⁸

More attention needs to be given to understanding gender and employment in rural areas, and how to help households identify differentiated pathways out of poverty. The potential for women’s entrepreneurship and/or contribution toward income generation activities or wage-labor employment is frequently ignored or under-valued, especially in rural areas. Activities that women do to generate income or add-value tend not to be viewed as employment opportunities.²⁹ Moreover, this situation is exacerbated by the fact that backward and forward links in the value chain are frequently controlled by middle-men who place little value on women’s time or labor.

Income Generation

The question of “who benefits from economic growth” is important for determining the gendered impact of different initiatives on poverty and development outcomes. Economic growth through

²⁶ World Bank/Aus Aid 2007.

²⁷ IFCD 2009.

²⁸ PRICE 2008.

²⁹ *Ibid.*

increased investment and private sector development is a prerequisite for reducing poverty, but growth alone will not eliminate gender disparities. Women earn on average 65% of men's wages in Bangladesh, and occupational sex segregation is very high.³⁰ Different opportunities for men and women in employment (and the positions they occupy) reinforces and exacerbates gender inequalities. Wage equality, the enforcement of fair labor and environmental protection laws, and the establishment of facilitating mechanisms, such as childcare, should be included in macroeconomic policy reform efforts.

The new strategy should continue to look into ways of increasing women's access to income and productive resources through vocational training, education, and credit. This will improve women's ability to access services, support themselves and their children, and avoid coercive and high risk activities that increase vulnerability. However, the social and economic consequences of imbalances in opportunities available to men and women should also be considered. Even though women's participation in the labor force remains low, low-skill low-wage jobs for women may end up exceeding formal sector opportunities for young men. Labor force participation for 20-24 year old women more than doubled over the period 1995-2000, but for men in the same age group it has declined.³¹ The demographic bulge in the youth cohort could further exacerbate the situation, with growing resentment and frustration sustaining (or even increasing) the already unacceptable levels of violence against women.

Nutrition

The achievements of the "Bangladesh paradox" have not translated into large reductions in rates of maternal and neonatal mortality. Despite ongoing efforts of USAID/B (and other donors) to address nutrition needs of women and girls, malnutrition levels remain high due (in part) to problems of intra-family food distribution. To improve outcomes, programs and projects need to look into different ways of reducing under-nutrition (e.g., changing dietary habits, increasing food intake, and prevention and control programs to reduce nutritional losses from communicable diseases) and related gender disparities (e.g., preferences for sons, basis of food distribution among family members – especially how to promote increased nutrition for pregnant women and young children).³² A woman's education level and ability to control household resources are strongly associated with improvements in nutrition status for the entire family. When women are able to make decisions about the types of food to prepare and feeding preferences among siblings, nutrition levels improve – even in households that have similar budgets.³³ This suggests that the best way address malnutrition is to empower women through a combination of education, income generation, and behavior change strategies targeted at men and women.



³⁰ World Bank/AusAid 2008.

³¹ World Bank/Aus Aid 2007.

³²GOB 2007.

³³Thomas, Helen T, et al. 2004.

Recommendations:

- Assess whether income-generating activities are socially and economically viable (i.e., supply sufficient economic returns to warrant the time and labor invested in production).
- Conduct time-allocation studies to assess women’s workload burdens and household division of labor before proposing new activities.
- Continue and expand support for technical/vocational training for women in “un-gendered” occupations, especially in new growth sectors.
- Link technical/vocational training with internships, practicum, and job opportunities, especially for separated/abandoned/widowed women and youth.
- Support reform initiatives to end wage discrimination, temporary employment status, and sexual or psychological harassment of female workers.
- Support a comprehensive study of gender relations in agriculture (in particular, gender-disaggregated data identifying roles in food and cash crop production as well as different managerial and financial control over the production, storage, and marketing of agricultural products).
- Explore value-chain options (especially organic and fair trade links for production, sales, and marketing).
- Continue to integrate basic health, nutrition, and food-distribution awareness (targeted at both men and women) in all livelihood and food security programs, regardless of duration.

7.3 Climate Change

Bangladesh is the delta for three major river systems, making it especially vulnerable to frequent and severe tropical cyclones and storm surges. This not only threatens lives, it also threatens livelihoods. Climate change will likely cause erratic rainfall patterns and droughts, as well as increases in soil and water salinity and the frequency of cyclones and storm surges. The effects on agricultural production and disaster risks are gendered – they affect men and women, but are likely to have more of an adverse effect on women.

With support from DFID, the GOB prepared a Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2008. This document covers climate hazards and impacts, as well as adaptation and mitigation. It also outlines strategies for implementing and financing the Action Plan and recommends building institutional capacity and research to implement adaptations for fisheries, livestock, health, water and sanitation, as well as protections for ecologically fragile areas and vulnerable socio-economic groups (including women).

International delegates will be meeting in Bonn, Germany, to engage in preliminary talks for the November 2010 COP16 in Mexico. Central to these discussions is how to build an effective agenda to accomplish what the Conference of Parties (COP) in Copenhagen could not. Namely, an internationally binding treaty with aims and methods to keep climate change in check at no more than a 2 degree-increase in Celsius. Meanwhile, some nations are moving ahead independently on adaptation and mitigation strategies. Given USAID/B’s lead role in protected area management and the state of degradation in most forest areas, a promising strategy for Bangladesh would be to begin implementing local pilot-projects to benefit from the mitigation mechanism REDD

(Reducing Emissions from Deforestation and Degradation).³⁴ It will be important, however, to ground REDD in gendered realities. Unfortunately, most documentation on REDD legal rights and frameworks, local interests and participation, and benefit sharing among stakeholders pays scant attention to concerns of gender and inclusion.

Adaptation and mitigation strategies coalesce in natural resource management activities. For the food security and climate change analytical agenda more attention needs to be given to the relationship between agricultural productivity and adaptation opportunities, the use of technology, market functionality, poverty, malnutrition, and gender – not just “women’s roles in agriculture.” Moreover, an assessment focused on the interface between gender, community-based natural-resource management, and climate change is advisable. This assessment should take into account socioeconomic variables and gender concerns for different regions, and make recommendations on enabling institutional structures and advocacy approaches for policy formulations. This would offer a more nuanced community-based perspective to the national debates that are bound to erupt over the best way to move forward on climate change mitigation and adaptation.

Recommendations:

- Indicators for the new Climate Change and Carbon Finance initiative should be gender disaggregated and include people-level indicators that can better capture changes in gender relations.
- Review incentive structures of (natural resource management) NRM “agreed rules of use” (local institutions) from a gender perspective.
- Draw on wealth of community-based natural resource management (CBNRM) experience and models from South Asia to help address gender concerns.
- Baseline surveys should assess how workers and households are adapting to climate change and what the impact is on gender relations, natural resource management, and livelihoods.
- Prioritize the adaptation needs of poor women in adaptation funds, because they are the most vulnerable.
- Monitor how women are targeted by and benefit from adaptation funds and REDD or other forms of mitigation.
- Create mechanisms for the active and viable participation of women in adaptation and mitigation fund management (e.g., equal representation of women on committees for project planning, monitoring and evaluation, and social auditing of funds).
- Craft local institutions well (e.g., gender-aware and inclusive), and “brand” pilot-projects to better market them in socially-responsible carbon markets.

7.4 Health

In Bangladesh, despite remarkable achievements in most human development indices, the effect of gender discrimination continues to undermine the health of women and children. A high maternal mortality ratio is one of the strongest indicators of gender inequity. Research has shown that poverty and the disempowerment of women – low status, lack of power, lack of access to information, limited mobility, lack of decision-making and choice, early age of marriage, and

³⁴ Particularly the REDD+ approach, which adds “conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries” as secondary goals to the original objectives of avoiding deforestation and forest degradation. (UNFCCC 2007 cited in Costenbader 2009).

violence – contribute to maternal mortality, unintended pregnancies, preventing and treating HIV/AIDS, and gender-based violence.³⁵

Gender equity and positive health outcomes are mutually reinforcing. Women’s control over financial resources and decision-making are fundamental to their capacity to access and use health information, make informed decisions about their health and fertility, and to negotiate and insist on safe sex practices. Illness can be a catastrophic event, sometimes increasing the debt-burden or resulting in loss of household assets (e.g., land, animals). And women are often relatively disadvantaged when decisions are made about expenditures on health care. It will be important to understand the differences in the way women and men use and benefit from health care services, and how this affects (or is affected by) household members.

The intersection between poverty and the roles, resources, and decision-making power of men and women should be a key element in the design of strategies for the health sector. In addition, health-related solicitations should focus on strengthening GOB capacity to provide effective, equitable, and high quality services – by ensuring that the poor have access to essential healthcare, and increasing community participation, transparency, and accountability in the management of local health care facilities. As the grassroots frontline for health care provision, special attention should also be given to family welfare assistants (FWAs), family welfare visitors (FWVs), and skilled birth attendants (SBAs).



The high rate of maternal mortality needs to be addressed through men’s participation in decision-making for maternal care. Men need to be targeted for health outreach messages and approaches (in ways that promote dialogue and shared decision-making between men and women). Gender-sensitive communication and management techniques could be applied through on-site coaching and focus-group facilitation to provide insight into the relationship between gender discrimination and improving health care for all. This should include information about the ramifications of gender inequality – on relationships, human sexuality, families, and communities. Different sites of communication could be discussed – such as between sexual partners and in households and communities, as well as with FWAs, FWVs, and SBAs.

Key questions to consider include:

- What is the effect of gender relations on decision-making ability, freedom of movement, control over money, legal rights, and access to health services?
- How can gender differences and unequal power relations be more effectively addressed in through health programs?

³⁵ USAID August 2009.

- How can barriers be reduced? (e.g., unequal access to and control over money for services; ability, time, and transport to get to services; opportunity costs in terms of lost wages and childcare; and women’s multiple productive and reproductive responsibilities)

Recommendations:

- Consider ways to better inform and empower clients.
- Make services more inclusive and/or welcoming for all family members.
- Expand clinic counseling services to reach different members of the household with behavior change messages and improve couple communication.
- Support women friendly hospital guidelines.
- Work with the Health, Nutrition, and Population Sector Program’s Gender Equity Voice Task Force to implement the Gender Equity Strategy.³⁶
- In clinics monitor: change in provider attitude toward choice of FP; change in bias toward women; change in clinic protocols regarding provision of a full range of methods; change in gender/age mix for each service provided.
- In men’s participation monitor: changes in knowledge among men regarding family planning, maternal health, and HIV/AIDS.

8. Mainstreaming Gender in USAID/B Portfolio³⁷

8.1 Assessments

Collect data on gender relations, roles, and identities in correlation with the needs or problems to be addressed through the program. Analyze this information to identify gender-based constraints and opportunities that may affect the achievement of program objectives.

Key questions include:

- What does information in previous or new research reveal about gender relations and the relative status of women and men?
- Are there differences between men and women that are significant for program outcomes and how will gender-based constraints and opportunities affect achievement of program results?

8.2 Strategic Planning

Examine program objectives for their attention to gender constraints and opportunities. If needed, restate those objectives so that they strengthen synergy between gender equity and program goals. This may require identifying intermediate results (or sub-objectives) that address gender differences in order to enhance program effectiveness and contribute to a more equitable distribution of benefits.

³⁶ GOB 2001.

³⁷ Portions of this section are adapted from: USAID (August 2009), Britt (2007), and DevTech (2005).

Key questions include:

- Do differences in the sex, age, and/or socioeconomic status of participants and stakeholders affect their ability to voice their opinions, make decisions, or access information and services?
- What are the different roles and responsibilities women and men have that will affect program outcomes and the allocation of its benefits? Do women and men control different types and levels of resources? Do they have diverse needs, interests, and abilities to make and express decisions and opinions?
- What are the social, legal, or cultural constraints that might prevent women or men from participating in activities?
- Are program objectives feasible given available financial, human, and technical resources?

8.3 Design

Identify key program strategies to address gender-based constraints and opportunities. These should be articulated in

Box 2. Sample Evaluation Form for RFAs/RFPs: Gender Evaluation Criteria for Proposals*
<p>OVERALL TECHNICAL RATING _____ (100)</p> <p><small>*Adapted from RFA Subgroup, Program Implementation Subcommittee of the Interagency Gender Working Group. <i>Guide for Incorporating Gender Considerations in USAID's Family Planning and Reproductive Health RFAs and RFPs</i>. Washington, D.C., 2000.</small></p>
<p>The following are illustrative evaluation criteria help to assess the degree to which gender considerations have been integrated into a proposal. Depending on the context and sector, some suggestions may be more appropriate than others. Review panels and design teams should select or modify accordingly, and use with other criteria that are specific to the RFA/RFP.</p> <p>Maximum Possible Points: 100</p> <p>A. Technical Approach <i>Technical and creative merit of proposed plan for:</i></p> <p>(1) Achieving intermediate results, including creative integration of gender-sensitive strategies (e.g., gender research, analyses or assessments, consultations with women's advocacy groups and gender-equitable consultation and participation in all phases of activities). __ ()</p> <p>(2) Monitoring and evaluation, including sex-disaggregated indicators, targets, and appropriate use of gender-sensitive methods and gender criteria for assessment of activity progress and impacts. __ ()</p> <p>(3) Gender considerations in activity design, training, and procurement actions. __ ()</p> <p>Overall Technical Approach Points __ ()</p> <p>B. Personnel <i>Successful experience among key staff in:</i></p> <p>(1) Analyzing gender issues and data for the specified sectors and designing activities that respond to the opportunities and constraints they create for achieving project intermediate results. __ ()</p> <p>(2) Applying participatory methodologies and ensuring stakeholder involvement from diverse constituencies throughout (project inception to evaluation). __ ()</p> <p>(3) Position descriptions that require gender expertise, especially for leadership positions, and allow flexibility to accommodate female staff concerns (e.g., if safety is a concern for women traveling alone, consider ways of pairing women field staff to work together; if formal qualifications are a barrier, consider additional training or changing the criteria to reflect other abilities and attract more qualified women candidates). __ ()</p> <p>Overall Personnel Points __ ()</p> <p>C. Institutional Capacity</p> <p>(1) Demonstrated institutional commitment to gender equity, and expertise through continuous staff training __ ()</p> <p>(2) Existence of gender-equitable organizational policies and procedures __ ()</p> <p>(3) Demonstrated history of providing equitable opportunities for women at all levels of organizational management. __ ()</p> <p>D. Past Performance</p> <p>(1) Level of technical expertise in the implementation and use of state-of-the-art approaches, including gender-sensitive strategies __ ()</p> <p>(2) History of publications on gender issues in specified sectoral programs __ ()</p> <p>(3) Successful history working collaboratively with public and private institutions with gender expertise, including international and local organizations. __ ()</p> <p>Overall Past Performance Points __ ()</p>

all AADs and RFA/RFPs. Gender-aware programs and projects mainstream gender concerns and identify gender objectives from the very beginning. Gender should not be an “add-on” component or an after-thought.

Key questions include:

- What activities and services will the program implement to ensure that gender constraints will be mitigated or eliminated, and GIOs maximized?
- How will activities and services achieve equitable participation by women and men?
- In what ways will program activities benefit women and men?
- How will the program ensure that women and men have equitable access to and control over information, resources, and services?
- What strategies will the program employ to address discriminatory laws, policies, regulations, and institutions?
- What strategies will the program develop to address social and cultural preferences?
- Are there mechanisms within the project to help address disparities in resources attainment (including education and confidence-levels), opportunity costs, and communication, advocacy, or reporting skills?

8.4 RFA/RFPs

The ADS requires that gender-related findings from any analytical work undertaken during the development of the project or activity design (e.g., assessments, statement of work/program description) be included in the RFA/RFP. This minimizes the possibility of gender issues being overlooked, sidelined, or marginalized. When gender issues are fully integrated into a contract Statement of Work or Program Description for a grant/cooperative agreement, they become an integral part of the evaluation/selection process.

RFA/RFPs should make clear the importance of gender integration in all stages of design, implementation, and monitoring and evaluation. They should also spell-out the gender criteria that will be used in evaluating proposals, as outlined below.

8.5 Evaluation of Proposals

Evaluation criteria should weigh the activities planned as well as the knowledge, ability, and experience of the staff proposed. There should be demonstrated institutional capacity to undertake proposed activities in a gender-aware manner. The following sections identify what to look for in activities, partner organizations, and technical evaluation committees, as well as gender criteria in a sample evaluation form for RFAs/RFPs (see Box 2).

8.5.1 What to look for in activities:

- Quality of gender-relevant research, background analysis or assessments, and consultations.
- Gender-analysis as part of activity design and training as part of procurement actions (e.g., subcontracts, task orders, SOWs for consultants).
- Attention to gender objectives and GIOs in different aspects activities.
- Disaggregated data for indicators and targets.
- Mix of indicators to increase rigor and understanding of impacts on gender relations.

- Gender-related criteria in evaluation of project progress and impact.

8.5.2 What to look for in Partner Organizations

- **Workforce diversity:** They have a workforce diversity policy, and are tracking staff composition to monitor changes over time.
- **Values:** Their values, policies, and practices indicate a clear commitment to gender equity.
- **Working style and approach:** They have previously worked with disadvantaged groups (usually women), in ways which empower these groups and build their capacity to act independently and as part of a broader coalition.
- **Staff qualifications:**
 - Key personnel who have demonstrated sectoral and gender-analysis skills.
 - Position descriptions (including leadership) that explicitly require knowledge of GIOs and constraints in the general context of Bangladesh and the specific context of the selected districts
- **Institutional capacity:**
 - Demonstrated institutional commitment to gender concerns in previous contracts, cooperative agreements, or grants.
 - Gender-equitable and workforce diversity policies and mission statements, including equal opportunity employment practices.
 - Publications on gender, and/or with quality explanations of gender concerns in relation to specific activities.
 - Experience in participatory methodologies, working with diverse constituencies, and ensuring stakeholder participation.
 - Ability to offer *meaningful* gender trainings (i.e., relevant to project and activities, with a focus on how to maximize GIOs) for staff and collaborating partners.

8.5.3 What to look for in terms of review panels/technical evaluation committee members:

- The RFA/RFP review panel should have at least one member with knowledge gender opportunities and constraints in the context of Bangladesh to rate proposals for their technical quality on gender integration. That person should ideally be a voting member, though the chair of the panel could invite someone with gender expertise to serve as a nonvoting member.
- Another option would be to constitute an expert advisory group (EAG) as part of the evaluation team. EAG members would have to recuse themselves from bidding on any relevant RFA/RFP in order to mitigate conflicts of interest.

8.6 Monitoring and Evaluation

Monitoring and evaluation procedures should be able to track outcomes, including the metrics of social change. Work plans and reporting from partner organizations should demonstrate attention to gender concerns and strategies for collecting and analyzing relevant data. Differences between baseline and endline should be analyzed to assess the effectiveness of activities designed to address gender issues. Based on monitoring and evaluation results, there should be sufficient flexibility to expand on successful gender-equity outcomes.

Key questions include:

- Are indicators disaggregated by sex, age, socioeconomic status, and ethnic group (if applicable)?
- Are baseline data collected on women and men of different ages, socioeconomic status, and ethnicity (if applicable)?
- Are there indicators to measure changes in gender relations, access to services and resources, and power dynamics?
- Is information collected and systematically analyzed on a regular basis?
- Does the project have policies about what to do when monitoring and evaluation data reveal gender inequities?

8.6.1 Disaggregation: Sex vs. Gender

Disaggregated data combined with people-level indicators often provide a better measure of impacts, and whether gender objectives are being met. Disaggregating by sex is necessary, but generally is not sufficient for understanding changes in gender relations. For example, tracking the number of men or women involved in a training program, the number of enterprises owned by men or women, and the increase in income for men and women does not necessarily reveal changes in gender roles or norms. This information needs to be supplemented with information about whether there has been any change in women’s status and/or changes in the household division of labor to better monitor the impact on gender relations.

8.6.2 People-level Indicators³⁸

To capture changes in gender relations over time, people-level indicators will often provide the best information. Household results should be disaggregated by couple or female-headed households, and in relation to key gender equity concerns (e.g., changes in women’s access to land or other assets, engaged participation in discussions and/or training programs, degree of shared decision-making in the household) and gender-related impediments (socio-cultural constraints, e.g. mobility). To monitor these kinds of changes, projects should use a mix of different types of indicators. In particular, process or proxy indicators tend to offer a clearer picture of on-the-ground changes in gender relations, and how these are affecting development outcomes.

- **Quantitative Indicators:** numerical measurements of changes in the behaviors, attitudes, and practices of targeted individuals, disaggregated by sex and/or other social variables, such as age, education, and socio-economic class.
- **Qualitative Indicators:** more subjective measures that address perceptions, such as behavior changes and relationships between men and women. Scales, ranking, and indices can be used to quantify qualitative changes.
- **Process-Oriented Indicators:** quantitative and qualitative indicators that measure, e.g., the achievement of activity deliverables and/or the quality of participation.
- **Proxy Indicators:** quantitative or qualitative indirect measures that reveal the impact of a program or activity.

³⁸ Partly adapted from CIDA (1997) *The Why and How of Gender-Sensitive Indicators: A Project Level Handbook*.

Box 3 Gender Integration Tool		
Project Activity	Some Key Questions	Observations
Analysis	<ul style="list-style-type: none"> Who benefits from the activity and how? What are the implications for gender relations? What opportunities exist for improving gender equity? What are the specific criteria for understanding the impact on gender relations/social change? 	<ul style="list-style-type: none"> Think about context: especially, how power relations within the private sphere (household) relate to those in the public sphere (e.g., project, market, community, state).
Implementation	<ul style="list-style-type: none"> Who participates? What are the differences in the rate and quality of participation? What will be the effect on men and women in the short and longer term? What is being done to address inequalities? Does the project adversely affect gender relations? How might the project be adjusted to increase gender positive or transformative effects, and reduce or eliminate negative outcomes? Are GIOs being maximized? 	<ul style="list-style-type: none"> Are project personnel aware of and sympathetic towards women's needs? Do staff understand the meaning of gender, and are they sensitive to gender concerns and the importance of gender equity? Are there opportunities for women to participate at the management level? Do female staff deliver goods or services to women beneficiaries? Are there mechanisms to ensure that resources or benefits are not usurped by males?
Monitoring and Evaluation	<ul style="list-style-type: none"> How is progress being measured? What indicators best reflect: (1) desired results, (2) differences (changes in baseline), and (3) the overall impact on gender relations? Are proxy or process indicators being used to measure the impact of activities on gender relations, and the extent to which women's equity needs are being met? 	<ul style="list-style-type: none"> What is being monitored and/or measured? <i>Practical needs</i> (e.g., basic needs for food, water, and shelter, healthcare, paid work) <i>and/or strategic needs</i> (e.g., changes to the division of labor, higher education, leadership skills, opportunities for collective action, increased decision-making, removal of discriminatory laws, health choices that give women greater control over their bodies, measures to counter violence against women).

9. Cross-Sector Recommendations

Improve trainings for staff on the *meaning* of gender and sector-specific GIOs: All managers and staff involved in project implementation should be trained on gender and sector or project-specific GIOs. In addition, there should be a gender point person, responsible for guiding and supporting the progress of gender-related activities. This person should have sufficient resources and authority to make programmatic changes to improve gender-related outcomes.

Monitor and evaluate activities through gender lens: All work plans should have activities or strategies for addressing gender disparities. Baseline, midline, and endline surveys should include gender indicators and/or ways to track changes in gender relations.

Maximize opportunities for behavior change outreach among men: Focus on men and youth, especially sharing the experiences of “positive deviants” and benefits of gender equality. Use progressive leaders and role models to promote gender equality.

Include gender analysis and gender competency in all sector assessments: At least one team member with gender competency should be included in all sector assessments to collect data on gender relations, roles, and identities in correlation with the needs or problems to be addressed. This information will help to identify gender-based constraints and opportunities early into the planning process, and improve development outcomes.

Improve staff and management ratios, and the quality and ratio of trainers: Be flexible and creative in recruiting women staff for field and management levels. Re-advertise positions, allow more flexible work schedules, change qualification criteria, and promote capable women into management. Also, budget for training programs to increase technical capacity and to double-up women field staff to increase security and mobility (if this is the main impediment). Trainers should be gender-aware and sensitive to women's time-constraints and workload burdens. They should be interactive and participatory in their approach.

Track changes in gender relations through indicators that better measure gender-related inputs, outputs, and outcomes: Use a mix of different types of indicators to better monitor results. In addition to quantitative indicators, use qualitative, process-oriented, and proxy indicators to better capture changes in gender relations and how these are affecting development outcomes. If targets are not being achieved, the project should revisit its initial gender analysis and/or seek gender expertise to identify opportunities and constraints.

Create opportunities for sharing information about gender in ongoing projects and among partners: Establish a forum to facilitate networking among gender specialists and gender focal points, to better share information about gender integration in ongoing projects. Monitor for gaps in communication and understanding between INGO/National NGOs and local NGOs and CBOs.

Increase youth-focused activities, especially at the nexus of gender and inclusion: Youth are the future. Research indicates that young men and women are more flexible in their perceptions of gender roles and identities. Focusing on youth helps to reinforce and encourage shifts in norms.

Gender should not be viewed as an “add-on”: Gender objective(s) should be identified from the very beginning. There is a tendency to think of gender as somehow outside the purview or scope of a program, project or activity. Attention to gender makes development assistance more equitable, effective, and sustainable.

Concentrate on ways to increase dialogue between men and women: Social capital and shared understanding builds when groups (men and women) are brought into a dialogue or otherwise work on activities which benefit everyone.

Disaggregate data and analysis: Disaggregated data and analysis are essential for tracking gender-related outcomes. Without this information it is difficult to gauge changes in gender relations.

Increase voice, agency, and influence through coalitions and federations: Broader coalitions are better-able to hold accountable the institutions that affect them. Within these groups or coalitions it is important to guarantee women's representation (at least 30%), especially in office-

holder positions and/or committees with decision-making authority. This will help to formalize women's oversight and management roles. Reserved quota spaces should be secured through a competitive process among women to find the best candidates.

Support GOB initiatives to be more gender-responsive and accountable: Use different tools and methods to increase awareness, accountability and responsiveness of the GOB toward gender. Examples include: gender budgets, gender audits, gender scorecards, and gender-sensitive disaggregated data in national surveys, census, and client satisfaction surveys.

Annex A: Scope of Work for Gender Assessment

DRAFT SCOPE OF WORK

Gender Assessment

USAID/Bangladesh

January 2010

I. Introduction.

On May 4, 2009 the USAID Acting Administrator through an Executive message reminded all USAID staff of the critical importance of integrating gender considerations into all stages of planning, programming, and implementation of development assistance. As he stated in his message, gender is an essential part of effective and sustainable development. He also proposed a number of steps to continue to highlight and promote the integration of gender into USAID's overall planning and programs. USAID later issued the revised Automated Directive Systems (ADS) for Gender Analysis in November 2009 that provides specific guidance in accordance with the Administrator's message to integrate gender into USAID's planning and programs.

USAID/Bangladesh is committed to integrating gender across all its development endeavors. The Mission will soon develop its new 2011 – 2015 country strategy, and as a result now is the right time to assess what specific gender factors USAID Bangladesh needs to consider while developing a new strategy. The purpose of this Scope of Work (SOW) is to acquire technical assistance to conduct a gender assessment from the Office of Women in Development in the Bureau of Economic Growth, Agriculture, and Trade (EGAT/WID) and the Office of Population and Reproductive Health in the Global Health Bureau (GH/PRH) through the WID Indefinite Quantity Contract Short-term Technical Assistance and Training Task Order, and Health Policy Initiative/Interagency Gender Working Group Gender Technical Assistance Task Order, respectively. The gender assessment will inform and guide the design and formulation of the Mission's 5-year strategy and activities under that strategy; helping to ensure gender integration throughout project planning and implementation. The assessment will provide a set of practical recommendations in the form of an action plan that will include immediate, medium and long terms steps the Mission can take to effectively integrate gender in the Mission's program.

This Scope of Work is to conduct a gender assessment that focuses on the specific sectors under the Mission's upcoming strategy

II. Background:

Bangladesh remains one of the world's poorest countries with a population of approximately 150 million. In the UN Human Development Index, Bangladesh ranked 146th among 182 countries and according to the Gender Development Index it ranked 101 among 155 countries. Moreover, Bangladesh ranks 108th out of 109 countries in the Gender Empowerment Measure (UNDP 2009). Bangladesh did have a steady 5-6% per year economic growth over the past decade, but still more than 45 percent of its 150 million people continue to live on less than a \$1 per day. Furthermore, food insecurity remains a major development challenge. Lack of access to adequate quality and

quantities of food, particularly for pregnant mothers, as well as poor infant and young child feeding practices are key causes of malnutrition. Women are usually the last to eat at mealtimes and 50% of the female population is undernourished. Gender inequality influences dimensions of poverty and food security. Female headed households face more serious poverty, in terms of food security and lower income, than male headed households. About 45 percent of female-headed households fall below the poverty line, compared to 39 percent of male-headed households (Government of Bangladesh (GOB) & UNDP 2005).

At the same time Bangladesh has made progress in several areas, such as education, health and exports. Bangladesh's largest export industry is garments, and almost 90% of the garment workers are women. Getting involved in paid employment has led them to delay their marriage and prevent early pregnancy. Microcredit interventions have given millions women access to cash and the opportunity to earn a livelihood. Furthermore, Bangladesh has achieved gender parity in education, and many health indicators show significant progress. For example, the total fertility rate has declined dramatically since the early 1970s from 6.3 children per woman to 2.7 in 2007. Mortality of children under the age of five has declined from 220 to 65 per 1000 live births over the same period. Likewise, infant mortality has more than halved, from 140 to 52 per 1000 live births, and this improvement has reduced the gender gap in life expectancy that traditionally favored men. However, the maternal mortality ratio is still high, at about 320 per 100,000 live births.

Women in Bangladesh are also increasingly more engaged in politics and governance both as voters and as elected representatives. There are now unprecedented opportunities for greater and more meaningful roles for Bangladeshi women in governance. Key ministries of the present government are led by women. In addition to the 45 women occupying reserved seats in the Parliament, 20 women MPs were directly elected; thus bringing the total of women in Parliament to 65 or 18.8%. Women now serve as one of two directly elected chairpersons in each of the 481 upazilas, which constitute the middle tier of the country's local government structure. Thanks to recent election law reforms, political parties are now required to have a minimum of 33% women representation in party committees by 2020.

Despite these achievements, women in Bangladesh still face discrimination, exclusion and injustice, and have yet to play an influential role at all levels of decision making. Discriminatory laws and policies hinder formal equality, and socio-political conditions prevent women from exercising their rights. Girls are often considered a burden, especially for poor households; they are at risk of marriage at an early age and the practice of dowries, though illegal, continues and is highly burdensome. Women are heavily engaged in agricultural activities but are not considered to be farmers and do not have access to agricultural extension services.

Furthermore, violence against women makes them socially vulnerable and prevents them from fully participating in society. More than half of all married women (53%) have experienced some form of physical and/or sexual violence, while 13 % have experienced both types of violence (BDHS, 2007). It is estimated that 14% of maternal deaths are caused by violence against women (GoB & UNDP 2005). True empowerment of women and moving towards gender equality remain a great challenge.

The GOB makes a clear commitment to equality between women and men in its recently-approved Poverty Reduction Strategy Paper (PRSP). It sets out several strategic goals:

- enhance women’s participation in decision-making;
- promote gender equality and empowerment of women (also a Millennium Development Goal); and
- ensure women’s full participation in mainstream economic activities.

The donor community is very committed to support the government of Bangladesh to achieve its goals set out in the PRSP. Similarly, USAID is committed to integrating gender in its all development efforts and supporting the government’s goals as articulated in the PRSP.

In its upcoming 5-year strategy USAID/Bangladesh will articulate how the Mission will continue to achieve key development objectives in the following sectors where USAID currently conducts programming:

- Peace and Security – combating trafficking in persons, community policing
- Governing Justly and Democratically – anti-corruption, civil society advocacy, political participation and leadership in representative government, and human rights (domestic violence prevention)
- Investing in People – population, health, nutrition and education
- Economic Growth – private sector competitiveness, energy, environment, and food security
- Humanitarian Assistance – disaster preparedness and mitigation, and non-emergency food aid programs

Between FY 2008 and FY 2009 USAID/Bangladesh’s portfolio in Democracy and Governance doubled to more than \$20 million annually. In addition, in FY 2010 and future years USAID/Bangladesh will emphasize anticipated growth in funding under following initiatives:

- Food Security (includes agriculture, income generation and nutrition)
- Global Climate Change (GCC)
- Health

The upcoming Global Hunger and Food Security Initiative (GHFSI) Implementation Plan 2009 provides a framework for all USG funded programs to address the underlying causes of poverty, hunger, and under-nutrition in Bangladesh. It is already established that gender inequity is one of the underlying causes of all these problems mentioned earlier. Although the GHFSI will receive targeted funding to support predominantly agriculture programs that promote food security, USAID/Bangladesh will also use resources from other initiatives and on-going programs, such as the Global Health Initiative, the Climate Change Initiative, the Global Engagement Initiative, and Food for Peace Title II resources, to fund other core investments areas such as family planning, health approaches to nutrition, and relevant governance issues, as described in this Implementation Plan.

Women, especially women heads of household and the extreme poor, constitute a special target group as they are even more vulnerable to the factors that contribute to persistent poverty. Hence

it is required to know how best USAID can target and empower women in order to reduce gender disparity in the agricultural, sector, such as access to resources, wage differentials, labor productivity, and inclusion of women in extension services.

Women usually lack access to health services due to their limited mobility especially in rural areas. Moreover men are the main decision makers for women's and the family's health. So, to improve women's health and nutrition, men's involvement in the health intervention is crucial to make them aware about their responsibility regarding reproductive health and nutrition. Therefore, it is essential to know how best USAID can involve men in the reproductive health interventions.

To further promote women's rights and political empowerment, USAID will continue to create an enabling environment for women to participate in public life and facilitate their ascendance to leadership positions in politics and government. Major new initiatives will be launched to enhance women's roles as successful lawmakers, political party policy makers, and election administrators. In Parliament, 64 women representatives will receive USAID support to enhance their performance and standing as role models.

The Mission has identified gender as one of the critical cross-cutting themes that need to be fully integrated across all programming areas relevant for the new strategy.

III. The Scope of Work:

A. Purpose

The purpose of this gender assessment is to inform the development of USAID's upcoming 5-year strategy for Bangladesh in order to achieve better gender outcomes. In order to do that, the team will review the existing USAID programs to identify positive instances/ best practices to inform the future activities. The assessment will focus more on "how to incorporate gender issues/concerns into existing and future programming" rather than "what are the issues". The gender assessment will also prepare a gender action plan to inform the actions needs to be taken by the mission and its implementing partners and the methods of doing that. The plan will recommend appropriate gender equity goals for the Mission across its portfolio with a specific focus on the initiatives mentioned earlier and identify any needs for gender training. The outcome of the gender assessment, the gender action plan, will serve as the basis for the continuing process of gender mainstreaming in the planning and implementation of Mission programs.

The specific objectives of this assessment would be to identify the best practices/ positive instances from our existing selected activities and inform what actions the Mission can take in the short term, medium and long term to better address gender equity issues/concerns and bring about change in women's lives through its interventions in existing programs, as well as in future programming. This means that the team will develop an action plan based on their recommendations for immediate/short, medium and long term actions. Immediate/short recommendations are those which can be implemented in the existing activities within 1-6 months and medium terms recommendations are those which could be implemented within next 1-2 years. The long term gender action recommendations related will help inform the Mission's 5 year strategy.

B. Methodology:

The gender assessment will be conducted using a participatory process involving the Mission's Technical Office (TO) Teams, key partners and other relevant stakeholders. Mahmuda Rahman Khan, the Mission's Project Development Specialist for Gender and Donor Coordination, will serve as the Activity Manager.

It is recommended that the following approach be undertaken, which includes a combination of a desk review, key informant interviews and site visits.

Conduct a comprehensive literature review of pertinent documents including: from NGOs, the Government of Bangladesh (GOB), the academic community, and USAID documents, such as PMPs, assessments, evaluations, solicitations and proposals, data (gender-differentiated development indicators and constraints), and gender analyses.

Assess key policies of donors and the GOB relating to gender and identify opportunities for collaboration and mutual strengthening of gendered approaches.

Discussions and interviews with key donors, NGOs active in gender, and GOB officials.

[USAID/B will provide a list of key contacts before the team arrives. The assessment team will submit its list of key contacts and provide the list to USAID as part of the outline detailed under the Deliverables section.]

4) Meetings with USAID implementing partners (contractors, grantees, NGOs) and each technical team. USAID will assist with identifying the most important partner contacts.

5) Selected site visits to project activities will be made by the team. The Mission will select the potential projects in conjunction with Technical Offices and will let the team know prior their arrival to the Mission. The Mission will discuss the proposed potential projects with the team upon their arrival in the Mission and will make the final decision.

C. DEVERABLES:

Mission gender assessment

The team will develop a gender action plan that lays out the steps for mainstreaming gender in Mission policies and activities in the Mission's 5-year strategy (long-term), as well in the immediate and medium term. As part of its analysis to prepare the gender action plan, the team will assess at a minimum one key activity from each technical office to more closely review specific gender factors [such as women's effective participation in decision making, more women leaders in politics (local and national), their control over resources, access to extension services, their ability to raise their voice and claim their rights, violence against women] that are relevant for the future strategy and to improve ongoing programming. The Mission suggests that these activities assessed are the same as those that the team visits on site visits. The Mission will propose the suggested potential projects in conjunction with Technical offices and will let the team

know before their arrival. The Mission will make the final selection after discussing with the team upon their arrival.

For the long-term component of the action plan for the team will recommend how the Mission can best promote gender equity in its portfolio and suggest appropriate gender equity goals and actions for the Mission's upcoming 2011 – 2105 strategy focusing on global climate change, food security, governance and health. To do so the team will need to assess and suggest how the critical gender factors in the relevant sectors can best be addressed, such as how to: reduce early marriage and early pregnancy, increase use of health facilities or trained birth attendants during deliveries, improve nutrition among women and girls, increase women's income, reduce women's vulnerability to disaster, empower women to make decisions, reduce violence against women and address discrimination in the work force. Given the broad range of sectors in which USAID/Bangladesh conducts programming, the gender assessment is not expected to provide detailed goals for each. However, the Mission seeks to ensure an integrated and complementary portfolio with gender equity as a cross-cutting theme. As a result, the gender assessment will focus on the suggested key sectors with planned funding increases, (health, food security, governance and GCC) but broadly consider USAID's entire portfolio in Bangladesh. As part of the gender action plan the team will suggest a set of gender-sensitive indicators that could be used to determine/measure program performance from a gender perspective that could be included in relevant performance monitoring plans (PMPs).

For the short and medium term the team will provide recommendations as to how the Mission can begin to apply and integrate recommendations relevant for the long-term strategy into its ongoing activities and those that will commence in the next year. As part of the plan the team will identify needs, if any, for gender training. In its recommendations the team will focus particularly on the four selected activities, one from each Technical Office. The recommendations must be practical and address the perspective of both technical and support offices. For example, the team must be mindful of budget constraints and procurement implications of their short and medium-term recommendations. The Mission will use the action plan as a model to use that for other projects (which are not included in the assessment) for better addressing gender equity concerns or unequal relationship between men and women which affects development outcomes.

There will be two written deliverables under this task:

An outline of the gender assessment report based upon its review of literature and the meetings conducted. The outline will be provided by the team by close of business on Wednesday of the first business-week of the team's work in Bangladesh. The outline will include a list of contacts that the team plans to interview, as well as its planned site visits. The Mission will provide comments and/or approval to the team on the list of contacts by close of business Thursday at the end of first week of the team's work in Bangladesh. If requested the team will provide a revised list of contacts to the Mission by close of business Monday at the beginning of the second week. The Mission will provide its comments/and or approval by close of business Wednesday during the team's second week of work in Bangladesh. The Mission will provide its comments on the draft outline by close of business Thursday of the first business-week of the team's work in Bangladesh. The revised outline will be finalized/ approved by the Mission through a meeting with the team on Monday, beginning of the second week of team's work in Bangladesh.

Report of the gender assessment, which includes an action plan and set of gender sensitive indicators that could be used to determine/measure program performance from a gender perspective that could be included in relevant performance monitoring plans (PMPs). The draft report will be submitted by the team no later than two weeks following the conclusion of their work in Bangladesh. The Mission will take two weeks to give written comments back to the team. The team will have two more weeks to submit the final report. The mission will approve the report within next week after submission of the final report, in conjunction with the Technical Offices.

The report must address the points described above. The assessment should discuss gender data, concerns, priorities, and approaches in such a way that it not only informs updates to the existing country strategy but also provides useful guidance for USAID/Bangladesh to use in the next phase of program development. It should, where appropriate, include examples that demonstrate application of existing gender analyses and lessons from experience with ongoing programs that address gender constraints.

The report will be of maximum of 30 pages with an Executive Summary of 3 pages.

A Mission debriefing is required before leaving the country. The debriefing will provide a preliminary report out the action plan with set of actionable recommendations and preliminary gender indicators for specific sectors.

D. Team Composition.

The team composition should be made up of 5 consultants, two will be international and three will be local consultants. The team leader among the international consultants must be an experienced social scientist in development studies, sociology, anthropology, political science, economics, or a related field with a special emphasis on climate change. Prior research experience, especially at the field level, is particularly useful. Among the other 4 consultants, one needs to have expertise on gender, health, nutrition; one on governance, democracy and gender/human rights (violence against women); one on gender and food security, and one on logistical services. The international consultants must have a minimum of 10 years in international development with significant experience in South Asia. All of the team members should have significant recent experience with gender analysis in the development context and/or in, relevant sector areas.

The local consultants must have at least 5 years of experience in conducting evidence-based research and evaluation. The logistical coordinator will also have at least 3-5 years of experience in dealing with logistical services in the development context. The local consultants must be Bangladeshi nationals.

E. Schedule and Logistics

The Mission proposes the assessment to start from 17 January 2010 and end on 22 February. The draft report is due on 22 February. The final report should be submitted by 22 March 2010. The team needs to be prepared to work from a hotel due to the lack of space in the Mission. Meetings with USAID staff can be conducted in the Mission but meetings with outside partners will need to

be organized outside the Mission. Due to the fact that two assessment teams will be visiting simultaneously, the team will not be able to utilize the Embassy Motorpool vehicles for transportation.

Annex B: People Consulted

Dhaka

Asian Development Bank

Ferdousi Sultana Begum, Social Development and Gender Officer

Canadian High Commission

Hilary Syme, First Secretary: Development

Cornell University

Dr. Shelley Feldman, Professor, Development Studies, and
Director, Feminist, Gender and Sexuality Studies

Democracy Watch

Taleya Rehman, Founder Executive Director

Mansura Akhter, Coordinator, Gender and Governance Training Program

Rafayet Ara, Program Officer (Training)

Shamin Al Mamun, Senior Program Officer

Fahima Sultana, Program Officer (Advocacy)

DFID (Department for International Development), UK

Naved Ahmed Chowdhury, Social Development Advisor

Embassy of the Kingdom of the Netherland (EKN)

Henny de Vries, First Secretary, Governance and Gender

Tapati Das, Advisor Development Aid and Violence Against Women

Mushfiqua Z. Satiar, Advisor Gender and Development

Embassy of Sweden

Britta Nordstrom, Counsellor Social Sectors, Deputy SIDA Country Director

Engender Health-Mayer Hashi

Dr. A.J. Faisel, Country Representative

GTZ

Anuradha Bhattacharjee, Consultant

Government of Bangladesh

KBM Omar Faruq Chowdhury, Joint Secretary, MOHFW

Dr. Sharmin Shirin Chowdhury, Minister, MOWCA

Razia Begum, Secretary, MOWCA

Helen Keller International

Oliver John Wakelin, Chief of Party, REAL Project
Emily Hillenbrand, Program Manager

IPAC-Integrated Protected Area Co-Management Project

Robert T. Winterbottom, Chief of Party
Utpal Dutta, Governance Specialist

PRICE (Poverty Reduction by Increasing the Competitiveness of Enterprises)

Jules Lampell, Chief of Party
Alizeh Ahmed, Communications Specialist
Mahmuda Akter Khan, Manager Training

PROGATI (Promoting Governance, Accountability, Transparency, and Integrity)

David A. Pottebaum, PhD, Chief of Party
Jeremy Kantor, Deputy Chief of Party
Dr. ATM Obaidullah, Parliamentary Advisor
Shameem Ara Sheuli, Media Program Officer

Royal Danish Embassy

M. Mahal Aminuzzaman, Senior Program Officer, Human Rights and Democratization
Asm Harun Ur Rashid, Senior Program Officer, Agriculture Sector Program
Arifur Rahman Siddiqui, PhD, Senior Program Officer

Rupantar

Md. Amirul Eksan, Team Leader, Local Government

Save the Children

Dr. Ishtiaq Mannan, Chief of Party (MCHIP), MaMoni
Kamal Hossain, Project Director, SUCCEED
Mr. Didarul Anam Chowdhury, Deputy Project Director, SUCCEED

Smiling Sun Franchise Program

Juan Carlos Negrette, Chief of Party

Family Health International /Modhumita

Misti Mc Dowell, Country Director

The Asia Foundation

Russell Pepe, Chief of Party, Leaders of Influence Program
Nazrul Islam, Deputy Chief of Party, Leaders of Influence Program

USAID/Bangladesh

Office of the Director

Denise Rollins, Director
Carey Gordon, Deputy Director

Democracy and Governance Office

Adam Schumacher, Acting Director, DG Office
Lazhar Aloui, Senior Governance and Elections Adviser, DG Office
Habiba Akter, Human Rights Advisory
Sherina Tabassum, Governance Advisor

Population, Health, Nutrition, and Education Office

Kanta Jamil, Acting Deputy Director
Marcos Arevalo, Senior Health Advisor
Tara Simpson, DLI Health Officer
Kishan Chakraborty, Health Advisor
Nasiruzzaman, Health Specialist
Sukumar Sarker, Clinical Advisor
Mohammad Shahidul Islam, Education Team leader

Economic Growth Office

Mark Visocky, Deputy Director
Azharul H. Mazumder, PhD, Environment Team Leader, EG Office
Sher Khan, Energy Advisor
Aniruddha Roy, Private Sector Advisor
Farzana Yasmeen, Program Coordinator
Alia Islam, Program Assistant
Rowshan Akhter, Program Assistant

Office of Food, Disaster, and Humanitarian Assistance

Shahnaz Zakaria, Food Aid Advisor
Tofayel Alam, Food Aid Specialist
Mohammad Sayed Shibly, Project Management Assistant
Mohammad Kamaruzzaman, Engineer

Program Office

Julie Chen, Office Director
Adriana Barel, Deputy Director
Jeannette Vail, Project Development Officer
Mahmuda Rahman Khan, Gender Advisor
Linda Das Quamar, DOC Assistant
Wasif Hasan, DOC Assistant
Farheen Khurram, M&E Specialist
Moin Rahman, Budget Specialist

Risalunnabi Khan, Budget Specialist
Muhammed Moinuddin, Administrative Assistant
Mahin Rashid, Development Outreach and Communications Specialist
Qing “Karen” Francis, DLI Officer

US Embassy Bangladesh
Ambassador James Moriarty

WorldFish Center-CAARP
Naseem Ahmed Aleem, Project Coordinator
Emdad Hossain, M&E Specialist

Dhaka – Democracy and Governance Office, USAID Partners’ Meeting

Handicap International
Nancy Rollinson, Disability Technical Advisor

PROGATI (Promoting Governance, Accountability, Transparency, and Integrity)
David A. Pottebaum, PhD, Chief of Party
Amita Dey

WINROCK-Actions for Combating Trafficking-in-Persons (ACT) Program
Lisa S. Hammond, Chief of Party
Dipta Rakshit

Dhaka – Economic Growth Office, USAID Partners’ Meeting

IPAC-Integrated Protected Area Co-Management Project
Bob Winterbottom
Sumaiya Firoze

ICEA (Improved Capacity for Energy Access)
Kelly D. Hewitt, Chief of Party and Energy Regulatory Expert
James Ford, Rural Cooperative Expert

IFDC (International Center for Soil Fertility and Agricultural Development)
Grahame D. Hunter, Chief of Party, ILSAFARM
Rubina Islam, Gender Specialist, ILSAFARM

NRECA International Ltd.
Robert O. Ellinger, Chief of Party-REDP
Ruh Afza Ruhi, Gender Specialist-REDP
Shahana Jannat, Gender Specialist-REDP

PRICE (Poverty Reduction by Increasing the Competitiveness of Enterprises)

Alizeh Ahmed, Communications Specialist

Mahmuda Akter Khan, Manager Training

Dhaka – Health Office, USAID Partners’ Meeting and Debriefing

Engender Health/Mayer Hashi

Dr. Faisal, Executive Director

Dr. Fatema Shabnam

Ellen Themmen

Dr. Mizamin Rahman

Smiling Sun Franchise Program

Juan Carlos Negrette, Chief of Party

USAID/B

Kishan Chakraborty

Mahmuda Rahman Khan

Dhaka – Office Food, Disaster and Humanitarian Assistance, USAID Partners’ Meeting

CARE Bangladesh

Rita Roselin Costa, Technical Coordinator-Empowerment, SHOUHARDO Program

H.K. Das, National Technical Coordinator, SHOUHARDO Program

Catholic Relief Services

Dr. Snigdha Chakraborty, Country Manager

Helen Keller International

Oliver John Wakelin, Chief of Party, REAL Project

Emily Hillenbrand, Program Manager

Save the Children

Murshida Akhter, Manager Capacity Building

Saikat Saha, Director, Commodities and Emergency

USAID/B

Jeannette Vail, Project Development Officer

Shahnaz Zakaria, Food Aid Advisor

Mohammad Sayed Shibly, Project Management Assistant

Tofayel Alam, Food Aid Specialist

Mohammad Kamaruzzaman, Engineer

WorldFish Center
Mohammad Abdur Razzaque
Dr. Golam Faruque

World Vision
Wilfred Sikukula
Remedios Gorgonio

Chittagong

BITA (Bangladesh Institute of Theatre Arts)
Sisir Dutta, Executive Director
Mousumi Chowdhury, Director, Policy & Collaboration
Shima Datta, Program Officer

MAISHA (Movement of Aid-Initiator through Services and Human Rights Activities)
Mohammad Yasin Monju, Executive Director
Md. Yourub
Md. Qamro C. Hassan, President, Nagorik Paribikhan Committee
Dr. Md. Nurul Alam, President

Nirmol Foundation
Dr. Syed Didarul Munir Rubel, Executive Director
Shah Ramzay ul Alam

The Daily Suprobhat Bangladesh
M. Nasirul Hoque, City Editor
Ali Haider, Deputy Chief Reporter

Chittagong – Civil Society Group Meeting

AWAC (Association for Women Empowerment and Child Rights)
Quaid-E-Azam, Chief Executive
Muklesur Rahman
Abdul Azim

BADHAN
Kazi Zahidur Rahman

BITA (Bangladesh Institute of Theatre Arts)
Shima Datta

CRCD (Centre for Rural Child Development)
Reba Barua

MAISHA (Movement of Aid-Initiator through Services and Human Rights Activities)
Mohammad Yasin Monju, Executive Director
Nirmala Proba

Nirmol Foundation
Shah Ramzay ul Alam

NOWZUWAN
Syed Ahaunul Kabir

OWDEB (Organization for Women's Development in Bangladesh)
Shyamoli Mazumder, Chief Executive
Ratan Das

PARC Rehabilitation Centre for Prostitutes and Rootless Children
Md Nazrul Islam (Manna), Chief Executive
Ismial Mento

UPAKUL Samaj Unnayan Sangstha
Mohammad Zubair Faruz (Liton), Executive Director

Chittagong – Women Entrepreneurs Group Meeting

Latifa Aktar, Fashion Max Training Center
Shaheen Akther, Noksha Fashion
Roksana Akterunnabi, Swapner Neer Samaj Kalyan Mulak Shangstha
Fatima Begum, Puspita Fashion House
Minara Begum, Sahara Fashion
Nasmin Begum, S.S. Fashion
Rahima Begum, Santa Embroidery
Shanaz Begum, Agrojahar
Baby Chowdhury, Beauty Parlor and Slim Fast Gym Center
Anirma Kalam, Ruma Beauty
Nurun Nahar, Nikor Crafts
Ferdous Ara Nayar, Naya Beauty
Shirha Rani Paul, Shuva Dress House

Tangail

SSS (Society for Social Service)
Bimal Kanti Kuri, Deputy Director
Abdul Razzak, Area Manager
Motahar Hossain, Branch Manager, Charabari

Field Staff at the Charabari, Porabari branch office of SSS

Motahar Hossain, Branch Manager, Charabari Branch
Shishir Ahmed, Assistant Branch Manager, Charabari Branch
Monirul Islam Khan, Junior Officer, Charabari Branch
Shah Shafiulla, Accounts Officer, Charabari Branch
Abdur Razzak, Area Manager, Tangail-2 area
Bimal Kanti Kuri, Deputy Director, SSS, Tangail

Tangail – Shakrail Mohila Samiti (women’s group) members at Village Shakrail, Dainna Union, Charabari.

Hazera Begum, chair of the group
Rowshan Ara, Secretary
Amena
Jostna
Jharna
Bulbuli
Najma
Maleka
Rina
Monowara
Khodbanu
Bhanu
Shumi
Hosna
Selina

Barisal NGOs of CARRP project (USAID supported)

WorldFish Center, Field Office
Mr. Zakir Hossain, Project Manager
Md. Suruj Ali, Technical Specialist
Mohd Mamum-Ur-Rashid, Technical Specialist
AVAS (Association of Voluntary Action for Society)
Ms. Rahima Sultana Kazal
Chandradip Development Society
Ms. Jahanara Begum Swapna
ICDA (Integrated Community Development Initiative)
Mr. Anowar Zahid , ED
International Development Enterprise (IDE)
Mr. Prodip Kumar Manadal
Mr. B M Asadul Haque
IDFC (An International center for Soil Fertility and Agricultural Development)
Ms. Rubina Islam, Gender Specialist

Ujirpur, Barisal – NGO staff, AVAS

Ayub Khan, Field Officer
Nazrul Islam, Field Officer
Basudev Das, Field Officer
Abul Kalam Azad, Field Officer
Md. Tawhid, Field Officer
Prodip Das, Field Coordinator

Ujirpur, Barisal – AVAS/CAARP, Male Group Members

Liakat Hossain
Sunil Chandra Das
Manik Khalipha
Omar Ali Sarder
Faruque Sarder
Adam Ali Sarder
Majnu Sarder
Shajahan Sarder
Kalam Bari
Mizan Biswas
Kuddus Mridha
Shah Alam
Parimal Chandra Shaha

Ujirpur, Barisal – AVAS/CAARP, Female Group Members

Kahinoor Begum
Lucky Begum
Reba Begum
Farida Begum
Reba Begum
Firoja Begum
Jahanara Begum
Ranu Begum
Kulsum Begum
Jahanara Begum
Nasima Begum
Khodeja Begum

Ujirpur, Barisal – ILSAFARM, Male Group Members

Anisur Rahman
Shahadat Hawlader
Md. Masum Hawlader
Md. Selim Sarder
Md. Lokman Talukder
Md. Younus Mridha
Md. Takser Sarder
Md. Ismail Hawlader
Abdul Mannan Hawlader
Md. Kalam Mridha
Md. Sekander Khalifa
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Female Satisfied Family Planning Clients, Barthi

Ranu
Taslima
Shima
Karuna rani
Shanta
Polin Das
Nurjahan Begum

Male satisfied Family Planning Clients, Barthi

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Annex C: Important Definitions

Gender: Gender refers to identities or roles assigned to *men and women* through early socialization. These roles cut across public and private spheres, as well as class identities. They change over time, and vary by culture and context. Policy makers and development practitioners sometimes interpret “gender” as a women’s issue. This is incorrect as gender affects the opportunities and life-choices of both men and women.

Sex: The biological and physiological characteristics that define men and women.

Gender Equality, Gender Equity: Gender equality emphasizes equal opportunities for women and men. This may require changes in the lives of both men and women, and a comprehensive understanding of what measures should be taken to assure equality of opportunity and/or gender balance.

Gender equity recognizes that in order to achieve equality a “leveling of the playing field” must first be done in order to compensate for gender gaps and the legacy of discrimination. This usually involves a focus on women, because women are almost always in a disadvantaged position within society.

Constructive men’s engagement: An approach to gender equity that consciously and constructively includes men (as clients, supportive partners, and agents of change) in the struggle for equality.

Gender mainstreaming, Gender integration: Gender mainstreaming and gender integration tend to be used interchangeably, and generally designate methods and institutional arrangements necessary for achieving gender equality. This involves taking account of gender implications in all programs, policies, and resource allocations, as well as addressing inequalities in organizational procedures and administrative and financial operations. The UNDP notes that “if gender mainstreaming is done effectively, the mainstream will be transformed into a process much closer to true democracy.”³⁹

Gender Aware, Gender Blind: An important prerequisite for gender-awareness and integration is to examine and address gender-related outcomes in program/policy design, implementation, and evaluation. Gender awareness results from analyses or assessments that identify local gender differences, norms, and relations in order to address gender concerns.

Gender blindness is a person, policy, or institution that does not recognize how gender stereotyping impacts life-choices, and that these social constructions can and do change. Comments like “it is natural for women to do stitching” or “women cannot do complicated transactions” are gender blind because they do not recognize gender as *the* essential determinant for the types of opportunities made available.

³⁹ UNDP 2000, cited in McGrew, et al. 2004.

Gender Objectives: Programs and projects should have a clear understanding of what their gender objective(s) is, and how they will achieve it. Objectives usually fall into one of the following categories:

- **Gender-accommodating:** when project design, implementation, and evaluation approaches adjust to or compensate for gender differences, norms, and inequities by being sensitive to the different roles and identities of men and women.
- **Gender-transformative:** ways of engaging men and women to examine, question, and change institutions and norms that perpetuate inequalities. This begins the process of transforming unequal relations to achieve gender equality.

Gender Analysis: Gender analysis provides a method for examining gender disparities, so that programs and projects can be gender informed and gender responsive. It takes into account different roles, responsibilities, rights, services, opportunities, and resources to better understand human development outcomes. It examines the relative status of men and women, and the causes and consequences of inequality by asking:

- Who does what?
- Who has what?
- Who decides? How?
- Who gains? Who loses?
- Which men? Which women?

Gender analysis also helps to identify constraints and opportunities in specific contexts and time-frames, and across different social and institutional locations (e.g., between partners or within primary relationships, households, the community, civil society, and government organizations and institutions). Different frameworks can be used to collect, synthesize, and analyze context-specific information on gender relations, roles, and identities. This can help programs and projects to identify appropriate gender-aware indicators and targets *before* implementing activities.

Gender Indicators, Gender Targets: Gender indicators should help programs and projects measure the impact of activities on gender relations and the status of men and women. For example, they may show more equitable participation or the removal of gender-related impediments.

Gender-based Violence (GBV): Distinguishes violence that targets individuals or groups of individuals on the basis of their gender and includes any act which results in (or is likely to result in) physical, sexual, or psychological harm.

Examples of GBV include, rape, torture, mutilation, sexual slavery, force impregnation, and murder, as well as the threat of doing any of these acts.

Violence against Women (VAW): Any act of GBV that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty in either public or private life.

Examples of VAW encompass (but are not limited to): physical, sexual, and psychological violence in the family, such as battering, sexual abuse of female children, dowry-related violence, marital rape, female genital mutilation; and physical, sexual, and psychological violence within the community, including rape, sexual abuse, sexual harassment, and intimidation at work, in educational institutions and elsewhere, and trafficking in women and forced prostitution.

Women's Empowerment: A social process which enhances women's capacity to act independently (self-determination), control assets, and make choices and decisions about all aspects of one's life. Through women's empowerment unequal power relations are transformed, and women gain greater equality with men. At the government level this includes the extension of all fundamental social, economic, and political rights to women. At the individual level, this includes processes by which women gain confidence to express and defend their rights, and greater self-esteem and control over their own lives. Male participation and acceptance of changes roles are essential for women's empowerment.

Annex D: Gender Resources and References⁴⁰

Gender and Development Websites

- Beijing Plus Ten: www.unrisd.org/ (Search for “Policy Report on Gender and Development 10 Years after Beijing”).
- BRIDGE, a searchable database of gender and development materials and online resources, www.bridge.ids.ac.uk/.
- Canadian International Development Agency (CIDA), www.acdi-cida.gc.ca.
- Gender Equality Group, OECD, Development Assistance Committee (DAC): DAC Guiding Principles for Aid Effectiveness, Gender Equality and Women’s Empowerment, 2008, www.oecd.org/dac/gender.
- United Nations Development Program (UN DP), www.undp.org/gender.
- USAID Office of Women in Development, www.usaid.gov.

Gender Analysis Frameworks (available on the Web)

- Cambodia-Canada Legislative Support Project. *The Key Steps of Gender Analysis of Legislation*, Feb. 2003.
- CARE. Gender Analysis Framework (Revised). CARE BANGLADESH, March 2005.
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- Hunt, Julie. “Introduction to Gender Analysis Concepts and Steps,” in *Development Bulletin* 64 (2003):100-106.
- International Labor Organization. *ILO Online Gender Learning and Information Module*, at www.ilo.org.
- Kols, Adrienne. *A Gender Guide to Reproductive Health Publications: Producing Gender-Sensitive Publications for Health Professionals*. Edited by Ruwaida Salem and Tara Sullivan. Baltimore: JHUCCP INFO. Project, November 2007.
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- Meinzen-Dick, R., L. Pandofelli, S. Dohrn, and J. Athens. “Gender and Collective Action: A Conceptual Framework for Analysis,” Paper presented at the International Research Workshop on Gender and Collective Action, October 2005.
- University of Liverpool and the London School of Hygiene and Tropical Medicine. *Guidelines for the Analysis of Gender and Health*.

⁴⁰ From USAID (August 2009).

- Warren, Hannah. “Using Gender-analysis Frameworks: Theoretical and Practical Reflections,” in *Gender and Development* 15, no. 2 (July 2007). www.genderanddevelopment.org

Gender Integration and Mainstreaming Manuals

- Economic and Social Commission for Asia and the Pacific. *Putting Gender Mainstreaming into Practice*. New York: United Nations, 2003. www.unescap.org.
- European Commission (EC), Employment, Social Affairs and Equal Opportunities Director General. *Manual for Gender Mainstreaming, Social Inclusion, and Social Protection Policies*. Brussels: EC, 2008.
- European Commission Employment, Social Affairs and Equal Opportunities Director General. *Manual for Gender Mainstreaming of Employment Policies*. Brussels: EC, July 2007.
- Government of Sweden, Gender Mainstreaming Support Committee. *Gender Mainstreaming Manual*. Stockholm, 2007.
- Ministry of Community, Aboriginal and Women’s Services. *Guide to Best Practices in Gender Analysis*. British Columbia, Canada: Ministry of Community, Aboriginal and Women’s Services, 2003.
- Pact Tanzania. *Gender Mentoring: A Guide for Strengthening Equality in Communities*. Dar es Salaam: Pact, nd.
- United Nations Development Programme, *Gender Mainstreaming Programme and Project Entry Points: Learning and Information Pack*. New York: United Nations, January 2001.
- Wassenaar, Nicolien. *Incorporating Gender into your NGO*. Amsterdam: Networklearning.org, May 2006.

Other Gender Planning Manuals (Multi-sectoral)

- Development Assistance Committee, OECD. *Gender Equality in Sector Wide Approaches: A Reference Guide*. Brussels: OECD, June 2002.
- Grown, C., G.R. Gupta, and A. Kes. *Taking Action: Achieving Gender Equality and Empowering Women*. London and Sterling, VA: Earthscan and the Millennium Project, 2005.
- UK Gender and Development Network. *Women’s Rights and Gender Equality, in the New Aid Environment and Civil Society Organizations: A Research Project of the UK Gender and Development Network*.
- London: UK Gender and Development Network, January 2008.
- United Nations Development Programme (UNDP). *Innovative Approaches to Promoting Women’s Economic Empowerment*. New York: UNDP, November 2008.

Gender in Monitoring and Evaluation Resources

- Alsop, Ruth and Nina Heinsohn. *Measuring Empowerment in Practice: Structuring Analysis and Framing Indicators*. World Bank Policy Research Working Paper. Washington, DC: The World Bank, February 2005.

- NORAD. *Lessons from Evaluations of Women and Gender Equality in Development Cooperation*. Oslo: NORAD, 2006.

Approaches to Integrating Gender Concerns in Advocacy and Policy

- Brown, E., B.N. Collison, and N.L. Rogers-Currie. *Youth and the Global HIV/AIDS Crisis: A Toolkit for Action*. United Nations Association in Canada, May 2002.
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- UN-Habitat. *Mechanism for Gendering Land Tools: A framework for Delivery of Women's Security of Tenure*. Nairobi, Kenya: UN-Habitat and Global Land Tools Network, June 30, 2006.
- UNIFEM. *Who Answers to Women? Gender and Accountability, Progress of the World's Women 2008/2009*. New York: UNIFEM, 2009.
- The World Bank. *Engendering Development — Through Gender Equality in Rights, Resources, and Voice*. Washington, DC: World Bank, 2001.

Annex E: Key Messages and Recommendations: USAID/B 2010 Gender Assessment

1. Greater clarity is needed on the meaning and applicability of gender in programs and projects.

What to do?

Offer sector-specific gender workshops focused on identifying gender integration opportunities (and constraints), and program or project-appropriate gender-sensitive indicators. These could be done with gender specialists and/or gender focal points from partner organizations, or initially within USAID/B offices. Importantly, however, the recommendations must be realistically doable, and there must be follow-up with partner organizations to integrate them into programs and projects to the fullest extent possible. If partner organizations are unable to do this, they should be required to explain why it is not feasible for them and/or offer an incremental plan for making changes that will address gender integration over time.

Some principles from these workshops will probably prove beneficial for future programs and projects, especially those that are being continued without major changes in targets or focus.

2. Maximize behavior change opportunities, particularly ways of including men as partners in ending gender inequality.

What to do?

Look for ways to increase men-to-men and couples-based communication around gender disparities and gender-based violence. For example:

- Health clinic counselors should reach out to men/husbands to have them more involved in health-related decisions and concerns about intra-family nutrition.
- Training programs should include couples, so that the learning and responsibility is shared.
- Focus groups could include discussions on anger management techniques, with men who have learned to not use violence (positive deviants) serving as role models for others.

The involvement of men, however, must be done carefully. In the past, some efforts to include men have inadvertently sent messages that reinforced stereotypical attitudes of men as the sole decision-makers. Emphasis in outreach should be on the importance of shared decision-making.

3. Incorporate sector-specific gender analysis, and gender analysis competency on all teams and activities.

What to do?

For best results gender analysis and integration starts at the Mission level, with gender mainstreamed as follows:

- Design and Planning:
 - Gender analysis in the scope of work for all assessment and design teams
 - Competence in gender analysis as a team composition requirement
 - A program-specific gender analysis in all activity approval documents
 - Identification of gender objective(s)
- RFA/RFP
 - Identify preferred gender-related outcomes
 - Key questions include:
 - What are the gender-related objectives for this project?
 - How can gender integration opportunities be realized through different activities?
 - Have similar projects in the past eroded or enhanced gender relations?
- PMP:
 - Define expected results through gender-sensitive indicators on critical gender issues
 - Link indicators to the gender analysis in the AAD
 - Track changes in gender relations through use of indicators that better measure gender related inputs, outputs, and outcomes (e.g., qualitative, process, and/or proxy indicators)
- Procurement:
 - Statements of key gender issues in all RFPs and RFAs
 - Require the bidder to explain how gender issues will be addressed in implementation (e.g., staff expertise, activities, indicators)
- Proposal Evaluations:
 - Include weighted gender evaluation criteria (example included in 2010 Gender Action Plan)
 - Technical evaluation committee should include at least one gender focal point or gender specialist
- Establish a process for reporting progress on gender within the Mission to:
 - Build-in accountability so that gender integration does not end with the Gender Action Plan
 - Highlight accomplishments
 - Strengthen gender as a cross-cutting theme

Annex F: Actionable Recommendations Consolidated

Table 1. Actionable Recommendations (PROGATI)	Short Term	Medium Term	Long Term
Training workshop schedules should be made more sensitive to women's workloads and time constraints	√		
Training workshops should include appropriate gender-related information (e.g., gender balance in staff and trainers, and gendered impacts of corruption – examine why survey respondents believe that women more victimized than men by corruption?)	√		
Training workshops should be followed up with “what next” activities	√	√	
Work closely with NGOs modifying training modules to include gender perspective	√	√	
Maximize on collective action by supporting initiatives taken by trainees and offering leverage through networks or coalitions	√	√	
Include individuals from service providers known for perpetuating corruption (e.g., banks, taxation offices) to participate in anti-corruption workshops and training programs – especially in role plays	√	√	
Involve household members (e.g., couples) in trainings so they share learning, understanding, and responsibility	√	√	
Trainers should have good training skills, be gender-sensitive, and encourage participation	√	√	√

Table 2. Actionable Recommendations (PRICE)	Short Term	Medium Term	Long Term
Encourage partner NGOs to involve men and women in training programs so they share the learning and responsibility	√	√	√
Support initiatives to promote women into management level positions (e.g., training for management roles and/or providing examples of successful women managers and factories that have promoted women)	√	√	
Review policies and incentive structures for retaining female workers in small and medium enterprises (focus on differences between enterprises that are retaining workers and those that have high attrition rates)	√	√	
Review incentive structures within NRM local institutions (agreed rules of use) from a gender perspective	√		
Support reform initiatives for tanneries to comply with international standards for labor and environmental protection		√	√

Table 3. Actionable Recommendations (CAARP)	Short Term	Medium Term	Long Term
Survey disaster response infrastructure and mobilization strategies to determine whether physical security needs of women and girls are being sufficiently addressed	√	√	
Include a gender-objective in future documents outlining project objectives	√	√	
Incorporate information about ways to stay healthy in training sessions to reduce the frequency illnesses	√	√	
Integrate basic health and nutrition awareness activities targeted at both men and women	√	√	

Table 4. Actionable Recommendations (SSF)	Short Term	Medium Term	Long Term
Include sex disaggregated data in compiled information management reports at the central level	√	√	√
More effectively combine women-to-women services with a family health approach inclusive of men		√	√
Promote men's responsibility in sexual practices, domestic work and violence against women through men-to-men counseling and examples of positive deviance		√	√
Address household member's insistence on boy-child, problems of domestic violence, and intra-family food distribution through clinic counseling		√	√
Promote women's autonomy in decisions about fertility and decision-making in the household through clinic and community-level counseling and health education	√	√	
Spread the message (using media, billboards, word-of-mouth) that SSF provides medical services for both men and women	√	√	√
Analyze choices in contraceptive methods from a gender perspective, focusing on how to attract more men	√	√	
Use satisfied male-method contraceptive users (NSV) to counsel other men and advocate for this approach in outreach (media, billboards, word-of-mouth)	√	√	√
Procure female condoms for protection against STI/RTI/HIV/AIDS		√	√

Annex G: Summary of Gender Requirements in the ADS

USAID policy and procedures related to gender integration are found in the following ADS sections:

201.3.8	Program Planning: Assistance Objective (AO)
201.3.9.3	Gender Analysis
201.3.11.6	Project/Activity Planning Step 2: Conduct Project-Level Analyses as Needed
201.3.11.16	Project/Activity Planning Step 12: Prepare Activity Approval Document (AAD)
203.3.4.3	Reflecting Gender Issues in Performance Indicators
203.3.6.1	When Is an Evaluation Appropriate?
203.3.6.2	Planning Evaluations
302.3.5.15	Incorporating Gender Issues into Solicitations
303.3.6.3	Evaluation Criteria

Strategy Development

201.3.8 Program Planning: Assistance Objective (AO)

An Assistance Objective (AO) is the most ambitious result that a USAID Mission/Office, along with its partners, can materially affect, and for which it is willing to be held accountable.

AOs are an element of USAID's Managing for Results system and are mandatory. They are prepared for programs with joint assistance strategies as well as those with USAID-only strategies (see **201.3.6**). An AO should be described in a concise document of not more than three pages summarizing the objective, any analysis performed, and the Results Framework. The analysis AO Teams complete, based on information from secondary sources such as the World Bank or other UN agencies, may also serve as background for higher level planning such as a Country Assistance Strategy.

In developing AOs, AO Teams conduct both focused and broad analyses of the development problem they are addressing, whether a problem is confined to a single Foreign Assistance Functional (FAF) Objective, Program Area, or Program Element, or spans several of them. (See **ADS 200.3.1.4** for an explanation of how AOs relate to the FAF program structure.)

Guided by an AO, USAID Missions/Offices should devise foreign assistance programs and activities to have the greatest possible development impact, given available resources, including those of their development partners. Results Frameworks, described below show how USAID resources support the achievement of AOs. AO Teams must document and maintain files (see [ADS Chapter 502, The USAID Records Management Program](#) for guidance on files maintenance) on how they make and approve planning decisions.

MANDATORY: At the time of approval, an AO must:

- Represent a developmentally significant result or impact at the Functional Objective, Program Area, or Program Element level that is expected to affect ultimate customers;

- Have an intended result or impact that permits objective measurement and is clear, precise, and sex disaggregated, as appropriate;
- Form the results standard by which an AO Team is willing to be judged in terms of its effectiveness in managing for results;
- Be achievable in a foreseeable and reasonable time period, using resources provided directly to the AO Team and other resources provided by development partners;
- Link to one principal Functional Objective as defined in the most current joint country assistance strategy or USAID country strategic plan. An AO may be secondarily linked to other Functional Objectives, if appropriate;
- Present a defined geographic focus (including the national level, if appropriate) that directs the selection and design of the projects and activities to be implemented as part of the AO;
- Incorporate concepts and actions needed to address significant obstacles to achieving desired results; and
- Incorporate the findings of all mandatory technical analyses, and incorporate actions that will overcome identified obstacles to achieving the AO.

In most cases, an AO should be unidimensional; that is, it should have a single, clear, ultimate objective. For an AO to have more than one objective, the AO Team must convincingly demonstrate how the approach will help achieve the result. For example, the AO may:

- Be implemented such that results of multiple objectives are achieved through one activity that takes place in a common geographic location; or
- Be achievable by a common set of Intermediate Results with clear causal linkages represented in the Results Framework.

The degree to which the AO's practical end result matches its goals will vary according to the following factors:

- Stability of country environment;
- Knowledge available to planners;
- Certainty of multi-year budget levels; and
- Extent to which USAID or local implementing partner(s) control outcomes, due to the many stakeholders that affect a desired result.

201.3.9.3 Gender Analysis

MANDATORY: Gender⁴¹ issues are central to the achievement of strategic plans and Assistance Objectives (AO) and USAID strives to promote gender equality, in which both men and women have equal opportunity to benefit from and contribute to economic, social, cultural and political development; enjoy socially valued resources and rewards; and realize their human rights. Accordingly, USAID planning in the development of strategic plans and AOs must take into account gender roles and relationships. Gender analysis can help guide long term planning and ensure desired results are achieved. However, gender is not a separate topic to be analyzed and reported on in isolation. USAID's gender integration approach requires that gender analysis be

⁴¹ Note: Gender is a social construct that refers to relations between the sexes, based on their relative roles. It encompasses the economic, political and socio-cultural attributes, constraints, and opportunities associated with being male or female. As a social construct, gender varies across cultures, and is dynamic and open to change over time. See [ADS Glossary](#).

applied to the range of technical issues that are considered in the development of a given strategic plan, AOs, programs, and activities.

In some cases, sub-sector analysis may be useful. For example, a Mission with a broad economic growth AO focused on strengthening the private sector could decide that a sub-sector analysis is only needed for an Intermediate Result (IR) that focuses on microenterprise.

In order to ensure that USAID assistance makes possible the optimal contribution to gender equality in developing strategic plans, AOs and IRs, Operating Units (OUs) **must** consider the following two questions:

- a. How will the different roles and status of women and men within the community, political sphere, workplace, and household (for example, roles in decision making and different access to and control over resources and services) affect the work to be undertaken?
- b. How will the anticipated results of the work affect women and men differently?

The purpose of the first question is to ensure that 1) the differences in the roles and status of women and men are examined, and 2) any inequalities or differences that will impede achieving program or project goals are addressed in the planned work design.

The second question calls for another level of analysis in which the anticipated programming results are: 1) fully examined regarding the possible different effects on women and men; and 2) the design is adjusted as necessary to ensure equitable and sustainable program or project impact (see **ADS 203.6.1**).

For example, programming for women's income generation may have the unintended consequence of domestic violence as access to resources shifts between men and women. This potential negative effect could be mitigated by engaging men to anticipate change and be more supportive of their partners.

Addressing these questions involves taking into account not only the different roles of men and women, but also the relationship between and among men and women as well as the broader institutional and social structures that support them. For technical assistance and additional guidance, consult the USAID Mission/Office or Bureau gender specialist or the Office of Women in Development (WID) in the Bureau for Economic Growth, Agriculture and Trade (EGAT). (See **Guide to Gender Integration and Analysis**, to be published in Spring 2010).

In undertaking gender analyses, USAID OUs are encouraged to draw on similar types of analyses from other donors and partners, to collaborate jointly in preparing gender analyses with other donors and partners, and to share USAID gender analyses with other donors and partners, as appropriate.

AO Teams must document their conclusions of any gender analysis performed at the country strategic plan, AO, project or activity approval stage (see **201.3.11.4**).

Where gender is not an issue in achievement of AO results, AO Teams must note this in the AO approval narrative with a brief statement of rationale.

Project Development

201.3.11.6 Project/Activity Planning Step 2: Conduct Project-Level Analyses as Needed

MANDATORY: Gender Analysis. All projects and activities must address gender issues in a manner consistent with the findings of any analytical work performed during development of the Mission’s long term plan (see **201.3.9.3**) or for project or activity design. Findings from gender analyses, such as any recommendations to overcome potential obstacles to achieving targeted results, can help to determine how gender can be addressed in the project or activity. The conclusion of any gender analyses must be documented in the Activity Approval Document (AAD). If the AO Team determines that gender is not a significant issue, this must be stated in the Activity Approval Document (see **201.3.11.16**).

In order to ensure that USAID assistance makes possible the optimal contribution to gender equality in conducting gender analyses for projects or activities, Operating Units must consider the following two questions:

- a. How will the different roles, responsibilities, and status of men and women and men within the community, political sphere, workplace, and household (for example, roles in decision-making and different access to and control over resources and services) affect the work to be undertaken?
- b. How will the anticipated results of the work affect women and men differently?

The purpose of the first question is to ensure that: 1) the differences in the roles and status of women and men are examined; and 2) any inequalities or differences that will impede achieving project or activity goals are addressed in the project or activity design.

The second question calls for another level of analysis in which the anticipated project or activity results are: 1) fully examined regarding the possible different effects on women and men; and 2) the design is adjusted as necessary to ensure equitable and sustainable project or activity impact (see ADS **203.6.1**). For example, programming for women’s income generation may have the unintended consequence of domestic violence as access to resources shifts between men and women. This potential negative effect could be mitigated by engaging men to anticipate change and be more supportive of their partners.

Addressing these questions involves taking into account not only the different roles of men and women, but also the relationship between and among men and women as well as the broader institutional and social structures that support them.

The findings of any analytical work performed during the development of a project or activity design must be integrated into the Statement of Work/requirements definition or the Program Description when the project or activity is to be implemented through an acquisition or assistance award. This will better ensure that as contractors or recipients carry out the projects or programs in their awards, the gender issues identified through the analysis are not overlooked, sidelined, or marginalized. When gender issues are fully integrated into a contract Statement of Work or the Program Description for a grant/cooperative agreement, they are an integral part of the evaluation/selection process for any solicitations financed under the project or activity, such as

Requests for Proposal (RFPs), Requests for Task Order Proposal (RFTOPs), Requests for Assistance (RFAs), Leader With Associates (LWA), or Annual Program Statements (APS). Procurements for goods and commodities are excluded from this requirement.

AO Teams must ensure that potential implementers are capable of addressing the gender concerns identified in solicitations. This is done by including performance requirements regarding gender expertise and capacity in the solicitations, tasking offerors and applicants with proposing meaningful approaches to address identified gender issues, and reflecting these performance requirements in technical evaluation and selection criteria (see [302.3.5.15](#) for more detailed acquisition requirements and [303.3.6](#) for more detailed assistance requirements).

If the AO Team determines that gender is not a significant issue and includes the rationale as part of the Activity Approval Document (see **201.3.11.16**), it must provide the approved rationale to the Contracting Officer or the Agreement Officer as part of the procurement request documentation for an acquisition or assistance award (see **302.3.5.15** and **303.3.6**).

In undertaking gender analyses, USAID Operating Units are encouraged to draw on similar types of analyses from other donors and partners, to collaborate jointly in preparing gender analyses with other donors and partners and to share USAID gender analyses with other donors and partners as appropriate.

For technical assistance and additional guidance on integrating findings of gender analyses into projects and activities (including the solicitations funded under those projects and activities), consult the USAID Mission/Office or Bureau gender specialist, or the Office of Women in Development (WID) in the EGAT Bureau (see the Additional Help document Guide to Gender Integration and Analysis).

201.3.11.16 Project/Activity Planning Step 12: Prepare Activity Approval Document (AAD)

AO Teams must document all program-funded activities in writing through an acceptable Activity Approval Document for projects and activities housed under the AO plan, either individually or collectively. The Activity Approval Document certifies that appropriate planning for the related activities has been completed. Program-funded activities bundled within an Assistance Agreement may cover a range of outputs and encompass multiple procurement instruments.

“Activity Approval Document” is the terminology used whether the approval is for an AO, project, or activity. There is no required standard format for Activity Approval Documents. Different types of documentation may be used in different situations, and are generally referred to as to “Activity Approval Documents.” Approving officials, obligating officials, AO Teams, and others who may be involved in the activity design and approval process are responsible for exercising proper judgment in determining when planning is adequate and sufficiently documented to support project or activity approval. Any existing Mission Orders may also be consulted to determine the most appropriate documentation for a given Operating Unit.

At a minimum, Activity Approval Documents must:

- Describe briefly the project or activity including planned inputs and outputs and, where applicable, improvements or changes in the AO results to which the project will contribute;
- Demonstrate that all pre-obligation requirements have been met. If funds have not yet been obligated, clearly state that no obligation will be incurred before the Congress is properly notified and funds are made available;
- Record approval of any applicable waivers of policy or regulations;
- Clarify who is responsible for management of the project or activity both for USAID and for the implementing partner;
- Summarize how the environmental review requirements set forth in [201.3.11.2.b](#) have been met;
- Outline the gender issues that need to be considered during activity implementation, and describe what outcomes are expected by considering these issues or, if the Operating Unit determines that there are no gender issues, provide a brief rationale to that effect; and
- Describe the methods of implementation and financing selected as described in [ADS 202.3.8.1](#).

Documentation may be completed for individual activities or for groups of activities. Examples include:

- An Action Memo encompassing one or more activities and including descriptive documentation that meets the minimum requirements above.
- A Modified Acquisition and Assistance Request Document (MAARD), signed by an authorized official with supporting Appendices that meet minimum documentation requirements. Appendices could include an offeror's proposal (in response to an Annual Program Statement), waivers, and additional documentation prepared by the AO Team.
- A bilateral obligating instrument, such as an Assistance Agreement, when the USAID obligating official is the same as the approving official and adequate documentation describing the activities is explicitly referenced in the agreement. If not explicitly referenced, a separate action memo should be used.
- An Implementation Letter under a bilateral obligating instrument (Assistance Agreement). Minimum documentation should be annexed or explicitly referenced, and the letter should be signed by a USAID official authorized to approve the activity.

The AAD is a document internal to USAID, and the USAID approving official has the authority to amend it as needed as long as the funding level and overall intent as approved by the home bureau and State/F in the Operational Plan is not affected. Often one approval document can cover multiple projects or activities to avoid repetitive approvals while also leaving clear audit documentation.

Project Monitoring and Evaluation

203.3.4.3 Reflecting Gender Issues in Performance Indicators

Men and women have different access to development programs and are affected differently by USAID activities. USAID seeks to understand these differences to improve the efficiency and

overall impact of its programs so that both women and men have equitable access to development activities and their benefits.

MANDATORY: In order to ensure that USAID assistance makes the optimal contribution to gender equality, performance management systems and evaluations must include gender-sensitive indicators and sex-disaggregated data when the technical analyses supporting an AO, project, or activity demonstrates that:

- a. The different roles and status of women and men affect the activities to be undertaken; and
- b. The anticipated results of the work would affect women and men differently.

Gender-sensitive indicators would include information collected from samples of beneficiaries using qualitative and quantitative methodologies or an examination of the project impact on national, regional or local policies, programs and practices that affect men and women.

Programs often affect men and women differently, and AO Teams should look for unintended consequences that may need to be addressed over the course of the project. When gender technical expertise is not present in a USAID Mission/Office, technical assistance is available from the Office of Women in Development in the Bureau for Economic Growth, Agriculture, and Trade (EGAT).

203.3.6.1 When Is an Evaluation Appropriate?

MANDATORY: AO Teams must conduct at least one evaluation aimed at understanding progress or lack thereof and the types of actions that need to be taken to improve performance during the life of each AO. In the course of implementing an AO, the following situations could serve as triggers for an evaluation:

- A key management decision is required, but there is inadequate information to make it;
- Performance information indicates an unexpected result (positive or negative) that should be explained, such as unanticipated results affecting either men or women (Refer to gender analysis conducted per [ADS 201.3.9.3](#));
- Customer, partner, or other informed feedback suggests that there are implementation problems, unmet needs, or unintended consequences or impacts;
- Issues of sustainability, cost-effectiveness, or relevance arise;
- The validity of Results Framework hypotheses or critical assumptions is questioned; for example, due to unanticipated changes in the host country environment; or
- Periodic Portfolio Reviews have identified key questions that need to be answered or that require consensus.

In the absence of the triggers listed above, an AO evaluation should be conducted towards the end of AO implementation. Such an evaluation should examine the intended and unintended consequences of the program and document lessons that can be shared throughout the Agency to improve development learning and future programming.

USAID Missions/Offices should give careful consideration to the potential benefits of conducting final or impact evaluations for all AOs, even if an evaluation has already been conducted.

Evaluations support USAID's ability to improve the effectiveness of development programming and should normally be conducted for each AO. However, if a USAID Mission or Office is facing exceptional circumstances, it may request an exception from this requirement. Such requests should be submitted to the Office of Management Policy, Budget and Performance's evaluation unit.

203.3.6.2 Planning Evaluations

The scope of an evaluation will vary according to available management information needs and resources. Evaluations may be conducted by specially contracted external experts, AO team members and other knowledgeable members of a USG Operating Unit, or partner organizations.

AO Teams should be actively involved in evaluation planning to ensure the final product is useful. Stakeholders should be consulted to assist in prioritizing the evaluation questions. Evaluations may directly involve ultimate customers in data collection and analysis. Regardless of an evaluation's scope, the planning process should involve the following steps:

- Clarify the evaluation purpose (including what will be evaluated, who wants the information, what they want to know, and how the information will be used);
- State the development hypothesis that underlies the program;
- Identify a small number of key questions and specific issues answerable with empirical evidence;
- Consider asking staff at the Office of the Chief Information Officer, Knowledge Management Division and its Knowledge Services Center (M/OCIO/KM/KSC, formerly USAID Library) to provide past experience on similar USAID and external evaluation reports. (Research requests may be sent to the Knowledge Services Center at KSC@usaid.gov.)
- Select evaluation methods that reflect the timeframe of the exercise, and the skill sets of available evaluation team members, as provided in **203.3.6.4**;
- Plan for data collection and analysis, including gender issues, as provided in **203.3.4.3**;
- Form an evaluation team with the necessary skills and composition; and
- Plan procedures (including schedule, logistics, reporting needs, and budget).

Procurement Solicitations and Evaluation Criteria

302.3.5.15 Incorporating Gender Issues into Solicitations

USAID must address gender issues in all USAID-funded activities (see [ADS 201.3.11.6](#)). For solicitations, such as Requests for Proposals (RFPs) and Requests for Task Order Proposals (RFTOPs), the Contracting Officer (CO) must ensure that the requiring office integrated gender issues in the procurement request or provided the rationale, as approved in the Activity Approval Document, for why gender is not an issue for the particular activity to be implemented through the requested contract action (see ADS **201.3.11.6** and **201.3.11.16**).

When the procurement request integrates gender issues into the different contract performance components, e.g., Statement of Work, project deliverables, key personnel qualifications, and monitoring and evaluation requirements, the CO must work with the technical office to ensure that the technical evaluation criteria (e.g., technical understanding and approach, monitoring and evaluation, personnel, etc.) correspond to these contract performance requirements. Within these

major evaluation criteria, however, gender issues should not be separate subcriteria with maximum possible points assigned to them, since this dilutes their significance.

If the procurement request does not comply with the requirement in ADS **201.3.11.6** and **201.3.11.16** to either include contract performance and qualification requirements that reflect gender issues or the rationale for why gender is not an issue for the particular contract action, then the CO will notify the requiring office that he or she is unable to take any further action on the request until the office meets one of the requirements.

For technical assistance and additional guidance, consult the USAID Mission, Office or Bureau gender specialist or the Office of Women in Development in the Bureau for Economic Growth, Agriculture, and Trade (EGAT).

303.3.6.3 Evaluation Criteria

c. Gender Issues. USAID must address gender issues in all USAID-funded activities (see ADS **201.3.11.6**). In RFAs (including those for Leader/Associate Awards) and APSs, the Agreement Officer must ensure that the RFA or APS:

Integrates gender issues into the solicitation or includes a rationale for not addressing gender in the project or activity, in accordance with ADS **201.3.11.6**. When USAID directs applicants to incorporate gender issues into their applications, the RFA or APS must state the requirements in the different performance components, e.g., Program Description, key personnel qualifications, and monitoring and evaluation requirements.

Integrates gender issues into the technical selection criteria (e.g., technical understanding and approach, monitoring and evaluation, personnel, etc.) that correspond to the performance requirements stated above, unless an approved rationale for not incorporating gender issues has been included in the RFA or APS.

If the program/project office provides the Agreement Officer with a procurement request for a program that does not include the requirements in ADS **201.3.11.6** for either integrating gender issues in the Program Description or the rationale for why gender is not an issue for the particular assistance program it intends to fund, then the Agreement Officer will notify the program/project office that he/she is unable to take any further action on the request until it meets one of these requirements.

For technical assistance and additional guidance, consult the USAID Mission/Office or Bureau gender specialist or the Office of Women in Development (WID) in the Bureau for Economic Growth, Agriculture and Trade (EGAT).

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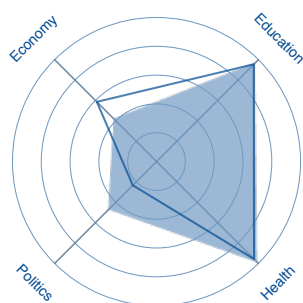
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Bangladesh

rank **72**
out of 144 countries

score **0.698**
0.00 = imparity
1.00 = parity

SCORE AT A GLANCE



— Bangladesh score
— sample average

KEY INDICATORS

GDP (US\$ billions)	195.08
GDP per capita (constant '11 intl. \$, PPP)	3,137
Total population (thousands)	160,995.64
Population growth rate (%)	1.14
Population sex ratio (female/male)	0.98
Human capital optimization (%)	57.84

Global Gender Gap Index

	rank	2016 score	rank	2006 score
Economic participation and opportunity	135	0.410	107	0.423
Educational attainment	114	0.950	95	0.868
Health and survival	93	0.971	113	0.950
Political empowerment	7	0.462	17	0.267
rank out of	144		115	

COUNTRY SCORE CARD

Economic participation and opportunity

	rank	score	avg	female	male	f/m ratio
Labour force participation	124	0.541	0.665	45	83	0.54
Wage equality for similar work (survey)	122	0.535	0.622	—	—	0.54
Estimated earned income (US\$, PPP)	124	0.404	0.502	1,789	4,431	0.40
Legislators, senior officials, and managers	121	0.057	0.358	5	95	0.06
Professional and technical workers	115	0.322	0.862	24	76	0.32

Educational attainment

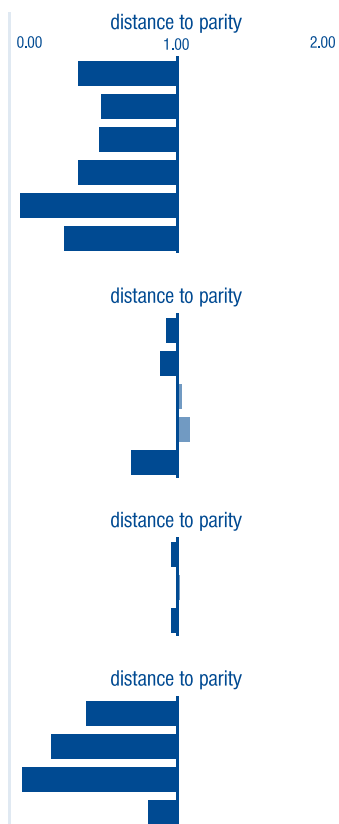
	rank	score	avg	female	male	f/m ratio
Literacy rate	110	0.902	0.897	58	65	0.90
Enrolment in primary education	1	1.000	0.980	92	88	1.03
Enrolment in secondary education	1	1.000	0.970	55	50	1.09
Enrolment in tertiary education	113	0.738	0.930	11	15	0.74

Health and survival

	rank	score	avg	female	male	f/m ratio
Sex ratio at birth	1	0.944	0.918	—	—	0.96
Healthy life expectancy	103	1.033	1.043	62	60	1.03

Political empowerment

	rank	score	avg	female	male	f/m ratio
Women in parliament	74	0.250	0.269	20	80	0.25
Women in ministerial positions	124	0.071	0.238	7	93	0.07
Years with female head of state (last 50)	1	0.827	0.204	23	27	0.83





0.698 / 72

BGD

SELECTED CONTEXTUAL DATA

	female	male	value		female	male	value
Workforce participation				Family			
Law mandates non-discrimination in hiring women			no	Average length of single life (years)	19	26	0.73
Youth not in employment or education	—	—	—	Proportion married by age 25	87	30	2.91
Unemployed adults	6	2	3.90	Mean age of women at birth of their first child			25
Discouraged job seekers	—	—	—	Average number of children per woman			2
Workers in informal employment	—	—	—	Women with unmet demand for family planning			14
Labour force participation among those with advanced degrees	—	—	—	Potential support ratio			13
Workers employed part-time	—	—	—	Total dependency ratio			52
Contributing family workers	11	3	4.08	Parity of parental rights in marriage			*0.00
Own-account workers	27	58	0.46	Parity of parental rights after divorce			*0.00
Work, minutes per day	—	—	—				
Proportion of unpaid work per day	—	—	—	Care	female	male	value
				Length of parental leave (days)			—
Economic leadership	female	male	value	Length of maternity / paternity leave (days)	112	/	—
Law mandates equal pay			yes	Wages paid during maternity / paternity leave	100	/	—
Ability of women to rise to positions of leadership			*0.56	Provider of parental leave benefits			—
Boards of publicly traded companies	—	—	—	Provider of maternity / paternity leave benefits	empl	/	—
Firms whose ownership includes women			12.70	Government supports or provides childcare			no
Firms whose top management includes women			4.80	Government provides child allowance to parents			no
R&D personnel	—	—	—				
				Education and skills	female	male	value
Access to assets	female	male	value	Out-of-school children of primary school age	3	7	0.47
Individuals with an account at a financial institution	25	33	0.77	Primary education attainment in adults	42	53	0.79
Women's access to financial services			*0.50	Out-of-school youth of upper secondary school age	61	61	0.99
Inheritance rights for daughters			*0.00	Secondary education attainment in adults	13	21	0.64
Women's access to land use, control and ownership			*0.50	Tertiary education attainment in adults	—	—	—
Women's access to non-land assets use, control and ownership			*0.50	PhD graduates	—	—	—
				STEM graduates	14	17	0.80
				Skill diversity	0.348	0.304	*1.14
Access to technology	female	male	value				
Individuals using the internet	5	8	0.62	Health	female	male	value
Individuals using a mobile phone	74	83	0.90	Malnutrition of children under age 5	18	18	0.99
				Cardiovascular disease	153	179	#0.85
				Cancer	80	95	#0.84
				Diabetes	29	31	#0.93
				Chronic respiratory disease	93	120	#0.78
				HIV/AIDS	0	0	#0.67
				Suicide	9	7	#1.28
				Maternal mortality ratio (per 100,000 births)			†176 [125-280]
				Existence of legislation on domestic violence			yes
				Prevalence of gender violence in lifetime			53
				Law permits abortion to preserve a woman's physical health			no
				Births attended by skilled health personnel			41.7
				Antenatal care coverage, at least four visits			31.2

The Economics of Poverty: How Poor People Manage Their Money

Stuart Rutherford, Chairman, *SafeSave* Bangladesh

Economist John Kenneth Galbraith noted that money is equally important to those who have it and those who don't.¹ Nevertheless, most institutions such as banks and insurance companies whose job it is to help people manage their money prefer their clients to have lots of the stuff (or at least the prospect thereof). They argue it is simply not possible to make a reasonable profit by dealing in very small sums of money. In many rich countries in recent years, banks have been closing branches in poorer communities, and in many developing countries, banks simply don't bother with the poor at all.

Why Savings Matter

Still, poor people urgently need financial services. Arguably, their need may be greater than that of the nonpoor. Poor people have smaller, more irregular, and often more unreliable incomes, the great bulk of which may be spent as soon as it is received on food and the means to cook it. As a result, whenever they want to buy something other than food or fuel, they often find they simply do not have the money on hand, even for quite modest expenditures such as basic clothing. This happens to poor people more often than to nonpoor people. In such circumstances poor people must go without, sell some hard-won asset, or find some way to tap into past or future income (given that present income is insufficient).

Naturally, they prefer the third of these choices, and financial services make it possible. Financial services help you manage your money in precisely that way—by helping you access past income stored in the form of savings or future income by lending you an advance against savings you plan to make in future. Therefore, managing money well turns out to be a matter of managing your capacity to save. Saving is where financial services begin and end.

¹ GALBRAITH, J.K. (1975). *Money: Whence it came, where it went*. Boston: Houghton Mifflin.

Three Ways to Save

There are three basic patterns through which savings can be converted into useful, large sums of money for spending: “saving up,” “saving down,” and “saving through.” Saving up (Fig. 1) is obvious enough: savings are stored until they have accumulated into a sum large enough to serve some expenditure need.

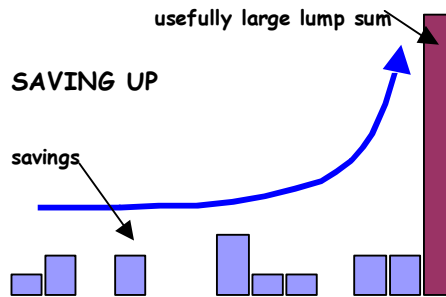


Figure 1

Saving down (Fig. 2) refers to borrowing and repaying the loan. Repaying loans depends just as much on the act of saving as does saving up. The only difference is the lump sum becomes available before, rather than after, a series of savings. The savings, of course, are used as repayments on the loan—either in intervals as income is realized or after a secondary process of saving up until enough has been accumulated to pay off the loan in a single balloon repayment.

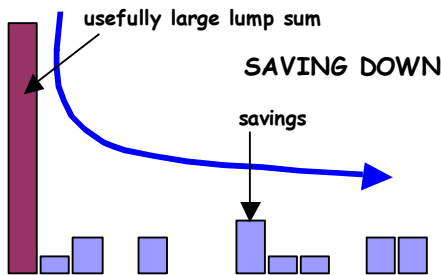


Figure 2

Saving through (Fig. 3) is a mix of saving up and saving down. A lump sum becomes available at some point during a series of savings. Good examples can be found in many types of insurance coverage: saving is performed continuously as a series of, say, monthly

automobile insurance premium payments, and the lump sum becomes available when you crash into a gatepost.

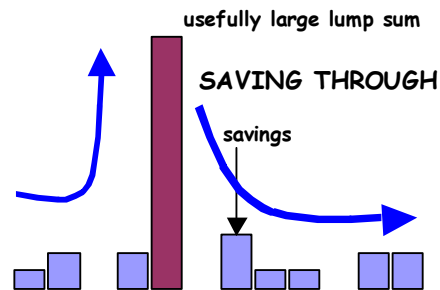


Figure 3

But Can the Poor Save?

Financial services exist to help you manage your savings, but what if you have no capacity to save? How can the poor, who have barely enough money to live on, possibly save?

Research on how poor people in the developing world manage their money shows poor people can and do save. For example, a study in Bangladesh² recruited 21 slum dwellers and 21 poor and near-poor villagers who agreed, with the help of researchers who visited them twice a month for a year, to keep diaries in which they recorded what they did with their money. They recorded not only income they earned and how they spent it, but where they saved or otherwise stored their cash, to and from whom they lent and borrowed money, and what savings or loan clubs they joined. They also explained the reasons for what they did.

The results were clear. Poor people manipulate their savings through a wide range of methods of saving up, saving down, and saving through, and they do it frequently and intensively. We found no less than 33 different money management systems in use. At the most formal end of the spectrum were banks, insurance companies, and NGOs. Less formal methods included savings clubs, moneylenders, buying goods on credit, and obtaining wage advances from employers. At the most informal end of the spectrum were loans between family members

² Study conducted by the Institute of Development Policy and Management (IDPM) at the University of Manchester, UK, for the Department for International Development—UK Official Aid. The study was directed by Professor David Hulme of IDPM and overseen in Bangladesh by Stuart Rutherford. For more details, see the Institute's web page at www.man.ac.uk/idpm.

and neighbors and stashing cash in clay piggy banks under one's bed. Of the 42 sample households, all used at least six money management devices during the year, and one used as many as 18. The average household used 10 different systems to manage its savings.

Most of the transactions were tiny, as you'd expect with poor households. Of all the lump sums created by storing savings or taking loans, only one in 10 was worth more than the equivalent of \$100. But relative to the economy of the households involved, the sums were not small: we calculated that about two thirds of total income was subjected to some form of money management (i.e., saved or used to repay loans). In aggregate, the sums involved are truly large. We estimated the total "microfinance market" (the total flow of deposits, withdrawals, loans, and repayments) for the approximately 72,000,000 Bangladeshis who live below the official poverty line might be as much as \$10 billion a year.

The Art of Do-It-Yourself Financial Services

The successes and failures of "do-it-yourself" money management—the devices that have evolved in poor communities where there are few formal financial service providers—are instructive. A study of these devices can help identify useful working principles for developing money management services that can reach the poor and show how a formal approach might add value. Three of these devices—the deposit collector, the urban moneylender, and the rotating savings and credit association (ROSCA)—illustrate the three basic patterns of saving up, down, and through. These devices are so widespread they can be found—with local variations, of course—on every continent in countries both rich and poor.

The deposit collector

You may by now be willing to believe that poor people can save, want to save, and do save. But would they be so foolish as to accept a negative rate of interest on their savings? Sometimes they do, often for sound reasons. In the southern Indian city of Vijayawada, I met many slum-dwelling women who used the services of an itinerant deposit collector named Jyothi. Jyothi is a hard-working woman whose self-employed job is to visit her 50 or 60 women clients on a daily basis and collect from each of them a tiny sum of money—5 or 10 rupees per woman per day. To each client she gives a makeshift pass book, just a card ruled into 11 columns and 22 lines to form a total of 220 cells. Each woman (clients are treated as

individuals, not as members of a group) pays a set sum of her own choosing each day for 220 days. At the end of this period, Jyothi pays back to the client the value of 200 of the cells, and keeps the value of the remaining 20 cells as her reward for the service she offers.

Why do these slum-dwelling women use Jyothi's services? One woman whose husband is a casual laborer with an irregular income gave a typical response. The couple has two school-aged children, and each July the children needed a few hundred rupees to pay for school fees, clothes, and books or they would not be readmitted to school. Unable to rely on her husband and lacking a safe place in her bamboo-sided hut to store her savings, the woman regarded Jyothi's services as well worth the cost. Expressed as an annual percentage rate, Jyothi's fee works out to about minus 30%. But her client argued that what she pays Jyothi is a mere 9% of her total deposits and that this is a cheap rate for a highly valued service otherwise unavailable in the slum.

Jyothi's case demonstrates the strong, often unmet demand for saving up services in poor communities. It shows, too, that poor people are willing to invest scarce resources in long-term investments, such as education, that do not bring immediate monetary reward. Some technical aspects of Jyothi's services are well worth noting. Frequency is important: both Jyothi herself and all her clients told me none of them would save so much if it were not for the daily visits. Jyothi's time-bound contract is also helpful: at the end of the 220 days, clients either get their money back or lose it. This arrangement acts as a kind of ongoing audit, giving Jyothi a strong incentive to honor the terms of the contract or risk losing her clientele. Finally, most of Jyothi's clients begin another cycle of saving as soon as one is completed. Thus, clients fall into a regular rhythm of small daily savings matched by occasional large withdrawals.

The urban moneylender

Urban moneylenders offer an example of the significant differences and the unexpected similarities between saving up and saving down. In another Vijayawada slum, urban moneylenders visit their clients regularly at their home or workplace, as Jyothi does. They too provide a grid passbook. Typically, for a 1,000-rupee loan (about \$20 U.S.), they collect 10 weekly repayment instalments of 100 rupees each. They take their cut by deducting interest

up front, at the time of the disbursement of the loan. An average price would be 150 rupees for each 1,000 rupees lent.

Because they provide the lump sum before, rather than after, a series of savings, moneylenders, like pawnbrokers, are in great demand by people who suffer sudden emergencies or have an unexpected opportunity to acquire an asset but do not have sufficient savings to finance the expenditure. Moneylenders are, of course, more expensive than deposit collectors, not only because they have to bear the default risk, but also because they have to finance the loan from their own resources. In India, the annual percentage rate of interest charged by moneylenders is generally on the order of four to five times greater than that charged by deposit collectors.

But many slum clients of moneylenders borrow for cycle after cycle, just as clients of deposit collectors take part in repeated cycles of saving. Indeed, after a few cycles have gone by, there is very little practical difference between the two systems. In each case, the client makes a series of deposits at regular intervals and receives in return a regular but much less frequent lump sum. Some of the regular users in Vijayawada's slums barely acknowledge the differences between the two services. This example vividly illustrates that the basic task of financial services is to turn savings into lump sums. The precise chronological relationship between the savings and the lump sum is of secondary importance, especially if you are a client in a financial services market characterized by strong demand and inadequate supply, as most poor people are.

The ROSCA

To understand how a ROSCA works, take the case of Mary, a deserted mother who makes her living selling vegetables from her hut in a Nairobi, Kenya slum. Mary formed a ROSCA—which she calls a Merry Go Round—with 14 of her women neighbors. Each day, each of the 15 members deposits 100 Kenyan shillings (about \$2 at the time I first met Mary), and each day one of the 15 takes the full 1,500 shillings deposited that day. After 15 days, each of the members has made 15 daily deposits of 100 shillings and received all 1,500 shillings on one of the days. On the sixteenth day, they begin a new cycle. When I met them, they were in their 65th successive cycle.

So what is the point of the Merry Go Round? Members get back exactly what they put in—but with no profit. Moreover, members have to put up with the nuisance of making the daily deposit and run the risk that at any time a fellow member may default. The point could hardly be simpler: ROSCAs turn a series of savings into a useful, large lump sum. For example, Mary depends for her livelihood on her tiny vegetable selling business, which has a stock worth about 1,500 shillings. Like millions of small business people around the world, one of Mary's biggest headaches is having her business capital eroded by everyday needs. For example, just before I met her, her son needed 500 shillings' worth of medical attention. Mary had no other source for this sudden expenditure than her business capital, which was suddenly depleted by the accident. But as Mary points out, provided she is faithful to her Merry Go Round, every 15 days she gets 1,500 shillings in a single lump sum and can replenish her stock in full. Mary said she once joined a credit scheme run by a voluntary organization. They gave large loans that were repayable over 1 year. At first, Mary was strongly attracted by the scheme, but she left as soon as she realized the rhythm of deposits and loans was far less suitable to her particular situation than was her Merry Go Round.

Auction ROSCAs

Mary's case shows that people need access to *flexible* financial services, in which the values and frequencies of the pay-ins and the pay-outs can be determined by the individual user to suit his or her particular circumstances. Some variations of the ROSCA are much more flexible than Mary's simple Merry Go Round. In Mary's ROSCA, the order in which the members take the "prize," or pay out, is predetermined. This arrangement is quite suitable in ROSCAs with a relatively small membership and short cycles, especially if the ROSCA runs for cycle after cycle.

In the more flexible "auction ROSCA," members bid against each other for the privilege of taking the prize. Imagine a ROSCA of fifteen members meeting weekly when each member brings 100 shillings to the meeting, for a total of 1,500 shillings. The right to take this money is auctioned among the members. For example, a member with a very urgent need may offer 300 shillings for the right. She then walks off with just 1,200 shillings, and the remaining 300 shillings is divided up and returned equally to the other members. In this way, bidding allows

the member with the most urgent need for the prize to take it and compensates the remaining members. Auction ROSCAs reward savers: if I choose to be the last person to take the prize, I get the full value of the prize because nobody is left to bid against me, and I will have enjoyed my share of the discounts from earlier, successful bidders. I will have taken out more than I put in as a reward for my patience. Good financial service devices—of which the auction ROSCA is a splendid example—provide flexible opportunities to borrowers and good returns to savers. Moreover, the price borrowers pay for their loan is set automatically in an auction ROSCA as an outcome of the bidding process. Such ROSCAs are therefore inherently good at evaluating the market price for money at a particular time within a particular community. Finally, we should note the effective prices paid by borrowers in auction ROSCAs are often quite high, though not as high as those taken by moneylenders. It's worth remembering that money is expensive: in any well-run financial service, interest rates may reflect the high value that both savers and borrowers place on money, without squeamishness, and without deterring good clients.

Sustainable, But Not Always Reliable

The examples described here represent just a handful of the dozens of money management devices that have evolved over the centuries (more elaborate treatments are listed in the end notes³). Each of these devices has its strengths and weaknesses.

None of these systems enjoys any kind of subsidy—they are all inherently sustainable. The full cost of the services is met by their users, either directly through fees and interest charges, as in the case of deposit collectors and moneylenders; through management services provided by the users themselves, as in the case of Mary's Merry Go Round; or a mix of both as in an auction ROSCA. The sustainability of these systems is guaranteed by a simple acid test: if they don't cover their costs, they disappear.

³ Stuart Rutherford's *The Poor and Their Money* (2000, Delhi: Oxford University Press) contains detailed descriptions of various kinds of devices. Stuart Rutherford's *A Critical Typology of Financial Services for the Poor* (1996, working paper #1, London: ActionAid), contains a listing of 57 different devices, with brief descriptive notes. See also *Money Go Rounds*, edited by Shirley Ardener and Sandra Burman (1995, Oxford and Washington DC: BERG), a collection of essays about ROSCAs; Fritz J A Bouman's *Small, Short and Unsecured* (2000, Delhi: Oxford University Press), which describes informal finance in India in some detail; and *Informal Finance in Low-Income Countries*, edited by Dale W. Adams and D. Fitchett (1992, Boulder, CO: Westview Press).

Also, these devices have only one purpose: to turn savings into useful, large lump sums. They are not distracted from this purpose by any political or social agendas (although membership in any given system may be restricted to certain groups).

In general, these devices do not place any restrictions on the use of the lump sums, recognizing the very wide range of needs and opportunities that induce poor people to save. Individuals may be concerned about managing life events, such as birth, marriage, old age, or death, all of which may require large expenditures. Or they may need the lump sum for a personal emergency, such as sickness, accident, or theft, or some impersonal emergency, such as a flood, fire, drought, or municipal destruction of one's slum home or business. Finally, the lump sum may be needed to finance some opportunity to acquire an asset or to start or grow a business.

The main weaknesses can be summed up in one word: unreliability. Unreliability takes many forms, including access. You may live in a village or a slum that lacks deposit collectors, moneylenders, and ROSCAs. Even if they do exist, they may not wish to transact with you, for a wide variety of reasons. Friends, family, and neighbors may offer you a loan—or they may not, and even if they do they may not offer enough, especially in hard times when everyone is short of money at the same time. When you reciprocate with a loan, you are likely to be paid back eventually, but exactly when is a matter for uncertainty and anxiety. While ROSCAs usually work well, they may fail, leaving members scrambling to adjust the accounts and get their money back.

Some strengths may, paradoxically, make a device less useful to potential users. Take, for example, the use of fixed equal periodic deposits. Paying a fixed sum every week for a full year makes accounting easy, makes the system more transparent, and makes it easy for illiterate poor people to keep track of their obligation. But many poor people have irregular or unreliable incomes and simply cannot pay a fixed amount every week throughout the year. Many of the devices are time-bound or consist of a series of short cycles, which has advantages and disadvantages. Long-term needs, such as saving for retirement or a child's

college education, require long-term saving. Informal devices are more adept at dealing with short-term needs.

Room for New Players in the Field

Informal money management devices have much to teach us about the real financial service needs of poor people, and they leave the door open for a more formal approach to offering more widely accessible and reliable services. Over the past 25 years, institutions have established financial services for the poor, with some success. Among the great pioneers of such services is the Grameen Bank of Bangladesh. *SafeSave*, also of Bangladesh, offers an example of the later generation of microfinance institutions (MFIs) that are just now finding their feet.

Grameen Bank

If you talk to Bangladeshi villagers about moneylenders, you will find their main complaint is not that they charge too much interest or exploit their clients, but that getting money out of moneylenders is like getting blood from a stone. Obtaining a loan is hard work: it's time-consuming, it's humiliating, and it's frustratingly unreliable. Imagine the villagers' astonishment when, starting in the late 1970s, polite young men and women began to arrive in their villages offering to lend them money at very modest rates of interest and to let them pay the loans back in a series of tiny weekly instalments. Even more astonishingly, they kept their word. Rain or shine, flood or drought, these Grameen Bank workers turned up in the village on time every week and handed out the loans exactly as promised. The villagers loved it. They quickly saw that if they had the capacity to find quite small amounts from their weekly cash flow they could use them to repay a series of annual loans big enough to solve many of their pressing day-to-day problems. This affordable, accessible, and above all wholly reliable system for turning a year's worth of savings into a lump sum made Grameen very popular in the villages.

As Grameen grew, it attracted the attention of many researchers, and soon these observers pointed out some interesting differences in the way that Grameen and its clients viewed this excellent service. Most of the customers made a simple calculation: they estimated how much money they could safely pay into this system each week and then calculated the loan size they

could afford. Grameen looked at the matter from the opposite perspective: it assumed the loans would be invested in businesses that would produce a stream of revenue out of which the weekly loan repayments could be made. In Grameen's view, the bigger the loan the bigger the business and the better able clients would be to repay the loan. Grameen's initial assumption was that poor people had little or zero capacity to save and that their finances needed to be kick-started with a loan that had to be invested in some activity that would quickly produce a stream of new income. With this in mind, Grameen tried to restrict the use of loan to so-called 'income-generating' activities.

As examples described above show, this assumption overlooks two practical facts of life for the poor. First, they have many uses for lump sums, and it is unrealistic to assume they will always be in a position to invest in businesses. Second, the incomes of the poor are often irregular and unreliable; so many poor people are simply unable to pay a fixed repayment instalment week after week. Many poor people instinctively understood the shortcomings of the Grameen system and chose not to become members. Others took a chance but dropped out when faced with the embarrassment of turning up at weekly meetings unable to make the full payment. Clearly, Grameen was ideal for those clients whose household cash flow was robust and regular enough to meet the fixed regular weekly payments – whether or not they actually ran a business – but less useful to the many poor with irregular and unreliable incomes and a wide variety of needs for lump sums.

During the 1990s all this became better understood, and the major Bangladeshi MFIs, including Grameen itself, took appropriate steps to make their services more attractive to a wider group of poor people. They moved away from a "business credit only" approach and introduced voluntary savings products that gave their clients opportunities to save up as well as save down for a wide variety of uses. They introduced longer-term contractual savings products, so clients could systematically save for long-term needs like education or widowhood. Many MFIs experimented with more flexible repayment schedules and loan terms.

SafeSave

SafeSave, a financial services provider that began in the slums of Dhaka in 1996,⁴ deliberately seeks to learn from the real behavior of poor people struggling to use homemade money management systems. It develops products flexible enough to be attractive to many poor people, including the very poor. It does not stress microenterprise lending, nor does it claim that its services will, of themselves, bring its clients out of poverty. It seeks instead to make a dramatic improvement in the quality and reliability of basic banking services for poor and very poor people.

SafeSave seeks to emulate the strengths of the informal systems, such as their single-mindedness, flexibility, proximity to clients, and frequency of client contact. To this end, each of its bank workers visits about 200 clients daily. At each visit, clients may deposit savings in any amount (including zero) or withdraw money on the spot from their account. Thus, clients enjoy the equivalent of a current account with the added convenience of a daily visit from the bank. This system helps clients maximize their saving capacity by squirreling away tiny amounts of money, sometimes as little as 2¢ U.S.

In addition, *SafeSave* offers longer-term savings products with accumulating interest. Clients who wish to save down can receive loans, which they repay in exactly the same way as they save—by paying in as much or as little as they choose (including zero) at each daily visit. Loan values depend on the transaction history of each individual client and the client's savings balances. Active clients who make deposits or repayments frequently soon have access to relatively large loans.⁵

SafeSave derives income from interest payments on the loans it provides to its clients. These borrowers pay their interest each month, and interest is charged on the so-called 'declining basis' so that as the amount of the loan still outstanding declines, the amount of interest to be paid also declines, giving clients a clear incentive to pay down their loans as quickly as they comfortably can. Using cost-efficient working methods, *SafeSave* covers the full operational

⁴ *SafeSave* was founded by the author of this article, who remains its chairman. For more about *SafeSave*, see its regularly-updated website, www.SafeSave.org.

and financial costs of this service and makes a small surplus. Cost-cutting measures include employing bank workers who live in the slums they serve and so incur no transportation costs. Branch offices are modest low-rent rooms, and the software for the fully computerized management information system was developed at low cost in house from proprietary packages. While *SafeSave*'s products appear very flexible to the user, the rules that govern them are simple and inflexible. As a result, bank workers do not have to use their discretion about whether a withdrawal or a loan can be approved, nor about its value. This allows *SafeSave* to employ bank workers with minimum education levels and also restricts the opportunities for bank workers to be tempted into money-making behavior, such as taking bribes in return for providing loans.

The Future: Real Banking Services for Poor People?

SafeSave is young and still very small.⁶ It is by no means clear whether the kinds of services it offers can be made available on the massive scale required to bring banking services to poor and very poor people worldwide. Nevertheless, that ambition sums up the key challenge for microfinance in the first decade of the 21st century. After an exhilarating 25 years of experimentation with credit for microenterprise development, we must now embrace the bigger task of making basic flexible banking services as available to poor people as they are to the world's more prosperous populations.

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⁵ For full details about *SafeSave*'s products, e-mail mail@SafeSave.org.

⁶ *SafeSave* had fewer than 6,000 clients as of mid-2001.

The Corporation for Enterprise Development fosters widely shared and sustainable economic well-being by promoting asset-building and economic opportunity strategies – primarily in low-income and distressed communities—that bring together community practice, public policy, and private markets in new and effective ways. It has offices in Washington, DC, San Francisco, CA and Durham, NC.

How Empowered are Bangladeshi Women in the Agricultural Setting? Empirical Evidence using a New Index

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Using a nationally representative survey from Bangladesh, the paper presents how a recently developed index, Women's Empowerment in Agriculture Index (WEAI), can be used to assess the extent of women's empowerment in agriculture and diagnose areas where gaps in empowerment exist so that programmes and policies can be targeted to those areas. While the paper focuses mainly on women's empowerment, it also examines the gaps in and factors associated with men's empowerment. The results show that about 77 per cent of rural women in Bangladesh is disempowered compared to around 56 per cent of men. It is also seen that empowerment gaps for women are greatest in terms of leadership in the community and control and access to resources. For men, time poverty and lack of leadership within the community contribute most to disempowerment. The analysis shows that the areas in which men and women are disempowered are quite different, with the implication that, depending on local context, different programmes and policies are needed to empower women and men alike. This, in turn, means that the policymakers will have to pay attention to regional differences in factors contributing to the lack of empowerment of women and men. Finally, although sizeable proportions of men and women are shown to be disempowered along a number of indicators, the fact remains that a larger proportion of women are disempowered relative to men within their households. Achieving gender equality thus remains an important policy goal in Bangladesh.

Keywords: Women's Empowerment, Gender Parity, Leadership, Agriculture, Bangladesh Integrated Household Survey

JEL Classification: C43, C80, D63, J16

*International Food Policy Research Institute.

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I. INTRODUCTION

Women play an important role in agricultural growth in developing countries, but face persistent obstacles and societal and economic constraints that limit their further inclusion in agriculture. A renewed interest in agriculture as a vehicle for inclusive growth and for potentially empowering women has highlighted the need to develop indicators to measure women's empowerment and to monitor the impact of interventions to empower women.

Using nationally representative data from the 2012 Bangladesh Integrated Household Survey conducted by the International Food Policy Research Institute (IFPRI), this paper presents how the Women's Empowerment in Agriculture Index (WEAI) (Alkire *et al.* 2013) can be used to assess the extent of women's empowerment in agriculture in rural Bangladesh and diagnose areas where gaps in empowerment exist. While the focus is on women's empowerment, the paper additionally explores gaps in and factors associated with men's empowerment.

The Women's Empowerment in Agriculture Index (WEAI) is a new survey-based index designed to measure the empowerment, agency, and inclusion of women in the agricultural sector in an effort to identify ways to overcome those obstacles and constraints. The WEAI was developed by researchers at IFPRI, the Oxford Poverty and Human Development Initiative (OPHI), and the U.S. Agency for International Development (USAID) to track the change in women's empowerment levels that occurs as a direct or indirect result of interventions under Feed the Future, the U.S. government's global hunger and food security initiative. While the WEAI has been designed for performance monitoring and impact evaluations of Feed the Future programs, it is also a useful tool for policymakers, development organizations, and academics seeking to inform efforts to increase women's empowerment. The WEAI was developed and tested between 2011 and 2012 using three country pilots in Bangladesh, Guatemala and Uganda (Alkire *et al.* 2013). Bangladesh is the first country to have WEAI data representative of the Feed the Future (FTF) Zone of Influence of the U.S. Agency for International Development (USAID) as well as the rural areas of the country.

II. WOMEN IN AGRICULTURE: EMPOWERMENT AND MEASUREMENT ISSUES

Women tend to be "invisible" in the agricultural sector in Bangladesh, owing to the assumption that women are not involved in agricultural production because of cultural norms that value female seclusion and undervalue female labour (Kabeer 1994, Rahman 2000). Nevertheless, participation of women in the

agricultural sector has increased over time—between 1999/2000 and 2005/06, the proportion of women in the agricultural labour force increased from less than 20 per cent to 33.6 per cent of the total (Asaduzzaman 2010, citing Bangladesh Bureau of Statistics, various years).

Although female agricultural labour has a significant contribution to productivity and technical efficiency (Rahman 2010), gender biases exist in the labour market—remunerative employment of labour remains skewed in favour of men (Zaman 1995). Women's ability to generate income in the agricultural sector is severely constrained by their limited control and ownership of productive physical and human capital. Bangladeshi women are disadvantaged relative to men with respect to assets brought to marriage (Quisumbing and Maluccio 2003), productive assets such as land, livestock and agricultural machinery (Quisumbing *et al.* 2013), and human capital. Ahmed *et al.* (2007) show that lack of education in adult women in Bangladesh is strongly correlated with extreme poverty: 80 per cent of adult women with no education live below half a dollar a day.

The argument for focusing on gender inequality in agriculture is strengthened by empirical evidence that demonstrates the role of women in improving household agricultural productivity, food and nutrition security. Several studies find that redistributing inputs between men and women in the household has the potential for increasing productivity (Udry *et al.* 1995, Peterman, Behrman and Quisumbing 2010, Kilic, Palacios-Lopez and Goldstein 2013). A growing body of empirical evidence suggests that increasing women's control over resources has beneficial effects on a number of important development outcomes. Women's share of cash income and assets, particularly farmland, is seen to increase budget shares on food expenditure (Hoddinott and Haddad 1995, Duflo and Udry 2004, Doss 2006). Considerable evidence also suggests that mothers' greater control over resources improves child outcomes—in particular, nutrition and education (Hallman 2003, Quisumbing 2003, Quisumbing and Maluccio 2003, Skoufias 2005).

Current efforts to define and measure empowerment have drawn extensively from Kabeer's (1999) definition of empowerment as expanding people's ability to make strategic life choices in three dimensions—resources, agency and achievements (well-being outcomes). The WEAI focuses on the “agency” aspect, which is most commonly measured through proxies such as education, ownership and control of assets such as land or housing, employment, control over income, and so on. Moreover, while nationally representative surveys, such as some demographic and health surveys (DHS), include a range of questions about

decisionmaking within the household, these are typically confined to the domestic sphere and do not encompass decisions in the productive and economic spheres, nor do the surveys have identical questions for men and women (Alkire *et al.* 2013). The WEAI, on the other hand, captures control over resources or agency within the agricultural sector, unlike other existing indices (FAO 2011).

III. MEASURING WOMEN'S EMPOWERMENT IN AGRICULTURE USING THE WEAI

The WEAI is an aggregate index, reported at the country or regional level, and based on individual-level data on adult men and women within the same households. The WEAI is a weighted average of two sub-indexes: (1) the five domains of women's empowerment (5DE) and (2) the Gender Parity Index (GPI).¹ The 5DE sub-index shows how empowered women are, capturing the roles and extent of women's engagement in the agricultural sector in five domains, as defined by USAID based on their priorities for Feed the Future programming in 19 focus countries: (1) decisions over agricultural production, (2) access to and decisionmaking power over productive resources, (3) control over use of income, (4) leadership in the community, and (5) time use. These domains consist of ten indicators as described in Table I. Each domain is weighted equally, as are each of the indicators within a domain.

The 5DE sub-index is constructed using a robust multidimensional methodology known as the Alkire-Foster Method (for details, see Alkire *et al.* 2013). For those who are not empowered, the 5DE also calculates the percentage of domains in which they are empowered. "Empowerment" within a domain means that the person has adequate achievements or has "achieved adequacy" for that domain. A woman is defined as empowered in 5DE if she has adequate achievements in four of the five domains or is empowered in some combination of the weighted indicators that reflect 80 per cent total adequacy. A key innovation of the 5DE Index is that it is able to show in how many domains women are empowered and, at the same time, reveal the connections among areas of disempowerment. This enables decisionmakers to focus on improving the situation of the most disempowered women. Because the survey method goes beyond the traditional practice of interviewing only a household "head" (often a male) to interview both a principal male and principal female, 5DE measures can be computed for both the principal male and the principal female in a dual adult household, although the 5DE component of the WEAI only includes women's 5DE.

¹This description draws from Alkire *et al.* (2013).

The gender parity index (GPI) reflects the inequality in agricultural empowerment between primary adult males and females in each household, by comparing their 5DE scores. The aggregate WEAI uses the mean GPI value of dual-adult households. The GPI combines two key pieces of information: (1) the percentage of women who lack gender parity relative to their male-household counterparts and (2) the extent of the inequality in empowerment between those women who lack parity and the men with whom they live (see Alkire *et al.* [2013] for details). The GPI score can thus be improved by increasing the percentage of women who have gender parity or, for those women who are less empowered than men, by reducing the empowerment gap between the male and female of the same household.

Both measures, taken together, make up the WEAI.² The aggregate index therefore shows the degree to which women are empowered in their households and communities (5DE) and the degree of inequality between women and men in their households (GPI). Details regarding the construction and validation of the index can be found in Alkire *et al.* (2013).

TABLE I
THE FIVE DOMAINS OF EMPOWERMENT IN THE WEAI

Domain	Indicator	Definition of indicator	Weight
Production	Input in productive decisions	Sole or joint decisionmaking over food and cash-crop farming, livestock and fisheries	1/10
	Autonomy in production	Autonomy in agricultural production (e.g., what inputs to buy, crops to grow, what livestock to raise, etc.). Reflects the extent to which the respondent's motivation for decisionmaking reflects his/her values rather than a desire to please others or avoid harm	1/10
Resources	Ownership of assets	Sole or joint ownership of major household assets	1/15
	Purchase, sale, or transfer of assets	Whether respondent participates in decision to buy, sell, or transfer his/her owned assets	1/15
	Access to and decisions on credit	Access to and participation in decisionmaking concerning credit	1/15

(Cont. Table I)

²The WEAI is a weighted sum of the 5DE and GPI with weights 0.9 and 0.1 respectively.

Domain	Indicator	Definition of indicator	Weight
Income	Control over use of income	Sole or joint control over income and expenditures	1/5
Leadership	Group member	Whether respondent is an active member in at least one economic or social group (e.g., agricultural marketing, credit, water users' groups)	1/10
	Speaking in public	Whether the respondent is comfortable speaking in public concerning various issues such as intervening in a family dispute, ensure proper payment of wages for public work programmes, etc.	1/10
Time	Workload	Allocation of time to productive and domestic tasks	1/10
	Leisure	Satisfaction with the available time for leisure activities	1/10

Source: Alkire *et al.* (2013).

IV. DATA

As mentioned earlier, Bangladesh is the first country to conduct a nationally representative rural survey, the Bangladesh Integrated Household Survey (BIHS), with data suitable for calculating the WEAI. The BIHS was conducted under the Policy Research and Strategy Support Program (PRSSP), funded by USAID and implemented by IFPRI. The survey was designed and supervised by IFPRI-PRSSP researchers and conducted from December 2011 to March 2012. The BIHS sample is nationally representative of rural Bangladesh and representative of rural areas of each of the seven administrative divisions of the country. To estimate the total sample size of 5,500 households in 275 primary sampling units (PSUs), BIHS followed a stratified sampling design in two stages—selection of PSUs and selection of households within each PSU—using the sampling frame developed from the community series of the 2001 Population Census. In the first stage, a total sample of 275 PSUs were allocated among the seven strata (seven divisions) with probability proportional to the number of households in each stratum. Sampling weights were adjusted using the sampling frame of the 2011 Population Census.

The BIHS questionnaires include several modules that provide an integrated data platform to answer a variety of research questions. Our study relied primarily on information concerning household demographics, educational

attainment, occupation and employment, food and nonfood consumption and expenditures, household-level agricultural production and livestock holding, household assets, housing and amenities, community infrastructure and facilities, individual anthropometric measurements, and a detailed module on the WEAI.

The WEAI relies on information collected from both primary male and female adults in the household. For the analysis using men and women's 5DE, data from the self-identified primary male and female adults were used. The final estimation sample consists of 4,571 men and 5,498 women, after dropping observations where the primary male/female respondent was unavailable on the day of the interview, did not respond to all of the WEAI survey questions, or where a female other than the primary female was interviewed. For the analysis that examines gender parity within the household, the estimation sample consists of those households where both the primary male and female decisionmakers have been interviewed, reducing the sample size to 4,566 households.

V. FINDINGS

Using nationally representative data collected through the BIHS, this section presents the WEAI results for survey households in rural areas of the country. For detailed characteristics of the BIHS sample households, see Ahmed *et al.* (2013).

5.1 WEAI Results

Table II presents the WEAI, and its sub-indexes, the 5DE and the GPI for the entire country.

TABLE II
WEAI RESULTS

Indices	Rural Bangladesh	
	Women	Men
Disempowered Headcount (H_n)	77.40%	56.20%
Empowered Headcount (H_e)	22.60%	43.80%
Average Inadequacy Score (A_n)	45.60%	35.30%
Average Adequacy Score (A_a)	54.40%	64.70%
5DE Index [$H_e + (H_n * A_a)$]	0.647	0.802
Number of observations	5,498	4,571
Per cent of women with no gender parity (H_{GPI})	61.20%	
Per cent of women with gender parity (H_{WGP})	38.80%	
Average Empowerment Gap (I_{GPI})	29.70%	
GPI [$1 - (H_{GPI} * I_{GPI})$]	0.818	
Number of women in dual-adult households	4566	
WEAI = $0.9 \times 5DE + 0.1 \times GPI$	0.664	

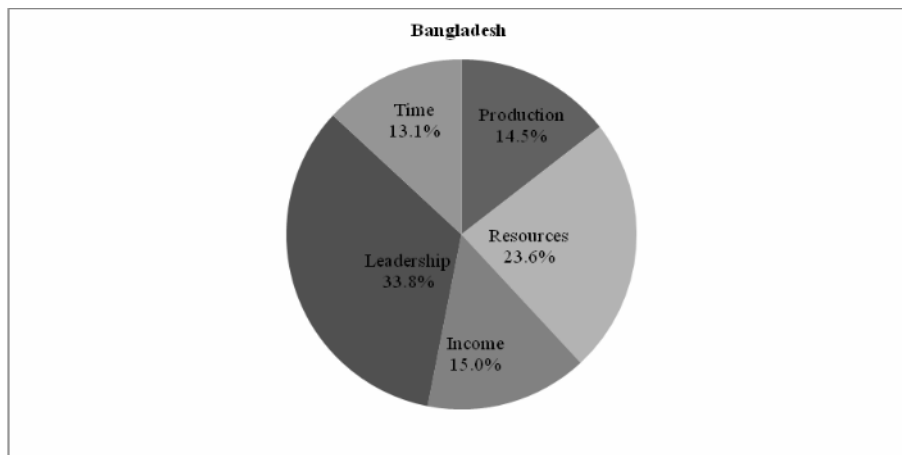
Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

The WEAI for the nationally representative sample is 0.664. It is a weighted average of the 5DE sub-index value of 0.647 and the GPI sub-index value of 0.818. The results also show that less than a quarter of all women are empowered in the five domains. In the sample areas, the women who are not yet empowered still have, on average, adequate achievements in 54.40 per cent of the domains. Thus the overall 5DE for women is $22.60 \text{ per cent} + (77.40 \text{ per cent} \times 54.40 \text{ per cent}) = 0.647$. Meanwhile, 38.80 per cent of women have gender parity with the primary male in their household. Of the 61.20 per cent of women who do not have gender parity, the empowerment gap between them and the male in their household is quite significant at 29.70 per cent. Thus the overall GPI in the sample area is $\{1 - (61.20 \text{ per cent} \times 29.70 \text{ per cent})\}$ or 0.818. Given that less than a quarter of the women are empowered in the five domains, while more than half of them do not have gender parity with the primary male in their household, achieving gender equality remains an important goal in Bangladesh. Compared to women, a greater proportion of men are empowered; however, at 43.80 per cent the figure is still rather low.

5.2 What are the Gaps in Women's Empowerment?

Figure 1 shows that the domains that contribute most to women's disempowerment in rural Bangladesh are weak leadership and influence in the community (33.8 per cent), lack of control over resources (23.6 per cent), and lack of control over income (15.0 per cent).

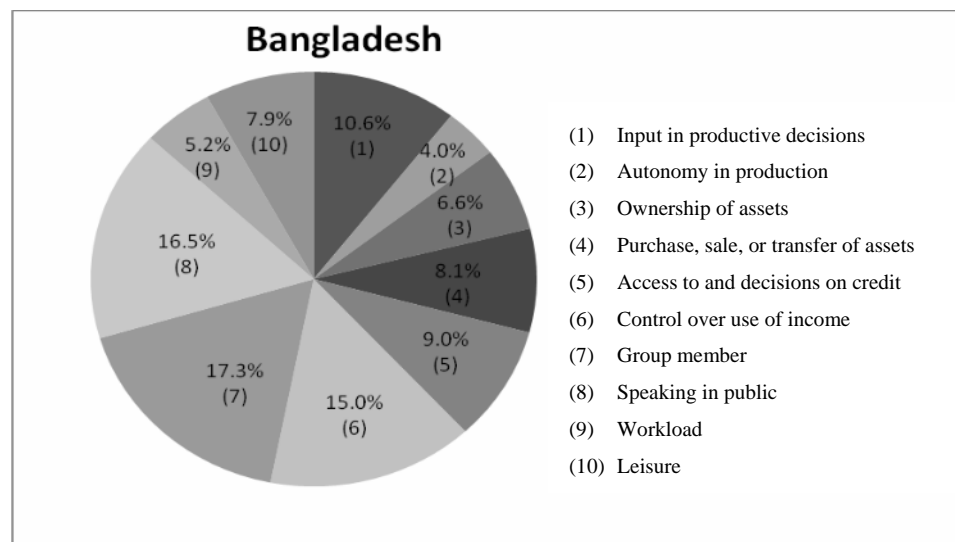
Figure 1: Contribution of Each of the 5 Domains to Disempowerment of Women



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

To obtain a more nuanced understanding of the areas of women’s disempowerment, it is helpful to look at the contribution of each domain indicator (Figure 2). For example, comparing Figures 1 and 2, it is observed that, although control over resources contributes to 23.6 per cent of disempowerment (Figure 1), its three indicators—ownership of assets, purchase, sale and transfer of assets and access to and decisions on credit—each contributes relatively less to overall disempowerment (Figure 2). The domain indicators that contribute the most to women’s disempowerment are a lack of participation in groups (17.3 per cent), lack of control over income (15.0 per cent), and discomfort in speaking in public (16.5 per cent).

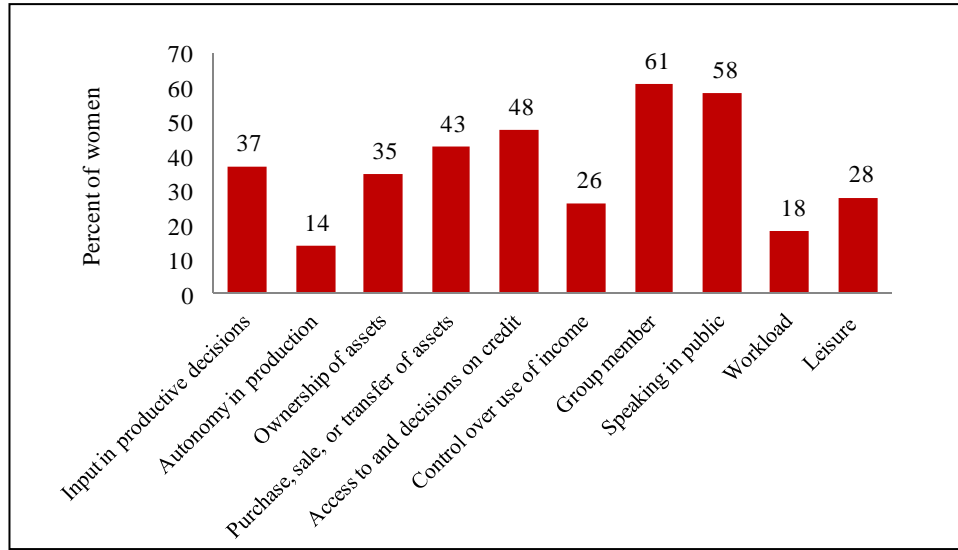
Figure 2: **Contribution of Each of the 10 Domain Indicators to Disempowerment of Women**



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Figure 3 illustrates the proportion of women who are disempowered and do not have adequate achievements in each of the ten indicators. More than half of the women in the survey do not belong to any group and are uncomfortable speaking in public. Nearly half of the women lack access to credit and the ability to make decisions about it. Thus, despite Bangladesh’s significant achievements in delivering social and financial services through women’s groups, such as in the microfinance movement, a gap still exists in terms of group membership and ability to express oneself in public.

Figure 3: Per cent of Women not Empowered and Who have Inadequate Achievements, by Indicator

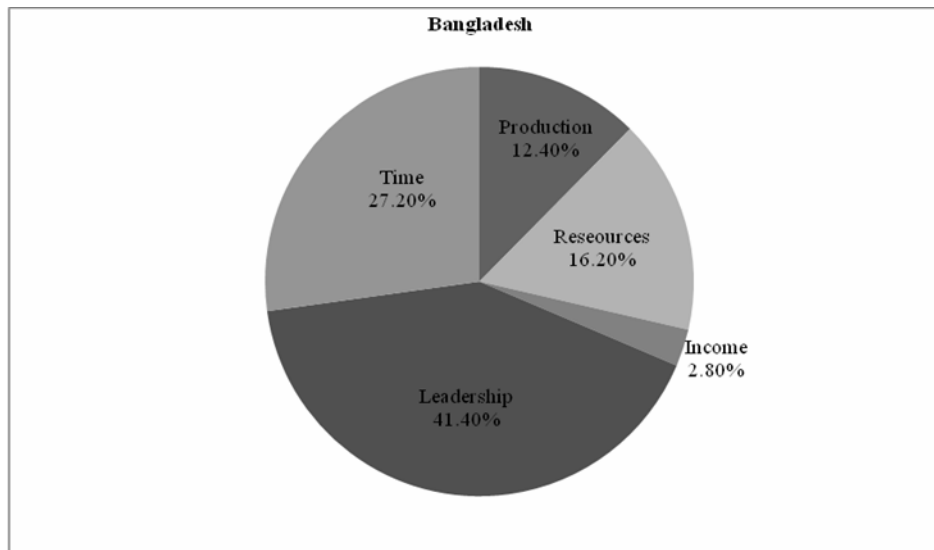


Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

5.3 What are the Gaps in Men's Empowerment?

The configuration of men's deprivations in empowerment is noticeably different from that of women's. Figure 4 shows that time poverty contributes relatively more to men's disempowerment in Bangladesh. While this may reflect the timing of the survey (it was conducted during a peak agricultural season), it also reveals the higher involvement of men in agriculture in Bangladesh. On the other hand, men report very little disempowerment in areas such as decisionmaking around agricultural production, access to resources, and control over the use of income.

Looking at the contribution of domain indicators to disempowerment in Figure 5, it is observed that factors such as lack of ownership of assets and control over use of income together contribute less than 5 per cent to overall disempowerment of men. This is not surprising, given that most household assets (especially land) are owned and controlled by men in Bangladesh (Quisumbing and Maluccio 2003) and that bargaining power within the household is associated by individual asset ownership.

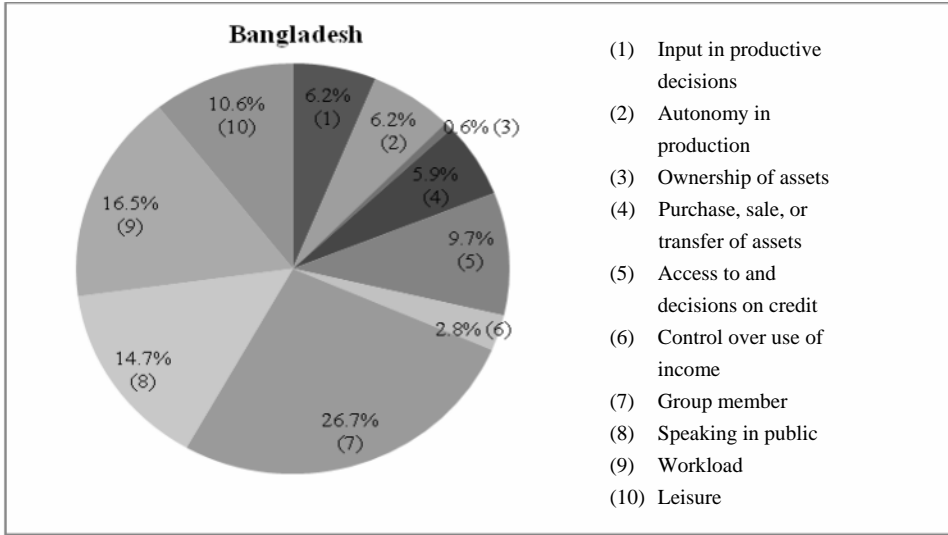
Figure 4: **Contribution of Each of the Five Domains to Disempowerment of Men**

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

However, similar to women, a lack of leadership and influence in the community contributes the most to men's disempowerment. In fact, comparing Figures 2 and 5, it is seen that although group membership contributes 17.3 per cent to disempowerment for women in the national sample, the corresponding number is higher for men (26.7 per cent), partly because civil society organisations and nongovernmental organisations have been quite active in organising women into groups. Women are more likely than men to be group members in Bangladesh (Quisumbing 2009), although the results indicate that there are still many women who do not belong to any group.

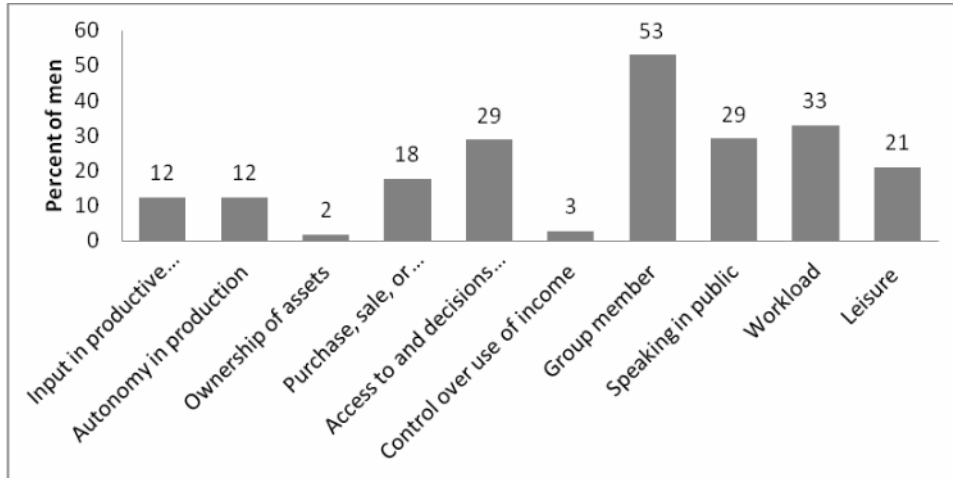
Figure 6 reports the proportion of men who are disempowered and do not have adequate achievements in each of the ten indicators. It can be seen that roughly half of the men in the survey do not belong to any group. Confirming the results obtained in Figure 5, a very small proportion of men in both samples report having inadequate ownership of assets and insufficient control over income.

Figure 5: Contribution of Each of the 10 Domain Indicators to Disempowerment of Men



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Figure 6: Per cent of Men not Empowered and Who have Inadequate Achievements, by Indicator



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

5.4 Who is Empowered?

The 5DE deliberately focuses only on issues of empowerment in agriculture. In order to show clearly how empowerment in women's specific agricultural roles relates to their age, level of education, level of household hunger, and household per capita expenditure, the survey also included questions related to these other household and individual characteristics. The rest of this section examines the relationship between empowerment and the following characteristics:

- Individual age groups
- Individual education level, defined as the highest grade of education completed
- Income, proxied by per capita expenditure quintile to which the household belongs
- Household hunger score

To assess the statistical significance of the association between empowerment and these characteristics, Pearson's chi-squared was computed for the hypothesis that the rows and columns in a two-way table are independent (Alkire *et al.* 2012). The results are presented in Tables III-VII.

TABLE III
RELATIONSHIP BETWEEN EMPOWERMENT AND AGE

Age group	Bangladesh	
	Women	Men
	(per cent of respondents who are empowered)	
18-25	15.31	30.15
26-45	23.23	40.35
46-55	25.69	47.97
56-65	17.22	52.81
>65	8.20	40.92
Total	21.45	42.99
Pearson χ^2 statistic	45.98	56.57
(p-value)	(0.000)	(0.000)

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Age is seen to be significantly associated with women's empowerment: Table III shows that a greater percentage of women aged 26-55 were empowered, compared with those in younger or older age groups. This may reflect the relative lack of power of younger females, who are typically daughters-in-law, and elderly women, who may now be dependent on sons for support (Alkire *et al.* 2013). A significant relationship is obtained among all men as well, with a greater percentage of men aged 46-65 being empowered compared to men from other age groups.

TABLE IV
RELATIONSHIP BETWEEN EMPOWERMENT AND EDUCATION

Education	Bangladesh	
	Women	Men
	(per cent of respondents in sample)	
Less than primary	20.44	37.20
Primary	22.56	45.86
Secondary	22.09	51.43
Higher secondary	23.91	58.16
University or above	28.57	50.70
Total	21.45	42.99
Pearson χ^2 statistic	3.35	70.37
(p-value)	(0.501)	(0.000)

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

While the proportion of empowered women in the national sample increases with education, the association is insignificant. However, the relationship is strongly significant for men, and the percentage of empowered men is seen to increase with increasing levels of education. While one might expect that education would increase empowerment of men and women alike, these results are consistent with the patterns of male and female involvement in agriculture in Bangladesh. Although women are also involved in agriculture, and the number of women in the agricultural labour force is increasing (Asaduzzaman 2010), it remains a male domain, and women continue to have limited decisionmaking power in agriculture. Thus, a woman with higher schooling attainment may still

not be able to make agricultural decisions, as this is considered a male domain. Men with higher schooling attainment, on the other hand, may feel more empowered because they are better able to make informed decisions about agricultural production.³

TABLE V
RELATIONSHIP BETWEEN EMPOWERMENT AND INCOME

Per capita expenditure quintile	Bangladesh	
	Women	Men
	(per cent of respondents who are empowered)	
1st quintile (poorest)	14.20	30.94
2nd quintile	21.32	40.11
3rd quintile	23.05	42.58
4th quintile	24.51	48.14
5th quintile (richest)	24.59	54.88
Total	21.45	42.99
Pearson χ^2 statistic	45.48	108.00
(p-value)	(0.000)	(0.000)

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Per capita expenditure quintile at the household level is constructed by dividing the households in the survey into five quintiles, according to their per capita expenditure. It measures the expenditures of rural households as a proxy for income, based on the assumption that increased expenditures is strongly correlated to increased income. Expenditures are used instead of income because of the difficulty in accurately measuring income and because expenditure data are less prone to error, easier to recall, and more stable over time than income data.

³In the pilot, the relationship between empowerment and education was insignificant for men and women alike (Alkire *et al.* 2013), but could also be due to small sample sizes. The fact that this relationship emerges as significant for men but remains insignificant for women in this nationally representative sample with a much larger sample size suggests that the pathways for education to empower men and women are different in rural Bangladesh.

Results presented in Table V suggest that per capita expenditure has a strongly significant association with empowerment for women and men. The pattern for women reflects sort of an inverse U-shaped relationship between income and women's empowerment. Women in the lowest quintiles may feel disempowered, not only because agriculture is considered a male domain, but also because the household itself is too poor to have access to resources important for agriculture. The proportion of empowered women rises with higher expenditure quintiles but drops at the top quintile (though marginally), which may reflect the value placed on female seclusion and consequently less involvement of women in agricultural activities in richer households. The results for men would be what one would expect—a positive, monotonic relationship between income and empowerment.

TABLE VI
RELATIONSHIP BETWEEN EMPOWERMENT AND HOUSEHOLD HUNGER

Household Hunger Score	Bangladesh	
	Women	Men
	(per cent of respondents who are empowered)	
Little to no hunger	21.58	43.59
Moderate hunger	20.87	30.67
Severe hunger	3.57	17.65
Total	21.45	42.99
Pearson χ^2 statistic	5.41	15.13
(p-value)	(0.067)	(0.001)

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

A household hunger score (HHS), which measures the extent of household food deprivation, was computed following the methodology of the USAID FANTA-2 project.⁴ Households are categorised into the following groups: little or no hunger, moderate hunger, and severe hunger. The per centage of women and men not yet empowered in agriculture is higher in households reporting higher hunger scores, and this association is statistically significant⁵ (Table VI). The strength of this association suggests that addressing disempowerment in

⁴See <http://www.fantaproject.org/publications/tn12.shtml>.

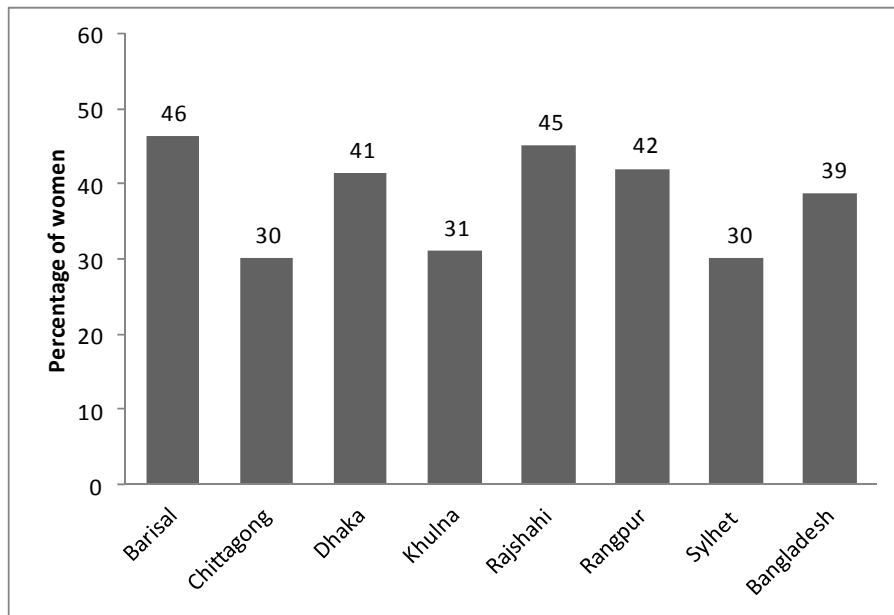
⁵This result did not emerge in the pilot (Alkire *et al.* 2013), most probably owing to small sample sizes.

agriculture for both men and women is a potential avenue for addressing the problem of hunger and food insecurity.

5.5 Regional Comparisons of WEAI Results for Women

As mentioned earlier, the WEAI and its sub-indexes can be disaggregated to diagnose regional variations to further tailor strategies to address gaps in empowerment. Figure 7 shows that, at the national level, around 39 per cent of women have gender parity with the primary male in their households. Among the divisions, Barisal has the highest degree of gender equality, with 46 per cent of the women being as equally empowered as the primary male in their households. Gender inequality is greatest in Chittagong and Sylhet—only 30 per cent of the sampled households have gender equality.

Figure 7: **Per Cent of Women Who have Gender Parity with the Primary Male in their Household, By Region**

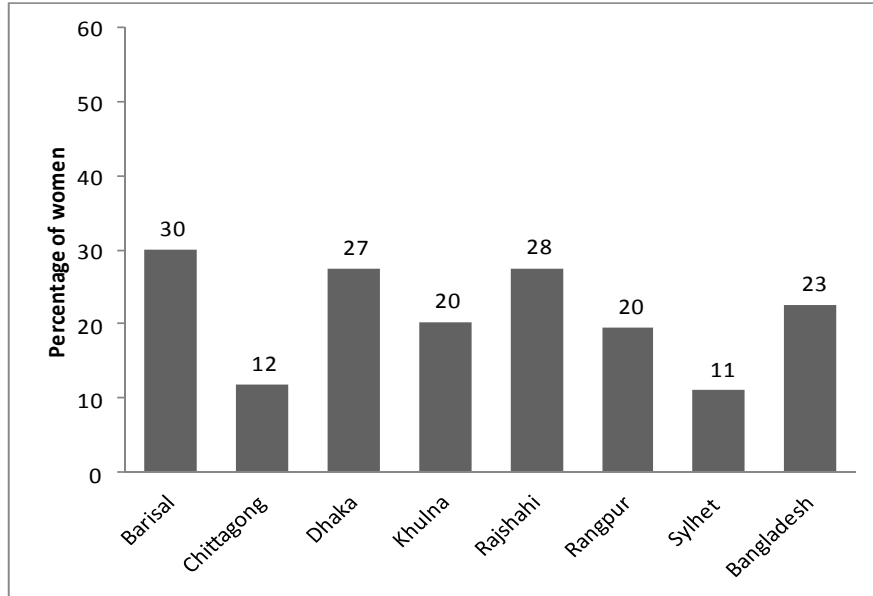


Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Figure 8 shows that around a quarter of the women in Bangladesh are empowered in agriculture. Women are, once again, better off in Barisal division

but still they are around only a third of the sample. Sylhet and Chittagong divisions have the lowest proportions of empowered women, at 11 per cent and 12 per cent respectively.

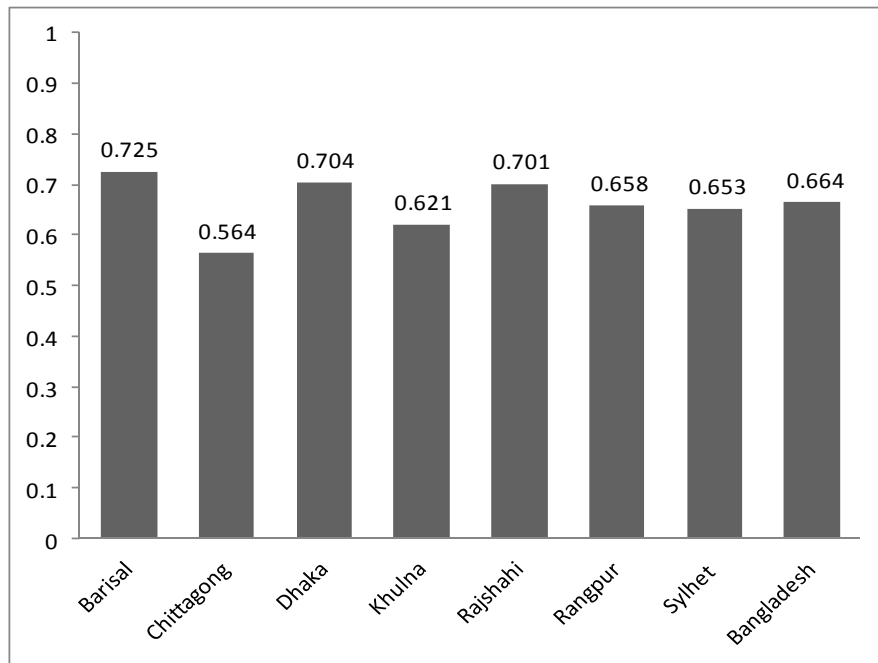
Figure 8: **Per Cent of Women Who are Empowered in the 5 Domains by Region**



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Figure 9 presents the WEAI values across regions. Among the divisions, women in Barisal have the highest score. This is expected, since a greater percentage of women in Barisal division are empowered in the five dimensions, and have gender parity with the primary male in their households. Chittagong division has the lowest value for the WEAI, since it has one of the lowest proportions of empowered women, and the largest proportion of households with no gender parity.

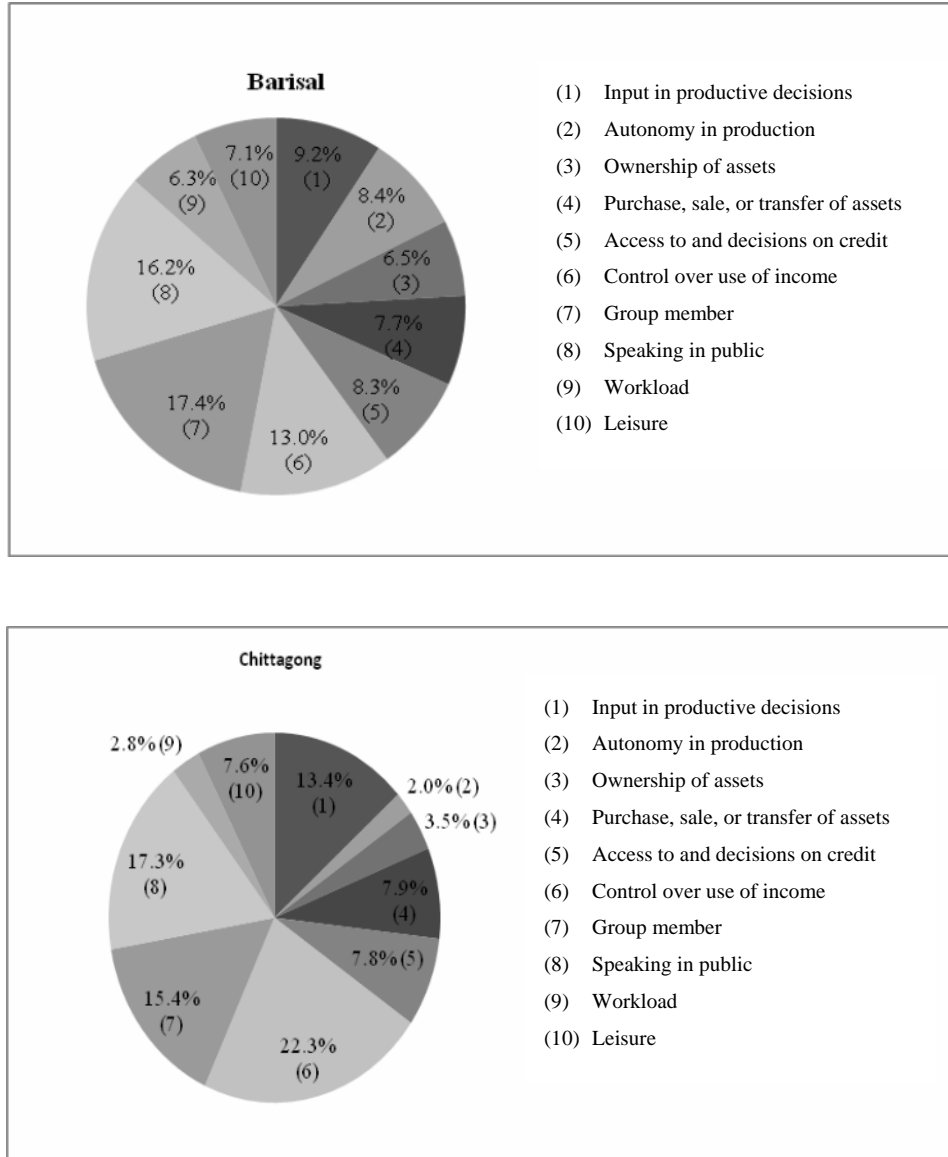
Figure 9: WEAI Values, by Region



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Figure 10 further illustrates how factors contributing to the disempowerment of women vary by region. The 5DE results have shown that major areas of disempowerment for women in Bangladesh are a lack of control over income, lack of group membership, and discomfort in speaking in public. While these are key disempowering features in the country as a whole, looking at the results for each division may reveal various regional differences. For example, insufficient control over use of income, at 22.3 per cent, is a major disempowering factor for women in Chittagong, but contributes less to disempowerment for women in Barisal (13 per cent). Lack of ownership of assets contributes less to women’s disempowerment in Chittagong (3.5 per cent), compared to Barisal (6.5 per cent). This suggests the need of taking into account regional differences when targeting interventions promoting empowerment of women.

Figure 10: **Regional Differences in the Contribution of Each of the 10 Domain Indicators to Disempowerment of Women: An Example**



Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

VI. CONCLUSIONS AND POLICY IMPLICATIONS

Women are key actors within the agriculture and food system in Bangladesh. As the 2013 National Agricultural Policy of Bangladesh recognises, empowering women, encouraging their participation in production and marketing for income generation, and ensuring their nutritional status are vital for improving food security in the country (MoA 2013). Women's economic and social advancement are also stated goals of the Ministry Women and Children Affairs (MoWCA). However, about 77 per cent of rural women in Bangladesh are disempowered, as this study shows using the Women's Empowerment in Agriculture Index (WEAI) and the data from the 2012 Bangladesh Integrated Household Survey.

While the WEAI was developed to be a monitoring indicator for the Feed the Future Initiative of the U.S. government, one of its other uses is as a diagnostic tool: to identify areas in which women and men are disempowered, so that programmes and policies can be targeted to those areas. This analysis has shown that the areas in which men and women are disempowered are quite different, with the implication that, depending on local context, different programmes and policies will need to be put in place to empower women and men alike. This, in turn, means that policymakers will need to pay attention to regional differences in factors contributing to the lack of empowerment of women as well as men.

In general, however, for women, policies and programmes must address the three domains that contribute most to disempowerment: weak leadership in the community, lack of control over resources, and lack of control over income. Among women who are disempowered, a high proportion report lack of control over income, lack of participation in groups, and discomfort speaking in public. Group-based approaches that build women's assets—which they can control—may be able to improve women's control over resources and the income that these resources generate. Such approaches may also help to close the gender asset gap by building women's assets faster than men's (while not reducing men's assets) (Quisumbing and Kumar 2011). They may also enable women to become more comfortable in exercising a leadership role, as many such groups include efforts to increase women's political participation and involvement in the community. Bangladesh has many examples of civil society organisations that have taken on this mission (see Ahmed, Khondkar, and Quisumbing 2011). However, Bangladeshi women are lagging much behind with respect to participation in national politics than women in comparator countries (Nazneen, Hossain and Sultan 2011).

The impact of policy reform and government action to build women's human and physical capital should not be underestimated. While the Gender Parity Index indicates that there is still an empowerment gap between men and women in Bangladesh, the country has improved relative to other South Asian countries in terms of social indicators such as girls' schooling and nutrition. In the area of human capital investment, for example, the gender gap in primary and secondary education has closed (Ahmed 2004, Ahmed *et al.* 2013, Hausmann, Tyson and Zahidi 2010), in no small part owing to government programmes designed to increase school attendance and grade progression among girls.

For men, time poverty and lack of leadership within the community contribute most to disempowerment. Reducing drudgery in agricultural work, or policies enabling men to adopt appropriate machineries for agricultural operations, might help reduce time poverty. Because most group-based efforts of civil society organisations have been directed to women in Bangladesh, men may not have benefited as much from efforts to be involved in groups that build leadership skills. While it is true that group-based efforts address an important need for women, policymakers also need to realise that efforts to make gender norms more equitable must also involve men. The next generation of civil society programmes may need to work more closely with men to create a supportive environment for women's empowerment and gender equality.

Finally, although sizeable proportions of men and women are shown to be disempowered along a number of indicators, the fact remains that a larger proportion of women are disempowered relative to men within their households. Achieving gender equality remains an important goal for policy in Bangladesh, one that is not only important in itself, but also contributes to the attainment of other development objectives, such as reducing hunger and improving food security (von Grebmer *et al.* 2009).

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**Gender Empowerment Gaps in Agriculture and
Children's Well-Being in Bangladesh**

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The International Food Policy Research Institute (IFPRI), established in 1975, provides evidence-based policy solutions to sustainably end hunger and malnutrition and reduce poverty. The Institute conducts research, communicates results, optimizes partnerships, and builds capacity to ensure sustainable food production, promote healthy food systems, improve markets and trade, transform agriculture, build resilience, and strengthen institutions and governance. Gender is considered in all of the Institute's work. IFPRI collaborates with partners around the world, including development implementers, public institutions, the private sector, and farmers' organizations, to ensure that local, national, regional, and global food policies are based on evidence. IFPRI is a member of the CGIAR Consortium.

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ABSTRACT

Development programs that reduce gender gaps are expected to not only improve women's well-being, but also their children's. This draws on a growing body of literature that shows a strong positive association between women's status and control over resources and improvements in children's outcomes, particularly nutrition and education. In this paper, we provide empirical evidence on the relationship between empowerment gaps between men and women in the same household and children's well-being using nationally representative data from the 2012 Bangladesh Integrated Household Survey (BIHS). We measure children's well-being using nutritional status for younger children (ages 0–5) and education outcomes for older children (ages 6–10 and 11–17). We measure relative empowerment using direct measures of empowerment collected from men and women in the same households using the Women's Empowerment in Agriculture Index. Our findings suggest that gender gaps in empowerment are only weakly linked to children's nutrition, although different measures of empowerment reveal significant differences between boys' and girls' outcomes, depending on the measures used. Overall, the household head's (father's) education is significantly associated with better nutrition and education outcomes for children, but younger girls (ages 6–10) and older boys and girls (ages 11–17) are more likely to receive more education when mothers are more educated. Our results on parental education suggest that fathers' empowerment may be reflecting a “wealth” effect that is invested in children's nutrition and education when they are young, while mothers' empowerment becomes more important in girls' education in general and keeping older children, regardless of sex, in school.

Keywords: women's empowerment; gender; nutrition; education; Bangladesh

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1. INTRODUCTION

A growing body of literature documents a strong positive association between women's status and control over resources and improvements in children's outcomes, particularly nutrition and education (Quisumbing and Maluccio 2003; Bhagowalia et al. 2012; Allendorf 2007; Skoufias 2005; Ackerson and Subramanian 2008; Smith et al. 2003; Shroff et al. 2011; van den Bold, Quisumbing, and Gillespie 2013; Cunningham et al. 2015). Findings from this literature have been used to recommend programs that reduce gender gaps, on the grounds that this will improve women's well-being as well as their children's. Although much of the existing evidence is associational, and could be partly due to assortative mating and unobservable factors (Duflo 2012), a systematic review based on rigorous impact evaluations found that targeting cash transfers toward women through conditional cash transfer programs and pensions appears to improve child nutrition and health (Yoong, Rabinovich, and Diepeveen 2012). However, because none of these studies explored the counterfactual, it remains unknown whether targeting transfers to women improves household welfare more than targeting transfers to men does.

Another strand of the literature expands the definition of empowerment beyond control over resources. Kabeer (1999) defines empowerment as expanding people's ability to make strategic life choices, particularly in contexts in which this ability had been denied to them. Measurement of empowerment, however, has proved elusive. Many studies have focused on simple proxy measures of empowerment such as education and wealth. More recent studies have analyzed more direct measures of empowerment, such as indicators related to decisionmaking power (Allendorf 2007; Shroff et al. 2011; Bhagowalia et al. 2012) and domestic violence (Ackerson and Subramanian 2008; Bhagowalia et al. 2012; Asling-Monemi et al. 2003; Asling-Monemi, Tabassum Naved, and Persson 2008). However, these studies typically focus on women's empowerment in the domestic sphere. Relatively few studies attempt to measure empowerment in the economic sphere, particularly in the agricultural sector where the majority of poor people in developing countries make their living (Malapit and Quisumbing 2015; Malapit et al. 2015). In addition, empowerment is a multidimensional concept. A comparison of empowerment measures across a range of domains within and beyond agriculture would help identify the key dimensions that facilitate investments in the next generation.

Lastly, many of these studies collect information from women only and cannot be used to measure gender empowerment gaps within the household. Considerable empirical evidence exists supporting the collective model of the household, in which individuals do not necessarily pool resources or share the same preferences (Haddad, Hoddinott, and Alderman 1997; Behrman 1997). Having similar—if not identical—information on male and female decisionmakers within the same household is important in understanding how intrahousehold gender gaps affect household decisions. In households where both men and women make decisions on children's well-being, both men's and women's empowerment may be important determinants of child well-being.

In this paper, we provide empirical evidence on the relationship between relative empowerment between men and women in the same household and children's nutrition and education outcomes in a household bargaining framework using nationally representative data from the 2012 Bangladesh Integrated Household Survey (BIHS). Our primary goal is to understand to what extent empowerment gaps between men and women within the household are associated with children's well-being, and whether these gender inequalities have differential effects on boys and girls. We measure empowerment in agriculture using a recently developed survey-based index called the Women's Empowerment in Agriculture Index (WEAI), which assesses women's empowerment in five domains in agriculture: decisionmaking over production, ownership and decisionmaking over resources, control over use of income, leadership in the community, and time use (Alkire et al. 2013). The WEAI collects the same information for both the primary male and the primary female decisionmakers in the household, which can then be used to construct measures of intrahousehold disparities.

2. CONCEPTUAL FRAMEWORK

To understand whether and in what way women's empowerment in agriculture is relevant to investments in children's well-being outcomes in rural Bangladesh, we begin with a model of household decisionmaking in an agricultural household. We assume a collective agricultural household composed of a principal male and a principal female decisionmaker who may have different endowments, constraints, and preferences. This is in line with the extensive empirical evidence rejecting a unitary model of the household that assumes all household members have the same preferences and all household resources are pooled (see Alderman et al. 1995; Haddad, Hoddinott, and Alderman 1997; Behrman 1997; Strauss, Mwabu, and Beegle 2000; Quisumbing 2003 for reviews). Men and women may own or control different productive resources, have access to different types of technologies, or have skills in different types of production tasks or activities. They may also be bound by gender-based constraints that define the extent of their participation in agriculture and other livelihood activities, resulting in differences in the types of investments that men and women can make toward children's well-being outcomes. Gender norms may also result in different preferences between men and women for what types of food to consume and how to distribute food among household members, when and how to seek healthcare, and whether to send children to school and for how long. These gender-based differences imply that decisions on what and how to produce, as well as decisions on the intrahousehold allocation of food, health, and other goods, are influenced by the relative bargaining power of men and women in the household.

The demand function for children's well-being can be derived from a collective agricultural household, similar to what is described above, augmented to include a production function for children's well-being and children's well-being in the utility function (Quisumbing and Maluccio 2003). The reduced form of the demand for children's well-being can then be expressed as some function of relative bargaining power as follows:

$$\mathbf{c}_i = f_i(\mu(a_m, a_f), \mathbf{I}, \mathbf{H}), \quad (1)$$

where \mathbf{c}_i is a vector of children's well-being outcomes, including nutritional status and education; μ represents the relative bargaining strength of individuals, which is a function of proxy measures of male and female bargaining power (a_m and a_f , respectively); \mathbf{I} is a vector of individual characteristics, such as sex, age, and age squared; and \mathbf{H} is a vector of household characteristics, such as household size and composition, and other controls. The effects of individual bargaining power on children's outcomes are given by: $\partial \mathbf{c}_i / \partial a_j$, with $j = m, f$. This formulation also provides a straightforward test of the unitary model, which implies that the identity of the person in control over the resources is irrelevant, and $\partial \mathbf{c}_i / \partial a_j = 0$, with $j = m, f$ (Quisumbing and Maluccio 2003).

A variety of proxies for bargaining power have been used in the literature, including: (1) shares of income earned by women (Hoddinott and Haddad 1995); (2) unearned income (Thomas 1990; Schultz 1990); (3) current assets (Doss 1996); (4) inherited assets (Quisumbing 1994); (5) assets at marriage (Thomas, Contreras, and Frankenberg 1999); (6) the public provision of resources to specific household members (Lundberg, Pollak, and Wales 1997; Rubalcava and Thomas 2000); and more recently, (7) interventions that provide transfers or increase resources to women (see the extensive review in Yoong, Rabinovich, and Diepeveen 2012). Although the concept of empowerment is much broader than bargaining power, emphasizing the process of expanding agency and spanning multiple dimensions (Kabeer 1999; Malhotra and Schuler 2005; Ibrahim and Alkire 2007; Alkire et al. 2013; van den Bold, Quisumbing, and Gillespie 2013), many of the same indicators used to measure bargaining power, such as control over resources and say in household decisions, are also used to measure empowerment. For the purpose of this paper, which investigates household investments on children empirically, greater empowerment implies greater bargaining power, and vice versa.

We use several measures of bargaining power in this paper. First, following Quisumbing and Maluccio (2003), we use human resources brought to the marriage, including age and education, as measures of individual bargaining power. Individuals with greater human resources are more likely to

command a larger share of household resources, and therefore household decisions are more likely to reflect their personal preferences. Human capital is a useful indicator of bargaining power because it reflects the empowerment of individuals more broadly, extending beyond the productive sphere. Although human capital may be endogenous to the result of marriage market selection or other unobservable characteristics, the timing of decisions is such that these are taken as given and therefore exogenous to decisions undertaken *within* the marriage (Quisumbing and Maluccio 2003).

Second, we use the WEAI as our measure of empowerment in the productive sphere. The WEAI is an aggregate index based on the Alkire-Foster methodology for multidimensional indices (Alkire and Foster 2011b; Alkire and Foster 2011a). The WEAI survey instrument collects individual-level data from primary male and primary female decisionmakers within the same households. It measures the extent of individuals' engagement in the agricultural sector in five domains: (1) decisions over agricultural production, (2) access to and decisionmaking power over productive resources, (3) control over use of income, (4) leadership in the community, and (5) time use. The five domains are weighted equally, and are measured by ten binary indicators, which are also weighted equally within each domain (Table 2.1). "Adequate achievement" for each indicator means that a person has surpassed a given threshold (0=inadequate, 1=adequate), and the weighted sum of the ten indicators comprises a person's empowerment score. More information on the methodology, piloting, and validation of the WEAI is available at Alkire et al. (2013). In this paper, we use the individual-level empowerment scores and component indicators of primary male and primary female respondents to investigate the relationship between relative empowerment in agriculture and children's well-being. This enables us to assess whether gender empowerment gaps in agriculture exert any additional influence on children's well-being outcomes after controlling for relative bargaining power as proxied by human resources brought to the marriage.

Table 2.1 The five domains of empowerment in the WEAI

Domain	Indicator	Definition of indicator	Weight
Production	Input in productive decisions	Sole or joint decisionmaking over food and cash-crop farming, livestock, and fisheries	1/10
	Autonomy in production	Autonomy in agricultural production (for example, which inputs to buy, crops to grow, livestock to raise). Reflects the extent to which the respondent's motivation for decisionmaking reflects his/her values rather than a desire to please others or avoid harm.	1/10
Resources	Ownership of assets	Sole or joint ownership of major household assets	1/15
	Purchase, sale, or transfer of assets	Whether respondent participates in decision to buy, sell, or transfer his/her owned assets	1/15
	Access to and decisions on credit	Access to and participation in decisionmaking concerning credit	1/15
Income	Control over use of income	Sole or joint control over income and expenditures	1/5
Leadership	Group member	Whether respondent is an active member in at least one economic or social group (for example, agricultural marketing, credit, water users' groups)	1/10
	Speaking in public	Whether the respondent is comfortable speaking in public concerning various issues, such as intervening in a family dispute, ensuring proper payment of wages for public work programs.	1/10
Time	Workload	Allocation of time to productive and domestic tasks	1/10
	Leisure	Satisfaction with the available time for leisure activities	1/10

Source: Alkire et al. (2013).

Finally, we examine other possible empowerment proxies, such as respondents' self-assessments as to their degree of influence in the community (9-point scale) and their overall life satisfaction (10-point scale). These subjective assessments reflect individuals' perceived empowerment in the community and their overall ability to make strategic life decisions, which is central to Kabeer's (1999) definition of empowerment. These variables are similar to those included in surveys like the Gallup World Poll (www.gallupworldpoll.com) and the World Values Survey (www.worldvaluessurvey.org).

3. EMPIRICAL SPECIFICATION, DATA AND VARIABLES

Empirical Specification

We estimate children's well-being outcomes as a function of child characteristics and relative bargaining power using equation (1) expressed as a linear function:

$$\begin{aligned} C_{ij} = & \beta_0 + \beta_1 (A_{mj} - A_{fj}) + \beta_2 (E_{mj} - E_{fj}) + \beta_3 G_{ij} \\ & + \beta_4 ((A_{mj} - A_{fj}) \times G_{ij}) + \beta_5 ((E_{mj} - E_{fj}) \times G_{ij}) \\ & + \beta_6 I_{ij} + \beta_7 H_j + \varepsilon_{ij}, \end{aligned} \quad (2)$$

where C_{ij} is a vector of well-being outcomes for child i in household j , including height-for-age (HAZ), weight-for-height (WHZ), and weight-for-age (WAZ) z-scores, and education measured as deviations from cohort means; $(A_m - A_f)$ represents the difference in the husband's and wife's human capital; $(E_{mj} - E_{fj})$ represents the difference in husband's and wife's empowerment measure; G_{ij} is an indicator variable equal to one if the child is a girl; I_{ij} is a vector of child characteristics; H_j is a vector of household characteristics and other controls; β_k are parameters to be estimated; and ε_{ij} is an error term. Our key coefficients of interest are β_2 for boys and $(\beta_2 + \beta_5)$ for girls, which reflect the relationship between the outcome variable and relative empowerment, controlling for other proxy measures of relative bargaining power and relevant individual and household characteristics.

One possible source of bias in estimating equation (2) is the potential endogeneity of empowerment. That is, empowerment is likely to be affected by the very same factors that influence children's nutrition and education. As in our earlier work using the BIHS (Sraboni et al. 2014), we estimate equation (2) using ordinary least squares regression (OLS) as well as standard instrumental variables (IV) techniques to correct for potential endogeneity bias.

Data

We use data from the Bangladesh Integrated Household Survey (BIHS) (A. Ahmed 2013), which is nationally representative of rural areas in the seven administrative divisions of the country. The survey was conducted from December 2011 to March 2012, a busy agricultural season for men but not women, who are mainly involved in postharvest activities. The BIHS consists of 1,608 nonfarm and 3,895 farm households, and includes a wide range of information on household demographics, education, employment, food and nonfood consumption and expenditures, agricultural production and livestock holding, and individual anthropometric measurements, as well as separate WEAI modules for self-identified primary male and female decisionmakers, interviewed separately and in private.

Because the WEAI measures empowerment in the agricultural sector, we restrict our analysis to the 3,895 farm households, including households relying on agricultural wage labor. This prevents the potential misclassification of individuals as disempowered when they do not participate in agricultural activities. In line with our conceptual framework where household decisionmakers negotiate with each other on how to allocate household resources, we need a measure for the relative strengths of individual bargaining power for men and women within the same household. Thus, we restrict our estimation samples to 3,213 households with valid WEAI responses from *both* the primary male and female decisionmakers. Of these households, our final estimation samples include 3,156 households with 1,774 co-resident children aged 0–5 years old, 2,308 co-resident children aged 6–10 years old, and 1,911 co-resident children aged 11–17 years old. Summary statistics of all the variables used are presented in Table 3.1.

Table 3.1 Summary statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max.
<i>Nutrition outcomes, children under 5 years</i>					
Height-for-age z-scores (HAZ)	1756	-1.84	1.45	-5.97	5.35
Boys	863	-1.87	1.51	-5.87	5.35
Girls	893	-1.81	1.40	-5.97	4.33
Weight-for-height z-scores (WHZ)	1753	-0.77	1.19	-4.94	3.07
Boys	861	-0.73	1.20	-4.89	3.07
Girls	892	-0.81	1.17	-4.94	2.63
Weight-for-age z-scores (WAZ)	1774	-1.60	1.08	-4.97	2.17
Boys	873	-1.57	1.10	-4.97	2.17
Girls	901	-1.62	1.07	-4.87	1.67
Stunted	1756	0.47	0.50	0	1
Boys	863	0.48	0.50	0	1
Girls	893	0.46	0.50	0	1
Wasted	1753	0.13	0.33	0	1
Boys	861	0.12	0.33	0	1
Girls	892	0.13	0.34	0	1
Underweight	1774	0.34	0.47	0	1
Boys	873	0.32	0.47	0	1
Girls	901	0.36	0.48	0	1
<i>Education outcomes, children 6–10 years</i>					
Education, deviation from cohort means	2308	0.00	0.81	-2	4
Boys	1165	-0.05	0.82	-2	3
Girls	1143	0.04	0.79	-2	4
Years of education	2308	0.92	1.13	0	6
Boys	1165	0.86	1.12	0	5
Girls	1143	0.98	1.14	0	6
<i>Education outcomes, children 11–17 years</i>					
Education, deviation from cohort means	1911	0.05	1.91	-6	5
Boys	957	-0.30	2.01	-6	5
Girls	954	0.38	1.75	-6	4
Years of education	1911	4.52	2.26	0	10
Boys	957	4.16	2.29	0	10
Girls	954	4.86	2.18	0	10

Table 3.1 Continued

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std dev</i>	<i>Min</i>	<i>Max</i>
<i>Individual characteristics</i>					
<i>Children under 5 years</i>					
Age under 2 (=1, 0 otherwise)	1774	0.42	0.49	0	1
Age (months)	1774	28.83	17.04	0	61
Female (=1, 0 otherwise)	1774	0.52	0.50	0	1
Child of WEAI respondent (=1, 0 otherwise)	1774	0.82	0.39	0	1
<i>Children aged 6–10 years</i>					
Age (years)	2,308	8.11	1.45	6	10
Female (=1, 0 otherwise)	2,308	0.50	0.50	0	1
Child of WEAI respondent (=1, 0 otherwise)	2,308	0.89	0.31	0	1
<i>Children aged 11–17 years</i>					
Age (years)	1,911	12.95	1.37	11	15
Female (=1, 0 otherwise)	1,911	0.51	0.50	0	1
Child of WEAI respondent (=1, 0 otherwise)	1,911	0.92	0.26	0	1
<i>Human resources brought to marriage</i>					
Age of woman	3156	35.51	10.35	17	80
Age of man (household head)	3156	43.60	11.99	20	95
Difference in age (man-woman)	3156	8.08	4.52	-15	40
Years of education of woman	3156	3.07	3.46	0	16
Years of education of man (household head)	3156	3.06	3.88	0	16
Difference in years of education (man-woman)	3156	-0.01	3.27	-11	14
<i>Empowerment variables</i>					
Empowerment score of man	3156	0.80	0.19	0.27	1.00
Empowerment score of woman	3156	0.65	0.24	0.07	1.00
Difference in empowerment score (man-woman)	3156	0.15	0.26	-0.57	0.90
Number of groups man is an active member of	3156	0.16	0.43	0	5
Number of groups woman is an active member of	3156	0.34	0.50	0	3
Difference in number of groups (man-woman)	3156	-0.18	0.63	-3	5
Average number of decisions over credit, made by man	3156	1.28	0.95	0	2
Average number of decisions over credit, made by woman	3156	0.99	0.98	0	2
Difference in average numbers of decisions over credit (man-woman)	3156	0.29	0.97	-2	2
Number of assets man has self/joint ownership of	3156	21.71	9.51	0	53
Number of assets woman has self/joint ownership of	3156	11.12	9.46	0	48
Difference in number of assets owned (man-woman)	3156	10.59	10.40	-28	45
Number of self/joint decisions over purchase, sale, or transfer of assets made by man	3156	5.20	2.38	0	14
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman	3156	1.86	1.44	0	8
Difference in number of decisions over purchase (man-woman)	3156	3.34	2.47	-5	11

Table 3.1 Continued

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std dev</i>	<i>Min</i>	<i>Max</i>
<i>Empowerment variables (continued)</i>					
Ladder score of man	3156	3.28	1.67	1	9
Ladder score of woman	3156	2.66	1.35	1	9
Difference in ladder score (man-woman)	3156	0.62	1.83	-8	7
Satisfaction score of man	3156	6.40	2.11	1	10
Satisfaction score of woman	3156	6.12	2.15	1	10
Difference in satisfaction score (man-woman)	3156	0.27	2.72	-9	9
<i>Household characteristics</i>					
Household head is farmer (=1, 0 otherwise)	3156	0.25	0.44	0	1
Household head is trader (=1, 0 otherwise)	3156	0.12	0.33	0	1
Household size	3156	5.08	1.71	3	17
Proportion of males 0–4 years old	3156	0.06	0.11	0	0.60
Proportion of males 5–10 years old	3156	0.09	0.12	0	0.60
Proportion of males 11–18 years old	3156	0.08	0.13	0	0.67
Proportion of males 19–59 years old	3156	0.23	0.10	0	0.67
Proportion of males 60 years and older	3156	0.03	0.08	0	0.33
Proportion of females 0–4 years old	3156	0.06	0.11	0	0.60
Proportion of females 5–10 years old	3156	0.09	0.12	0	0.50
Proportion of females 11–18 years old	3156	0.08	0.12	0	0.60
Proportion of females 19–59 years old	3156	0.25	0.08	0	0.60
Proportion of females 60 years and older	3156	0.02	0.06	0	0.33
Number of dairy cows owned	3156	0.71	1.21	0	9
Price of rice (in taka)	3156	30.19	3.52	20	55
Cultivable land owned by household (in decimals)	3156	11.00	45.44	0	936
Ln (owned cultivable land+1)	3156	0.60	1.43	0	6.84
Access to electricity (=1, 0 otherwise)	3156	0.47	0.50	0	1
Division dummy 1	3156	0.05	0.23	0	1
Division dummy 2	3156	0.15	0.35	0	1
Division dummy 3	3156	0.30	0.46	0	1
Division dummy 4	3156	0.12	0.32	0	1
Division dummy 5	3156	0.17	0.38	0	1
Division dummy 6	3156	0.14	0.35	0	1
Division dummy 7	3156	0.07	0.26	0	1
<i>Instruments</i>					
Types of informal credit sources in village	3156	2.37	1.48	0	5
Years of operation of oldest NGO in village	3156	17.75	7.96	0	40
Number of community activities woman has participated in last year	3156	0.85	1.17	0	7
Amount of land inherited by woman (in acres)	3156	0.00	0.05	0	1.7
Whether woman co-resides with mother-in-law (=1, 0 otherwise)	3156	0.13	0.34	0	1

Source: Bangladesh Integrated Household Survey, 2011–2012 (A. Ahmed 2013).

Dependent Variables

The available measures of children's well-being differ across age groups. We focus on nutritional status for younger children and education for older children.

Nutritional Status

For children under five years old, we use anthropometric height and weight information used to construct height-for-age (HAZ) and weight-for-height (WHZ) z-scores. Low HAZ is an indication of chronic malnutrition (shortness), low WHZ is an indication of acute malnutrition (thinness), and low WAZ indicates a combination of both chronic and acute malnutrition. HAZ and WHZ are often used as indicators of long-term and short-term nutritional status, respectively. Child anthropometric indicators show high rates of malnutrition in rural Bangladesh, similar to previous studies (NIPORT et al. 2013; T. Ahmed et al. 2012). Close to half of under-five children are stunted (47 percent), and over a third are underweight (34 percent) (Table 3.1).

Education

Following Quisumbing and Maluccio (2003), we measure education as the deviation of each child's completed years of schooling from the average completed years of schooling of other children of the same age (in years). Unlike years of schooling, this measure prevents censoring owing to unfinished schooling, and shows how well each child is doing relative to other children of the same age. We analyze education outcomes for two groups of co-resident children: primary school-age children (ages 6–10 years old) and secondary school-age children (ages 11–17 years old). On average, girls tended to do better than their cohort, while boys tended to do worse. When schooling is measured in both years and in cohort-deviations, girls significantly outperform boys (Table 3.1), consistent with the higher school attendance for girls found in the 2011 Bangladesh Demographic and Health Survey (NIPORT 2013). Regressions using completed years of schooling as the dependent variable produced similar results and are not reported.

Key Independent Variables

We measure relative bargaining power in two ways, first using human resources brought to marriage, and then using empowerment measures collected as part of the WEAI.

Human Resources Brought to Marriage

Following Quisumbing and Maluccio (2003), we interpret the husband and wife's age and education as human capital brought to the marriage. We construct these as male-female differences in age and years of schooling, to facilitate comparisons with our relative empowerment measures. Quisumbing and Hallman (2006) discuss how husband age and education seniority have often been used in empirical studies to connote male control over women (e.g., Miller 1981; Cain 1984). Education differences can be viewed as a proxy for differences in earning power, which carries bargaining power (Sen 1989). For example, the measure used by Smith et al. (2003) of women's decisionmaking power relative to their male partners is based on four underlying indicators: whether a woman works for cash; her age at first marriage; the age difference between her and her husband; and the education difference between her and her husband. Individuals with greater human resources are more likely to control a larger share of household resources, and therefore, household decisions are more likely to reflect their personal preferences. Human capital also indicates the empowerment of individuals more broadly, extending beyond the productive sphere. Although human capital may be endogenous to the result of marriage market selection or other unobservable characteristics, the timing of decisions is such that these are taken as given (most husbands and wives in our sample do not continue schooling after marriage) and therefore are exogenous to decisions undertaken *within* the marriage (Quisumbing and Maluccio 2003). Married women in our

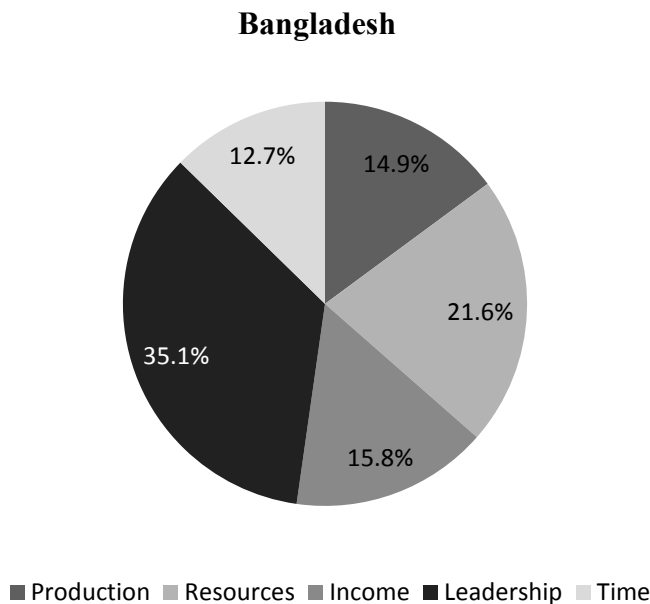
sample are 36 years old on average, eight years younger than their spouses (Table 3.1). Both men and women have low levels of education, averaging about three years of schooling for both men and women.

Empowerment Measures

The WEAI measures empowerment in agriculture across five domains and ten indicators, all weighted equally within each domain (Table 1.1). In line with other studies that have analyzed the WEAI (Sraboni, Quisumbing, and Ahmed 2013; Malapit and Quisumbing 2015; Malapit et al. 2015), we use the overall pattern of women’s disempowerment to guide our choice of empowerment indicators. First, we identify the key domains that contribute the most to disempowerment, and then within each key domain, identify the indicators that contribute the most to disempowerment. These are likely to be the areas that policymakers will target to improve women’s empowerment. Next, we construct a continuous measure of empowerment that draws on the underlying individual-level data for the identified indicators. Lastly, we construct a relative empowerment measure for each household by taking the difference between the male and female variables.

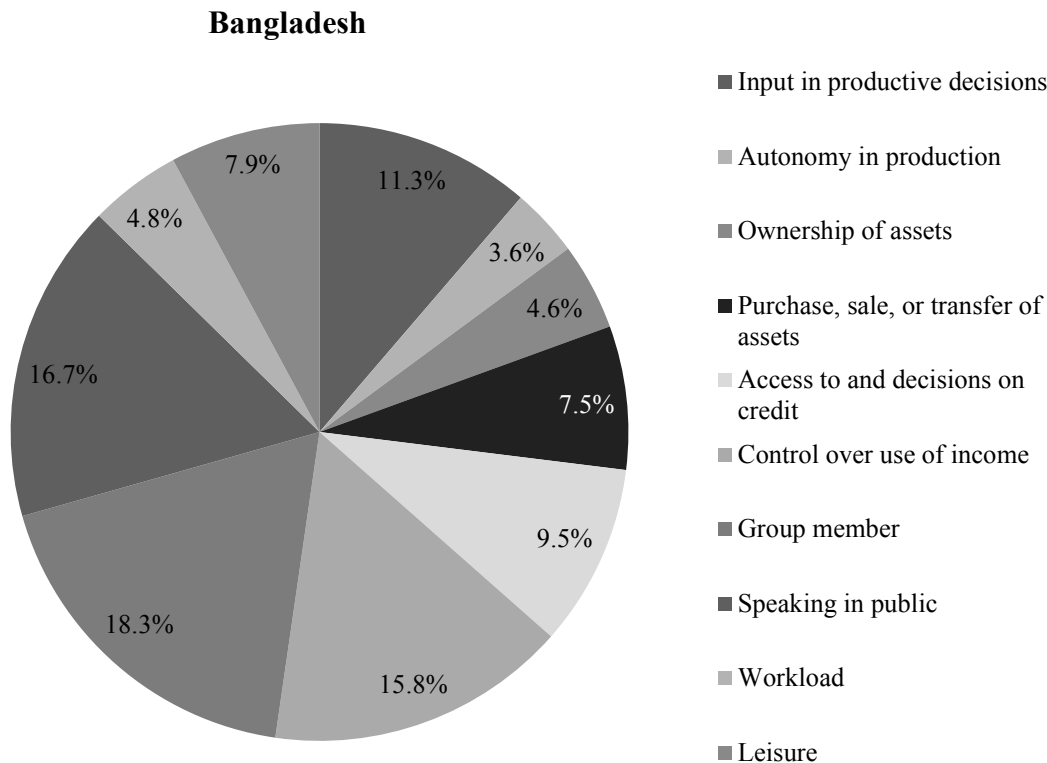
The technical report on the BIHS (Sraboni, Quisumbing, and Ahmed 2013) shows that the *leadership* and *resources* domains contribute the most to women’s disempowerment in rural Bangladesh (Figure 3.1). In addition, *group membership* contributes most to disempowerment in the leadership domain and *access to and decisions on credit* is the most critical indicator for the resources domain (Figure 3.2) (Sraboni, Quisumbing, and Ahmed 2013). However, the credit indicator may be problematic because the survey questions do not distinguish between non-borrowers who are truly credit constrained and those who have sufficient liquidity and therefore choose not to borrow (Sraboni et al. 2014). Following Sraboni et al. (2014), we also analyze the two other indicators for the resources domain, namely, *asset ownership* and *rights over assets*. Using this information, we use the alternative measures of relative empowerment listed below.

Figure 3.1 Contribution of each of the five domains to the disempowerment of women



Source: Sraboni, Quisumbing, and Ahmed (2013).

Figure 3.2 Contribution of each of the ten domain indicators to disempowerment of women



Source: Sraboni, Quisumbing, and Ahmed (2013).

- **Model 1: Empowerment score**

This is the difference between the individual-level empowerment scores of the primary male respondent and the primary female respondent in the household. Higher numbers indicate a larger gap between male and female empowerment, favoring males, and zero indicates perfect equality. The individual-level empowerment score is the weighted average of a person's achievements in the ten indicators that comprise the five domains of empowerment in agriculture, ranging from zero to one and increasing in empowerment. The empowerment score reflects overall empowerment in agricultural production. Men have higher empowerment scores than do women on average, which indicates that they are empowered in four out of five domains in agriculture (0.80), whereas women are empowered in only three out of five domains (0.65) (Table 3.1).

- **Model 2: (Leadership domain) group membership**

This is the male-female difference in the number of groups in which the respondents report being an active member. Active membership in more groups implies wider social networks and potentially greater empowerment. Unlike all the other empowerment indicators, which show that men outperform women, as indicated by the positive differences (Table 3.1), women show higher participation in groups, which may reflect the targeting of women in microcredit groups in rural Bangladesh.

- **Model 3: (Resources domain) credit decisions**
 This is the male-female difference in the number of credit decisions made solely or jointly by the respondents, averaged over the lending sources used. For every lending source, the respondent is asked who made the decision to borrow and who made the decision on how to use the money/item borrowed. In the absence of information on the size of the loans, we take the average number of decisions made across the five possible lending sources (nongovernmental organization [NGO], informal, formal, friends/family, and rotating savings and credit associations [ROSCAs]) so as not to assign greater empowerment to those who approach multiple types of lenders. On average, men make twice as many decisions on credit than women do in our sample (Table 3.1).
- **Model 4: (Resources domain) asset ownership**
 This is the male-female difference in the total number of asset types for which the respondent reports sole or joint ownership. Greater asset ownership implies greater access to resources and therefore higher empowerment. Men report owning twice as many types of assets as women do in our sample (Table 3.1), consistent with women's poor access to resources in Bangladesh (Quisumbing and Maluccio 2003).
- **Model 5: (Resources domain) rights over assets**
 This is the male-female difference in the number of sole or joint decisions made by respondents concerning the purchase/sale/transfer of assets, summed over all asset types. In the survey, the respondent is asked who can decide whether to sell, give away, mortgage/rent, and purchase each type of asset. Having more decisions over more asset types implies greater rights over assets and therefore higher empowerment. As expected, men are also more likely to make decisions regarding assets, as reflected by the higher number of self/joint decisions over assets made by men (22) compared to women (11) (Table 3.1).
- **Model 6: Ladder score**
 This is the male-female difference in the respondents' self-assessments regarding their degree of influence in the community (9-point scale). Higher scores indicate greater perceived influence. These subjective assessments reflect individuals' perceived empowerment in the community, and indicate empowerment beyond the productive sphere. In our sample, women are less likely to feel that they have some influence in the community, with lower average ladder scores (2.67) than men (3.30). However, both men and women have very low ladder scores on average (out of 9), suggesting that both men and women perceive a lack of empowerment in the community.
- **Model 7: Satisfaction score**
 This is the male-female difference in the respondents' self-assessments regarding their overall life satisfaction (10-point scale). Higher scores indicate greater life satisfaction. These subjective assessments reflect individuals' perceived ability to determine the course of their life, and indicate empowerment beyond the productive sphere. Men have higher life satisfaction scores on average compared with women, although the difference is small (Table 3.1).

Instrumental Variables

Appropriate instruments must be highly correlated with the relative empowerment of the husband and wife, but remain exogenous to the outcomes of interest, in this case, children's nutritional status and education. We use the same set of instruments for all the relative empowerment measures in our analysis. These include (1) the number of types of informal credit sources in the village, (2) the number of community activities the woman participated in during the previous year, (3) the years of operation of the oldest NGO in the community, (4) whether the wife's mother-in-law is present, and (5) whether the

homestead land has been inherited by the woman. These instruments are likely to be correlated with women's ability to exercise agency and negotiate with their husbands, and are exogenous to current period decisions regarding children's well-being.¹

Other Independent Variables

Our analysis also controls for child characteristics, household characteristics, and community characteristics. Child characteristics include (1) whether the child is under two years old, (2) age in months and its square, (3) whether the child is the biological offspring of the WEAI respondents, and (4) whether the child is female. Household characteristics include (1) age, (2) age squared and years of schooling of the household head (typically the self-identified primary male respondent), (3) whether the primary occupation of the household head is farmer or trader, (4) household size, (5) the age-sex composition of the household (with males aged 60 and above as the excluded category), (6) the natural logarithm of the area of cultivable land owned by the household, (7) the number of dairy cows owned by the household, and (8) whether the household has access to electricity. Community characteristics include the price of rice and division dummies to control for location-specific effects.

¹ One of the reasons we use relative empowerment rather than including male and female empowerment separately as independent variables is that it is very difficult to find valid instruments for male empowerment.

4. RESULTS

We present key results for our OLS and IV estimates of HAZ, WHZ, and WAZ for children 0–5; education deviations for children 6–10; and education deviations for children 11–17 in Tables 4.1–4.5, respectively, and a summary of the results in Table 4.6. The IV diagnostics are reported at the end of each table. Given the set of instruments, if the null hypothesis of exogeneity cannot be rejected, then our discussion will focus on the preferred OLS specification. However, if the endogeneity test is rejected at the 10 percent level, then we discuss the IV estimates instead. Note that we cannot reject the null hypothesis that empowerment is exogenous, except in the following specifications: model 5 (asset decisions) in the WHZ regression (Table 4.2), models 4 and 7 (asset ownership and satisfaction score) in the age 6–10 education regression (Table 4.4), and model 2 (group membership) in the age 11–17 education regression (Table 4.5).

Children’s Nutritional Status

Children’s HAZ, WHZ, and WAZ appear to be only weakly correlated with relative bargaining power in the household (Tables 4.1–4.3, respectively). In the HAZ regressions (Table 4.1), none of the empowerment coefficients across the seven models are significant, except in the credit decisions specification (OLS model 3), where the relative empowerment coefficient for boys is insignificant, whereas the coefficient for girls is significant and negative. This implies that when credit decisionmaking favors the primary female respondent (smaller gender gap), girls are more likely to be taller than their reference age group.

In the WHZ regressions (Table 4.2), the strongest results are in the satisfaction score specification (OLS model 7), where a larger gender gap in the satisfaction score is negatively correlated with children’s weight-for-height, particularly for boys. This effect is smaller and less negative for girls. This implies that an increase in women’s life satisfaction increases boys’ weight-for-height, but less so for girls. In the group membership specification (OLS model 2), the gender gap in group membership is insignificant for boys, but has an unexpected weakly significant positive effect for girls. It appears that higher involvement by women relative to men may end up reducing girls’ WHZ, contrary to our expectations. The mechanism behind this result, which could point to excessive demands on women’s time owing to participation in group activities, or possible backlash from men within the household, needs to be better investigated. In the asset decisions specification (IV model 5), the coefficient of the gender gap in asset decisionmaking is positive and weakly significant for boys’ weight-for-height, and negative and significant for girls. This suggests that increasing the number of decisions made by women regarding assets, which in turn narrows the male-female gap in asset decisionmaking, is associated with better nutritional status for girls in the short run.

In the WAZ regressions (Table 4.3), the gender gap in group membership (OLS model 2) and satisfaction score (OLS model 7) are negative and significantly correlated with children’s weight-for-age. This implies that an increase in women’s participation in groups and life satisfaction relative to their husbands is likely to improve children’s WAZ. In the case of group membership, specifically, the results suggest that the effect is likely to favor boys rather than girls, perhaps reflecting the desire of mothers to invest in boys’ health.

Although gender gaps in human resources brought to marriage were insignificant in all the regressions, the education of the (male) household head is positive and highly significant in the HAZ and WAZ regressions (Tables 4.1 and 4.3, respectively). This may be reflecting a “wealth” effect, where households led by a well-educated head are also more likely to have sufficient resources to invest in children’s nutrition, at least as indicated by weight-based measures.

Table 4.1 Under-five children’s height-for-age z-scores and measures of male-female difference in empowerment

Variable	Dependent variable: height-for-age z-scores													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Child characteristics														
=1 if female	-0.024	-0.157	-0.028	0.238	-0.007	-0.057	-0.051	-0.394	-0.045	-0.371	-0.049	0.023	-0.044	-0.103
	(0.213)	(0.273)	(0.211)	(0.383)	(0.210)	(0.233)	(0.234)	(0.547)	(0.223)	(0.434)	(0.212)	(0.228)	(0.209)	(0.239)
=1 if under 2 years old	-0.442***	-0.465***	-0.454***	-0.499***	-0.454***	-0.465***	-0.444***	-0.421***	-0.448***	-0.445***	-0.446***	-0.466***	-0.445***	-0.413***
	(0.155)	(0.156)	(0.155)	(0.167)	(0.155)	(0.157)	(0.154)	(0.161)	(0.155)	(0.156)	(0.155)	(0.157)	(0.155)	(0.160)
Age in months	-0.087***	-0.088***	-0.088***	-0.090***	-0.088***	-0.088***	-0.087***	-0.088***	-0.087***	-0.089***	-0.087***	-0.090***	-0.088***	-0.083***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)	(0.013)	(0.012)	(0.013)
Age in months squared	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
=1 if child of WEAI respondent	-0.117	-0.187	-0.124	-0.120	-0.127	-0.179	-0.130	-0.090	-0.131	-0.145	-0.139	-0.126	-0.132	-0.146
	(0.193)	(0.201)	(0.194)	(0.196)	(0.194)	(0.211)	(0.194)	(0.201)	(0.194)	(0.196)	(0.194)	(0.194)	(0.194)	(0.193)
Empowerment measures														
M-F difference in empowerment measure	-0.005	0.126	-0.097	-0.596	0.057	-0.266	0.005	0.039	-0.000	-0.008	-0.009	0.069	-0.011	-0.072
	(0.205)	(1.263)	(0.092)	(0.797)	(0.056)	(0.393)	(0.025)	(0.114)	(0.006)	(0.022)	(0.026)	(0.105)	(0.020)	(0.142)
M-F difference in age	-0.020	-0.019	-0.019	-0.017	-0.021	-0.016	-0.020	-0.017	-0.020	-0.019	-0.020	-0.023	-0.020	-0.017
	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)
M-F difference in education	0.001	0.001	0.001	0.009	-0.000	0.005	0.001	0.006	0.001	0.007	0.001	-0.003	0.001	0.006
	(0.019)	(0.021)	(0.019)	(0.021)	(0.019)	(0.020)	(0.020)	(0.022)	(0.020)	(0.022)	(0.019)	(0.020)	(0.019)	(0.020)
Interaction of child sex with empowerment measures														
FemaleXM-F difference in empowerment	-0.242	0.843	0.091	1.015	-0.166**	0.091	-0.001	0.098	-0.001	0.030	-0.008	-0.152	-0.010	0.210
	(0.270)	(1.721)	(0.119)	(1.003)	(0.075)	(0.528)	(0.032)	(0.159)	(0.007)	(0.039)	(0.037)	(0.140)	(0.026)	(0.263)
FemaleXM-F difference in age	0.002	-0.002	0.000	-0.009	0.002	-0.000	0.001	0.001	0.001	0.001	0.001	0.005	0.000	0.001
	(0.019)	(0.020)	(0.019)	(0.022)	(0.019)	(0.019)	(0.019)	(0.018)	(0.019)	(0.019)	(0.019)	(0.018)	(0.019)	(0.020)
FemaleXM-F difference in education	-0.015	-0.020	-0.017	-0.022	-0.014	-0.017	-0.015	-0.016	-0.016	-0.023	-0.015	-0.007	-0.017	-0.017
	(0.023)	(0.025)	(0.023)	(0.024)	(0.023)	(0.024)	(0.023)	(0.026)	(0.023)	(0.025)	(0.023)	(0.024)	(0.023)	(0.024)

Table 4.1 Continued

Variable	Dependent variable: height-for-age z-scores													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
<i>Household head characteristics</i>														
Age of household head	0.024 (0.021)	0.024 (0.022)	0.023 (0.021)	0.021 (0.023)	0.024 (0.021)	0.022 (0.021)	0.024 (0.021)	0.021 (0.021)	0.024 (0.021)	0.021 (0.022)	0.024 (0.021)	0.026 (0.021)	0.024 (0.021)	0.024 (0.021)
Age squared of household head	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Education of household head	0.047*** (0.013)	0.046*** (0.013)	0.048*** (0.013)	0.046*** (0.015)	0.048*** (0.013)	0.049*** (0.013)	0.047*** (0.013)	0.041*** (0.014)	0.047*** (0.013)	0.045*** (0.013)	0.048*** (0.013)	0.047*** (0.013)	0.048*** (0.013)	0.043*** (0.015)
N	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756
F	4.724	4.626	4.859	4.750	4.752	4.756	4.682	4.585	4.681	4.724	4.704	4.656	4.722	4.382
Hansen J p, Ho: instruments valid		0.774		0.769		0.719		0.751		0.737		0.795		0.827
Under ID test p, Ho: underidentified		0.000		0.007		0.041		0.000		0.001		0.000		0.327
Weak ID test stat (Kleibergen-Paap Wald F)		9.406		2.172		2.023		7.774		3.798		9.375		1.041
Anderson-Rubin, Ho: endogvars irrelevant														
A-R Wald test, p-value		0.794		0.794		0.794		0.794		0.794		0.794		0.794
A-R Wald Chi2 test, p-value		0.780		0.780		0.780		0.780		0.780		0.780		0.780
Endogeneity test p, Ho: exogenous		0.655		0.754		0.708		0.930		0.847		0.511		0.513

Source: Bangladesh Integrated Household Survey, 2011–2012 (A. Ahmed 2013).

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Table 4.2 Under-five children's weight-for-height z-scores and measures of male-female difference in empowerment

Variable	Dependent variable: weight-for-height z-scores													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Child characteristics														
=1 if female	0.071 (0.169)	0.378 (0.235)	0.121 (0.169)	-0.307 (0.314)	0.059 (0.164)	0.327 (0.222)	0.152 (0.188)	0.865* (0.478)	0.104 (0.176)	0.971** (0.412)	0.067 (0.166)	0.037 (0.172)	0.078 (0.166)	0.126 (0.200)
=1 if under 2 years old	-0.228* (0.131)	-0.204 (0.136)	-0.236* (0.132)	-0.152 (0.144)	-0.220* (0.131)	-0.246* (0.146)	-0.222* (0.131)	-0.214 (0.136)	-0.230* (0.131)	-0.212 (0.136)	-0.223* (0.132)	-0.217* (0.131)	-0.210 (0.131)	-0.271* (0.143)
Age in months	-0.015 (0.011)	-0.014 (0.011)	-0.015 (0.011)	-0.012 (0.011)	-0.015 (0.011)	-0.018 (0.012)	-0.014 (0.011)	-0.011 (0.011)	-0.015 (0.011)	-0.009 (0.012)	-0.014 (0.011)	-0.014 (0.011)	-0.014 (0.011)	-0.021* (0.013)
Age in months squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
=1 if child of WEAL respondent	0.049 (0.164)	0.150 (0.173)	0.056 (0.165)	0.019 (0.177)	0.062 (0.165)	0.129 (0.178)	0.049 (0.165)	0.006 (0.175)	0.054 (0.164)	0.084 (0.171)	0.043 (0.165)	0.045 (0.164)	0.044 (0.164)	0.071 (0.174)
Empowerment measures														
M-F difference in empowerment measure	0.053 (0.175)	1.012 (1.063)	-0.115 (0.076)	0.888 (0.700)	0.050 (0.043)	0.615* (0.321)	0.014 (0.022)	0.063 (0.093)	-0.001 (0.005)	0.032* (0.018)	-0.018 (0.024)	-0.037 (0.081)	-0.053*** (0.017)	0.100 (0.124)
M-F difference in age	0.011 (0.011)	0.006 (0.011)	0.011 (0.011)	0.006 (0.012)	0.010 (0.011)	0.002 (0.013)	0.011 (0.011)	0.009 (0.011)	0.011 (0.011)	0.008 (0.012)	0.011 (0.011)	0.012 (0.011)	0.012 (0.011)	0.008 (0.012)
M-F difference in education	0.012 (0.014)	0.003 (0.017)	0.014 (0.014)	0.003 (0.018)	0.012 (0.014)	-0.000 (0.017)	0.011 (0.014)	-0.003 (0.017)	0.012 (0.014)	-0.009 (0.019)	0.012 (0.014)	0.014 (0.015)	0.015 (0.014)	0.006 (0.017)
Interaction of child sex with empowerment measures														
FemaleXM-F difference in empowerment	0.002 (0.241)	-2.548* (1.504)	0.172* (0.097)	-1.326 (0.899)	0.027 (0.061)	-1.017** (0.502)	-0.025 (0.028)	-0.243* (0.142)	-0.003 (0.007)	-0.085** (0.037)	0.009 (0.034)	0.068 (0.119)	0.047** (0.024)	-0.255 (0.233)
FemaleXM-F difference in age	-0.008 (0.013)	0.000 (0.014)	-0.010 (0.013)	0.004 (0.016)	-0.008 (0.013)	-0.001 (0.015)	-0.008 (0.013)	-0.008 (0.013)	-0.008 (0.013)	-0.008 (0.014)	-0.009 (0.013)	-0.010 (0.013)	-0.009 (0.013)	-0.009 (0.014)
FemaleXM-F difference in education	-0.024 (0.017)	-0.010 (0.020)	-0.025 (0.017)	-0.015 (0.020)	-0.024 (0.017)	-0.011 (0.020)	-0.022 (0.018)	-0.011 (0.021)	-0.024 (0.017)	-0.001 (0.022)	-0.024 (0.017)	-0.028 (0.018)	-0.027 (0.017)	-0.022 (0.020)

Table 4.2 Continued

Variable	Dependent variable: weight-for-height z-scores													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
<i>Household head characteristics</i>														
Age of household head	-0.003 (0.019)	0.000 (0.020)	-0.004 (0.019)	0.002 (0.021)	-0.003 (0.019)	-0.001 (0.019)	-0.003 (0.019)	0.002 (0.019)	-0.003 (0.019)	0.008 (0.021)	-0.003 (0.019)	-0.004 (0.018)	-0.003 (0.019)	-0.003 (0.020)
Age squared of household head	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Education of household head	0.005 (0.010)	0.008 (0.011)	0.006 (0.010)	0.005 (0.013)	0.005 (0.010)	0.007 (0.011)	0.006 (0.011)	0.010 (0.012)	0.006 (0.010)	0.010 (0.011)	0.006 (0.010)	0.006 (0.011)	0.006 (0.010)	0.009 (0.013)
N	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753
F	1.546	1.499	1.596	1.299	1.695	1.374	1.535	1.526	1.598	1.534	1.574	1.543	1.816	1.432
Hansen J p, Ho: instruments valid		0.150		0.147		0.255		0.148		0.389		0.059		0.178
Under ID test p, Ho: underidentified		0.000		0.007		0.039		0.000		0.001		0.000		0.361
Weak ID test stat (Kleibergen-Paap rk Wald F)		9.351		2.173		2.030		7.854		3.808		9.407		1.002
Anderson-Rubin, Ho: endogvars irrelevant														
A-R Wald test, p-value		0.043		0.043		0.043		0.043		0.043		0.043		0.043
A-R Wald Chi2 test, p-value		0.036		0.036		0.036		0.036		0.036		0.036		0.036
Endogeneity test p, Ho: exogenous		0.114		0.354		0.127		0.304		0.036		0.911		0.113

Source: Bangladesh Integrated Household Survey, 2011–2012 (A. Ahmed 2013).

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Table 4.3 Under-five children's weight-for-age z-scores and measures of male-female difference in empowerment

Variable	Dependent variable: weight-for-age z-scores													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Child characteristics														
=1 if female	0.012 (0.164)	0.073 (0.209)	0.035 (0.162)	-0.077 (0.295)	-0.001 (0.163)	0.130 (0.189)	0.040 (0.177)	0.268 (0.421)	0.012 (0.169)	0.354 (0.339)	-0.009 (0.162)	0.011 (0.173)	-0.001 (0.160)	-0.005 (0.190)
=1 if under 2 years old	-0.175 (0.117)	-0.172 (0.118)	-0.189 (0.117)	-0.165 (0.128)	-0.178 (0.117)	-0.210* (0.124)	-0.175 (0.117)	-0.163 (0.120)	-0.185 (0.117)	-0.179 (0.119)	-0.176 (0.117)	-0.184 (0.118)	-0.166 (0.116)	-0.201 (0.123)
Age in months	-0.029*** (0.010)	-0.029*** (0.010)	-0.029*** (0.010)	-0.029*** (0.010)	-0.029*** (0.010)	-0.032*** (0.010)	-0.029*** (0.010)	-0.027*** (0.010)	-0.029*** (0.010)	-0.027*** (0.010)	-0.029*** (0.010)	-0.030*** (0.010)	-0.028*** (0.010)	-0.031*** (0.011)
Age in months squared	0.000* (0.000)	0.000* (0.000)	0.000** (0.000)	0.000* (0.000)	0.000** (0.000)	0.000** (0.000)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000** (0.000)	0.000* (0.000)	0.000* (0.000)
=1 if child of WEAI respondent	-0.027 (0.156)	-0.010 (0.163)	-0.028 (0.157)	-0.041 (0.159)	-0.030 (0.156)	-0.042 (0.160)	-0.038 (0.156)	-0.044 (0.158)	-0.034 (0.156)	-0.024 (0.154)	-0.048 (0.157)	-0.033 (0.156)	-0.042 (0.156)	-0.026 (0.161)
Empowerment measures														
M-F difference in empowerment measure	0.026 (0.162)	0.267 (0.952)	-0.136** (0.064)	0.152 (0.602)	0.043 (0.042)	0.073 (0.279)	0.009 (0.019)	0.049 (0.084)	-0.003 (0.004)	0.011 (0.016)	-0.017 (0.020)	0.024 (0.078)	-0.040** (0.016)	0.057 (0.110)
M-F difference in age	-0.006 (0.013)	-0.007 (0.013)	-0.005 (0.013)	-0.006 (0.014)	-0.006 (0.013)	-0.006 (0.014)	-0.005 (0.013)	-0.005 (0.013)	-0.006 (0.013)	-0.006 (0.014)	-0.005 (0.013)	-0.006 (0.013)	-0.005 (0.013)	-0.007 (0.014)
M-F difference in education	0.004 (0.014)	0.002 (0.015)	0.005 (0.014)	0.002 (0.015)	0.003 (0.014)	0.001 (0.015)	0.003 (0.014)	-0.002 (0.017)	0.005 (0.014)	-0.004 (0.017)	0.004 (0.014)	0.003 (0.014)	0.006 (0.014)	0.001 (0.014)
Interaction of child sex with empowerment measures														
FemaleXM-F difference in empowerment	-0.188 (0.216)	-0.699 (1.271)	0.169** (0.083)	-0.233 (0.761)	-0.048 (0.056)	-0.501 (0.416)	-0.016 (0.024)	-0.088 (0.123)	-0.002 (0.005)	-0.035 (0.031)	-0.003 (0.028)	-0.044 (0.109)	0.025 (0.021)	-0.086 (0.215)
FemaleXM-F difference in age	-0.005 (0.015)	-0.004 (0.015)	-0.007 (0.015)	-0.004 (0.018)	-0.006 (0.015)	-0.003 (0.016)	-0.006 (0.015)	-0.006 (0.015)	-0.006 (0.015)	-0.005 (0.015)	-0.006 (0.015)	-0.005 (0.014)	-0.007 (0.015)	-0.005 (0.016)
FemaleXM-F difference in education	-0.020 (0.017)	-0.017 (0.018)	-0.023 (0.016)	-0.020 (0.017)	-0.021 (0.016)	-0.015 (0.018)	-0.020 (0.017)	-0.014 (0.020)	-0.022 (0.017)	-0.012 (0.019)	-0.021 (0.016)	-0.019 (0.018)	-0.023 (0.016)	-0.019 (0.018)

Table 4.3 Continued

Variable	Dependent variable: weight-for-age z-scores													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
<i>Household head characteristics</i>														
Age of household head	0.008 (0.018)	0.009 (0.019)	0.007 (0.018)	0.009 (0.020)	0.008 (0.018)	0.008 (0.019)	0.009 (0.018)	0.010 (0.019)	0.008 (0.019)	0.012 (0.020)	0.008 (0.018)	0.009 (0.018)	0.008 (0.018)	0.008 (0.019)
Age squared of household head	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Education of household head	0.031*** (0.009)	0.031*** (0.009)	0.031*** (0.009)	0.031*** (0.011)	0.030*** (0.009)	0.033*** (0.009)	0.031*** (0.009)	0.031*** (0.010)	0.031*** (0.009)	0.032*** (0.009)	0.031*** (0.009)	0.030*** (0.009)	0.031*** (0.009)	0.031*** (0.011)
N	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774
F	4.611	4.694	4.900	4.517	4.620	4.410	4.581	4.518	4.732	4.552	4.662	4.595	4.784	4.599
Hansen J p, Ho: instruments valid		0.604		0.603		0.758		0.652		0.687		0.634		0.652
Under ID test p, Ho: underidentified		0.000		0.005		0.038		0.000		0.003		0.000		0.427
Weak ID test stat (Kleibergen-Paap rk Wald F)		9.631		2.267		2.104		4.972		2.689		7.290		0.911
Anderson-Rubin, Ho: endogvars irrelevant														
A-R Wald test, p-value		0.709		0.709		0.709		0.709		0.709		0.709		0.709
A-R Wald Chi2 test, p-value		0.691		0.691		0.691		0.691		0.691		0.691		0.691
Endogeneity test p, Ho: exogenous		0.938		0.956		0.690		0.772		0.604		0.781		0.615

Source: Bangladesh Integrated Household Survey, 2011–2012 (A. Ahmed 2013).

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Children's Education

For younger children aged 6–10 years old (Table 4.4), the most notable results are in the asset ownership (IV model 4) and asset decisions (OLS model 5) specifications. We find that an increase in men's asset ownership (a higher gender gap) is correlated with more education for both boys and girls, whereas an increase in women's asset decisionmaking (smaller gender gap) is weakly correlated with an increase in education favoring boys. Relative bargaining power measured as male-female gaps in age and education are insignificant for boys' education. However, across all the specifications, we find a highly significant and positive effect of women's education and education among young girls.

For older children aged 11–17 years old (Table 4.5), we find that women's overall empowerment score and participation in groups (smaller gender gaps) are more likely to increase education for both boys and girls. Across all specifications, we also find that households where the primary female is more educated are also more likely to have more educated boys and girls, with much larger magnitudes for older children compared with younger children. This might suggest that, controlling for household wealth and husband characteristics, more educated women are able to negotiate in favor of keeping children in school until they are older.

For both children's age groups, the education of the household head is highly significant in predicting children's education outcomes, although the magnitudes are much higher for older children. Consistent with our findings on nutritional status, this could be reflecting a "wealth" effect, where households with better-educated heads can afford to invest in children's nutritional status and education.

Table 4.4 Education, deviation from cohort means, co-resident children aged 6–10 years

Variable	Dependent variable: education, deviation from cohort means, co-resident children 6–10 years													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Child characteristics														
=1 if female	0.097 (0.092)	0.065 (0.142)	0.107 (0.090)	0.285 (0.195)	0.102 (0.090)	0.118 (0.112)	0.055 (0.103)	-0.107 (0.271)	0.022 (0.098)	-0.058 (0.199)	0.099 (0.090)	0.081 (0.097)	0.101 (0.090)	0.210 (0.168)
Age in years	-0.095 (0.153)	-0.085 (0.155)	-0.087 (0.153)	-0.047 (0.169)	-0.091 (0.153)	-0.098 (0.170)	-0.087 (0.153)	-0.039 (0.167)	-0.085 (0.153)	-0.074 (0.155)	-0.091 (0.154)	-0.088 (0.156)	-0.091 (0.153)	-0.069 (0.258)
Age in years squared	0.006 (0.010)	0.005 (0.010)	0.006 (0.010)	0.003 (0.011)	0.006 (0.010)	0.006 (0.011)	0.005 (0.010)	0.002 (0.011)	0.005 (0.010)	0.004 (0.010)	0.006 (0.010)	0.005 (0.010)	0.006 (0.010)	0.004 (0.016)
=1 if child of WEAI respondent	0.181** (0.085)	0.191** (0.086)	0.185** (0.085)	0.214** (0.096)	0.181** (0.085)	0.213** (0.090)	0.185** (0.085)	0.206** (0.090)	0.183** (0.084)	0.180** (0.084)	0.184** (0.085)	0.179** (0.086)	0.185** (0.085)	0.023 (0.153)
Empowerment measures														
M-F difference in empowerment measure	0.038 (0.102)	-0.272 (0.509)	0.050 (0.043)	0.084 (0.338)	0.005 (0.028)	-0.066 (0.265)	0.001 (0.011)	0.107** (0.052)	-0.004* (0.003)	0.002 (0.010)	-0.008 (0.015)	-0.034 (0.071)	-0.008 (0.010)	0.317 (0.199)
M-F difference in age	-0.004 (0.007)	-0.003 (0.007)	-0.004 (0.007)	-0.002 (0.007)	-0.004 (0.007)	-0.004 (0.007)	-0.004 (0.007)	-0.001 (0.007)	-0.004 (0.007)	-0.003 (0.007)	-0.004 (0.007)	-0.003 (0.007)	-0.004 (0.007)	0.004 (0.010)
M-F difference in education	-0.002 (0.008)	-0.002 (0.008)	-0.001 (0.008)	0.005 (0.010)	-0.002 (0.008)	0.000 (0.010)	-0.001 (0.008)	0.002 (0.009)	-0.001 (0.008)	-0.002 (0.008)	-0.001 (0.008)	0.000 (0.009)	-0.001 (0.008)	-0.022 (0.021)
Interaction of child sex with empowerment measures														
FemaleXM-F difference in empowerment	0.079 (0.141)	0.280 (0.869)	0.014 (0.061)	0.773 (0.706)	0.019 (0.036)	-0.116 (0.347)	0.015 (0.014)	0.070 (0.076)	0.008** (0.003)	0.016 (0.017)	0.019 (0.019)	0.069 (0.082)	0.008 (0.014)	0.131 (0.299)
FemaleXM-F difference in age	-0.002 (0.008)	-0.003 (0.009)	-0.002 (0.008)	-0.010 (0.011)	-0.002 (0.008)	0.000 (0.009)	-0.002 (0.008)	-0.003 (0.008)	-0.002 (0.008)	-0.003 (0.008)	-0.002 (0.008)	-0.004 (0.008)	-0.002 (0.008)	-0.013 (0.013)
FemaleXM-F difference in education	-0.023** (0.011)	-0.024** (0.011)	-0.024** (0.011)	-0.034** (0.014)	-0.023** (0.011)	-0.020 (0.013)	-0.024** (0.011)	-0.028** (0.012)	-0.025** (0.011)	-0.026** (0.011)	-0.024** (0.011)	-0.027** (0.012)	-0.024** (0.011)	-0.007 (0.023)

Table 4.4 Continued

Variable	Dependent variable: education, deviation from cohort means, co-resident children 6–10 years													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
<i>Household head characteristics</i>														
Age of household head	-0.001 (0.012)	-0.002 (0.013)	-0.001 (0.012)	-0.002 (0.013)	-0.001 (0.012)	-0.004 (0.013)	-0.002 (0.013)	-0.012 (0.014)	-0.002 (0.012)	-0.002 (0.013)	-0.001 (0.013)	-0.002 (0.013)	-0.001 (0.012)	0.002 (0.019)
Age squared of household head	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Education of household head	0.029*** (0.006)	0.029*** (0.006)	0.027*** (0.006)	0.019* (0.010)	0.029*** (0.006)	0.028*** (0.006)	0.029*** (0.006)	0.027*** (0.007)	0.029*** (0.006)	0.029*** (0.006)	0.029*** (0.006)	0.028*** (0.006)	0.029*** (0.006)	0.023** (0.011)
N	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308
F	4.634	4.614	4.650	3.982	4.608	4.523	4.650	4.129	4.719	4.493	4.635	4.607	4.638	1.854
Hansen J p, Ho: instruments valid		0.014		0.087		0.021		0.236		0.029		0.015		0.968
Under ID test p, Ho: underidentified		0.000		0.478		0.182		0.001		0.000		0.000		0.153
Weak ID test stat (Kleibergen-Paap Wald F)		6.253		1.032		1.253		9.893		5.498		16.085		1.791
Anderson-Rubin, Ho: endogvars irrelevant														
A-R Wald test, p-value		0.010		0.010		0.010		0.010		0.010		0.010		0.010
A-R Wald Chi2 test, p-value		0.008		0.008		0.008		0.008		0.008		0.008		0.008
Endogeneity test p, Ho: exogenous		0.932		0.194		0.887		0.061		0.216		0.972		0.001

Source: Bangladesh Integrated Household Survey, 2011–2012 (A. Ahmed 2013).

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Table 4.5 Education, deviation from cohort means, co-resident children aged 11–17 years

Variable	Dependent variable: education, deviation from cohort means, co-resident children 11–17 years													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Child characteristics														
=1 if female	0.582*** (0.202)	0.752** (0.301)	0.576*** (0.204)	0.885** (0.360)	0.567*** (0.203)	0.575** (0.288)	0.428* (0.229)	1.488 (1.084)	0.405* (0.214)	0.333 (0.739)	0.569*** (0.203)	0.747*** (0.270)	0.567*** (0.203)	0.603* (0.334)
Age in years	-0.040 (0.690)	0.081 (0.701)	-0.037 (0.690)	0.286 (0.759)	-0.094 (0.690)	-0.093 (0.697)	-0.108 (0.691)	-0.093 (0.741)	-0.087 (0.691)	-0.075 (0.690)	-0.113 (0.691)	-0.013 (0.734)	-0.034 (0.694)	0.642 (1.396)
Age in years squared	0.002 (0.027)	-0.003 (0.027)	0.002 (0.027)	-0.010 (0.029)	0.005 (0.027)	0.005 (0.027)	0.005 (0.027)	0.004 (0.029)	0.004 (0.027)	0.004 (0.027)	0.005 (0.027)	0.001 (0.028)	0.002 (0.027)	-0.024 (0.054)
=1 if child of WEAL respondent	0.728*** (0.228)	0.673*** (0.233)	0.745*** (0.229)	0.753*** (0.230)	0.748*** (0.230)	0.746*** (0.232)	0.759*** (0.231)	0.743*** (0.281)	0.764*** (0.230)	0.769*** (0.243)	0.739*** (0.229)	0.744*** (0.243)	0.742*** (0.231)	0.729*** (0.249)
Empowerment measures														
M-F difference in empowerment measure	-0.443* (0.251)	-0.530 (1.554)	-0.154 (0.105)	-1.723** (0.683)	-0.037 (0.069)	-0.004 (0.457)	0.005 (0.026)	0.384* (0.201)	-0.006 (0.006)	-0.027 (0.045)	-0.055 (0.035)	0.361 (0.290)	0.019 (0.025)	0.302 (0.400)
M-F difference in age	0.001 (0.015)	-0.001 (0.015)	0.001 (0.015)	0.007 (0.016)	0.001 (0.015)	0.001 (0.015)	0.001 (0.015)	0.021 (0.021)	-0.000 (0.015)	-0.004 (0.017)	0.002 (0.015)	-0.007 (0.017)	0.001 (0.015)	-0.004 (0.018)
M-F difference in education	0.098*** (0.024)	0.102*** (0.026)	0.102*** (0.024)	0.123*** (0.028)	0.098*** (0.024)	0.099*** (0.027)	0.097*** (0.024)	0.092*** (0.029)	0.098*** (0.023)	0.096*** (0.024)	0.096*** (0.024)	0.125*** (0.033)	0.101*** (0.024)	0.132*** (0.049)
Interaction of child sex with empowerment measures														
FemaleXM-F difference in empowerment	-0.165 (0.338)	-1.880 (2.404)	0.024 (0.132)	0.943 (0.953)	-0.011 (0.086)	-0.036 (0.772)	0.037 (0.033)	-0.239 (0.284)	0.014 (0.008)	0.020 (0.061)	0.019 (0.045)	-0.456 (0.374)	-0.017 (0.031)	-0.284 (0.460)
FemaleXM-F difference in age	-0.000 (0.017)	0.008 (0.020)	-0.002 (0.017)	-0.004 (0.020)	-0.002 (0.017)	-0.002 (0.017)	-0.001 (0.017)	-0.014 (0.023)	-0.000 (0.017)	0.002 (0.020)	-0.003 (0.017)	0.006 (0.019)	-0.002 (0.017)	0.003 (0.021)
FemaleXM-F difference in education	0.013 (0.026)	0.023 (0.031)	0.013 (0.026)	0.016 (0.029)	0.012 (0.026)	0.013 (0.031)	0.011 (0.026)	0.018 (0.030)	0.010 (0.026)	0.010 (0.028)	0.010 (0.026)	0.047 (0.040)	0.014 (0.026)	0.040 (0.045)

Table 4.5 Continued

Variable	Dependent variable: education, deviation from cohort means, co-resident children 11–17 years													
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Empowerment score		Group membership		Credit decisions		Asset ownership		Asset decisions		Ladder score		Satisfaction score	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
<i>Household head characteristics</i>														
Age of household head	0.087** (0.043)	0.089** (0.043)	0.087** (0.043)	0.075* (0.043)	0.086* (0.044)	0.087* (0.048)	0.086* (0.044)	0.087* (0.053)	0.086** (0.043)	0.080* (0.045)	0.090** (0.043)	0.088* (0.046)	0.088** (0.044)	0.092** (0.045)
Age squared of household head	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.001)	-0.001* (0.000)	-0.001 (0.001)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)
Education of household head	0.146*** (0.014)	0.152*** (0.016)	0.149*** (0.014)	0.181*** (0.023)	0.145*** (0.014)	0.145*** (0.015)	0.143*** (0.014)	0.135*** (0.018)	0.144*** (0.014)	0.144*** (0.014)	0.146*** (0.014)	0.142*** (0.015)	0.145*** (0.014)	0.148*** (0.015)
N	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911	1,911
F	14.153	13.284	14.100	12.426	14.071	13.974	14.233	13.343	14.229	13.671	14.255	12.970	14.015	13.010
Hansen J p, Ho: instruments valid		0.001		0.006		0.000		0.007		0.000		0.001		0.001
Under ID test p, Ho: underidentified		0.000		0.013		0.017		0.224		0.010		0.004		0.828
Weak ID test stat (Kleibergen-Paap Wald F)		5.479		2.265		2.140		1.906		2.742		2.394		0.512
Anderson-Rubin, Ho: endogvars irrelevant														
A-R Wald test, p-value		0.000		0.000		0.000		0.000		0.000		0.000		0.000
A-R Wald Chi2 test, p-value		0.000		0.000		0.000		0.000		0.000		0.000		0.000
Endogeneity test p, Ho: exogenous		0.423		0.050		0.956		0.105		0.683		0.370		0.821

Source: Bangladesh Integrated Household Survey, 2011–2012 (A. Ahmed 2013).

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Table 4.6 Summary of regression results

Variable	Regression Results
Nutrition	
Height-for-age (Table 4.1)	When the gender gap in credit decisionmaking is smaller, girls are more likely to be taller than their reference age group. We also find that households led by a well-educated male household head are more likely to have taller children.
Weight-for-height (Table 4.2)	An increase in women's life satisfaction increases boys' weight-for-height, but less so for girls. A narrower male-female gap in asset decisionmaking is associated with better nutritional status for girls in the short run. It appears that higher involvement in groups by women relative to men may end up reducing girls' weight-for-height; this could point to excessive demands on women's time owing to participation in group activities, or possible backlash from men within the household.
Weight-for-age (Table 4.3)	An increase in women's participation in groups and life satisfaction relative to their husbands is likely to improve children's weight-for-age, although the results for group membership suggest that the effect is likely to favor boys rather than girls. Households led by a well-educated male household head are more likely to have children with higher weight-for-age than their reference age group.
Education	
Education of children aged 6-10 years (Table 4.4)	A higher gender gap in asset ownership is associated with more education for both boys and girls, whereas a smaller gender gap in asset decisionmaking is weakly correlated with an increase in education favoring boys. Women's education is seen to have a strongly positive association with the education of young girls. Households where the head is more educated are likely to invest more in child education.
Education of children aged 11-17 years (Table 4.5)	Smaller gender gaps in overall empowerment and participation in groups are more likely to increase education for both boys and girls. Households where the primary female and household head are more educated are also more likely to have more educated boys and girls.

Source: Authors.

5. CONCLUSION

Using a household bargaining framework, our analysis provides empirical evidence on the relationship between relative empowerment between men and women in the same household and children's nutrition and education outcomes in rural Bangladesh. Our primary goal is to understand whether and to what extent empowerment gaps between men and women within the household are associated with children's well-being, and whether these gender inequalities have differential effects on boys and girls. In addition to human resources brought to marriage as proxy measures of relative bargaining power, we use a new direct, survey-based index called the Women's Empowerment in Agriculture Index (WEAI), which assesses women's empowerment in five domains in agriculture. These domains include decisionmaking over production, ownership and decisions over resources, control over use of income, leadership in the community, and time use. Because the WEAI requires the same information for both the primary male and the primary female decisionmakers in the household, we are able to construct measures of intrahousehold disparities.

Our findings suggest that empowerment gaps are only weakly linked to children's nutrition, although significant differences exist between boys and girls depending on the empowerment measures used. Increasing women's decisionmaking over credit and assets is associated with improvements in girls' nutritional status (HAZ, WHZ), while increasing women's life satisfaction and participation in groups are associated with improvements in boys' nutritional status (WHZ, WAZ). Increasing men's asset ownership, women's participation in groups, and women's overall empowerment appear to increase schooling for primary school-aged boys and girls, although increasing women's asset decisions appears to favor boys. Younger girls aged 6–10 and older boys and girls aged 11–17 are also more likely to receive more education when women are more educated. Overall, the (male) household head's education is significantly associated with better nutrition and education outcomes for children. As our results on parental education suggest, men's empowerment may be reflecting a “wealth” effect that is invested in children's nutrition and education when they are young, while mothers' empowerment becomes more important in keeping children in school.

If households in rural Bangladesh act as one, following the unitary model, then all the measures of relative bargaining power should be insignificant. In general, our findings are mixed. Our results do suggest, however, that there is more consensus over investments in children's nutrition, especially for boys, perhaps reflecting common preferences between husband and wife on how sons should be raised, and the dependence of women on adult sons in their old age. There appears to be less consensus over investments in girls' schooling, where women's own education exerts a significant influence. Women's overall empowerment, group membership, and own education are especially significant in increasing schooling for secondary school-aged children, which suggests that both girls and boys are kept in school, and out of the labor force or marriage market, for longer. This is consistent with the literature documenting a strong positive association between women's status improvements in children's well-being (Quisumbing and Maluccio 2003; Bhagowalia et al. 2012; Allendorf 2007; Skoufias 2005; Ackerson and Subramanian 2008; Smith et al. 2003; Shroff et al. 2011; Quisumbing and Hallman 2003; van den Bold, Quisumbing, and Gillespie 2013; Cunningham et al. 2015), and justifies targeting programs toward improving women's bargaining position in the household.

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Women's Empowerment in Agriculture: What Role for Food Security in Bangladesh?

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Summary. — Using a nationally representative survey from Bangladesh, we examine the relationship between women's empowerment in agriculture, measured using the Women's Empowerment in Agriculture Index, and per capita calorie availability, dietary diversity, and adult body mass index (BMI). Accounting for potential endogeneity of empowerment, we find that increases in women's empowerment are positively associated with calorie availability and dietary diversity at the household level. Overall, household wealth, education, and occupation are more important than women's empowerment as determinants of adult nutritional status, although negative impacts of group membership and credit on male BMI suggest that intrahousehold trade-offs may exist.

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Key words — women's empowerment, gender parity, agriculture, food security, south Asia, Bangladesh

1. INTRODUCTION

While Bangladesh has experienced steady advances in food production through the adoption of agricultural technologies, chronic food insecurity remains a challenge. Similar to other countries in South Asia, there is a strong gender dimension to food insecurity and malnutrition in Bangladesh. In South Asia, the low status of women and gender gaps in health and education contribute to chronic child malnutrition (Smith, Ramakrishnan, Ndiaye, Haddad, & Martorell, 2003) and food insecurity (von Grebmer *et al.*, 2009), even as other determinants of food security, such as per capita incomes, have improved. Renewed interest in agriculture as an engine of inclusive growth and specifically in women's empowerment has highlighted the need to develop indicators for measuring women's empowerment, to examine its relationship to various food security outcomes, and to monitor the impact of interventions to empower women.

This paper presents how the recently developed Women's Empowerment in Agriculture Index (WEAI) (Alkire *et al.*, 2013) can be used to assess the extent of women's empowerment in agriculture, diagnose areas where gaps in empowerment exist, and examine the extent to which improvements in the underlying indicators in these areas can improve food security in rural Bangladesh. The WEAI is a new survey-based index that uses individual-level data collected from primary male and female respondents within the same households, and is similar in construction to the Alkire and Foster (2011) group of multi-dimensional poverty indices.

Although it was initially developed as a monitoring and evaluation tool for the US Government's Feed the Future programs, the WEAI has broader applicability as a diagnostic tool for policymakers, development organizations, and academics seeking to inform efforts to increase women's empowerment. The WEAI was developed and tested during 2011–12 using three country pilots in Bangladesh, Guatemala, and Uganda (Alkire *et al.*, 2013); this paper will represent the first time it is being calculated using a nationally representative survey.

Using nationally representative data from the 2012 Bangladesh Integrated Household Survey (BIHS) conducted by the

International Food Policy Research Institute, this paper examines the relationship between women's empowerment in agriculture and three measures of food security in rural Bangladesh, per capita calorie availability, household dietary diversity, and adult body mass index (BMI). We use six measures of women's empowerment—the aggregate women's empowerment score, based on the five domains of empowerment in agriculture (5DE)—as well as four individual indicators derived by decomposing the 5DE to identify in which of the five domains disempowerment is most acute, and using the specific indicators that comprise those domains. Our sixth measure, women's empowerment relative to men, is reflected by another component of the WEAI, the gender parity gap. Because empowerment itself is endogenous, we use instrumental variables (IV) regression to examine the relationship between various measures of women's empowerment and measures of household food security.

Increases in women's empowerment scores are found to increase both calorie availability and household dietary diversity. Empowerment gaps for women in rural Bangladesh are found to be greatest in terms of leadership in the community and control and access to resources. Analyzing these two

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domains further in terms of their component indicators, we find that the number of groups in which women actively participate and women's greater control of assets are positively associated with both food security outcomes. Narrowing the gap in empowerment between men and women within households is also positively associated with calorie availability and household dietary diversity, consistent with the growing literature arguing that reducing intrahousehold gender inequality contributes positively to household welfare. Most of the indicators for women's empowerment do not have any significant impact on adult BMI, suggesting that other factors, such as household wealth, education, and occupation, are more important determinants of adult male and female nutritional status. However, women's group membership and decision-making concerning credit are negatively and significantly associated with adult male BMI, suggesting possible trade-offs within the household. The impacts of women's empowerment appear to vary by household wealth, as proxied by the size of owned land. Our results suggest that the positive effect of the different dimensions of female empowerment on food security outcomes is greater for smaller landowners, that is, for less well-off households, pointing to the potential positive redistributive effect of focusing women's empowerment efforts on poorer households.

2. BACKGROUND

(a) *Agriculture, women's empowerment, and food security*

Agriculture is closely linked to food security, by providing a source of food and nutrients, a broad-based source of income, and by directly influencing food prices (Arimond *et al.*, 2010). Women account for 43% of the agricultural labor force in developing countries (FAO, 2011a); yet considerable gender bias exists in the agricultural sector, both in terms of quantities of assets, agricultural inputs and resources that women control (see Agarwal, 1994 on land in South Asia; Deere, Oduro, Swaminathan, & Doss, 2013 on assets; and Peterman, Behrman, & Quisumbing, 2010 on nonland inputs), as well as returns to those inputs (Kilic, Palacios-Lopez, & Goldstein, 2013). Similar to the recognition of women's contribution to agriculture worldwide, women's role in Bangladeshi agriculture tends to be underappreciated, owing to the commonly held view that women are not involved in agricultural production, especially outside the homestead, because of cultural norms that value female seclusion and undervalue female labor (Kabeer, 1994; Rahman, 2000). Nevertheless, participation of women in the agricultural sector has increased over time (Asaduzzaman, 2010, citing Bangladesh Bureau of Statistics, various years). During 1999–2000 and 2005–06, the number of employed persons in agriculture increased from 19.99 to 22.93 million—about 15%. For male labor, there has been an absolute decrease of about 6%, while for females the number has increased from 3.76 to 7.71 million—that is, by more than 100%. As a result of such changes, the proportion of women in the agricultural labor force has increased from less than 20% to 33.6% of the total. This is indeed a phenomenal change, although it is not yet clear how much of this change resulted from a true secular increase as opposed to better measurement of women's participation.

Women in poor households, who are at greater risk of being food-insecure, are more likely to be involved in the agricultural sector, particularly as wage laborers, because women's earnings are important to their families' subsistence. Zaman (1995) provides evidence that the gender division of labor in

agriculture is not as strictly demarcated as assumed, with women being involved in agricultural work both inside and outside the household. Rahman (2010) shows that female agricultural labor contributes significantly to productivity as well as technical efficiency, but finds, similar to Zaman (1995), that gender bias exists in the agricultural labor market. Remunerative employment of labor remains skewed in favor of men, since female labor is engaged only when the male labor supply is exhausted.

Women's ability to generate income in the agricultural sector is severely constrained by their limited use, ownership, and control of productive physical and human capital. Bangladeshi women are disadvantaged relative to men with respect to assets brought to marriage (Quisumbing & Maluccio, 2003), current productive assets (including land, livestock, and agricultural machinery) (Quisumbing, Roy, Njuki, Tanvin, & Waithanji, 2013), and human capital. Women lag behind in terms of education in Bangladesh—with more than one in three women having no schooling, compared to one in four men. A recent analysis also showed that lack of education in adult women in Bangladesh is a strong correlate of being “ultra-poor”: 80% of adult women with no education live below half a dollar a day (Ahmed, Hill, Smith, Wiesmann, & Frankenberger, 2007).

The rationale for paying attention to gender inequality in agriculture is rooted in a body of empirical evidence that demonstrates the ways in which women are essential to improvements in household agricultural productivity, food security, and nutrition security. Considerable evidence exists that households do not act in a unitary manner when making decisions or allocating resources (Alderman, Chiappori, Haddad, Hoddinott, & Kanbur, 1995; Haddad, Hoddinott, & Alderman, 1997). This means that men and women within households do not *always* have the same preferences nor pool their resources. The nonpooling of agricultural resources within the household creates a gender gap in control of agricultural inputs, which has important implications for productivity. Several empirical studies have found that redistributing inputs between men and women in the household has the potential for increasing productivity (Kilic *et al.*, 2013; Peterman *et al.*, 2010; Udry, Hoddinott, Alderman, & Haddad, 1995). A growing body of empirical evidence suggests that increasing women's control over resources has positive effects on a number of important development outcomes. For *Côte d'Ivoire*, Hoddinott and Haddad (1995) and Duflo and Udry (2004) find that increasing women's share of cash income significantly increases the share of household budget allocated to food. Doss (2006) shows that, in Ghana, women's share of assets, particularly farmland, significantly increases budget shares on food expenditure.

Considerable evidence also suggests that mothers' greater control over resources improves child outcomes—in particular, nutrition and education (Hallman, 2003; Quisumbing, 2003; Quisumbing & Maluccio, 2003; Skoufias, 2005). Although much of the abovementioned evidence has emerged from observational studies, a systematic review of programs targeting transfers to women (Yoong, Rabinovich, & Diepeveen, 2012) has found that these improve children's well-being, especially in the form of investments in children's health and education.

The linkages between women's *empowerment* and food security have been more difficult to quantify owing to the difficulty of measuring empowerment. Despite these difficulties, there is evidence that *disempowerment* in one of its most extreme forms—being a victim of intimate partner violence (IPV)—is associated with poor nutritional outcomes both for children

and their mothers. Ziaei, Naved, and Ekström (2012), using data from the 2007 Bangladesh Demographic and Health Survey (BDHS), investigate the association between women's exposure to IPV and their children's nutritional status. Of 2,042 women in the BDHS survey with at least one child under 5 years of age, 49.4% reported lifetime experience of physical partner violence, while 18.4% reported experience of sexual partner violence. They find that women were more likely to have a stunted child if they had lifetime experience of physical IPV or had been exposed to sexual IPV. A study based on a longitudinal dataset following up three sites in Bangladesh where agricultural technologies had been introduced found that experience of domestic abuse (particularly verbal abuse) had a significant negative impact on women's current BMI and on improvements in BMI over time (Quisumbing, Bhagowalia, Menon, & Soundararajan, 2009).

Current efforts to define and measure empowerment have drawn heavily on Kabeer's (1999) definition of empowerment as expanding people's ability to make strategic life choices, particularly in contexts in which this ability had been denied to them. In Kabeer's definition, the ability to exercise choice encompasses three dimensions: resources, agency, and achievements (well-being outcomes). The WEAI focuses on the "agency" aspect, which is far less studied than resources such as income, or achievements such as educational levels. Moreover, while nationally representative surveys such as some demographic and health surveys (DHS) include a range of questions about decisionmaking within the household, these are typically confined to the domestic sphere and do not encompass decisions in the productive and economic spheres, nor do the surveys have identical questions for men and women (Alkire *et al.*, 2013). The WEAI also departs from previous measures of women's empowerment in that it captures control over resources or agency within the agricultural sector, something which existing indices have not done.

(b) Measuring women's empowerment using the WEAI

The WEAI is an aggregate index, reported at the country or regional level, which is based on individual-level data on men

and women within the same households. The WEAI is a weighted average of two sub-indices: (1) the five domains of women's empowerment (5DE) and (2) gender parity (the Gender Parity Index, GPI).¹ The 5DE sub-index shows how empowered women are, capturing the roles and extent of women's engagement in the agricultural sector in five domains: (1) decisions over agricultural production, (2) access to and decisionmaking power over productive resources, (3) control over use of income, (4) leadership in the community, and (5) time use. Table 1 describes the five domains and their corresponding ten indicators. The 5DE assesses the degree to which women are empowered in these domains, and for those who are not empowered, the percentage of domains in which they are empowered. "Empowerment" within a domain means that the person has adequate achievements or has "achieved adequacy" for that domain (specific thresholds used to determine whether a person has adequate achievements will be discussed subsequently). Because the survey method goes beyond the traditional practice of interviewing only a household "head" (often a male) to interview both a principal male and principal female, 5DE measures can be computed for both the principal male and the principal female in a dual-adult household, although the 5DE component of the WEAI only includes women's 5DE. Computation of men's 5DE scores and their comparison to women's 5DE enables the comparison of the agricultural empowerment of men and women living in the same household. This comparison is embodied in the GPI (gender parity index), a relative inequality measure that reflects the inequality in 5DE profiles between the primary adult male and female in each household. The aggregate WEAI uses the mean GPI value of dual-adult households. GPI combines two key pieces of information: (1) the percentage of women who lack gender parity relative to their male-household counterparts and (2) the extent of the inequality in empowerment between those women who lack parity and the men with whom they live (see Alkire *et al.*, 2013 for details).

Both measures, taken together, make up the WEAI.² The aggregate index therefore shows the degree to which women are empowered in their households and communities (5DE)

Table 1. The five domains of empowerment in the WEAI

Domain	Indicator	Definition of indicator	Weight
Production	Input in productive decisions	Sole or joint decisionmaking over food and cash-crop farming, livestock, and fisheries	1/10
	Autonomy in production	Autonomy in agricultural production (e.g., what inputs to buy, crops to grow, what livestock to raise, etc.). Reflects the extent to which the respondent's motivation for decisionmaking reflects his/her values rather than a desire to please others or avoid harm.	1/10
Resources	Ownership of assets	Sole or joint ownership of major household assets	1/15
	Purchase, sale, or transfer of assets	Whether respondent participates in decision to buy, sell, or transfer his/her owned assets	1/15
	Access to and decisions on credit	Access to and participation in decisionmaking concerning credit	1/15
Income	Control over use of income	Sole or joint control over income and expenditures	1/5
Leadership	Group member	Whether respondent is an active member in at least one economic or social group (e.g., agricultural marketing, credit, water users' groups)	1/10
	Speaking in public	Whether the respondent is comfortable speaking in public concerning various issues such as intervening in a family dispute, ensure proper payment of wages for public work programs, etc.	1/10
Time	Workload	Allocation of time to productive and domestic tasks	1/10
	Leisure	Satisfaction with the available time for leisure activities	1/10

Source: Alkire *et al.* (2013).

and the degree of inequality between women and men in their households (GPI). Details regarding the construction and validation of the index can be found in [Alkire et al. \(2013\)](#). In this paper, we use individual measures of (women's) 5DE and its component indicators to investigate the relationship between women's empowerment in agriculture and food security; additionally, we examine the relationship between inequality in empowerment and food security in dual-adult households using the gender parity gap, a component of the GPI.

3. DATA, EMPIRICAL SPECIFICATIONS, AND VARIABLES

(a) Data

The Bangladesh Integrated Household Survey (BIHS) was designed and supervised by researchers at the International Food Policy Research Institute (IFPRI), including the authors of this paper, and conducted from December 2011 to March 2012. The BIHS sample is nationally representative of rural Bangladesh and representative of rural areas of each of the seven administrative divisions of the country. To estimate the total sample size of 5,503 households in 275 primary sampling units (PSUs), BIHS followed a stratified sampling design in two stages—selection of PSUs and selection of households within each PSU—using the sampling frame developed from the community series of the 2001 population census. In the first stage, a total sample of 275 PSUs were allocated among the seven strata (seven divisions) with probability proportional to the number of households in each stratum. Sampling weights were adjusted using the sampling frame of the 2011 population census.

The BIHS questionnaires include several modules that provide an integrated data platform to answer a variety of research questions, as well as separate questionnaires for self-identified primary male and female decisionmakers in sampled households. Our study relied primarily on information concerning household demographics, educational attainment, occupation and employment, food and nonfood consumption and expenditures, household-level agricultural production and livestock holding, household assets, housing and amenities, community infrastructure and facilities, individual anthropometric measurements, and a detailed module on the WEAI.

The BIHS sample consists of 1,608 nonfarm and 3,895 farm households; since the WEAI aims to measure agency in the agricultural sector, we restrict our analysis to farm households, including households relying on agricultural wage labor. The WEAI relies on information collected from both primary male and female adults in the household, and thus, our estimation samples depend on valid responses from these household members. For the household-level analysis using women's 5DE alone, we use data from the self-identified primary female adult. Of these data, 424 observations were dropped, because the primary female respondent was either unavailable on the day of the interview or did not respond to all of the WEAI survey questions. In addition, 192 observations were dropped because a female other than the primary female was interviewed, and six additional cases were dropped because of possible data entry errors in the demographic data. Our final estimation sample consists of 3,273 households. For the analysis that examines women's relative empowerment within the household, we restrict the analyses to households where both the primary male and female decisionmakers have

been interviewed, reducing our sample size to 3,213 households.

For the individual-level analysis using women's 5DE, BMI values were obtained for 3,150 primary adult males and 3,263 primary adult females from farm households. For the analysis examining women's relative empowerment using the gender parity gap, the sample sizes for men and women are reduced to 3,094 and 3,203, respectively.

(b) Empirical specification

To examine the relationship between women's empowerment in agriculture and household food security, we estimate the following equation:

$$\mathbf{f} = \beta_0 + \beta_1 \text{empowerment} + \beta_2 \mathbf{x} + \beta_3 \mathbf{h} + \beta_4 \mathbf{c} + \varepsilon, \quad (1)$$

where \mathbf{f} is a vector of food security outcomes, β_i are coefficients to be estimated, \mathbf{x} is a vector of individual-level characteristics, \mathbf{h} is a vector of household-level characteristics, \mathbf{c} is a vector of community or village characteristics, and ε is an error term.

In addition to the base regression described in Eqn. (1), we also examine how the relationship between women's empowerment in agriculture and household food security varies by the size of cultivable land owned by the household. We therefore estimate the augmented equation:

$$\begin{aligned} \mathbf{f} = & \beta_0 + \beta_1 \text{empowerment} + \beta_2 \ln(\text{landarea} + 1) \\ & + \beta_3 [\text{empowerment} \times \ln(\text{landarea} + 1)] + \beta_4 \mathbf{x} \\ & + \beta_5 \mathbf{h}_{\text{aug}} + \beta_6 \mathbf{c} + v, \end{aligned} \quad (2)$$

where β_3 represents the interaction effect of empowerment and land area, \mathbf{h}_{aug} is a vector of household-level characteristics excluding land, and v is an error term.³

We use two measures of women's empowerment in alternative specifications. In the first main specification, estimated for the full estimation sample, our measure of empowerment is the women's 5DE score; in the second main specification, estimated for a subsample of households in which we have both men's and women's empowerment scores, our measure of empowerment consists of the gender parity gap, computed by taking the difference between the men's and women's 5DE scores for households that do not have gender parity.⁴ Because it is likely that women's empowerment within the household might be affected by the same factors affecting the availability of food and dietary diversity, we apply standard instrumental variables techniques to correct for potential endogeneity bias, using the `ivreg2` procedure in Stata12 ([Baum, Schaffer, & Stillman, 2010; StataCorp., 2011](#)).

(c) Outcome variables

(i) Per capita calorie availability

A commonly used indicator for food security at the household level is calorie availability, constructed by converting quantities of food consumed into corresponding energy units. Food consumption data, covering around 300 food items, were collected at the household level. The data capture quantities consumed from market purchases, home production, and from other sources outside the house, e.g., relatives, government/nongovernment aid, or food received in exchange for labor. Agricultural seasonality is of concern when working with food consumption data, since lack of labor market activities during the lean season might affect household income, food expenditure, and consequently food consumption. The

survey period, however, does not coincide with any of the two lean seasons prevalent in Bangladesh, thus allaying concerns about seasonality. The 7-day data were converted to daily calorie equivalents and the resulting calorie values were divided by the household size to obtain per capita calorie availability values (Ahmed & Shams, 1994).⁵

(ii) Household dietary diversity

One of the criticisms of the use of calorie availability indicators is that they do not reflect the quality of foods available to households (Ruel, 2003). This is particularly relevant for developing countries where diets are heavily dependent on starchy staples, contain little animal products, and may be high in fats and sugars (Carletto, Zezza, & Banerjee, 2013). In recent years, household dietary diversity measures have gained importance as measures of household food security, especially as several studies have demonstrated a strong association between dietary diversity and household per capita consumption and daily caloric availability (Hatløy *et al.*, 2000; Hoddinott & Yohannes, 2002). Household dietary diversity is defined as the count of food groups consumed using the 7-day recall household food consumption data. Food was grouped into 12 categories: cereals, white tubers and roots, vegetables, fruits, meat, eggs, fish and other seafood, legumes and nuts, milk and milk products, oils and fats, sweets, and spices, condiments, and beverages (FAO, 2011b); this measure has been validated as a measure of household food security and is being increasingly used.

(iii) Adult BMI

Per capita calorie availability only measures what is available at the household level, given household size, but not its intrahousehold distribution or utilization by individuals. It is not a sufficient indicator of food energy deficiency, which requires comparing calorie availability against the energy requirement of households, which, in turn, depends on the age and sex composition of households, and their individual height, weight, and activity levels (Carletto *et al.*, 2013). Moreover, measures of short-term nutritional status, such as BMI, also reflect current energy expenditure, health status, and access to health services and sanitation (UNICEF, 1990). Gender disparities in BMI can be affected by the intrahousehold distribution of food, work effort, and health inputs; for women, BMI is also affected by pregnancy and lactation status. In the absence of data on activity levels, we use BMI values to indicate food energy deficiency. BMI values were calculated for the primary adult male and female decisionmakers and analyzed separately for men and women.

(d) Key independent variables

(i) Women's empowerment in agriculture index

To measure women's empowerment in agriculture, we use the WEAI, computed using individual-level data collected from primary male and female respondents within the same households.

Table 1 presents the five domains, which comprise ten indicators. Each domain is weighted equally, as are each of the indicators within a domain. The 5DE sub-index is a measure of empowerment that shows the number of domains in which women are empowered. A woman is defined as empowered in 5DE if she has adequate achievements in four of the five domains or is empowered in some combination of the weighted indicators that reflect 80% total adequacy. The five domains of empowerment are defined as follows:

(ii) Production

This domain concerns decisions over agricultural production, and refers to sole or joint decisionmaking over food and cash-crop farming, livestock, and fisheries, as well as autonomy in agricultural production.

(iii) Resources

This domain concerns ownership, access to, and decision-making power over productive resources such as land, livestock, agricultural equipment, consumer durables, and credit.

(iv) Income

This domain concerns sole or joint control over the use of income and expenditures.

(v) Leadership

This domain concerns leadership in the community, here measured by membership in economic or social groups and comfort in speaking in public.

(vi) Time

This domain concerns the allocation of time to productive and domestic tasks and satisfaction with the available time for leisure activities.

A key innovation of the Index is that it identifies the domains in which women are disempowered as well as the relative degree of disempowerment. We use the diagnostic results on the WEAI, which describes the overall pattern of women's disempowerment across the five domains in rural Bangladesh, to guide our choice of empowerment indicators. We first identify the key domains that contribute the most to disempowerment, and then within each key domain, identify the indicators that contribute the most to disempowerment. We then construct a continuous measure of empowerment that draws on the individual-level data for the identified indicators.

Figure 1 shows that the *leadership* and *resources* domains contribute the most to women's disempowerment in rural Bangladesh, while Figure 2 shows the contribution of each domain indicator. *Group membership* emerges as the indicator that contributes most to disempowerment in the leadership

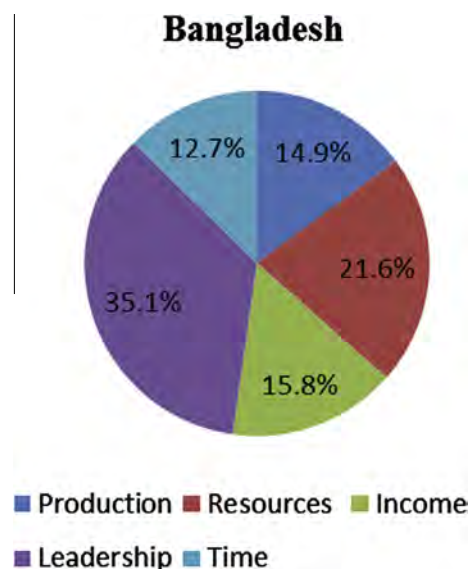


Figure 1. Contribution of each of the five domains to the disempowerment of women. Source: Sraboni, Quisumbing, and Ahmed (2013).

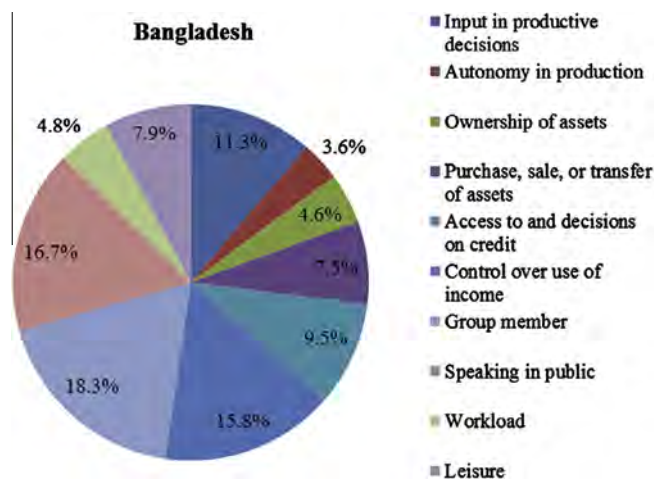


Figure 2. Contribution of each of the 10 domain indicators to disempowerment of women. Source: *Sraboni et al. (2013)*.

domain and *access to and decisions on credit* as the most critical indicator for the resources domain. The credit indicator, however, may be problematic, since it is not clear whether nonborrowers are truly credit constrained (they may not avail of credit because they have sufficient liquidity). In light of this issue, we also analyze the two other indicators for the resources domain, namely, *asset ownership* and *rights over assets*. Based on this information, we use the following alternative measures of empowerment.

Model 1: Aggregate empowerment score of primary female respondent is the 5DE empowerment score of the female respondent in the household, which is the weighted average of her achievements in the ten indicators that comprise the five domains of empowerment in agriculture. This measure is increasing in empowerment, and ranges from zero to one.

Model 2: (Leadership domain, Group membership indicator) Number of groups in which woman is an active member is the total number of groups in which the female respondent reports being an active member.

Model 3: (Resources domain, Access to and decisions on credit indicator) Average number of decisions, concerning credit, taken by female is the number of credit decisions that the female respondent has made solely or jointly, averaged over the lending sources used. For each of the five possible lending sources non-government organization (NGO), informal, formal, friends/family, and rotating savings and credit associations (ROSCAs), the survey asks who made the decision to borrow and who made the decision on how to use the money/item borrowed.

Model 4: (Resources domain, Asset ownership indicator) Number of assets woman has sole/joint ownership of is the total number of asset types for which the female respondent reports sole or joint ownership.

Model 5: (Resources domain, Rights over assets indicator) Number of sole/joint decisions, concerning purchase/sale/transfer of assets, taken by woman is the total number of decisions made solely or jointly by the female respondent, summed over all asset types. For each asset type, the survey asks who can decide whether to sell, give away, mortgage/rent, and purchase the asset.

Considerable evidence exists in support of the need to pay attention to intrahousehold gender inequality for attaining development objectives (*Alderman et al., 1995; Haddad et al., 1997; Quisumbing, 2003*). Therefore, it is interesting to examine whether women's *relative* empowerment within the

household is associated with household food security. The Gender Parity Index (GPI) is a composite index that reflects the percentage of women who have gender parity as well as the empowerment gap between men and women in households not having gender parity. Because we are interested in examining how differences between empowerment levels of men and women affect household food security outcomes, we use the gender parity gap component of the GPI as our measure of empowerment. Since we need both male and female scores to compute the gender parity gap, we use the smaller estimation sample of 3,213 households where both the primary male and female decisionmakers have been interviewed.

Model 6: Gender parity gap: According to *Alkire et al. (2013)*, a household enjoys parity if the woman is empowered or her empowerment score is greater than or equal to that of the male in her household. Thus, the gender parity gap is zero if the household enjoys gender parity. Otherwise, the gap equals the difference in the male and female aggregate empowerment scores.

(e) Instruments

We use the difference in ages between the primary male and female decisionmakers, and number of types of informal credit sources in the village as instruments for all of the empowerment indicators. The survey collected information on whether the following types of informal credit sources are present in the community—moneylender within/outside village, shopkeepers who offer credit, agricultural input dealers who sell on credit, and large farmers/traders who buy crops at a fixed forward price. We do not include formal credit sources, because obtaining credit from these sources typically require collateral (which could be correlated with household wealth and could directly affect the outcomes being considered), nor NGOs, because obtaining credit from NGOs is membership-based. The existence of a large number of informal credit sources could be indicative of both greater social capital within the community, which could influence a woman's decision to actively participate in a group, as well as the size of the informal credit market. The availability of a large pool of funds could thus facilitate decisionmaking concerning credit, and accumulation of assets by the borrowers. The differences in ages can reflect differences in human capital between the primary female and her spouse, and therefore reflect relative bargaining strengths (*Quisumbing & Hallman, 2005*).⁶

We also instrument empowerment scores, the gender parity gap as well as group membership using information on the number of community activities the woman participated in during the previous year; a woman who is more active in the community is more likely to be an active participant in groups. The survey collected information on whether the woman has contributed money or time to the following community activities—building/maintenance of small wells or irrigation facilities, roads, development projects, local mosque or other religious structure, helping out other families with childcare, agricultural labor, or care of a patient—during the previous year. The difference in recall period implies that the decision to participate in the mentioned activities was already given (exogenous) prior to the current decision to join (or maintain membership in) a group.

An additional variable—whether the homestead land has been inherited by the woman, is used to instrument for both ownership of and rights over assets. Inherited assets have been previously used as a bargaining measure in the literature (*Quisumbing 1994; Quisumbing & Maluccio, 2003*). While inherited land is arguably endogenous, inherited

homestead land is much less likely to be correlated with the error term.

(f) *Other independent variables*

Our analysis controls for a number of household and community characteristics, as well as individual characteristics for the BMI regressions. Household characteristics include age, age-squared, and years of schooling of the household head,⁷ household size, and proportion of males and females in various age groups (with males aged 60 and above as the excluded category). The occupation of the household head is accounted for using dummy variables for two types of primary occupation: farming and trading. We also include the price of rice as a control variable, since rice is the staple food in Bangladesh, accounting for a fifth of all spending of an average rural household, 35% of food expenditure, and 71% of total calorie intake (Ahmed *et al.*, 2013). The number of dairy cows owned by a household is expected to affect the food security outcomes through the pathway of production and consumption of milk and milk products, as well as household wealth. Three other variables are used as indicators of the socioeconomic status of the household: the amount, in decimals, of cultivable land owned by the household, a dummy for whether the household has access to electricity, and a dummy for whether it owns at least one tube well.⁸ Taken together these socioeconomic characteristics represent the most important assets owned by rural households in Bangladesh. We also include diversity in food crop production (that is, the total number of food crops produced by the household) as a regressor; if households consume some of the food that they produce, then more diverse agricultural production is expected to increase dietary diversity at the household level. A change in total number of food crops produced may also alter calorie availability of producer households through explicit or implicit changes in household income. A household's crop production decisions may be affected by the same factors that influence its calorie availability and dietary diversity, which could lead to endogeneity bias in our analysis. We use the following instruments at the farm level to identify food crop production diversity: (1) whether or not the soil type is clay-loam, (2) whether or not the soil type is sandy-loam, and (3) the percentage of cropped land that is irrigated. Division dummies are included to control for location-specific effects. For the regressions with adult male and female BMI as dependent variables, we include the age and years of education of the primary male and female. For the primary female, we add two dummy variables indicating whether she is pregnant or lactating. Summary statistics of all the variables used are presented in Table 2.

4. RESULTS

(a) *Women's empowerment and food security*

Tables 3–8 present the ordinary least squares (OLS) and two-stage least squares (2SLS) regression results for the determinants of household food security and individual nutritional status. IV diagnostics are presented at the end of each table. First-stage results are available upon request. We first discuss results on calorie availability and dietary diversity, and then discuss results on adult BMI.

For the regressions involving per capita calorie availability and household dietary diversity (columns 1–4), the Anderson-Rubin and endogeneity test results imply that the endogenous variables are relevant and in fact, endogenous. The overidentification and under-identification test results confirm

that the instruments are valid and the models identified. The Kleibergen-Paap *F*-statistics show that the null hypothesis for weak instruments is rejected at the 5% (Tables 3 and 6–8) and 10%-level thresholds (Table 4). However, the *F*-statistic in Table 5 fails to exceed the critical value of 4.79, which is associated with a bias relative to OLS of less than 30% (Stock & Yogo, 2005). This suggests that the instruments used for women's decisions on credit may be weak.

Columns 1 and 3 of Table 3 present the OLS coefficient estimates of the determinants of per capita calorie availability and household dietary diversity, respectively. These estimates show that the female empowerment score is highly significant and positively correlated with both these food security indicators at the household level. In columns 2 and 4, after instrumenting for both potentially endogenous variables (empowerment and food crop production), the estimates show a similar pattern, with the IV estimates being larger than the OLS estimates. These results, together with the good performance of the instruments in general, suggest that household diet diversity and per capita calorie availability increase if the primary female decisionmaker is more empowered; the larger IV coefficients suggest that neglecting endogeneity of empowerment may underestimate the impact of increasing women's empowerment on these food security outcomes.

Moving on to the individual indicators, in Table 4 we find that women's group membership is positively and significantly correlated with the calorie availability measures and dietary diversity. This implies that increasing the number of groups in which women actively participate has a positive impact on household food security outcomes. In Table 5, the OLS coefficient estimates (columns 1 and 3) for women's decisionmaking concerning credit are insignificant, but IV estimates emerge as positive and significant, suggesting that women's decisionmaking concerning credit is significant and positively correlated with the food security outcomes (columns 2 and 4). Since the weak-identification test results suggest that the instruments used for this particular model are weak, we take these results with caution. An underlying problem with using decisions on credit as an indicator of empowerment in this context is that wealthier people may not need to avail of credit (because they can self-finance) and that many microfinance activities are targeted to poorer women in Bangladesh.

The OLS and IV coefficient estimates of women's ownership of assets (presented in Table 6) and rights over assets (Table 7) are significantly positive, implying that female ownership of and control over major household assets has a role to play in improving household food security. Previous work in Bangladesh has demonstrated that greater resource control by women is associated with improved child health (Hallman, 2003); evaluations of the long-term impact of agricultural interventions have similarly showed that interventions targeted to women's groups have increased women's assets and improved nutritional status of women and girls (Kumar & Quisumbing, 2010).

Table 8 presents the regression results for the gender parity gap and food security outcomes. The OLS and IV coefficient estimates of the gender parity gap are significant and negative, implying that a reduction in the gap is associated with an increase in calorie availability and household dietary diversity. Reducing the gender gap in empowerment or improving women's relative empowerment is associated with greater food security at the household level, consistent with the existing literature on female bargaining power within the household and household welfare outcomes.

In most of the IV models, the effect of number of food crops produced by household on calorie availability at the

Table 2. *Summary statistics*

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
<i>Dependent variables</i>					
Per capita calorie availability	3,273	2,487	688	979	7,115
Per adult equivalent calorie availability	3,273	3,185	813	1,186	9,530
Household dietary diversity	3,273	9.54	1.58	4	12
Body mass index (BMI) of primary male respondent	3,150	20.13	2.74	12.65	32.79
Body mass index (BMI) of primary female respondent	3,263	20.75	3.36	12.94	34.69
<i>Empowerment variables</i>					
Empowerment score of woman	3,273	0.67	0.23	0.07	1
Number of groups woman is an active member of	3,273	0.33	0.49	0	3
Average number of decisions over credit	3,273	0.96	0.98	0	2
Number of assets woman has self/joint ownership of	3,273	1.96	1.50	0	10
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman	3,273	11.90	9.76	0	48
Gender parity gap	3,213	0.17	0.20	0	0.89
<i>Other controls</i>					
Age (in years) of household head	3,273	45.26	13.39	20	95
Age-squared of household head	3,273	2,228	1,303	400	9,025
Years of education of household head	3,273	2.97	3.82	0	16
Age (in years) of primary male respondent	3,150	45.27	13.42	20	95
Age-squared of primary male respondent	3,150	2,230	1,307	400	9,025
Years of education of primary male respondent	3,150	2.99	3.84	0	16
Age (in years) of primary female respondent	3,263	37.21	11.70	18	80
Age-squared of primary female respondent	3,263	1,522	949	324	6,400
Years of education of primary female respondent	3,263	2.93	3.42	0	16
Female respondent is pregnant (= 1, 0 otherwise)	3,263	0.04	0.18	0	1
Female respondent is lactating (= 1, 0 otherwise)	3,263	0.18	0.39	0	1
Household head is farmer (= 1, 0 otherwise)	3,273	0.31	0.46	0	1
Household head is trader (= 1, 0 otherwise)	3,273	0.08	0.27	0	1
Household size	3,273	4.36	1.57	2	17
Proportion of males 0–4 years old	3,273	0.05	0.10	0	0.6
Proportion of males 5–10 years old	3,273	0.07	0.12	0	0.6
Proportion of males 11–18 years old	3,273	0.07	0.12	0	0.67
Proportion of males 19–59 years old	3,273	0.25	0.14	0	0.75
Proportion of females 0–4 years old	3,273	0.05	0.10	0	0.6
Proportion of females 5–10 years old	3,273	0.07	0.12	0	0.5
Proportion of females 11–18 years old	3,273	0.07	0.12	0	0.6
Proportion of females 19–59 years old	3,273	0.28	0.12	0	0.75
Proportion of females 60 years and older	3,273	0.04	0.10	0	0.67
Number of food crops produced by household	3,273	1.27	1.42	0	11
Number of dairy cows owned	3,273	0.74	1.20	0	9
Price of rice (in taka)	3,273	29.90	3.38	20	50
Ln (owned cultivable land + 1)	3,273	0.70	1.55	0	6.98
Access to electricity (= 1, 0 otherwise)	3,273	0.44	0.50	0	1
Owens hand tube well (= 1, 0 otherwise)	3,273	0.25	0.43	0	1
Division dummy 1	3,273	0.06	0.23	0	1
Division dummy 2	3,273	0.10	0.29	0	1
Division dummy 3	3,273	0.29	0.45	0	1
Division dummy 4	3,273	0.14	0.35	0	1
Division dummy 5	3,273	0.20	0.40	0	1
Division dummy 6	3,273	0.16	0.37	0	1
<i>Instruments</i>					
Age difference (male–female)	3,273	8.08	4.60	–15	40
Types of informal credit sources in village	3,273	2.36	1.50	0	5
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)	3,273	0.46	0.50	0	1
Number of community activities woman has participated in during the previous year	3,273	0.86	1.18	0	7
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)	3,273	0.03	0.18	0	1
Clay-loam soil (= 1, 0 if otherwise)	3,273	0.28	0.45	0	1
Sandy-loam soil (= 1, 0 if otherwise)	3,273	0.18	0.38	0	1
% of land irrigated by household	3,273	46.26	42.29	0	100

Source: IFPRI Bangladesh Integrated Household Survey, 2011–12.

Table 3. Model 1: Women's empowerment score, household food security, and individual nutritional status outcomes

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Empowerment score of woman	235.364*** (47.705)	891.858*** (172.793)	0.493*** (0.120)	1.938*** (0.411)	-0.119 (0.212)	-0.447 (0.775)	-0.256 (0.264)	0.021 (0.885)
Age (in years) of household head	14.282** (6.178)	9.929 (6.644)	-0.010 (0.015)	-0.023 (0.016)				
Age-squared of household head	-0.110 (0.067)	-0.067 (0.072)	0.000 (0.000)	0.000 (0.000)				
Years of education of household head	8.639*** (3.284)	8.514** (3.347)	0.074*** (0.007)	0.072*** (0.008)				
Age (in years) of member					0.059** (0.030)	0.061** (0.031)	0.238*** (0.035)	0.239*** (0.036)
Age-squared of member					-0.001** (0.000)	-0.001** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
Years of education of member					0.118*** (0.015)	0.118*** (0.015)	0.119*** (0.021)	0.119*** (0.021)
Pregnant (= 1, 0 otherwise)							1.105*** (0.286)	1.123*** (0.286)
Lactating (= 1, 0 otherwise)							-0.861*** (0.184)	-0.850*** (0.185)
Household head is farmer (= 1, 0 otherwise)	79.132*** (26.165)	95.092*** (34.737)	0.220*** (0.064)	0.174** (0.081)	0.137 (0.122)	0.123 (0.148)	-0.040 (0.143)	0.077 (0.180)
Household head is trader (= 1, 0 otherwise)	39.311 (38.856)	15.330 (40.629)	0.547*** (0.097)	0.514*** (0.100)	0.977*** (0.213)	0.992*** (0.214)	0.452* (0.246)	0.419* (0.247)
Household size	-75.922*** (8.606)	-71.063*** (9.149)	0.078*** (0.020)	0.081*** (0.022)	0.073* (0.040)	0.069* (0.042)	0.035 (0.047)	0.046 (0.048)
Proportion of males 0-4 years old	-1,533.389*** (199.816)	-1,564.817*** (208.895)	0.396 (0.473)	0.400 (0.489)	0.020 (0.868)	0.045 (0.871)	0.181 (1.002)	0.056 (1.016)
Proportion of males 5-10 years old	-960.172*** (187.744)	-1,021.892*** (195.191)	0.379 (0.421)	0.284 (0.436)	0.605 (0.806)	0.636 (0.808)	1.050 (0.921)	0.971 (0.929)
Proportion of males 11-18 years old	-301.962 (185.377)	-363.127* (192.144)	-0.151 (0.414)	-0.275 (0.428)	0.215 (0.792)	0.244 (0.791)	1.518* (0.895)	1.486* (0.898)
Proportion of males 19-59 years old	165.236 (153.994)	163.044 (158.439)	0.542* (0.314)	0.534 (0.326)	1.220* (0.659)	1.216* (0.656)	1.854*** (0.676)	1.860*** (0.674)
Proportion of females 0-4 years old	-1,604.705*** (198.528)	-1,596.603*** (206.674)	0.495 (0.474)	0.599 (0.490)	0.137 (0.864)	0.141 (0.868)	0.705 (1.015)	0.579 (1.018)
Proportion of females 5-10 years old	-813.647*** (192.091)	-892.625*** (198.954)	0.573 (0.424)	0.425 (0.438)	0.964 (0.833)	1.005 (0.837)	0.610 (0.925)	0.546 (0.936)
Proportion of females 11-18 years old	-153.315 (199.495)	-260.023 (205.349)	0.498 (0.432)	0.267 (0.450)	0.273 (0.822)	0.328 (0.823)	1.637* (0.948)	1.590* (0.961)
Proportion of females 19-59 years old	30.101 (226.492)	-22.283 (232.903)	0.944* (0.501)	0.855* (0.519)	1.121 (1.012)	1.140 (1.011)	1.787 (1.098)	1.747 (1.095)
Proportion of females 60 years and older	-319.497 (250.737)	-357.407 (257.477)	0.300 (0.519)	0.254 (0.539)	1.040 (1.095)	1.055 (1.096)	2.269* (1.228)	2.210* (1.228)
Number of food crops produced by household	36.259*** (9.009)	24.510 (23.556)	0.075*** (0.020)	0.142** (0.057)	-0.086** (0.038)	-0.071 (0.102)	0.040 (0.047)	-0.087 (0.126)
Number of dairy cows owned	49.536*** (10.399)	44.001*** (11.409)	0.126*** (0.024)	0.095*** (0.026)	0.078* (0.044)	0.080* (0.048)	0.035 (0.057)	0.058 (0.060)
Price of rice (in taka)	-4.194 (3.952)	-1.502 (4.083)	0.021** (0.009)	0.027*** (0.010)	0.059*** (0.018)	0.057*** (0.018)	0.043** (0.022)	0.044** (0.022)
Ln (owned cultivable land + 1)	28.398*** (8.488)	29.720*** (8.678)	0.038** (0.017)	0.042** (0.018)	0.154*** (0.039)	0.153*** (0.039)	0.132*** (0.044)	0.132*** (0.044)
Owns hand tube well (= 1, 0 otherwise)	100.024*** (26.863)	45.094 (29.281)	0.286*** (0.063)	0.143** (0.070)	0.044 (0.122)	0.068 (0.135)	0.089 (0.146)	0.095 (0.160)
Access to electricity (= 1, 0 otherwise)	10.708 (22.838)	-14.117 (24.523)	0.411*** (0.056)	0.355*** (0.060)	0.512*** (0.105)	0.525*** (0.108)	0.626*** (0.127)	0.620*** (0.129)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2,691.208*** (219.368)	2,339.944*** (243.215)	7.291*** (0.530)	6.537*** (0.587)	15.248*** (1.015)	15.434*** (1.097)	11.971*** (1.179)	11.822*** (1.213)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	41.928	38.481	26.628	25.084	12.722	12.404	15.078	15.007
Adjusted R ²	0.275	0.230	0.175	0.130	0.113	0.112	0.106	0.103

(continued on next page)

Table 3—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Hansen J p, Ho: instruments valid		0.470		0.640		0.311		0.192
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		41.798		41.798		39.627		40.325
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.000		0.456		0.352
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.000		0.449		0.345
Endogeneity test p, Ho: exogenous		0.000		0.000		0.925		0.582
First stage Adjusted <i>R</i> ² (Empowerment score of woman)		0.180		0.180		0.181		0.183
First stage Adjusted <i>R</i> ² (Number of food crops produced by household)		0.314		0.314		0.310		0.313

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Estimates from base regression without interaction with land. Robust standard errors are in parentheses.

*** *p* < 0.01.

** *p* < 0.05.

* *p* < 0.1.

household level is insignificant, but a strong and significant positive association between crop diversity and dietary diversity is evident; the more food crops the households produce, the higher their dietary diversity. The number of dairy cows owned has a significant positive impact on both household food energy availability and household dietary diversity in all models. Rice price is not significantly associated with household level food energy availability, but is strongly and positively associated with the household-level dietary diversity. The latter finding is similar to that of [Rashid, Smith, and Rahman \(2011\)](#), who argue that households may respond to an increase in rice price by partially shifting consumption away from rice to other food items, which results in an increase in dietary diversity. Owned cultivable land is strongly associated with both household food energy availability and household dietary diversity in all models; larger areas of cultivable land may increase household-level calorie availability and dietary diversity both through an income or wealth effect, as well as by making available a larger stock of productive assets. However, the other two income-related variables—ownership of hand tube well and access to electricity—appear to significantly influence household-level food energy availability and dietary diversity only in certain models.

Consistent with the existing literature on human capital and household food security, the education of the household head has a positive and significant relationship with both calorie availability and dietary diversity. Having a household head whose primary occupation is farming significantly increases both calorie availability and dietary diversity in most of the regression models. The positive relationship between farming as the main occupation with both calorie availability and dietary diversity is consistent with our other result that diversity in agricultural production increases dietary diversity at the household level. Having a household head who is primarily involved in trade improves only dietary diversity, not calorie availability.

Household size has a significant negative impact on per capita calorie availability in all the regressions, but has a positive and significant correlation with diet diversity. Since a household member may have access to food from a variety of sources (home production, purchased outside

the house, received in exchange for labor, etc.), a larger household size may simply be a reflection of the greater variety in food consumption patterns as a result of having more people living in the household. Coefficients on demographic categories indicate that household demographic composition significantly affects calorie availability across different specifications of the empowerment variable, but only a few demographic categories significantly affect dietary diversity. In the (preferred) IV specification, households with a larger proportion of females between 19 and 59 years of age have more diverse diets; these coefficients are weakly significant in the specifications using the overall empowerment score and asset-based empowerment indicators.

For regressions involving male and female BMI, we fail to reject the exogeneity of women's empowerment and household crop production in the adult male and female BMI equations (columns 6 and 8); hence the OLS results (columns 5 and 7) are our preferred estimates for this sample.

Most of the indicators for women's empowerment do not have any significant impact on adult male (column 5 of [Tables 3 and 6–8](#)) and adult female BMI (column 7 of [Tables 3–8](#)), suggesting that other factors, such as household wealth, education, and occupation (discussed below), are more important determinants of adult male and female nutritional status. However, women's group membership and decisionmaking concerning credit are negatively and significantly associated with adult male BMI (column 5 of [Tables 4 and 5](#)). Taken together with our findings on calorie availability and dietary diversity, these results suggest that adults in households where the primary female has larger social networks and greater access to credit may have increased energy requirements beyond that which is provided by the increased access to food. The insignificant impacts on females and significant and negative impact on males may result from higher demands on male labor, resulting in higher activity levels and therefore greater energy deficiencies for men. Our findings on credit may also be reflecting poverty, given that credit is typically targeted to women in poor households. These hypotheses deserve further investigation in future work. We find that the number of food crops produced by the household has a strongly significant

Table 4. *Model 2: Women's group membership, household food security, and individual nutritional status outcomes*

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of groups woman is an active member of	39.109*	813.559***	0.109*	1.673***	-0.264**	-0.134	0.032	0.501
	(22.939)	(186.928)	(0.057)	(0.424)	(0.103)	(0.664)	(0.125)	(0.753)
Age (in years) of household head	15.426**	6.450	-0.008	-0.029*				
	(6.125)	(7.423)	(0.015)	(0.017)				
Age-squared of household head	-0.120*	-0.016	0.000	0.000*				
	(0.066)	(0.081)	(0.000)	(0.000)				
Years of education of household head	8.837***	11.529***	0.074***	0.078***				
	(3.304)	(3.922)	(0.007)	(0.009)				
Age (in years) of member					0.062**	0.060*	0.235***	0.231***
					(0.030)	(0.031)	(0.035)	(0.037)
Age-squared of member					-0.001**	-0.001**	-0.003***	-0.003***
					(0.000)	(0.000)	(0.000)	(0.000)
Years of education of member					0.117***	0.117***	0.118***	0.119***
					(0.015)	(0.015)	(0.021)	(0.021)
Pregnant (= 1, 0 otherwise)							1.105***	1.123***
							(0.285)	(0.284)
Lactating (= 1, 0 otherwise)							-0.856***	-0.853***
							(0.184)	(0.184)
Household head is farmer (= 1, 0 otherwise)	80.475***	201.120***	0.226***	0.387***	0.102	0.113	-0.030	0.166
	(26.353)	(51.229)	(0.064)	(0.114)	(0.122)	(0.193)	(0.144)	(0.234)
Household head is trader (= 1, 0 otherwise)	45.881	10.528	0.559***	0.509***	0.983***	0.980***	0.442*	0.395
	(39.175)	(50.801)	(0.097)	(0.115)	(0.212)	(0.214)	(0.246)	(0.249)
Household size	-77.840***	-82.949***	0.073***	0.056**	0.075*	0.074*	0.037	0.046
	(8.671)	(10.772)	(0.020)	(0.023)	(0.040)	(0.041)	(0.047)	(0.047)
Proportion of males 0-4 years old	-1,528.809***	-1,643.825***	0.402	0.245	0.053	0.042	0.137	-0.098
	(199.730)	(234.459)	(0.473)	(0.531)	(0.865)	(0.874)	(1.002)	(1.043)
Proportion of males 5-10 years old	-943.952***	-1,051.360***	0.410	0.234	0.633	0.619	1.007	0.839
	(187.720)	(220.073)	(0.421)	(0.477)	(0.802)	(0.809)	(0.921)	(0.950)
Proportion of males 11-18 years old	-289.250	-469.103**	-0.131	-0.483	0.274	0.243	1.479*	1.332
	(185.171)	(215.354)	(0.414)	(0.468)	(0.789)	(0.806)	(0.895)	(0.932)
Proportion of males 19-59 years old	164.890	141.817	0.540*	0.491	1.227*	1.226*	1.839***	1.792***
	(153.762)	(171.874)	(0.314)	(0.354)	(0.655)	(0.655)	(0.676)	(0.685)
Proportion of females 0-4 years old	-1,606.313***	-1,560.295***	0.494	0.674	0.124	0.141	0.685	0.521
	(198.999)	(234.269)	(0.474)	(0.525)	(0.860)	(0.864)	(1.015)	(1.024)
Proportion of females 5-10 years old	-791.767***	-913.201***	0.615	0.396	0.992	0.976	0.563	0.415
	(191.789)	(220.747)	(0.424)	(0.475)	(0.830)	(0.836)	(0.924)	(0.953)
Proportion of females 11-18 years old	-129.198	-408.405*	0.539	-0.021	0.355	0.307	1.572*	1.364
	(199.970)	(232.738)	(0.432)	(0.505)	(0.820)	(0.846)	(0.948)	(1.018)
Proportion of females 19-59 years old	45.373	-17.950	0.974*	0.873	1.134	1.129	1.760	1.666
	(226.539)	(255.454)	(0.500)	(0.549)	(1.009)	(1.008)	(1.097)	(1.104)
Proportion of females 60 years and older	-310.409	-390.661	0.316	0.193	1.074	1.061	2.240*	2.095*
	(250.924)	(283.066)	(0.518)	(0.575)	(1.092)	(1.099)	(1.228)	(1.251)
Number of food crops produced by household	38.339***	18.129	0.079***	0.133**	-0.086**	-0.078	0.037	-0.109
	(9.092)	(27.980)	(0.020)	(0.064)	(0.038)	(0.104)	(0.047)	(0.128)
Number of dairy cows owned	52.596***	69.454***	0.132***	0.147***	0.072*	0.073	0.034	0.071
	(10.426)	(14.079)	(0.024)	(0.031)	(0.044)	(0.050)	(0.057)	(0.064)
Price of rice (in taka)	-4.851	1.351	0.020*	0.033***	0.057***	0.058***	0.045**	0.048**
	(3.975)	(4.827)	(0.010)	(0.011)	(0.018)	(0.019)	(0.022)	(0.022)
Ln (owned cultivable land + 1)	28.612***	42.641***	0.038**	0.069***	0.149***	0.152***	0.134***	0.142***
	(8.513)	(10.334)	(0.017)	(0.021)	(0.039)	(0.040)	(0.044)	(0.047)
Owns hand tube well (= 1, 0 otherwise)	115.792***	32.833	0.316***	0.126	0.064	0.047	0.064	0.046
	(26.784)	(35.942)	(0.063)	(0.080)	(0.120)	(0.137)	(0.147)	(0.160)
Access to electricity (= 1, 0 otherwise)	18.498	-3.726	0.427***	0.381***	0.517***	0.512***	0.617***	0.607***
	(22.946)	(27.953)	(0.056)	(0.065)	(0.104)	(0.107)	(0.127)	(0.128)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2,818.102***	2,841.667***	7.558***	7.625***	15.178***	15.180***	11.868***	11.926***
	(220.021)	(256.485)	(0.529)	(0.592)	(1.004)	(1.000)	(1.180)	(1.188)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	40.377	29.168	25.837	21.037	13.151	12.488	15.092	14.952
Adjusted R ²	0.270	-0.017	0.171	-0.052	0.115	0.114	0.105	0.098

(continued on next page)

Table 4—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Hansen J p, Ho: instruments valid		0.247		0.914		0.151		0.137
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		9.545		9.545		9.059		9.782
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.000		0.296		0.255
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.000		0.289		0.249
Endogeneity test p, Ho: exogenous		0.000		0.000		0.900		0.524
First stage Adjusted <i>R</i> ² (Number of groups woman is an active member of)		0.106		0.106		0.108		0.106
First stage Adjusted <i>R</i> ² (Number of food crops produced by household)		0.321		0.321		0.317		0.320

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Estimates from base regression without interaction with land. Robust standard errors are in parentheses.

*** *p* < 0.01.

** *p* < 0.05.

* *p* < 0.1.

negative association with adult male BMI in all of the models, possibly because growing more crops increases the intensity of labor inputs in the field, which is primarily a male domain. Rice price is strongly and positively associated with male and female BMI in all models, possibly working through two pathways. First, an increase in the rice price would increase the income of net sellers of rice (who would typically be farming households), hence BMI of household members is expected to improve. Second, an increase in the rice price may also induce a shift toward higher quality diets, possibly from staple to protein-based diets.

Household wealth indicators such as owned cultivable land and access to electricity are strongly and positively associated with both male and female BMI in all models; however, the number of dairy cows has a positive and significant impact on adult male BMI only. Dairying is very intensive in female labor (Quisumbing *et al.*, 2013), although we do not find any significant impact on female BMI of dairy cow ownership.

The education of the primary male and female also has significant and positive impact on their BMI. Primary males and females also have higher BMIs in households where the primary male (household head) is engaged in trading, possibly because trading is less physically strenuous than farming. Household size is significantly and positively associated with male BMI in most of the models. Pregnancy and lactation status significantly affect women's BMI, with pregnant women having significantly higher BMI, but with lactating women having significantly lower BMIs. The latter finding highlights the biological demands of lactation, and indicates that lactating women are a nutritionally vulnerable group in the Bangladeshi context.

(b) Household wealth and the impact of women's empowerment on food security

There is suggestive evidence from India (Eswaran, Ramaswami, & Wadhwa, 2013) that the relationship between women's empowerment and status (as determined by caste and wealth) may not be positive. Using time allocation data, they show that women's market work relative to males is lower in the higher castes, suggesting that greater family status may result in lower autonomy for women. Because land is the most important asset for rural Bangladeshi households, we examine

how the relationship between women's empowerment in agriculture and household food security varies by the size of owned cultivable land. As shown in Eqn. (2) (Section 3b), we estimate the interaction effect of empowerment and land area, with selected regression results presented in Table 9. The IV diagnostics for the regressions involving calorie availability and dietary diversity (Models 1, 2, 4, and 6) show that while the results of the Anderson Rubin, overidentification, and underidentification tests deteriorate to some extent, the endogenous variables are still relevant, the null hypotheses of exogeneity can be rejected, the instruments remain valid, and the models are identified. However, for Models 3 and 5, we fail to reject the null that the model is under-identified; the weak-identification test results for Models 3, 4, and 5 suggest that our instruments are weak. For the regressions involving male and female BMI, we fail to reject the exogeneity of women's empowerment and household crop production in the adult male and female BMI equations; hence the OLS results (columns 5 and 7) are taken to be valid for this sample. Given the weak performance of the 2SLS estimates in Models 3, 4, and 5 in the regressions with interactions (compared to the base regression), we treat the results of the augmented regressions with the appropriate caveats, and focus on the discussion of the interaction terms rather than the main effects, for which the impacts are qualitatively similar to the base regressions.

The interactions of the women's empowerment indicators with the size of owned land are significant only in some of the models, and these results should also be taken with caution, given the performance of the instruments. Calorie availability tends to decrease in larger landowner households where women own more assets (column 2 of Model 4, Table 9) and diet diversity decreases in larger landowner households where women take more decisions concerning assets (column 4 of Model 5, Table 9).⁹ For households owning more land, women who are involved in a greater number of groups and make more decisions on credit tend to have lower BMI (column 7 of Models 2 and 3). With the appropriate caveats, these results appear to indicate that the positive effect of the different dimensions of female empowerment on food security outcomes is greater for smaller landowners, that is, for less well-off households. While these results are broadly consistent with the findings of Eswaran *et al.*

Table 5. *Model 3: Women's decisions on credit, household food security, and individual nutritional status outcomes*

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Average number of decisions over credit	-0.127 (11.102)	806.335** (313.472)	-0.020 (0.028)	0.940* (0.543)	-0.135*** (0.051)	-0.580 (0.771)	-0.059 (0.061)	-0.882 (0.991)
Age (in years) of household head	15.914*** (6.135)	-17.073 (16.396)	-0.006 (0.015)	-0.049* (0.028)				
Age-squared of household head	-0.126* (0.066)	0.224 (0.175)	0.000 (0.000)	0.001* (0.000)				
Years of education of household head	8.713*** (3.304)	17.340*** (6.538)	0.073*** (0.007)	0.082*** (0.011)				
Age (in years) of member					0.064** (0.030)	0.082* (0.045)	0.238*** (0.035)	0.280*** (0.060)
Age-squared of member					-0.001** (0.000)	-0.001** (0.000)	-0.003*** (0.000)	-0.004*** (0.001)
Years of education of member					0.116*** (0.015)	0.111*** (0.017)	0.117*** (0.021)	0.115*** (0.022)
Pregnant (= 1, 0 otherwise)							1.099*** (0.286)	1.017*** (0.328)
Lactating (= 1, 0 otherwise)							-0.853*** (0.184)	-0.814*** (0.194)
Household head is farmer (= 1, 0 otherwise)	75.134*** (26.390)	307.092*** (112.967)	0.207*** (0.064)	0.380* (0.195)	0.108 (0.122)	-0.042 (0.287)	-0.048 (0.143)	-0.209 (0.371)
Household head is trader (= 1, 0 otherwise)	47.475 (39.196)	15.810 (68.466)	0.564*** (0.098)	0.552*** (0.116)	0.974*** (0.212)	0.994*** (0.214)	0.445* (0.246)	0.455* (0.257)
Household size	-77.518*** (8.636)	-58.839*** (16.989)	0.074*** (0.020)	0.087*** (0.028)	0.070* (0.040)	0.055 (0.049)	0.036 (0.046)	0.020 (0.057)
Proportion of males 0-4 years old	-1,523.630*** (199.666)	-2,048.095*** (390.761)	0.428 (0.474)	-0.103 (0.666)	0.095 (0.870)	0.415 (1.029)	0.186 (1.001)	0.729 (1.297)
Proportion of males 5-10 years old	-938.865*** (187.610)	-1,282.772*** (329.839)	0.432 (0.422)	0.074 (0.553)	0.646 (0.806)	0.846 (0.882)	1.048 (0.920)	1.494 (1.127)
Proportion of males 11-18 years old	-280.204 (185.283)	-735.363** (339.529)	-0.095 (0.415)	-0.622 (0.579)	0.291 (0.793)	0.588 (0.940)	1.528* (0.894)	2.076* (1.135)
Proportion of males 19-59 years old	166.093 (153.762)	99.133 (230.437)	0.545* (0.314)	0.462 (0.376)	1.228* (0.658)	1.254* (0.663)	1.859*** (0.676)	2.085*** (0.744)
Proportion of females 0-4 years old	-1,609.422*** (198.590)	-1,903.357*** (348.876)	0.491 (0.474)	0.250 (0.612)	0.178 (0.864)	0.366 (0.924)	0.712 (1.013)	1.026 (1.178)
Proportion of females 5-10 years old	-785.832*** (191.973)	-1,086.839*** (332.238)	0.639 (0.426)	0.313 (0.553)	1.003 (0.834)	1.197 (0.895)	0.600 (0.924)	0.997 (1.081)
Proportion of females 11-18 years old	-115.074 (199.732)	-477.554 (336.649)	0.588 (0.432)	0.160 (0.568)	0.317 (0.825)	0.535 (0.900)	1.620* (0.945)	2.092* (1.134)
Proportion of females 19-59 years old	48.339 (226.709)	-76.428 (354.347)	0.985** (0.501)	0.870 (0.592)	1.134 (1.011)	1.217 (1.027)	1.781 (1.098)	1.997* (1.176)
Proportion of females 60 years and older	-306.680 (251.198)	-560.668 (391.181)	0.332 (0.519)	0.078 (0.643)	1.088 (1.095)	1.291 (1.155)	2.277* (1.227)	2.694* (1.405)
Number of food crops produced by household	38.471*** (9.088)	-37.308 (54.556)	0.080*** (0.020)	0.108 (0.094)	-0.085** (0.038)	-0.021 (0.133)	0.038 (0.047)	0.022 (0.173)
Number of dairy cows owned	51.920*** (10.443)	91.177*** (24.800)	0.130*** (0.024)	0.153*** (0.043)	0.072* (0.044)	0.045 (0.064)	0.031 (0.057)	0.010 (0.083)
Price of rice (in taka)	-5.169 (3.988)	6.870 (7.605)	0.019* (0.009)	0.033** (0.014)	0.057*** (0.018)	0.051** (0.021)	0.043** (0.022)	0.031 (0.026)
Ln (owned cultivable land + 1)	27.889*** (8.524)	18.896 (13.731)	0.037** (0.017)	0.028 (0.022)	0.156*** (0.039)	0.161*** (0.040)	0.134*** (0.044)	0.138*** (0.045)
Owns hand tube well (= 1, 0 otherwise)	120.209*** (26.698)	30.360 (53.824)	0.331*** (0.063)	0.196** (0.090)	0.054 (0.121)	0.105 (0.158)	0.075 (0.146)	0.185 (0.183)
Access to electricity (= 1, 0 otherwise)	19.639 (22.978)	-37.329 (44.644)	0.431*** (0.056)	0.362*** (0.078)	0.520*** (0.104)	0.561*** (0.128)	0.622*** (0.127)	0.679*** (0.146)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2,816.747*** (220.321)	2,679.870*** (354.557)	7.557*** (0.529)	7.419*** (0.627)	15.210*** (1.006)	15.309*** (1.035)	11.863*** (1.181)	11.880*** (1.232)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	40.253	14.729	25.562	17.980	12.860	11.896	15.076	14.149
Adjusted R ²	0.269	-1.001	0.170	-0.168	0.115	0.090	0.106	0.051

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Table 4—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Hansen J p, Ho: instruments valid		0.592		0.397		0.244		0.263
Under ID test p, Ho: underidentified		0.031		0.031		0.012		0.032
Weak ID test stat (Kleibergen-Paap rk Wald F)		2.134		2.134		2.594		2.125
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.000		0.356		0.314
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.000		0.349		0.307
Endogeneity test p, Ho: exogenous		0.000		0.001		0.848		0.320
First stage Adjusted <i>R</i> ² (Average number of decisions over credit)		0.059		0.059		0.063		0.057
First stage Adjusted <i>R</i> ² (Number of food crops produced by household)		0.320		0.320		0.317		0.319

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Estimates from base regression without interaction with land. Robust standard errors are in parentheses.

*** *p* < 0.01.

** *p* < 0.05.

* *p* < 0.1.

Table 6. Model 4: Women's ownership of assets, household food security, and individual nutritional status outcomes

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Number of assets woman has self/joint ownership of	33.263*** (8.323)	146.085*** (33.343)	0.104*** (0.019)	0.178** (0.078)	0.032 (0.036)	-0.069 (0.148)	0.051 (0.043)	-0.137 (0.173)
Age (in years) of household head	14.621** (6.161)	10.146 (6.614)	-0.011 (0.014)	-0.018 (0.015)				
Age-squared of household head	-0.113* (0.067)	-0.068 (0.072)	0.000 (0.000)	0.000 (0.000)				
Years of education of household head	7.654** (3.257)	4.012 (3.452)	0.070*** (0.007)	0.066*** (0.008)				
Age (in years) of member					0.057* (0.030)	0.060** (0.030)	0.232*** (0.035)	0.248*** (0.037)
Age-squared of member					-0.001** (0.000)	-0.001** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
Years of education of member					0.117*** (0.015)	0.120*** (0.016)	0.114*** (0.021)	0.128*** (0.024)
Pregnant (= 1, 0 otherwise)							1.103*** (0.286)	1.126*** (0.287)
Lactating (= 1, 0 otherwise)							-0.849*** (0.184)	-0.870*** (0.186)
Household head is farmer (= 1, 0 otherwise)	76.609*** (26.218)	78.643** (34.327)	0.216*** (0.064)	0.115 (0.078)	0.139 (0.122)	0.136 (0.144)	-0.031 (0.143)	0.052 (0.175)
Household head is trader (= 1, 0 otherwise)	39.113 (38.802)	11.481 (41.059)	0.538*** (0.097)	0.545*** (0.099)	0.962*** (0.213)	0.995*** (0.220)	0.433* (0.246)	0.451* (0.249)
Household size	-75.261*** (8.512)	-67.855*** (9.154)	0.081*** (0.020)	0.078*** (0.021)	0.076* (0.040)	0.069 (0.043)	0.041 (0.046)	0.036 (0.050)
Proportion of males 0–4 years old	-1,519.595*** (199.323)	-1,503.062*** (208.246)	0.429 (0.473)	0.532 (0.479)	0.025 (0.868)	-0.005 (0.873)	0.121 (1.003)	0.138 (1.011)
Proportion of males 5–10 years old	-950.629*** (187.730)	-988.932*** (196.402)	0.387 (0.422)	0.413 (0.430)	0.595 (0.804)	0.599 (0.807)	0.982 (0.921)	1.067 (0.931)
Proportion of males 11–18 years old	-306.015* (185.826)	-392.922** (195.517)	-0.187 (0.414)	-0.230 (0.425)	0.191 (0.790)	0.239 (0.794)	1.440 (0.896)	1.620* (0.910)
Proportion of males 19–59 years old	162.392 (153.699)	149.777 (158.473)	0.532* (0.314)	0.520 (0.320)	1.228* (0.659)	1.211* (0.658)	1.825*** (0.675)	1.907*** (0.679)
Proportion of females 0–4 years old	-1,621.661*** (198.185)	-1,660.018*** (207.263)	0.447 (0.474)	0.530 (0.482)	0.137 (0.863)	0.152 (0.869)	0.641 (1.016)	0.719 (1.039)
Proportion of females 5–10 years old	-802.075*** (192.398)	-856.122*** (200.614)	0.581 (0.425)	0.577 (0.433)	0.945 (0.831)	0.966 (0.836)	0.536 (0.925)	0.648 (0.935)

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Table 6—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Proportion of females 11–18 years old	–158.353 (200.579)	–304.838 (210.733)	0.443 (0.432)	0.351 (0.451)	0.224 (0.820)	0.317 (0.827)	1.511 (0.949)	1.795* (0.981)
Proportion of females 19–59 years old	18.455 (227.380)	–81.933 (239.440)	0.889* (0.502)	0.856* (0.519)	1.108 (1.010)	1.135 (1.013)	1.712 (1.100)	1.892* (1.113)
Proportion of females 60 years and older	–343.769 (250.994)	–468.114* (261.353)	0.211 (0.520)	0.176 (0.539)	1.025 (1.094)	1.066 (1.098)	2.182* (1.231)	2.389* (1.256)
Number of food crops produced by household	35.492*** (9.097)	28.672 (23.999)	0.070*** (0.020)	0.183*** (0.056)	–0.090** (0.038)	–0.076 (0.102)	0.033 (0.047)	–0.058 (0.123)
Number of dairy cows owned	48.602*** (10.464)	36.671*** (12.087)	0.120*** (0.024)	0.089*** (0.026)	0.073* (0.044)	0.084* (0.049)	0.028 (0.057)	0.068 (0.061)
Price of rice (in taka)	–4.833 (3.957)	–3.687 (4.061)	0.020* (0.009)	0.021** (0.010)	0.060*** (0.018)	0.058*** (0.018)	0.045** (0.022)	0.042** (0.021)
Ln (owned cultivable land + 1)	27.584*** (8.533)	26.615*** (8.890)	0.035** (0.017)	0.037** (0.017)	0.154*** (0.039)	0.154*** (0.039)	0.133*** (0.044)	0.132*** (0.044)
Owns hand tube well (= 1, 0 otherwise)	110.866*** (26.577)	78.456*** (28.379)	0.299*** (0.062)	0.250*** (0.064)	0.025 (0.121)	0.052 (0.127)	0.053 (0.146)	0.131 (0.155)
Access to electricity (= 1, 0 otherwise)	12.291 (22.890)	–12.634 (25.116)	0.407*** (0.056)	0.389*** (0.059)	0.502*** (0.105)	0.520*** (0.108)	0.609*** (0.127)	0.644*** (0.130)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2,799.797*** (218.773)	2,743.056*** (226.553)	7.501*** (0.528)	7.488*** (0.535)	15.147*** (1.006)	15.254*** (1.017)	11.872*** (1.180)	11.805*** (1.177)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	41.121	37.357	27.427	24.975	12.792	12.437	15.119	14.884
Adjusted R ²	0.274	0.218	0.179	0.166	0.113	0.110	0.106	0.098
Hansen J p, Ho: instruments valid		0.574		0.518		0.277		0.343
Under ID test p, Ho: under-identified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		32.199		32.199		32.288		30.094
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, p-value		0.000		0.000		0.415		0.425
A-R Wald Chi ² test, p-value		0.000		0.000		0.407		0.418
Endogeneity test p, Ho: exogenous		0.001		0.013		0.755		0.206
First stage Adjusted R ² (Number of assets woman has self/joint ownership of)		0.128		0.128		0.132		0.135
First stage Adjusted R ² (Number of food crops produced by household)		0.320		0.320		0.316		0.319

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Estimates from base regression without interaction with land. Robust standard errors are in parentheses.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

(2013), they also point to the potential positive redistributive effect of focusing women's empowerment efforts on poorer households.

(c) Magnitudes of women's empowerment effects

Table 10 presents the elasticities of per capita calorie availability, household dietary diversity, and adult BMI with respect to the empowerment indicators and three household characteristics—number of food crops produced by household, years of education of household head, and area of cultivable land owned by household. Although the endogeneity tests lead to the rejection of the null hypothesis that the empowerment variables are exogenous, the IV diagnostics lead us to doubt the validity of our 2SLS estimates for some of the measures of empowerment.¹⁰ Moreover, although the empowerment indicators emerged as significant in the 2SLS

base regressions, because the elasticities computed from the 2SLS specification use predicted values of both the dependent and explanatory variables, the standard errors of the IV elasticities are quite large. These large standard errors lead to the inability to estimate elasticities precisely using the IV specification, and lead one to accept the null hypotheses that these elasticity estimates are insignificant, even if they are larger in magnitude than the OLS estimates. We therefore base our discussion of the elasticity estimates mostly on the OLS results, treating them as a lower bound, given the imprecision of the IV elasticity estimates. We find that the magnitude of the impact on calorie availability (column 1) and dietary diversity (column 3) of the overall empowerment score is the highest—a 10% increase in the empowerment score leads to a 6.3% increase in calorie availability and a 3.5% increase in dietary diversity in the OLS regressions. After controlling for the potential endogeneity

Table 7. Model 5: Women's rights over assets, household food security, and individual nutritional status outcomes

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman	5.737*** (1.243)	19.637*** (5.135)	0.018*** (0.003)	0.016 (0.013)	-0.005 (0.006)	0.002 (0.023)	0.006 (0.007)	0.002 (0.028)
Age (in years) of household head	13.646** (6.124)	8.675 (6.473)	-0.014 (0.015)	-0.017 (0.015)				
Age-squared of household head	-0.104 (0.066)	-0.056 (0.070)	0.000 (0.000)	0.000 (0.000)				
Years of education of household head	7.625** (3.255)	5.217 (3.368)	0.070*** (0.007)	0.069*** (0.008)				
Age (in years) of member					0.060** (0.030)	0.058* (0.031)	0.232*** (0.035)	0.238*** (0.038)
Age-squared of member					-0.001** (0.000)	-0.001** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
Years of education of member					0.119*** (0.015)	0.117*** (0.015)	0.115*** (0.021)	0.118*** (0.023)
Pregnant (= 1, 0 otherwise)							1.109*** (0.285)	1.125*** (0.286)
Lactating (= 1, 0 otherwise)							-0.850*** (0.184)	-0.848*** (0.187)
Household head is farmer (= 1, 0 otherwise)	71.321*** (26.184)	75.632** (34.346)	0.200*** (0.064)	0.102 (0.078)	0.144 (0.121)	0.146 (0.145)	-0.038 (0.142)	0.082 (0.175)
Household head is trader (= 1, 0 otherwise)	34.877 (39.204)	0.964 (43.539)	0.525*** (0.096)	0.554*** (0.101)	0.985*** (0.214)	0.966*** (0.225)	0.431* (0.247)	0.413 (0.254)
Household size	-74.161*** (8.566)	-64.884*** (9.564)	0.084*** (0.020)	0.075*** (0.022)	0.070* (0.040)	0.075* (0.045)	0.041 (0.046)	0.048 (0.051)
Proportion of males 0-4 years old	-1,546.846*** (199.041)	-1,615.209*** (206.383)	0.346 (0.471)	0.441 (0.479)	0.031 (0.868)	-0.001 (0.878)	0.102 (1.002)	0.037 (1.036)
Proportion of males 5-10 years old	-971.520*** (187.126)	-1,057.285*** (194.103)	0.324 (0.419)	0.382 (0.430)	0.618 (0.806)	0.583 (0.818)	0.974 (0.921)	0.955 (0.942)
Proportion of males 11-18 years old	-325.653* (185.415)	-437.470** (194.681)	-0.245 (0.412)	-0.219 (0.428)	0.239 (0.792)	0.194 (0.806)	1.437 (0.895)	1.469 (0.922)
Proportion of males 19-59 years old	166.953 (153.243)	169.525 (154.577)	0.546* (0.313)	0.542* (0.315)	1.214* (0.660)	1.224* (0.655)	1.839*** (0.675)	1.860*** (0.673)
Proportion of females 0-4 years old	-1,630.065*** (197.888)	-1,694.354*** (205.187)	0.422 (0.473)	0.532 (0.483)	0.153 (0.864)	0.125 (0.873)	0.650 (1.014)	0.560 (1.038)
Proportion of females 5-10 years old	-821.326*** (191.731)	-911.444*** (197.929)	0.523 (0.422)	0.564 (0.435)	0.978 (0.833)	0.939 (0.842)	0.530 (0.922)	0.532 (0.944)
Proportion of females 11-18 years old	-155.518 (199.050)	-253.923 (203.938)	0.455 (0.429)	0.470 (0.443)	0.281 (0.821)	0.244 (0.825)	1.542 (0.946)	1.578 (0.962)
Proportion of females 19-59 years old	16.339 (226.667)	-65.496 (234.410)	0.885* (0.498)	0.925* (0.512)	1.129 (1.013)	1.108 (1.011)	1.729 (1.097)	1.734 (1.104)
Proportion of females 60 years and older	-340.188 (250.662)	-427.584* (257.228)	0.224 (0.518)	0.279 (0.530)	1.052 (1.096)	1.026 (1.098)	2.203* (1.227)	2.193* (1.245)
Number of food crops produced by household	34.134*** (9.093)	8.077 (27.137)	0.066*** (0.020)	0.181*** (0.063)	-0.083** (0.038)	-0.098 (0.116)	0.033 (0.048)	-0.096 (0.140)
Number of dairy cows owned	47.587*** (10.465)	40.221*** (11.727)	0.117*** (0.024)	0.096*** (0.026)	0.081* (0.044)	0.078 (0.048)	0.028 (0.057)	0.058 (0.061)
Price of rice (in taka)	-4.737 (3.969)	-3.757 (4.057)	0.020** (0.009)	0.021** (0.010)	0.059*** (0.018)	0.060*** (0.018)	0.045** (0.022)	0.044** (0.021)
Ln (owned cultivable land + 1)	26.100*** (8.498)	21.487** (8.830)	0.031* (0.017)	0.034* (0.018)	0.155*** (0.039)	0.153*** (0.039)	0.132*** (0.044)	0.131*** (0.045)
Owns hand tube well (= 1, 0 otherwise)	117.479*** (26.503)	114.594*** (27.182)	0.320*** (0.062)	0.294*** (0.063)	0.036 (0.121)	0.036 (0.122)	0.065 (0.146)	0.097 (0.149)
Access to electricity (= 1, 0 otherwise)	12.156 (22.890)	-5.785 (24.534)	0.407*** (0.056)	0.408*** (0.059)	0.514*** (0.104)	0.506*** (0.108)	0.611*** (0.127)	0.618*** (0.129)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2,822.341*** (219.334)	2,832.715*** (222.547)	7.571*** (0.528)	7.593*** (0.530)	15.188*** (1.007)	15.178*** (0.999)	11.890*** (1.179)	11.841*** (1.178)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	41.058	37.590	28.025	25.513	12.761	12.490	15.086	15.011
Adjusted R ²	0.275	0.240	0.181	0.172	0.113	0.112	0.106	0.103

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Table 7—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hansen J p, Ho: instruments valid		0.061		0.131		0.251		0.259
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		23.334		23.334		23.340		21.822
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.000		0.415		0.425
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.000		0.407		0.418
Endogeneity test p, Ho: exogenous		0.012		0.070		0.941		0.386
First stage Adjusted R ² (Number of self/joint decisions over purchase, sale, or transfer of assets made by woman)		0.181		0.181		0.190		0.188
First stage Adjusted R ² (Number of food crops produced by household)		0.320		0.320		0.316		0.319

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Estimates from base regression without interaction with land. Robust standard errors are in parentheses.

*** *p* < 0.01.

** *p* < 0.05.

* *p* < 0.1.

Table 8. Model 6: Gender parity gap, household food security, and individual nutritional status outcomes

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	-163.834*** (52.646)	-1,282.089*** (256.600)	-0.401*** (0.133)	-2.583*** (0.601)	0.220 (0.241)	0.785 (1.110)	0.318 (0.301)	0.252 (1.242)
Age (in years) of household head	15.976** (6.217)	9.845 (7.016)	-0.009 (0.015)	-0.025 (0.016)				
Age-squared of household head	-0.126* (0.067)	-0.066 (0.076)	0.000 (0.000)	0.000 (0.000)				
Years of education of household head	9.238*** (3.330)	10.081*** (3.523)	0.074*** (0.007)	0.074*** (0.008)				
Age (in years) of member					0.056* (0.030)	0.059* (0.031)	0.238*** (0.036)	0.240*** (0.037)
Age-squared of member					-0.001** (0.000)	-0.001** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
Years of education of member					0.119*** (0.015)	0.118*** (0.015)	0.116*** (0.021)	0.117*** (0.021)
Pregnant (= 1, 0 otherwise)							1.159*** (0.294)	1.178*** (0.295)
Lactating (= 1, 0 otherwise)							-0.890*** (0.184)	-0.884*** (0.184)
Household head is farmer (= 1, 0 otherwise)	74.163*** (26.352)	84.660** (35.405)	0.223*** (0.064)	0.151* (0.082)	0.130 (0.122)	0.110 (0.146)	-0.038 (0.144)	0.056 (0.177)
Household head is trader (= 1, 0 otherwise)	43.092 (39.325)	4.451 (42.673)	0.556*** (0.099)	0.505*** (0.103)	0.940*** (0.213)	0.967*** (0.216)	0.488* (0.251)	0.464* (0.253)
Household size	-76.559*** (8.692)	-68.532*** (9.552)	0.073*** (0.020)	0.080*** (0.023)	0.063 (0.041)	0.057 (0.043)	0.038 (0.047)	0.047 (0.050)
Proportion of males 0–4 years old	-1,544.764*** (204.887)	-1,594.009*** (224.046)	0.474 (0.477)	0.468 (0.506)	-0.168 (0.877)	-0.123 (0.883)	0.146 (1.017)	0.059 (1.030)
Proportion of males 5–10 years old	-967.151*** (191.741)	-1,043.160*** (206.927)	0.439 (0.422)	0.343 (0.452)	0.488 (0.812)	0.531 (0.815)	1.195 (0.935)	1.147 (0.943)
Proportion of males 11–18 years old	-328.485* (190.186)	-425.453** (205.314)	-0.121 (0.418)	-0.292 (0.443)	0.011 (0.802)	0.057 (0.804)	1.566* (0.909)	1.553* (0.915)
Proportion of males 19–59 years old	142.865 (157.756)	135.830 (168.143)	0.590* (0.316)	0.579* (0.336)	1.176* (0.666)	1.171* (0.665)	1.886*** (0.688)	1.893*** (0.686)
Proportion of females 0–4 years old	-1,613.382*** (203.070)	-1,597.564*** (220.178)	0.525 (0.479)	0.662 (0.506)	0.013 (0.874)	0.026 (0.880)	0.617 (1.027)	0.517 (1.029)

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Table 8—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
Proportion of females 5–10 years old	–839.164*** (197.619)	–969.284*** (213.360)	0.582 (0.429)	0.363 (0.459)	0.869 (0.843)	0.935 (0.851)	0.697 (0.942)	0.663 (0.959)
Proportion of females 11–18 years old	–149.120 (204.730)	–289.433 (217.506)	0.553 (0.436)	0.291 (0.467)	0.237 (0.831)	0.304 (0.833)	1.522 (0.962)	1.511 (0.977)
Proportion of females 19–59 years old	8.155 (231.876)	–80.391 (248.583)	0.983* (0.506)	0.846 (0.541)	0.928 (1.017)	0.964 (1.017)	1.823 (1.112)	1.797 (1.111)
Proportion of females 60 years and older	–357.547 (256.315)	–435.890 (273.060)	0.310 (0.523)	0.206 (0.561)	0.781 (1.099)	0.814 (1.100)	2.409* (1.244)	2.367* (1.248)
Number of food crops produced by household	36.659*** (9.105)	40.145* (23.874)	0.080 (0.020)	0.195*** (0.057)	–0.080** (0.038)	–0.062 (0.100)	0.040 (0.048)	–0.067 (0.122)
Number of dairy cows owned	50.519*** (10.434)	44.513*** (11.663)	0.128*** (0.024)	0.095*** (0.026)	0.073* (0.044)	0.073 (0.048)	0.039 (0.058)	0.060 (0.060)
Price of rice (in taka)	–3.700 (3.868)	–0.469 (4.191)	0.021** (0.009)	0.028*** (0.010)	0.059*** (0.018)	0.057*** (0.018)	0.044** (0.022)	0.044** (0.022)
Ln (owned cultivable land + 1)	29.223*** (8.609)	35.044*** (9.058)	0.038** (0.017)	0.051*** (0.019)	0.154*** (0.039)	0.151*** (0.039)	0.134*** (0.045)	0.133*** (0.045)
Owns hand tube well (= 1, 0 otherwise)	110.282*** (26.994)	46.695 (30.367)	0.307*** (0.063)	0.157** (0.071)	0.046 (0.122)	0.073 (0.134)	0.062 (0.147)	0.083 (0.159)
Access to electricity (= 1, 0 otherwise)	12.421 (23.142)	–13.203 (25.453)	0.408*** (0.057)	0.357*** (0.061)	0.519*** (0.105)	0.532*** (0.108)	0.632*** (0.127)	0.632*** (0.129)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2,821.997*** (222.972)	3,085.689*** (245.743)	7.585*** (0.535)	8.115*** (0.585)	15.336*** (1.016)	15.220*** (1.036)	11.699*** (1.212)	11.699*** (1.269)
Observations	3,213	3,213	3,213	3,213	3,094	3,094	3,203	3,203
F	40.077	34.102	26.200	23.094	12.467	12.048	15.215	15.136
Adjusted R ²	0.270	0.170	0.173	0.091	0.111	0.110	0.107	0.106
Hansen J p, Ho: instruments valid		0.553		0.423		0.425		0.255
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		27.216		27.216		25.550		25.764
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, p-value		0.000		0.000		0.566		0.446
A-R Wald Chi ² test, p-value		0.000		0.000		0.559		0.439
Endogeneity test p, Ho: exogenous		0.000		0.000		0.860		0.646
First stage Adjusted R ² (Gender parity gap)		0.121		0.121		0.118		0.121
First stage Adjusted R ² (Number of food crops produced by household)		0.314		0.314		0.310		0.313

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Estimates from base regression without interaction with land. Robust standard errors are in parentheses.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

of empowerment and crop production diversity, the magnitudes are even higher; a 10% increase in the empowerment score leads to a 24% increase in calorie availability (column 2) and a 13.6% increase in dietary diversity (column 4), although as mentioned above, these elasticities are imprecisely estimated. Among the component indicators, the largest elasticities are with respect to women's rights over assets (0.027 for calorie availability and 0.022 for diet diversity) and women's ownership of assets (0.026 for calorie availability and 0.021 for diet diversity) for the OLS estimates.¹¹ We also find that most of the empowerment indicators have larger effects on calorie availability and dietary diversity than the selected household variables, for both OLS and IV estimates. For example, based on the OLS estimates, we find that a 10% increase in the assets owned by the woman has an effect of increasing calorie

availability by 2.6%. However, the same proportional increase in the number of food crops, years of education of household head, and area of land owned lead to respective increases of 1.8%, 0.09%, and 0.11% in calorie availability. The relative magnitudes of empowerment elasticities compared to household characteristics are similar for the IV elasticities.

The magnitudes of the effects of the empowerment indicators on adult BMI are relatively smaller than the effects on the other food security outcomes; the OLS elasticities range from 0.001 (effect of number of groups women is active in on female BMI) to 0.008 (effect of overall empowerment on female BMI). For both OLS and IV estimates, we also find that the impacts of various indicators of empowerment on BMI are relatively smaller than that of other household characteristics.

Table 9. *Estimates from household food security and individual nutrition status regressions with land interactions*

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (7)	2SLS (8)
<i>Model 1: Women's empowerment score</i>								
Empowerment score of woman	236.420*** (50.699)	878.890*** (184.769)	0.575*** (0.131)	2.244*** (0.460)	-0.222 (0.225)	-0.432 (0.841)	-0.253 (0.282)	-0.577 (0.948)
Ln (owned cultivable land + 1)	29.371 (23.518)	-3.467 (75.926)	0.113** (0.050)	0.181 (0.150)	0.059 (0.104)	-0.082 (0.312)	0.136 (0.131)	-0.494 (0.385)
Empowerment score of woman × Ln (owned cultivable land + 1)	-1.438 (31.270)	49.081 (112.493)	-0.112 (0.068)	-0.206 (0.219)	0.140 (0.141)	0.349 (0.460)	-0.005 (0.180)	0.926 (0.564)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	40.566	37.049	25.761	24.237	12.348	12.153	14.587	14.472
Adjusted R ²	0.274	0.225	0.176	0.122	0.113	0.112	0.105	0.093
Hansen J p, Ho: instruments valid		0.231		0.446		0.526		0.630
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		20.703		20.703		19.911		19.682
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, p-value		0.000		0.000		0.643		0.562
A-R Wald Chi ² test, p-value		0.000		0.000		0.633		0.551
Endogeneity test p, Ho: exogenous		0.000		0.000		0.962		0.192
<i>Model 2: Women's group membership</i>								
Number of groups woman is an active member of	48.466** (24.499)	692.446*** (170.405)	0.162*** (0.063)	1.719*** (0.433)	-0.301*** (0.109)	-0.320 (0.645)	0.173 (0.132)	-0.262 (0.758)
Ln (owned cultivable land + 1)	32.219*** (9.388)	32.722 (27.536)	0.059*** (0.018)	0.092* (0.053)	0.135*** (0.044)	0.111 (0.104)	0.189*** (0.049)	-0.042 (0.127)
Number of groups woman is an active member of × Ln (owned cultivable land + 1)	-15.431 (18.423)	34.626 (119.194)	-0.088** (0.038)	-0.101 (0.214)	0.061 (0.077)	0.165 (0.407)	-0.232** (0.091)	0.756 (0.519)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	39.023	30.405	25.014	20.564	12.741	12.188	14.875	13.992
Adjusted R ²	0.270	0.050	0.173	-0.045	0.115	0.114	0.107	0.063
Hansen J p, Ho: instruments valid		0.108		0.368		0.313		0.473
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		5.229		5.229		4.380		5.327
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, p-value		0.000		0.000		0.497		0.407
A-R Wald Chi ² test, p-value		0.000		0.000		0.485		0.394
Endogeneity test p, Ho: exogenous		0.000		0.000		0.992		0.117
<i>Model 3: Women's decisions on credit</i>								
Average number of decisions over credit	4.529 (11.728)	705.155*** (253.810)	-0.006 (0.031)	0.659 (0.462)	-0.112** (0.053)	-0.655 (0.718)	0.005 (0.066)	-1.139 (0.945)
Ln (owned cultivable land + 1)	33.918*** (12.219)	152.357* (88.380)	0.056** (0.023)	0.155 (0.132)	0.185*** (0.052)	0.289 (0.376)	0.217*** (0.062)	-0.003 (0.400)
Average number of decisions over credit × Ln (owned cultivable land + 1)	-6.854 (8.167)	-149.154 (97.669)	-0.022 (0.016)	-0.139 (0.147)	-0.034 (0.037)	-0.143 (0.411)	-0.094** (0.043)	0.160 (0.445)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
F	39.136	18.759	24.735	21.297	12.426	10.937	14.740	13.267
Adjusted R ²	0.269	-0.539	0.171	0.030	0.115	0.065	0.107	0.019
Hansen J p, Ho: instruments valid		0.334		0.032		0.415		0.533
Under ID test p, Ho: underidentified		0.269		0.269		0.452		0.190
Weak ID test stat (Kleibergen-Paap rk Wald F)		1.000		1.000		0.794		1.135
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, p-value		0.000		0.000		0.516		0.501
A-R Wald Chi ² test, p-value		0.000		0.000		0.506		0.490
Endogeneity test p, Ho: exogenous		0.000		0.029		0.878		0.279
<i>Model 4: Women's ownership of assets</i>								
Number of assets woman has self/joint ownership of	38.631*** (9.214)	174.917*** (35.279)	0.118*** (0.021)	0.231*** (0.083)	0.042 (0.039)	-0.012 (0.154)	0.066 (0.047)	-0.141 (0.183)
Ln (owned cultivable land + 1)	42.827*** (13.099)	156.687** (76.327)	0.074*** (0.029)	0.164 (0.112)	0.181*** (0.065)	0.311 (0.254)	0.175** (0.073)	-0.037 (0.333)
Number of assets woman has self/joint ownership of × Ln (owned cultivable land + 1)	-6.962 (4.683)	-59.385* (33.890)	-0.018* (0.010)	-0.058 (0.050)	-0.013 (0.024)	-0.075 (0.118)	-0.019 (0.028)	0.078 (0.150)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263

(continued on next page)

Table 9—continued

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>F</i>	39.678	34.728	26.469	24.045	12.349	11.876	14.717	14.383
Adjusted <i>R</i> ²	0.274	0.201	0.180	0.164	0.113	0.107	0.106	0.096
Hansen <i>J</i> p, Ho: instruments valid		0.703		0.243		0.465		0.580
Under ID test p, Ho: underidentified		0.010		0.010		0.008		0.013
Weak ID test stat (Kleibergen-Paap rk Wald <i>F</i>)		2.085		2.085		2.261		2.052
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.001		0.623		0.656
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.001		0.612		0.646
Endogeneity test p, Ho: exogenous		0.000		0.059		0.899		0.274
<i>Model 5: Women's rights over assets</i>								
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman	6.045*** (1.337)	23.091*** (5.225)	0.019*** (0.003)	0.027** (0.013)	−0.007 (0.006)	0.012 (0.023)	0.004 (0.007)	0.009 (0.028)
Ln (owned cultivable land + 1)	30.912** (12.666)	126.288 (78.503)	0.061** (0.027)	0.334* (0.184)	0.128** (0.060)	0.481* (0.284)	0.088 (0.068)	0.226 (0.405)
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman × Ln (owned cultivable land + 1)	−0.351 (0.789)	−7.580 (5.522)	−0.002 (0.001)	−0.022* (0.013)	0.002 (0.004)	−0.024 (0.020)	0.003 (0.004)	−0.007 (0.029)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263
<i>F</i>	39.768	35.436	27.011	22.323	12.319	11.515	14.612	14.541
Adjusted <i>R</i> ²	0.275	0.223	0.181	0.131	0.113	0.088	0.106	0.100
Hansen <i>J</i> p, Ho: instruments valid		0.165		0.316		0.583		0.474
Under ID test p, Ho: underidentified		0.238		0.238		0.134		0.234
Weak ID test stat (Kleibergen-Paap rk Wald <i>F</i>)		1.156		1.156		1.376		1.164
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.001		0.623		0.656
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.001		0.612		0.646
Endogeneity test p, Ho: exogenous		0.006		0.086		0.633		0.553
<i>Model 6: Women's gender parity gap</i>								
Gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	−161.629*** (54.641)	−1,335.018*** (281.034)	−0.380*** (0.145)	−2.855*** (0.694)	0.342 (0.258)	0.876 (1.227)	0.268 (0.321)	1.200 (1.361)
Ln (owned cultivable land + 1)	29.784*** (10.399)	37.863 (28.102)	0.044** (0.022)	0.040 (0.054)	0.186*** (0.050)	0.252** (0.114)	0.121** (0.058)	0.366*** (0.136)
Gender parity (= 0 if woman enjoys gender parity, "gap" if not) × Ln (owned cultivable land + 1)	−3.094 (37.327)	−14.139 (144.634)	−0.030 (0.076)	0.068 (0.296)	−0.174 (0.154)	−0.541 (0.576)	0.071 (0.211)	−1.285* (0.718)
Observations	3,213	3,213	3,213	3,213	3,094	3,094	3,203	3,203
<i>F</i>	38.725	32.434	25.290	22.113	12.065	11.746	14.718	14.468
Adjusted <i>R</i> ²	0.270	0.158	0.173	0.077	0.111	0.109	0.107	0.090
Hansen <i>J</i> p, Ho: instruments valid		0.473		0.213		0.607		0.770
Under ID test p, Ho: underidentified		0.000		0.000		0.000		0.000
Weak ID test stat (Kleibergen-Paap rk Wald <i>F</i>)		11.450		11.450		10.940		10.691
Anderson-Rubin, Ho: endogvars irrelevant								
A-R Wald test, <i>p</i> -value		0.000		0.000		0.689		0.640
A-R Wald Chi ² test, <i>p</i> -value		0.000		0.000		0.679		0.629
Endogeneity test p, Ho: exogenous		0.000		0.000		0.890		0.147

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011–12.

Note: Robust standard errors are in parentheses.

*** *p* < 0.01.

** *p* < 0.05.

* *p* < 0.1.

Although the results of the elasticities analysis point to the importance of women's empowerment in general, and women's asset ownership in particular, for improving household food security, they do not yield conclusive evidence that prioritizing women's empowerment alone should take precedence over improving other determinants of food security. The magnitudes of the elasticity estimates, even where significant, are small. Moreover, one must recognize

the limitations of elasticity analyses in general, because elasticities isolate the effects of a single variable, whereas food security is determined by the interaction of many variables, not just women's empowerment. This analysis also does not indicate, in practice, how increases in these underlying variables are to be achieved. Because our elasticity estimates were computed at the sample means, they may not be indicative of differential responses across the empowerment

Table 10. Elasticities of calorie availability, dietary diversity, and adult BMI with respect to empowerment indicators and other household characteristics

Variable	Per capita calorie availability		Household dietary diversity		Male BMI		Female BMI	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	OLS (5)	2SLS (6)	OLS (8)	2SLS (9)
Empowerment score of woman	0.063 ^{***} (0.013)	0.240 (224.877)	0.035 ^{***} (0.008)	0.136 (139.752)	-0.004 (0.007)	-0.015 (125.432)	-0.008 (0.009)	0.001 (138.552)
Number of groups woman is an active member of	0.005 [*] (0.003)	0.107 (118.956)	0.004 [*] (0.002)	0.058 (70.462)	-0.004 ^{**} (0.002)	-0.002 (52.659)	0.001 (0.002)	0.008 (57.681)
Average number of decisions over credit	-0.000 (0.004)	0.310 (584.159)	-0.002 (0.003)	0.094 (264.171)	-0.006 ^{***} (0.002)	-0.028 (179.205)	-0.003 (0.003)	-0.041 (221.669)
Number of assets woman has self/joint ownership of	0.026 ^{***} (0.007)	0.115 (126.640)	0.021 ^{***} (0.004)	0.037 (77.334)	0.003 (0.003)	-0.007 (68.572)	0.005 (0.004)	-0.013 (78.939)
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman	0.027 ^{***} (0.006)	0.094 (118.856)	0.022 ^{***} (0.004)	0.020 (75.924)	-0.003 (0.003)	0.001 (64.359)	0.004 (0.004)	0.001 (77.964)
Gender parity (= 0 if woman enjoys gender parity, "gap" if not)	-0.011 ^{***} (0.004)	-0.086 (83.338)	-0.007 ^{***} (0.002)	-0.045 (51.081)	0.002 (0.002)	0.007 (45.363)	0.003 (0.002)	0.002 (48.585)
<i>Range of elasticity estimates for other household characteristics</i>								
Number of food crops produced by household	0.017 ^{***} -0.020 ^{***} (0.005)	-0.019-0.021 (134.99-58.31)	0.009 ^{***} -0.011 ^{***} (0.003)	(0.018-0.026) (35.957-60.373)	-0.006 ^{**} -0.005 ^{**} (0.002)	-0.006-0.001 (31.487-36.018)	0.002-0.003 (0.003)	-0.007-0.001 (37.044-51.617)
Years of education of household head	0.009 ^{***} -0.011 ^{***} (0.004)	0.005-0.021 (19.39-36.018)	0.022 ^{***} -0.023 ^{***} (0.002)	0.021-0.026 (11.434-16.385)	0.017 ^{***} -0.018 ^{***} (0.002)	0.017-0.018 (10.652-12.662)	0.016 ^{***} -0.017 ^{***} (0.003)	0.016-0.018 (14.342-16.210)
Area of cultivable land owned by household (in decimals)	0.010 ^{***} -0.012 ^{***} (0.003)	0.008-0.017 (16.887-26.744)	0.003 [*] -0.004 ^{**} (0.002)	0.003-0.007 (8.864-11.183)	0.007 ^{***} -0.008 ^{***} (0.002)	0.008 (9.369-9.762)	0.006 ^{***} (0.002)	0.006-0.007 (10.255-10.844)
Observations	3,273	3,273	3,273	3,273	3,150	3,150	3,263	3,263

Source: Estimated by authors using data from the IFPRI Bangladesh Integrated Household Survey, 2011-12.

Note: Calculated from base regressions without land interactions, and evaluated at the mean. Robust standard errors are in parentheses. For analyses involving the gender parity variable, the number of observations is reduced to 3,213 for calorie availability and household dietary diversity, 3,094 for male BMI, and 3,203 for female BMI.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

or wealth distribution. This can be explored in future work.

5. CONCLUSIONS AND POLICY IMPLICATIONS

This paper has demonstrated that the recently developed WEAI can be used not only to assess the extent of women's empowerment in agriculture, but also to identify areas where the gaps in empowerment are greatest. By decomposing the WEAI into its component domains and indicators, we have identified that the domains of leadership in the community and control of resources are the most promising areas for policy intervention. Our analysis has also highlighted the importance of increasing the number of groups in which women actively participate and increasing women's control of assets. To what extent are the strategic and programmatic priorities of government and civil society aligned with closing empowerment gaps, specifically in these areas of greatest disempowerment? Because the NGO sector has emerged as an important alternative delivery channel for social services, and provides complementary avenues for poor women to access basic services alongside state-run services (Nazneen, Hossain, & Sultan, 2011), we consider both government and civil society initiatives in answering this question.

These empowerment gaps must be taken in the context of the country's impressive gains in women's health and girls' education relative to comparator countries in the past two decades (Nazneen *et al.*, 2011), with rapid reduction in fertility rates, infant and child mortality, and maternal mortality, and the closing of the gender gap in primary and secondary enrollment. Women's economic and social advancement are also stated goals of public policy, falling under the purview of the Ministry of Women and Children Affairs (MOWCA). In assessing progress in implementing the government's policy commitments to gender equality, the MOWCA (2010) found that the greatest emphasis of government ministries was on improving the gender balance of staff and working conditions of women. However, less than a third of the ministries (14 out of 47 responding to a questionnaire) identified economic advancement as a programmatic area, and within this area, women's economic participation in the labor force was emphasized, not increasing control over assets or income derived from economic activities. Protection of legal rights focused on birth registration, eliminating child labor, and combating early marriage and dowry-related violence, not on equal rights to own assets. The only program that explicitly mentioned strengthening women's rights to assets was a program of the Ministry of Land that leased out *khash* (government-owned) land to wives and husbands on an equal rights basis in the Model Village and Cluster Village Project (MOWCA, 2010, p. 42).

With regard to leadership in the community, despite the two top political leaders being women, Bangladeshi women in general have fared far less well with respect to participation in national politics than women in comparator countries (Nazneen *et al.*, 2011, p. 12). The established political parties have tended to focus on conventional and uncontroversial women's issues such as maternal healthcare, girl's education, political participation, violence against women in the public sphere, and certain forms of domestic violence such as dowry-related violence (Nazneen *et al.*, 2011, p. 24). Policy documents and pronouncements on strengthening women's leadership in the community are quite vague, although

MOWCA (2011, authors' translation) mentions the role of District Women Affairs Officers and Upazilla Women Affairs Officers in implementing programs undertaken for the development of women in the economic advancement ministries, as well as a move to organize women into self-sustained groups at the village and union levels, with the possibility of registering these groups as formal organizations under different government organizations.

Donor policy documents do not highlight women's participation in mass party politics as a route to women's empowerment, but make greater reference to working with civil society as a route to strengthening women's voice at the local levels (Nazneen *et al.*, 2011). Nevertheless, civil society efforts need a supportive policy environment to be effective, and often work against deep-seated economic and social barriers to women's empowerment. While NGOs have been active in increasing their membership base among poor rural women, women with more bargaining power within their households (owing to greater schooling or assets brought to marriage) are more likely to participate in NGOs (Quisumbing, 2009). Group-based efforts have often been unable to reach the ultra-poor, because many group-based activities, such as those in microfinance, require a minimum level of resources for participation, such as funds for the compulsory savings requirements.

Long-seated systems of property rights that favor men in terms of inheritance, and the difficulty that women face in accumulating assets that they can control, need to be addressed so that women can build up their control of assets. This suggests that reforms of inheritance and property rights law more broadly, and specific interventions to increase women's control of assets, would be important parts of the policy agenda to reduce gender inequality. These could include targeted asset transfers to poor women (similar to those implemented by BRAC through its Targeting the Ultra Poor [TUP] Program) as well as efforts to improve women's access to financial instruments (both savings and credit) so they can accumulate assets. However, even if assets are transferred to women, a recent impact evaluation of BRAC's TUP program shows that there is no guarantee that they will retain control of the transferred assets or other assets acquired from incomes generated from the transferred assets (Das *et al.*, 2013). While the National Women's Development Policy formulated by the Ministry of Women and Children Affairs aims to "ensure full control of women of the property earned through own labor, inheritance, debt, land and market management" (MOWCA, 2011, authors' translation), it does not offer specific pronouncements about efforts to reform property law to improve gender equity. Our finding that not only absolute empowerment, but the relative empowerment of women within households, also positively affects household food security provides additional support for policies to narrow the gender gap in Bangladesh.

Our results also highlight the importance of investing in the agricultural sector as a whole to increase production diversity. The BIHS results show that about 77% of the total cropped area in Bangladesh is under rice cultivation, implying very little crop diversity (Ahmed *et al.*, 2013). Significant advances in agricultural research have focused mainly on rice. Our findings call for increased investment in agricultural research to enhance productivity of nonrice food crops such as pulses, vegetables, and fruits. The positive impacts of tube-well ownership and access to electricity also suggest that investments in complementary infrastructure will be important to

increase household-level food energy availability and dietary diversity. Lastly, continued investments in schooling, particularly of women and girls, will be important not only to

increase food security, but also to narrow the gender gap in human capital.

NOTES

1. This description draws from Alkire *et al.* (2013).
2. The WEAI is a weighted sum of the 5DE and GPI with weights 0.9 and 0.1, respectively.
3. We add the integer 1 to the land area variable to avoid losing observations for households that do not own land but are involved in agriculture, such as cultivators who rent in land or agricultural wage laborers.
4. As discussed below, the gender parity gap is equal to zero if the women's score is equal to or exceeds the man's 5DE score.
5. Alternatively, calorie availability can be expressed in terms of per adult equivalents. Results for both per capita and per adult equivalent calorie availability are qualitatively similar, hence we focus our discussion on the per capita indicator. Results for per adult equivalent calorie availability are available upon request.
6. For households where information on the woman's spouse was not available (in female-headed households—where the male spouse is a

- migrant, or the female is widowed/separated), we considered the age difference to be zero.
7. The household head is the self-identified primary decisionmaker (in most cases, male) in the sample household.
 8. 100 decimals = 1 acre.
 9. However, both of these regressions have weak instruments, and the model is underidentified in the diet diversity regression with land interactions.
 10. For Models 2 and 3 (group membership and credit decisions, respectively), instruments are weak in the calorie availability and diet diversity regressions; in Model 5 (women's rights over assets), the Hansen J test rejects the null hypothesis that instruments are valid in the calorie availability regression.
 11. For the 2SLS elasticities, the largest are with respect to credit, however, the instruments are weak.

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APPENDIX A

(see Tables 11–17j)

Table 11. *Model 1: Women's empowerment score and per adult equivalent calorie availability*

Variable	Per adult equivalent calorie availability	
	OLS (1)	2SLS (2)
Empowerment score of woman	288.921*** (62.155)	1,100.588*** (222.549)
Age (in years) of household head	15.973* (8.263)	10.402 (8.878)
Age-squared of household head	-0.125 (0.091)	-0.070 (0.098)
Years of education of household head	10.697** (4.301)	10.458** (4.359)
Household head is farmer (= 1, 0 otherwise)	113.970*** (34.050)	128.657*** (44.806)
Household head is trader (= 1, 0 otherwise)	59.686 (49.750)	31.296 (51.950)
Household size	-96.703*** (11.207)	-91.121*** (11.835)
Proportion of males 0-4 years old	-944.962*** (262.404)	-979.262*** (273.466)
Proportion of males 5-10 years old	-957.435*** (245.035)	-1,031.235*** (254.336)
Proportion of males 11-18 years old	-1,067.528*** (239.740)	-1,142.455*** (248.049)
Proportion of males 19-59 years old	-1,333.262*** (201.741)	-1,336.144*** (207.133)
Proportion of females 0-4 years old	-962.667*** (261.802)	-947.325*** (271.576)
Proportion of females 5-10 years old	-502.199** (251.845)	-598.276** (259.839)
Proportion of females 11-18 years old	-401.619 (258.228)	-533.342** (265.836)
Proportion of females 19-59 years old	-647.129** (293.254)	-710.284** (301.181)
Proportion of females 60 years and older	-22.718 (328.560)	-67.253 (336.961)
Number of food crops produced by household	46.953*** (11.552)	38.191 (30.280)
Number of dairy cows owned	61.363*** (13.387)	53.355*** (14.755)
Price of rice (in taka)	-4.741 (5.073)	-1.389 (5.225)
Ln (owned cultivable land + 1)	37.980*** (10.885)	39.720*** (11.116)
Owens hand tube well (= 1, 0 otherwise)	119.506*** (34.431)	50.227 (37.775)
Access to electricity (= 1, 0 otherwise)	11.354 (29.507)	-19.400 (31.497)
Division level fixed-effects	Yes	Yes
Constant	4,008.168*** (282.009)	3,575.073*** (309.563)
Observations	3,273	3,273
F	18.594	17.909
Adjusted R ²	0.187	0.142
Hansen J p, Ho: instruments valid		0.249
Under ID test p, Ho: underidentified		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		41.798
Anderson-Rubin, Ho: endogvars irrelevant		
A-R Wald test, p-value		0.000
A-R Wald Chi ² test, p-value		0.000
Endogeneity test p, Ho: exogenous		0.000

Table 12. *Model 2: Women's group membership and per adult equivalent calorie availability*

Variable	Per adult equivalent calorie availability	
	OLS (1)	2SLS (2)
Number of groups woman is an active member of	39.995 (29.832)	1,011.372*** (239.083)
Age (in years) of household head	17.476** (8.199)	6.028 (9.824)
Age-squared of household head	-0.139 (0.090)	-0.006 (0.108)
Years of education of household head	10.914** (4.328)	14.206*** (5.048)
Household head is farmer (= 1, 0 otherwise)	114.530*** (34.264)	260.786*** (65.482)
Household head is trader (= 1, 0 otherwise)	68.076 (50.070)	24.998 (64.499)
Household size	-98.990*** (11.299)	-105.826*** (13.857)
Proportion of males 0-4 years old	-938.293*** (262.295)	-1,077.981*** (304.382)
Proportion of males 5-10 years old	-936.492*** (244.923)	-1,068.694*** (284.688)
Proportion of males 11-18 years old	-1,050.085*** (239.413)	-1,274.973*** (276.602)
Proportion of males 19-59 years old	-1,333.443*** (201.426)	-1,362.555*** (223.404)
Proportion of females 0-4 years old	-965.285*** (262.363)	-902.220*** (305.169)
Proportion of females 5-10 years old	-474.134* (251.455)	-624.870** (286.003)
Proportion of females 11-18 years old	-369.131 (258.595)	-719.129** (299.521)
Proportion of females 19-59 years old	-627.778** (293.271)	-705.585** (328.111)
Proportion of females 60 years and older	-10.805 (328.635)	-109.119 (366.097)
Number of food crops produced by household	49.533*** (11.670)	29.971 (35.764)
Number of dairy cows owned	64.982*** (13.406)	84.957*** (18.058)
Price of rice (in taka)	-5.612 (5.090)	2.191 (6.175)
Ln (owned cultivable land + 1)	38.095*** (10.908)	55.796*** (13.124)
Owns hand tube well (= 1, 0 otherwise)	139.763*** (34.287)	34.338 (46.058)
Access to electricity (= 1, 0 otherwise)	21.148 (29.657)	-6.788 (35.679)
Division level fixed-effects	Yes	Yes
Constant	4,163.654*** (282.543)	4,194.413*** (328.194)
Observations	3,273	3,273
F	17.885	14.486
Adjusted R ²	0.182	-0.114
Hansen J p, Ho: instruments valid		0.139
Under ID test p, Ho: underidentified		0.000
Weak ID test stat (Kleibergen-Paap rk Wald F)		9.545
Anderson-Rubin, Ho: endogvars irrelevant		
A-R Wald test, p-value		0.000
A-R Wald Chi ² test, p-value		0.000
Endogeneity test p, Ho: exogenous		0.000

Table 13. *Model 3: Women's decisions on credit and per adult equivalent calorie availability*

Variable	Per adult equivalent calorie availability	
	OLS (1)	2SLS (2)
Average number of decisions over credit	0.708 (14.402)	1,027.521** (401.662)
Age (in years) of household head	17.939** (8.202)	-24.216 (21.245)
Age-squared of household head	-0.144 (0.090)	0.303 (0.228)
Years of education of household head	10.796** (4.324)	21.710*** (8.372)
Household head is farmer (= 1, 0 otherwise)	109.252*** (34.336)	400.431*** (144.593)
Household head is trader (= 1, 0 otherwise)	69.687 (50.073)	30.409 (87.412)
Household size	-98.647*** (11.264)	-75.215*** (21.770)
Proportion of males 0-4 years old	-933.490*** (262.141)	-1,597.502*** (502.692)
Proportion of males 5-10 years old	-931.620*** (244.755)	-1,367.426*** (424.807)
Proportion of males 11-18 years old	-1,041.299*** (239.507)	-1,620.248*** (435.997)
Proportion of males 19-59 years old	-1,332.285*** (201.405)	-1,417.681*** (298.223)
Proportion of females 0-4 years old	-968.710*** (261.872)	-1,338.570*** (449.904)
Proportion of females 5-10 years old	-468.360* (251.659)	-850.318** (427.095)
Proportion of females 11-18 years old	-355.061 (258.314)	-816.413* (431.648)
Proportion of females 19-59 years old	-624.856** (293.418)	-782.386* (455.422)
Proportion of females 60 years and older	-7.230 (329.027)	-328.691 (503.181)
Number of food crops produced by household	49.655*** (11.666)	-42.081 (69.803)
Number of dairy cows owned	64.319*** (13.431)	113.342*** (31.803)
Price of rice (in taka) Ln (owned cultivable land + 1)	-5.925 (5.105)	9.424 (9.679)
Owns hand tube well (= 1, 0 otherwise)	37.347*** (10.925)	25.983 (17.453)
Access to electricity (= 1, 0 otherwise)	144.172*** (34.116)	28.648 (68.800)
Division level fixed-effects	22.255 (29.700)	-50.329 (57.135)
Constant	Yes 4,162.139*** (282.790)	Yes 3,988.850*** (453.473)
Observations	3,273	3,273
F	17.874	7.937
Adjusted R ²	0.182	-1.168
Hansen J p, Ho: instruments valid		0.493
Under ID test p, Ho: underidentified		0.031
Weak ID test stat (Kleibergen-Paap rk Wald F)		2.134
Anderson-Rubin, Ho: endogvars irrelevant		
A-R Wald test, p-value		0.000
A-R Wald Chi ² test, p-value		0.000
Endogeneity test p, Ho: exogenous		0.000

Table 14. *Model 4: Women's ownership of assets and per adult equivalent calorie availability*

Variable	Per adult equivalent calorie availability	
	OLS (1)	2SLS (2)
Number of assets woman has self/joint ownership of	41.559*** (10.811)	189.051*** (43.130)
Age (in years) of household head	16.361** (8.237)	10.372 (8.877)
Age-squared of household head	-0.128 (0.090)	-0.068 (0.098)
Years of education of household head	9.465** (4.262)	4.642 (4.513)
Household head is farmer (= 1, 0 otherwise)	110.904*** (34.140)	109.862** (44.649)
Household head is trader (= 1, 0 otherwise)	59.261 (49.588)	24.061 (52.467)
Household size	-95.842*** (11.103)	-86.472*** (11.908)
Proportion of males 0–4 years old	-927.938*** (261.784)	-902.982*** (273.512)
Proportion of males 5–10 years old	-945.977*** (245.026)	-994.210*** (256.835)
Proportion of males 11–18 years old	-1,073.065*** (240.366)	-1,186.169*** (253.339)
Proportion of males 19–59 years old	-1,336.835*** (201.381)	-1,353.452*** (207.939)
Proportion of females 0–4 years old	-983.747*** (261.416)	-1,029.984*** (273.230)
Proportion of females 5–10 years old	-488.348* (252.290)	-557.852** (263.186)
Proportion of females 11–18 years old	-408.746 (259.543)	-600.095** (273.361)
Proportion of females 19–59 years old	-662.078** (294.508)	-792.133** (311.385)
Proportion of females 60 years and older	-53.322 (328.772)	-214.165 (342.280)
Number of food crops produced by household	45.946*** (11.666)	41.259 (31.116)
Number of dairy cows owned	60.145*** (13.469)	43.693*** (15.651)
Price of rice (in taka)	-5.519 (5.076)	-4.002 (5.223)
Ln (owned cultivable land + 1)	36.975*** (10.943)	35.785*** (11.411)
Owns hand tube well (= 1, 0 otherwise)	132.612*** (34.057)	89.240** (36.527)
Access to electricity (= 1, 0 otherwise)	13.137 (29.650)	-19.493 (32.515)
Division level fixed-effects	Yes	Yes
Constant	4,141.097*** (281.072)	4,067.797*** (291.438)
Observations	3,273	3,273
<i>F</i>	18.424	17.421
Adjusted <i>R</i> ²	0.187	0.124
Hansen <i>J</i> p, Ho: instruments valid		0.421
Under ID test p, Ho: underidentified		0.000
Weak ID test stat (Kleibergen-Paap rk Wald <i>F</i>)		32.199
Anderson-Rubin, Ho: endogvars irrelevant		
A-R Wald test, <i>p</i> -value		0.000
A-R Wald Chi ² test, <i>p</i> -value		0.000
Endogeneity test p, Ho: exogenous		0.000

Table 15. *Model 5: Women's rights over assets and per adult equivalent calorie availability*

Variable	Per adult equivalent calorie availability	
	OLS (1)	2SLS (2)
Number of self/joint decisions over purchase, sale, or transfer of assets made by woman	7.245*** (1.608)	26.026*** (6.667)
Age (in years) of household head	15.113* (8.191)	8.269 (8.694)
Age-squared of household head	-0.117 (0.089)	-0.051 (0.094)
Years of education of household head	9.414** (4.268)	6.104 (4.426)
Household head is farmer (= 1, 0 otherwise)	104.247*** (34.096)	106.703** (44.759)
Household head is trader (= 1, 0 otherwise)	53.798 (50.043)	8.818 (55.687)
Household size	-94.423*** (11.174)	-82.172*** (12.416)
Proportion of males 0–4 years old	-962.297*** (261.313)	-1,051.624*** (270.905)
Proportion of males 5–10 years old	-972.516*** (244.233)	-1,086.723*** (254.127)
Proportion of males 11–18 years old	-1,098.210*** (239.742)	-1,248.829*** (252.617)
Proportion of males 19–59 years old	-1,331.124*** (200.761)	-1,327.763*** (202.752)
Proportion of females 0–4 years old	-994.523*** (261.021)	-1,077.834*** (270.702)
Proportion of females 5–10 years old	-512.876** (251.372)	-633.592** (259.736)
Proportion of females 11–18 years old	-405.747 (257.536)	-538.571** (264.839)
Proportion of females 19–59 years old	-665.151** (293.402)	-774.648** (304.696)
Proportion of females 60 years and older	-49.298 (328.333)	-165.824 (337.034)
Number of food crops produced by household	44.191*** (11.655)	12.833 (35.275)
Number of dairy cows owned	58.818*** (13.489)	48.088*** (15.226)
Price of rice (in taka)	-5.392 (5.089)	-4.052 (5.222)
Ln (owned cultivable land + 1)	35.097*** (10.901)	28.933** (11.316)
Owns hand tube well (= 1, 0 otherwise)	140.838*** (33.882)	136.027*** (34.870)
Access to electricity (= 1, 0 otherwise)	12.868 (29.650)	-11.414 (31.788)
Division level fixed-effects	Yes	Yes
Constant	4,169.338*** (281.672)	4,184.153*** (286.914)
Observations	3,273	3,273
<i>F</i>	18.554	17.749
Adjusted <i>R</i> ²	0.188	0.146
Hansen <i>J</i> p, Ho: instruments valid		0.054
Under ID test p, Ho: underidentified		0.000
Weak ID test stat (Kleibergen-Paap rk Wald <i>F</i>)		23.334
Anderson-Rubin, Ho: endogvars irrelevant		
A-R Wald test, <i>p</i> -value		0.000
A-R Wald Chi ² test, <i>p</i> -value		0.000
Endogeneity test p, Ho: exogenous		0.005

Table 16. *Model 6: Gender parity gap and per adult equivalent calorie availability*

Variable	Per adult equivalent calorie availability	
	OLS (1)	2SLS (2)
Gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	-202.163*** (68.626)	-1,587.689*** (329.406)
Age (in years) of household head	18.249** (8.307)	10.480 (9.346)
Age-squared of household head	-0.146 (0.091)	-0.070 (0.102)
Years of education of household head	11.402*** (4.361)	12.369*** (4.573)
Household head is farmer (= 1, 0 otherwise)	107.653*** (34.280)	116.313** (45.683)
Household head is trader (= 1, 0 otherwise)	64.289 (50.398)	17.530 (54.370)
Household size	-97.454*** (11.309)	-87.890*** (12.293)
Proportion of males 0–4 years old	-961.321*** (268.684)	-1,018.070*** (291.725)
Proportion of males 5–10 years old	-971.213*** (250.239)	-1,062.934*** (268.999)
Proportion of males 11–18 years old	-1,108.721*** (246.051)	-1,227.982*** (264.550)
Proportion of males 19–59 years old	-1,367.198*** (206.764)	-1,375.799*** (219.447)
Proportion of females 0–4 years old	-976.129*** (267.593)	-951.576*** (288.082)
Proportion of females 5–10 years old	-539.342** (258.994)	-698.911** (277.511)
Proportion of females 11–18 years old	-402.919 (264.948)	-576.229** (281.013)
Proportion of females 19–59 years old	-680.802** (300.308)	-788.806** (320.529)
Proportion of females 60 years and older	-79.224 (335.533)	-173.984 (356.074)
Number of food crops produced by household	47.283*** (11.679)	56.670* (30.744)
Number of dairy cows owned	62.398*** (13.419)	53.946*** (15.051)
Price of rice (in taka)	-4.416 (5.015)	-0.389 (5.387)
Ln (owned cultivable land + 1)	39.148*** (11.037)	46.439*** (11.624)
Owns hand tube well (= 1, 0 otherwise)	132.292*** (34.554)	52.323 (39.078)
Access to electricity (= 1, 0 otherwise)	12.989 (29.910)	-18.801 (32.642)
Division level fixed-effects	Yes	Yes
Constant	4,178.484*** (286.784)	4,505.917*** (316.963)
Observations	3,213	3,213
<i>F</i>	17.751	16.173
Adjusted <i>R</i> ²	0.184	0.082
Hansen <i>J</i> p, Ho: instruments valid		0.291
Under ID test p, Ho: underidentified		0.000
Weak ID test stat (Kleibergen-Paap rk Wald <i>F</i>)		27.216
Anderson-Rubin, Ho: endogvars irrelevant		
A-R Wald test, <i>p</i> -value		0.000
A-R Wald Chi ² test, <i>p</i> -value		0.000
Endogeneity test p, Ho: exogenous		0.000

Table 17a. *First Stage regressions (for models without interactions)*

	Table 3: Per capita calorie availability and household dietary diversity	
	Endogenous variable: empowerment score of woman	Endogenous variable: number of food crops produced by household
	coef/se	coef/se
Age (in years) of household head	0.008*** (0.002)	0.025** (0.011)
Age-squared of household head	-0.000*** (0.000)	-0.000*** (0.000)
Years of education of household head	0.000 (0.001)	0.010 (0.008)
Household head is farmer (= 1, 0 otherwise)	-0.025*** (0.010)	0.508*** (0.064)
Household head is trader (= 1, 0 otherwise)	0.025* (0.014)	-0.189*** (0.066)
Household size	-0.009*** (0.003)	0.062*** (0.021)
Proportion of males 0–4 years old	0.110 (0.072)	-0.698* (0.411)
Proportion of males 5–10 years old	0.138** (0.064)	-0.539 (0.382)
Proportion of males 11–18 years old	0.119* (0.061)	-0.277 (0.367)
Proportion of males 19–59 years old	0.031 (0.048)	-0.076 (0.272)
Proportion of females 0–4 years old	0.045 (0.069)	-0.875** (0.390)
Proportion of females 5–10 years old	0.175*** (0.064)	-0.335 (0.383)
Proportion of females 11–18 years old	0.199*** (0.065)	-0.063 (0.391)
Proportion of females 19–59 years old	0.121 (0.074)	-0.181 (0.435)
Proportion of females 60 years and older	0.099 (0.079)	-0.237 (0.470)
Ln (owned cultivable land + 1)	-0.002 (0.003)	0.011 (0.019)
Access to electricity (= 1, 0 otherwise)	0.023*** (0.008)	-0.036 (0.050)
Price of rice (in taka)	-0.003* (0.001)	0.003 (0.007)
Division level fixed-effects	Yes	Yes
Number of dairy cows owned	0.011*** (0.003)	0.138*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.065*** (0.010)	0.195*** (0.054)
Age difference (male–female)	-0.003*** (0.001)	0.004 (0.005)
Types of informal credit sources in village	0.025*** (0.003)	0.037*** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)	0.102*** (0.008)	0.039 (0.046)
Clay-loam soil (= 1, 0 if otherwise)	-0.006 (0.010)	0.395*** (0.061)
Sandy-loam soil (= 1, 0 if otherwise)	-0.031*** (0.012)	0.537*** (0.071)
% of land irrigated by household	0.001*** (0.000)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)		
Constant	0.345*** (0.081)	-0.655 (0.444)
Observations	3,273	3,213
F	23.598	50.101
Adjusted R ²	0.180	0.314

Table 17b. *First Stage regressions (for models without interactions)*

	Table 4: Per capita calorie availability and household dietary diversity	
	Endogenous variable: number of groups woman is an active member of coef/se	Endogenous variable: number of food crops produced by household coef/se
Age (in years) of household head	0.013*** (0.004)	0.024** (0.011)
Age-squared of household head	-0.000*** (0.000)	-0.000** (0.000)
Years of education of household head	-0.003 (0.003)	0.009 (0.007)
Household head is farmer (= 1, 0 otherwise)	-0.151*** (0.021)	0.514*** (0.064)
Household head is trader (= 1, 0 otherwise)	0.031 (0.037)	-0.193*** (0.064)
Household size	0.006 (0.007)	0.061*** (0.021)
Proportion of males 0-4 years old	0.197 (0.150)	-0.682* (0.400)
Proportion of males 5-10 years old	0.164 (0.134)	-0.532 (0.373)
Proportion of males 11-18 years old	0.242* (0.126)	-0.269 (0.358)
Proportion of males 19-59 years old	0.045 (0.096)	-0.061 (0.264)
Proportion of females 0-4 years old	-0.021 (0.145)	-0.858** (0.381)
Proportion of females 5-10 years old	0.192 (0.136)	-0.323 (0.373)
Proportion of females 11-18 years old	0.377*** (0.135)	-0.051 (0.382)
Proportion of females 19-59 years old	0.101 (0.154)	-0.177 (0.426)
Proportion of females 60 years and older	0.102 (0.168)	-0.234 (0.459)
Ln (owned cultivable land + 1)	-0.020*** (0.006)	0.009 (0.018)
Access to electricity (= 1, 0 otherwise)	0.012 (0.019)	-0.035 (0.049)
Price of rice (in taka)	-0.006** (0.003)	0.003 (0.007)
Division level fixed-effects	Yes	Yes
Number of dairy cows owned	-0.018** (0.008)	0.138*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.072*** (0.022)	0.186*** (0.054)
Age difference (male-female)	-0.004** (0.002)	0.004 (0.005)
Types of informal credit sources in village	0.018*** (0.007)	0.035** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)		
Clay-loam soil (= 1, 0 if otherwise)	-0.020 (0.023)	0.406*** (0.060)
Sandy-loam soil (= 1, 0 if otherwise)	-0.024 (0.026)	0.548*** (0.071)
% of land irrigated by household	0.001*** (0.000)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year	0.059*** (0.009)	0.032 (0.022)
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)		
Constant	-0.174 (0.174)	-0.621 (0.432)
Observations	3,273	3,273
F	13.821	51.137
Adjusted R ²	0.106	0.321

Table 17c. *First Stage regressions (for models without interactions)*

	Table 5: Per capita calorie availability and household dietary diversity	
	Endogenous variable: average number of decisions over credit coef/se	Endogenous variable: number of food crops produced by household coef/se
Age (in years) of household head	0.044*** (0.010)	0.024** (0.011)
Age-squared of household head	-0.000*** (0.000)	-0.000** (0.000)
Years of education of household head	-0.010** (0.005)	0.009 (0.008)
Household head is farmer (= 1, 0 otherwise)	-0.252*** (0.042)	0.514*** (0.064)
Household head is trader (= 1, 0 otherwise)	0.010 (0.069)	-0.190*** (0.065)
Household size	-0.020 (0.014)	0.061*** (0.021)
Proportion of males 0–4 years old	0.625* (0.320)	-0.689* (0.399)
Proportion of males 5–10 years old	0.421 (0.289)	-0.529 (0.373)
Proportion of males 11–18 years old	0.553** (0.276)	-0.266 (0.358)
Proportion of males 19–59 years old	0.078 (0.213)	-0.067 (0.263)
Proportion of females 0–4 years old	0.324 (0.311)	-0.868** (0.380)
Proportion of females 5–10 years old	0.369 (0.293)	-0.328 (0.372)
Proportion of females 11–18 years old	0.468 (0.291)	-0.041 (0.381)
Proportion of females 19–59 years old	0.161 (0.327)	-0.178 (0.425)
Proportion of females 60 years and older	0.312 (0.351)	-0.240 (0.459)
Ln (owned cultivable land + 1)	0.013 (0.012)	0.010 (0.018)
Access to electricity (= 1, 0 otherwise)	0.063* (0.037)	-0.032 (0.049)
Price of rice (in taka)	-0.013** (0.006)	0.003 (0.007)
Division level fixed-effects	Yes	Yes
Number of dairy cows owned	-0.037*** (0.016)	0.138*** (0.029)
Owens hand tube well (= 1, 0 otherwise)	0.133*** (0.043)	0.205*** (0.054)
Age difference (male–female)	-0.002 (0.004)	0.004 (0.005)
Types of informal credit sources in village	0.046*** (0.013)	0.040*** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)		
Clay-loam soil (= 1, 0 if otherwise)	0.071 (0.045)	0.402*** (0.060)
Sandy-loam soil (= 1, 0 if otherwise)	0.048 (0.051)	0.545*** (0.071)
% of land irrigated by household	0.001* (0.000)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)		
Constant	-0.080 (0.346)	-0.621 (0.432)
Observations	3,273	3,273
F	8.188	51.785
Adjusted R ²	0.059	0.320

Table 17d. *First Stage regressions (for models without interactions)*

	Table 6: Per capita calorie availability and household dietary diversity	
	Endogenous variable: number of assets woman has self/joint ownership of coef/se	Endogenous variable: number of food crops produced by household coef/se
Age (in years) of household head	0.047*** (0.014)	0.024** (0.011)
Age-squared of household head	-0.000*** (0.000)	-0.000** (0.000)
Years of education of household head	0.032*** (0.008)	0.009 (0.008)
Household head is farmer (= 1, 0 otherwise)	-0.047 (0.066)	0.514*** (0.064)
Household head is trader (= 1, 0 otherwise)	0.164 (0.106)	-0.190*** (0.065)
Household size	-0.077*** (0.028)	0.061*** (0.021)
Proportion of males 0-4 years old	0.087 (0.485)	-0.689* (0.399)
Proportion of males 5-10 years old	0.606 (0.451)	-0.529 (0.373)
Proportion of males 11-18 years old	0.855** (0.429)	-0.266 (0.358)
Proportion of males 19-59 years old	0.144 (0.328)	-0.068 (0.263)
Proportion of females 0-4 years old	0.572 (0.491)	-0.868** (0.380)
Proportion of females 5-10 years old	0.654 (0.449)	-0.329 (0.372)
Proportion of females 11-18 years old	1.457*** (0.459)	-0.041 (0.381)
Proportion of females 19-59 years old	1.032* (0.550)	-0.178 (0.425)
Proportion of females 60 years and older	1.200** (0.589)	-0.240 (0.459)
Ln (owned cultivable land + 1)	0.016 (0.019)	0.010 (0.018)
Access to electricity (= 1, 0 otherwise)	0.185*** (0.056)	-0.032 (0.049)
Price of rice (in taka)	0.001 (0.009)	0.003 (0.007)
Division level fixed-effects	Yes	Yes
Number of dairy cows owned	0.115*** (0.026)	0.138*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.308*** (0.068)	0.204*** (0.054)
Age difference (male-female)	-0.017** (0.007)	0.004 (0.005)
Types of informal credit sources in village	0.247*** (0.018)	0.040*** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)		
Clay-loam soil (= 1, 0 if otherwise)	0.082 (0.068)	0.402*** (0.060)
Sandy-loam soil (= 1, 0 if otherwise)	-0.042 (0.075)	0.545*** (0.071)
% of land irrigated by household	0.002** (0.001)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)	0.388** (0.162)	-0.007 (0.093)
Constant	-0.699 (0.548)	-0.621 (0.433)
Observations	3,273	3,273
F	16.033	50.174
Adjusted R ²	0.128	0.320

Table 17e. *First Stage regressions (for models without interactions)*

	Table 7: Per capita calorie availability and household dietary diversit	
	Endogenous variable: number of self/ joint decisions over purchase, sale, or transfer of assets made by woman coef/se	Endogenous variable: number of food crops produced by household coef/se
Age (in years) of household head	0.431*** (0.087)	0.024** (0.011)
Age-squared of household head	-0.004*** (0.001)	-0.000** (0.000)
Years of education of household head	0.167*** (0.051)	0.009 (0.008)
Household head is farmer (= 1, 0 otherwise)	0.348 (0.434)	0.514*** (0.064)
Household head is trader (= 1, 0 otherwise)	1.624** (0.660)	-0.190*** (0.065)
Household size	-0.613*** (0.146)	0.061*** (0.021)
Proportion of males 0–4 years old	4.709 (2.914)	-0.689* (0.399)
Proportion of males 5–10 years old	6.588** (2.749)	-0.529 (0.373)
Proportion of males 11–18 years old	7.819*** (2.690)	-0.266 (0.358)
Proportion of males 19–59 years old	-0.171 (1.996)	-0.068 (0.263)
Proportion of females 0–4 years old	4.625 (2.864)	-0.868** (0.380)
Proportion of females 5–10 years old	6.719** (2.683)	-0.329 (0.372)
Proportion of females 11–18 years old	7.599*** (2.756)	-0.041 (0.381)
Proportion of females 19–59 years old	6.320* (3.228)	-0.178 (0.425)
Proportion of females 60 years and older	6.966** (3.518)	-0.240 (0.459)
Ln (owned cultivable land + 1)	0.390*** (0.128)	0.010 (0.018)
Access to electricity (= 1, 0 otherwise)	1.285*** (0.351)	-0.032 (0.049)
Price of rice (in taka)	-0.005 (0.056)	0.003 (0.007)
Division level fixed-effects	Yes	Yes
Number of dairy cows owned	0.766*** (0.169)	0.138*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.939** (0.397)	0.204*** (0.054)
Age difference (male–female)	-0.051 (0.043)	0.004 (0.005)
Types of informal credit sources in village	1.571*** (0.122)	0.040*** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)		
Clay-loam soil (= 1, 0 if otherwise)	1.668*** (0.430)	0.402*** (0.060)
Sandy-loam soil (= 1, 0 if otherwise)	3.036*** (0.518)	0.545*** (0.071)
% of land irrigated by household	0.010** (0.004)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)	2.791*** (1.006)	-0.007 (0.093)
Constant	-8.626*** (3.226)	-0.621 (0.433)
Observations	3,273	3,273
F	18.802	50.174
Adjusted R ²	0.181	0.320

Table 17f. *First Stage regressions (for models without interactions)*

	Table 8: Per capita calorie availability and household dietary diversity	
	Endogenous variable gender parity gap (= 0 if woman enjoys gender parity, "gap" if not) coef/se	Endogenous variable: number of food crops produced by household coef/se
Age (in years) of household head	-0.006*** (0.002)	0.025** (0.011)
Age-squared of household head	0.000** (0.000)	-0.000*** (0.000)
Years of education of household head	0.001 (0.001)	0.010 (0.008)
Household head is farmer (= 1, 0 otherwise)	0.019** (0.008)	0.508*** (0.064)
Household head is trader (= 1, 0 otherwise)	-0.028** (0.012)	-0.189*** (0.066)
Household size	0.009*** (0.003)	0.062*** (0.021)
Proportion of males 0-4 years old	-0.102 (0.066)	-0.698* (0.411)
Proportion of males 5-10 years old	-0.114** (0.058)	-0.539 (0.382)
Proportion of males 11-18 years old	-0.114** (0.055)	-0.277 (0.367)
Proportion of males 19-59 years old	-0.029 (0.043)	-0.076 (0.272)
Proportion of females 0-4 years old	-0.040 (0.064)	-0.875** (0.390)
Proportion of females 5-10 years old	-0.164*** (0.058)	-0.335 (0.383)
Proportion of females 11-18 years old	-0.156*** (0.058)	-0.063 (0.391)
Proportion of females 19-59 years old	-0.116* (0.066)	-0.181 (0.435)
Proportion of females 60 years and older	-0.105 (0.070)	-0.237 (0.470)
Ln (owned cultivable land + 1)	0.005** (0.002)	0.011 (0.019)
Access to electricity (= 1, 0 otherwise)	-0.013* (0.007)	-0.036 (0.050)
Price of rice (in taka)	0.002 (0.001)	0.003 (0.007)
Division level fixed-effects	Yes	Yes
Number of dairy cows owned	-0.005* (0.003)	0.138*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	-0.042*** (0.008)	0.195*** (0.054)
Age difference (male-female)	0.002** (0.001)	0.004 (0.005)
Types of informal credit sources in village	-0.021*** (0.003)	0.037*** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)	-0.059*** (0.007)	0.039 (0.046)
Clay-loam soil (= 1, 0 if otherwise)	0.009 (0.009)	0.395*** (0.061)
Sandy-loam soil (= 1, 0 if otherwise)	0.039*** (0.011)	0.537*** (0.071)
% of land irrigated by household	-0.000*** (0.000)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)		
Constant	0.377*** (0.076)	-0.655 (0.444)
Observations	3,213	3,213
F	12.367	50.101
Adjusted R ²	0.121	0.314

Table 17g. *First stage regressions*

	Table 3: Male BMI		Table 4: Male BMI		Table 5: Male BMI	
	First stage regression results					
	Endogenous variable: empowerment score of woman	Endogenous variable: number of food crops produced by household	Endogenous variable: number of groups woman is an active member of	Endogenous variable: number of food crops produced by household	Endogenous variable: average number of decisions over credit	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Age (in years) of member	0.008*** (0.002)	0.024** (0.011)	0.014*** (0.004)	0.023** (0.011)	0.045*** (0.010)	0.023** (0.011)
Age-squared of member	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000** (0.000)
Years of education of member	0.000 (0.001)	0.010 (0.008)	-0.003 (0.003)	0.010 (0.008)	-0.010** (0.005)	0.010 (0.008)
Household head is farmer (= 1, 0 otherwise)	-0.023** (0.010)	0.495*** (0.065)	-0.155*** (0.021)	0.502*** (0.065)	-0.262*** (0.042)	0.502*** (0.065)
Household head is trader (= 1, 0 otherwise)	0.028* (0.015)	-0.192*** (0.068)	0.031 (0.038)	-0.196*** (0.066)	0.003 (0.070)	-0.193*** (0.066)
Household size	-0.009*** (0.003)	0.068*** (0.022)	0.003 (0.007)	0.067*** (0.022)	-0.027* (0.014)	0.066*** (0.022)
Proportion of males 0-4 years old	0.111 (0.073)	-0.835* (0.434)	0.233 (0.154)	-0.812* (0.426)	0.674** (0.330)	-0.819* (0.425)
Proportion of males 5-10 years old	0.122* (0.065)	-0.631 (0.401)	0.199 (0.138)	-0.617 (0.396)	0.435 (0.299)	-0.617 (0.395)
Proportion of males 11-18 years old	0.104* (0.062)	-0.348 (0.388)	0.285** (0.131)	-0.336 (0.381)	0.656** (0.285)	-0.334 (0.381)
Proportion of males 19-59 years old	0.018 (0.049)	-0.163 (0.287)	0.050 (0.100)	-0.144 (0.281)	0.051 (0.221)	-0.152 (0.280)
Proportion of females 0-4 years old	0.036 (0.071)	-1.005** (0.411)	0.018 (0.150)	-0.981** (0.403)	0.354 (0.320)	-0.990** (0.402)
Proportion of females 5-10 years old	0.165** (0.066)	-0.451 (0.401)	0.215 (0.140)	-0.434 (0.394)	0.425 (0.302)	-0.440 (0.393)
Proportion of females 11-18 years old	0.195*** (0.067)	-0.143 (0.412)	0.421*** (0.139)	-0.124 (0.405)	0.517* (0.300)	-0.116 (0.405)
Proportion of females 19-59 years old	0.092 (0.077)	-0.245 (0.470)	0.120 (0.161)	-0.235 (0.464)	0.192 (0.343)	-0.238 (0.463)
Proportion of females 60 years and older	0.081 (0.082)	-0.397 (0.493)	0.169 (0.177)	-0.387 (0.485)	0.414 (0.366)	-0.393 (0.485)
Ln (owned cultivable land + 1)	-0.002 (0.003)	0.017 (0.019)	-0.019*** (0.006)	0.014 (0.019)	0.015 (0.012)	0.016 (0.019)
Access to electricity (= 1, 0 otherwise)	0.025*** (0.008)	-0.050 (0.051)	0.019 (0.019)	-0.048 (0.051)	0.080** (0.038)	-0.045 (0.050)
Price of rice (in taka)	-0.003** (0.001)	0.004 (0.007)	-0.007** (0.003)	0.004 (0.007)	-0.012** (0.006)	0.004 (0.007)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of dairy cows owned	0.012*** (0.003)	0.139*** (0.029)	-0.019** (0.008)	0.139*** (0.029)	-0.039** (0.016)	0.140*** (0.029)
Owens hand tube well (= 1, 0 otherwise)	0.062*** (0.010)	0.195*** (0.056)	0.075*** (0.023)	0.187*** (0.055)	0.147*** (0.044)	0.204*** (0.055)
Age difference (male-female)	-0.002* (0.001)	0.003 (0.006)	-0.006** (0.002)	0.003 (0.006)	-0.007 (0.005)	0.003 (0.006)
Types of informal credit sources in village	0.025*** (0.003)	0.039*** (0.015)	0.020*** (0.007)	0.036** (0.015)	0.047*** (0.013)	0.040*** (0.015)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)	0.103*** (0.008)	0.035 (0.047)				
Clay-loam soil (= 1, 0 if otherwise)	-0.005 (0.010)	0.388*** (0.062)	-0.015 (0.024)	0.399*** (0.061)	0.078* (0.046)	0.395*** (0.062)
Sandy-loam soil (= 1, 0 if otherwise)	-0.030*** (0.012)	0.530*** (0.072)	-0.024 (0.026)	0.541*** (0.072)	0.041 (0.052)	0.538*** (0.072)

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Table 17g—continued

	Table 3: Male BMI		Table 4: Male BMI		Table 5: Male BMI	
	First stage regression results					
	Endogenous variable: empowerment score of woman	Endogenous variable: number of food crops produced by household	Endogenous variable: number of groups woman is an active member of	Endogenous variable: number of food crops produced by household	Endogenous variable: average number of decisions over credit	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
% of land irrigated by household	0.001*** (0.000)	0.010*** (0.001)	0.001*** (0.000)	0.010*** (0.001)	0.001* (0.001)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year			0.055*** (0.009)	0.030 (0.022)		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)						
Constant	0.365*** (0.084)	-0.569 (0.465)	-0.184 (0.180)	-0.540 (0.456)	-0.048 (0.356)	-0.538 (0.456)
Observations	3,150	3,094	3,150	3,150	3,150	3,150
F	22.910	49.278	13.134	50.233	8.539	50.666
Adjusted R ²	0.181	0.310	0.108	0.317	0.063	0.317

Table 17h. First stage regressions

	Table 6: Male BMI		Table 7: Male BMI		Table 8: Male BMI	
	First-stage regression results					
	Endogenous variable: number of assets woman has self/joint ownership of	Endogenous variable: number of food crops produced by household	Endogenous variable: number of self/joint decisions over purchase, sale, or transfer of assets made by woman	Endogenous variable: number of food crops produced by household	Endogenous variable: gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Age (in years) of member	0.041*** (0.014)	0.023** (0.011)	0.440*** (0.089)	0.023** (0.011)	-0.006*** (0.002)	0.024** (0.011)
Age-squared of member	-0.000*** (0.000)	-0.000** (0.000)	-0.004*** (0.001)	-0.000** (0.000)	0.000** (0.000)	-0.000** (0.000)
Years of education of member	0.032*** (0.008)	0.010 (0.008)	0.166*** (0.051)	0.010 (0.008)	0.001 (0.001)	0.010 (0.008)
Household head is farmer (= 1, 0 otherwise)	-0.003 (0.066)	0.502*** (0.065)	0.512 (0.437)	0.502*** (0.065)	0.016* (0.009)	0.495*** (0.065)
Household head is trader (= 1, 0 otherwise)	0.212** (0.106)	-0.193*** (0.066)	1.755*** (0.665)	-0.193*** (0.066)	-0.031*** (0.012)	-0.192*** (0.068)
Household size	-0.065** (0.028)	0.066*** (0.022)	-0.624*** (0.149)	0.066*** (0.022)	0.009*** (0.003)	0.068*** (0.022)
Proportion of males 0–4 years old	-0.315 (0.483)	-0.819* (0.425)	3.089 (2.986)	-0.819* (0.425)	-0.099 (0.069)	-0.835* (0.434)
Proportion of males 5–10 years old	0.129 (0.443)	-0.617 (0.395)	4.592* (2.789)	-0.617 (0.395)	-0.095 (0.061)	-0.631 (0.401)
Proportion of males 11–18 years old	0.478 (0.425)	-0.334 (0.381)	5.937** (2.753)	-0.334 (0.381)	-0.098* (0.058)	-0.348 (0.388)
Proportion of males 19–59 years old	-0.138 (0.324)	-0.151 (0.280)	-1.493 (2.037)	-0.151 (0.280)	-0.013 (0.045)	-0.163 (0.287)
Proportion of females 0–4 years old	0.125 (0.490)	-0.990** (0.402)	2.746 (2.921)	-0.990** (0.402)	-0.031 (0.066)	-1.005** (0.411)

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Table 17h—continued

	Table 6: Male BMI		Table 7: Male BMI		Table 8: Male BMI	
			First-stage regression results			
	Endogenous variable: number of assets woman has self/joint ownership of	Endogenous variable: number of food crops produced by household	Endogenous variable: number of self/joint decisions over purchase, sale, or transfer of assets made by woman	Endogenous variable: number of food crops produced by household	Endogenous variable: gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Proportion of females 5–10 years old	0.236 (0.444)	–0.440 (0.393)	4.997* (2.740)	–0.440 (0.393)	–0.145** (0.061)	–0.451 (0.401)
Proportion of females 11–18 years old	0.949** (0.450)	–0.116 (0.405)	5.302* (2.800)	–0.116 (0.405)	–0.138** (0.061)	–0.143 (0.412)
Proportion of females 19–59 years old	0.320 (0.540)	–0.238 (0.463)	2.930 (3.331)	–0.238 (0.463)	–0.086 (0.071)	–0.245 (0.470)
Proportion of females 60 years and older	0.521 (0.573)	–0.393 (0.485)	4.186 (3.593)	–0.393 (0.485)	–0.078 (0.075)	–0.397 (0.493)
Ln (owned cultivable land + 1)	0.003 (0.019)	0.016 (0.019)	0.374*** (0.130)	0.016 (0.019)	0.005** (0.002)	0.017 (0.019)
Access to electricity (= 1, 0 otherwise)	0.163*** (0.056)	–0.045 (0.050)	1.206*** (0.357)	–0.045 (0.050)	–0.013* (0.008)	–0.050 (0.051)
Price of rice (in taka)	–0.003 (0.009)	0.004 (0.007)	–0.028 (0.057)	0.004 (0.007)	0.002 (0.001)	0.004 (0.007)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of dairy cows owned	0.125*** (0.026)	0.140*** (0.029)	0.825*** (0.171)	0.140*** (0.029)	–0.006** (0.003)	0.139*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.303*** (0.068)	0.204*** (0.055)	0.781* (0.402)	0.204*** (0.055)	–0.041*** (0.008)	0.195*** (0.056)
Age difference (male–female)	0.005 (0.007)	0.003 (0.006)	0.026 (0.045)	0.003 (0.006)	0.001 (0.001)	0.003 (0.006)
Types of informal credit sources in village	0.251*** (0.017)	0.040*** (0.015)	1.615*** (0.124)	0.040*** (0.015)	–0.021*** (0.003)	0.039*** (0.015)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)					–0.060*** (0.007)	0.035 (0.047)
Clay-loam soil (= 1, 0 if otherwise)	0.106 (0.068)	0.395*** (0.062)	1.830*** (0.438)	0.395*** (0.062)	0.008 (0.009)	0.388*** (0.062)
Sandy-loam soil (= 1, 0 if otherwise)	–0.028 (0.075)	0.538*** (0.072)	3.035*** (0.523)	0.538*** (0.072)	0.038*** (0.011)	0.530*** (0.072)
% of land irrigated by household	0.002** (0.001)	0.010*** (0.001)	0.009** (0.004)	0.010*** (0.001)	–0.000*** (0.000)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year						
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)	0.348** (0.161)	0.000 (0.096)	2.652*** (1.028)	0.000 (0.096)		
Constant	–0.151 (0.541)	–0.538 (0.457)	–6.428* (3.289)	–0.538 (0.457)	0.355*** (0.079)	–0.569 (0.465)
Observations	3,150	3,150	3,150	3,150	3,094	3,094
F	16.150	49.106	19.040	49.106	11.649	49.278
Adjusted R ²	0.132	0.316	0.190	0.316	0.118	0.310

Table 17i. *First stage regressions*

	Table 3: Female BMI		Table 4: Female BMI		Table 5: Female BMI	
	First stage regression results					
	Endogenous variable: empowerment score of woman	Endogenous variable: number of food crops produced by household	Endogenous variable: number of groups woman is an active member of	Endogenous variable: number of food crops produced by household	Endogenous variable: average number of decisions over credit	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Pregnant (= 1, 0 otherwise)	-0.004 (0.021)	0.131 (0.116)	0.001 (0.045)	0.111 (0.112)	-0.113 (0.099)	0.109 (0.112)
Lactating (= 1, 0 otherwise)	-0.022* (0.013)	0.086 (0.074)	0.004 (0.030)	0.087 (0.073)	0.039 (0.061)	0.085 (0.073)
Age (in years) of member	0.012*** (0.003)	0.017 (0.014)	0.019*** (0.005)	0.016 (0.014)	0.050*** (0.012)	0.016 (0.014)
Age-squared of member	-0.000*** (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.001*** (0.000)	-0.000 (0.000)
Years of education of member	0.004*** (0.001)	0.002 (0.009)	-0.002 (0.003)	0.002 (0.009)	-0.006 (0.006)	0.002 (0.009)
Household head is farmer (= 1, 0 otherwise)	-0.027*** (0.009)	0.522*** (0.063)	-0.154*** (0.021)	0.528*** (0.063)	-0.257*** (0.042)	0.528*** (0.063)
Household head is trader (= 1, 0 otherwise)	0.022 (0.015)	-0.167** (0.066)	0.032 (0.038)	-0.172*** (0.065)	0.009 (0.069)	-0.169*** (0.065)
Household size	-0.009*** (0.003)	0.062*** (0.021)	0.004 (0.007)	0.062*** (0.021)	-0.022 (0.014)	0.061*** (0.021)
Proportion of males 0-4 years old	0.142* (0.074)	-0.729* (0.426)	0.215 (0.155)	-0.719* (0.416)	0.617* (0.331)	-0.725* (0.415)
Proportion of males 5-10 years old	0.125* (0.064)	-0.462 (0.376)	0.166 (0.134)	-0.455 (0.367)	0.480* (0.288)	-0.457 (0.366)
Proportion of males 11-18 years old	0.098 (0.061)	-0.171 (0.359)	0.225* (0.126)	-0.163 (0.349)	0.580** (0.274)	-0.166 (0.349)
Proportion of males 19-59 years old	0.029 (0.047)	0.016 (0.269)	0.061 (0.096)	0.033 (0.260)	0.177 (0.208)	0.022 (0.259)
Proportion of females 0-4 years old	0.069 (0.071)	-0.927** (0.399)	0.009 (0.149)	-0.913** (0.391)	0.340 (0.320)	-0.922** (0.390)
Proportion of females 5-10 years old	0.154** (0.064)	-0.249 (0.378)	0.180 (0.136)	-0.239 (0.368)	0.405 (0.292)	-0.250 (0.366)
Proportion of females 11-18 years old	0.185*** (0.065)	0.043 (0.383)	0.374*** (0.136)	0.054 (0.374)	0.507* (0.290)	0.059 (0.373)
Proportion of females 19-59 years old	0.088 (0.073)	-0.046 (0.437)	0.080 (0.153)	-0.038 (0.428)	0.204 (0.328)	-0.046 (0.427)
Proportion of females 60 years and older	0.100 (0.080)	-0.166 (0.475)	0.146 (0.170)	-0.161 (0.464)	0.466 (0.354)	-0.169 (0.464)
Ln (owned cultivable land + 1)	-0.002 (0.003)	0.018 (0.019)	-0.021*** (0.006)	0.015 (0.018)	0.010 (0.012)	0.017 (0.018)
Access to electricity (= 1, 0 otherwise)	0.018** (0.008)	-0.024 (0.049)	0.012 (0.019)	-0.023 (0.049)	0.060 (0.038)	-0.020 (0.048)
Price of rice (in taka)	-0.003* (0.001)	0.004 (0.007)	-0.006** (0.003)	0.004 (0.007)	-0.012** (0.006)	0.003 (0.007)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of dairy cows owned	0.011*** (0.003)	0.142*** (0.029)	-0.017** (0.008)	0.141*** (0.029)	-0.036** (0.016)	0.142*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.064*** (0.010)	0.197*** (0.055)	0.071*** (0.022)	0.188*** (0.054)	0.127*** (0.043)	0.206*** (0.054)
Age difference (male-female)	-0.002** (0.001)	0.001 (0.005)	-0.005*** (0.002)	0.001 (0.005)	-0.005 (0.004)	0.000 (0.005)
Types of informal credit sources in village	0.024*** (0.003)	0.035** (0.015)	0.017** (0.007)	0.032** (0.014)	0.044*** (0.013)	0.037** (0.014)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)	0.099*** (0.008)	0.034 (0.046)				

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Table 17i—continued

	Table 3: Female BMI		Table 4: Female BMI		Table 5: Female BMI	
	First stage regression results					
	Endogenous variable: empowerment score of woman	Endogenous variable: number of food crops produced by household	Endogenous variable: number of groups woman is an active member of	Endogenous variable: number of food crops produced by household	Endogenous variable: average number of decisions over credit	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Clay-loam soil (= 1, 0 if otherwise)	-0.010 (0.010)	0.396*** (0.062)	-0.023 (0.023)	0.407*** (0.061)	0.057 (0.045)	0.403*** (0.061)
Sandy-loam soil (= 1, 0 if otherwise)	-0.034*** (0.012)	0.554*** (0.071)	-0.025 (0.026)	0.566*** (0.071)	0.040 (0.051)	0.562*** (0.071)
% of land irrigated by household	0.001*** (0.000)	0.010*** (0.001)	0.001*** (0.000)	0.010*** (0.001)	0.001** (0.000)	0.010*** (0.001)
Number of community activities woman has participated in during the previous year			0.058*** (0.009)	0.032 (0.022)		
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)						
Constant	0.321*** (0.083)	-0.542 (0.460)	-0.212 (0.178)	-0.506 (0.448)	-0.068 (0.359)	-0.509 (0.448)
Observations	3,263	3,263	3,263	3,263	3,263	3,263
F	22.916	47.399	12.953	48.535	7.504	49.047
Adjusted R ²	0.183	0.313	0.106	0.320	0.057	0.319

Table 17j. First stage regressions

	Table 6: Female BMI		Table 7: Female BMI		Table 8: Female BMI	
	First stage regression results					
	Endogenous variable: number of assets woman has self/joint ownership of	Endogenous variable: number of food crops produced by household	Endogenous variable: number of self/joint decisions over purchase, sale, or transfer of assets made by woman	Endogenous variable: number of food crops produced by household	Endogenous variable: gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Pregnant (= 1, 0 otherwise)	0.011 (0.132)	0.109 (0.112)	-0.567 (0.876)	0.109 (0.112)	0.004 (0.020)	0.131 (0.116)
Lactating (= 1, 0 otherwise)	-0.193** (0.085)	0.085 (0.073)	-1.022* (0.539)	0.085 (0.073)	0.011 (0.013)	0.086 (0.074)
Age (in years) of member	0.069*** (0.018)	0.016 (0.014)	0.578*** (0.104)	0.016 (0.014)	-0.009*** (0.002)	0.017 (0.014)
Age-squared of member	-0.001*** (0.000)	-0.000 (0.000)	-0.006*** (0.001)	-0.000 (0.000)	0.000*** (0.000)	-0.000 (0.000)
Years of education of member	0.063*** (0.009)	0.002 (0.009)	0.342*** (0.059)	0.002 (0.009)	-0.001 (0.001)	0.002 (0.009)
Household head is farmer (= 1, 0 otherwise)	-0.058 (0.065)	0.527*** (0.063)	0.313 (0.434)	0.527*** (0.063)	0.020** (0.008)	0.522*** (0.063)
Household head is trader (= 1, 0 otherwise)	0.127 (0.106)	-0.169*** (0.065)	1.398** (0.658)	-0.169*** (0.065)	-0.027** (0.012)	-0.167** (0.066)
Household size	-0.069** (0.027)	0.061*** (0.021)	-0.585*** (0.144)	0.061*** (0.021)	0.010*** (0.003)	0.062*** (0.021)
Proportion of males 0-4 years old	0.407 (0.495)	-0.726* (0.416)	6.578** (2.992)	-0.726* (0.416)	-0.115* (0.069)	-0.729* (0.426)
Proportion of males 5-10 years old	0.572 (0.457)	-0.458 (0.367)	6.479** (2.733)	-0.458 (0.367)	-0.100* (0.057)	-0.462 (0.376)
Proportion of males 11-18 years old	0.808* (0.440)	-0.166 (0.349)	7.532*** (2.696)	-0.166 (0.349)	-0.094* (0.055)	-0.171 (0.359)
Proportion of males 19-59 years old	0.169 (0.335)	0.022 (0.259)	0.141 (1.982)	0.022 (0.259)	-0.024 (0.042)	0.016 (0.269)

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Table 17j—continued

	Table 6: Female BMI		Table 7: Female BMI		Table 8: Female BMI	
	First stage regression results					
	Endogenous variable: number of assets woman has self/joint ownership of	Endogenous variable: number of food crops produced by household	Endogenous variable: number of self/joint decisions over purchase, sale, or transfer of assets made by woman	Endogenous variable: number of food crops produced by household	Endogenous variable: gender parity gap (= 0 if woman enjoys gender parity, "gap" if not)	Endogenous variable: number of food crops produced by household
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Proportion of females 0–4 years old	0.802 (0.496)	–0.923** (0.391)	5.817** (2.949)	–0.923** (0.391)	–0.047 (0.066)	–0.927** (0.399)
Proportion of females 5–10 years old	0.571 (0.457)	–0.251 (0.367)	6.339** (2.686)	–0.251 (0.367)	–0.144** (0.057)	–0.249 (0.378)
Proportion of females 11–18 years old	1.367*** (0.465)	0.059 (0.373)	6.980** (2.768)	0.059 (0.373)	–0.143** (0.058)	0.043 (0.383)
Proportion of females 19–59 years old	0.909 (0.563)	–0.046 (0.427)	5.713* (3.267)	–0.046 (0.427)	–0.085 (0.065)	–0.046 (0.437)
Proportion of females 60 years and older	1.197** (0.593)	–0.170 (0.464)	7.650** (3.546)	–0.170 (0.464)	–0.101 (0.070)	–0.166 (0.475)
Ln (owned cultivable land + 1)	0.012 (0.019)	0.017 (0.018)	0.387*** (0.126)	0.017 (0.018)	0.006** (0.002)	0.018 (0.019)
Access to electricity (= 1, 0 otherwise)	0.150*** (0.056)	–0.020 (0.048)	1.064*** (0.352)	–0.020 (0.048)	–0.010 (0.007)	–0.024 (0.049)
Price of rice (in taka)	–0.001 (0.009)	0.003 (0.007)	–0.009 (0.056)	0.003 (0.007)	0.002 (0.001)	0.004 (0.007)
Division level fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of dairy cows owned	0.111*** (0.026)	0.142*** (0.029)	0.749*** (0.169)	0.142*** (0.029)	–0.005* (0.003)	0.142*** (0.029)
Owns hand tube well (= 1, 0 otherwise)	0.305*** (0.068)	0.205*** (0.054)	0.889** (0.397)	0.205*** (0.054)	–0.041*** (0.008)	0.197*** (0.055)
Age difference (male–female)	–0.012* (0.006)	0.000 (0.005)	–0.032 (0.040)	0.000 (0.005)	0.001* (0.001)	0.001 (0.005)
Types of informal credit sources in village	0.237*** (0.018)	0.037** (0.014)	1.524*** (0.122)	0.037** (0.014)	–0.020*** (0.003)	0.035** (0.015)
Whether female has participated in any community activity during the previous year (= 1, 0 if otherwise)					–0.058*** (0.007)	0.034 (0.046)
Clay-loam soil (= 1, 0 if otherwise)	0.062 (0.068)	0.403*** (0.061)	1.519*** (0.431)	0.403*** (0.061)	0.012 (0.009)	0.396*** (0.062)
Sandy-loam soil (= 1, 0 if otherwise)	–0.066 (0.075)	0.562*** (0.071)	2.909*** (0.517)	0.562*** (0.071)	0.041*** (0.011)	0.554*** (0.071)
% of land irrigated by household	0.002** (0.001)	0.010*** (0.001)	0.011** (0.004)	0.010*** (0.001)	–0.000*** (0.000)	0.010*** (0.001)
Number of community activities woman has participated in last year						
Whether homestead land has been inherited by woman (= 1, 0 if otherwise)	0.373** (0.156)	–0.017 (0.093)	2.691*** (0.974)	–0.017 (0.093)		
Constant	–0.965* (0.552)	–0.508 (0.449)	–10.147*** (3.252)	–0.508 (0.449)	0.389*** (0.077)	–0.542 (0.460)
Observations	3,263	3,263	3,263	3,263	3,203	3,203
F	15.813	47.597	18.908	47.597	11.771	47.399
Adjusted R ²	0.135	0.319	0.188	0.319	0.121	0.313

*** $p < 0.01$.** $p < 0.05$.* $p < 0.1$.



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



WOMEN IN NON-PRODUCTION ROLES IN AGRICULTURE: A LITERATURE REVIEW OF PROMISING PRACTICES

JULY 2016

LEO REPORT NO. 38



USAID
FROM THE AMERICAN PEOPLE

LEO

Leveraging Economic Opportunities



Expanding Opportunities Worldwide

WOMEN IN NON-PRODUCTION ROLES IN AGRICULTURE: A LITERATURE REVIEW OF PROMISING PRACTICES

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DISCLAIMER

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ACRONYMS

CA	Collective Action
CBSP	Community-Based Seed Production
FAO	Food and Agriculture Organization
GERES	Groupe Energies Renouvelables, Environnement et Solidarités
HACCP	Hazard Analysis Critical Control Point
HKI	Helen Keller International
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IIDS	Institute for Integrated Development Studies
MEDA	Mennonite Economic Development Associates
P4P	Purchase for Progress
SDC	Swiss Agency for Development and Cooperation
SMFM	Sell More For More
U.N.	United Nations
WFP	World Food Programme

EXECUTIVE SUMMARY

The USAID Feed the Future Initiative supports the development of agriculture as an engine of economic growth, food security, and poverty reduction. Key to the success of this initiative is the empowerment of women, who play a vital role in advancing agricultural development, food security, and nutritional outcomes. Much of Feed the Future's agricultural programmatic support to rural women thus far has been concentrated at the production stage. As a result, there is a wealth of information related to women's economic empowerment through production, but there is limited available data related to best practices and promising approaches for women's empowerment at other value chain levels.

This literature review aims to fill this knowledge gap by examining approaches to empower women or increase their incomes in four phases of the value chain outside of production: input and service provision, post-harvest handling, processing, and the marketing of agricultural goods. While some of the women who are beneficiaries of the strategies discussed in this review are not engaged in agricultural production, many are farmers who also work at other levels of the value chain. Often, these activities build on or add value to production interventions. The review focuses on three specific value chains: maize, groundnut, and horticulture (defined as fruit and vegetable production). Projects span the continents of Africa, Asia, and Latin America.

This review of literature reveals that there are many opportunities to increase women's economic empowerment beyond interventions focused on production. Overall, projects at all four value chain levels tended to direct women's empowerment efforts and activities through producer groups or cooperatives. It was most common for target groups to be comprised primarily or entirely of women. The groups supported by project activities ranged from small, informal organizations to large cooperatives. Notable outliers include projects that worked with agrodealers and market women, who tend to be small business owners. Unfortunately, these outlier projects do not have good data regarding incomes or empowerment so it is difficult to compare the two approaches. However, it is safe to say that interventions have successfully generated social and economic gains for women by working through producer groups of varying sizes.

Post-production interventions addressed a range of gender-based constraints. A common issue addressed through project activities is women's insufficient training, knowledge, or skills, which lead to low returns or exclusion from post-production entrepreneurship. Almost all projects included a training component, such as technical skills for seed production, post-harvest handling, and processing. Trainings may also have covered business topics, such as organizational management or marketing. One effective approach adopted by many projects was to offer a package of trainings that covered both technical and business knowledge. Capacity-building efforts have had notable impacts on women's skills, knowledge, and ability to effectively run their businesses.

Around a quarter of projects included a training component to address gender-specific issues, such as gender roles, leadership, or power. While it is difficult to say conclusively that these gender trainings improved economic or empowerment indicators for women, projects that included gender sensitization trainings did report positive changes in attitudes of both men and women on gender equity and perceptions of gender. Many of the projects that did not include gender trainings have still been successful in enhancing women's economic empowerment; however, they may have had a more profound impact if they had also addressed these deeper, and interrelated, social issues.

Another constraint addressed through project activities was women's generally low levels of assets and equipment. In some cases, project activities were selected based on their ability to work within the asset and equipment constraints. For example, one project identified seed production as an activity that did not require large amounts of land—a resource women lacked. Many projects also included technology or equipment provision in their approach, which served to close some of the gender gaps in access to resources and enabled women to be more effective in post-harvest handling, processing, or marketing activities. Additionally, technology provision addressed the issue of women's drudgery, especially in relation to post-harvest handling and processing. A review of the current data demonstrates that the impacts of these technologies on women's empowerment can be impressive. For example, because women are responsible for maize management, the provision of silo technology for maize storage contributed to women's economic empowerment by reducing their drudgery, enhancing their marketing options, and increasing their status. Scales for weighing maize enabled women to negotiate with buyers.

Women's limited market access due to a lack of linkages or mobility is another common issue addressed. Many projects noted that women face particular constraints marketing their products due to factors such as isolation, lack of knowledge, quality issues, and lack of bargaining power. In addition to capacity building in business or marketing topics, the most common marketing approaches were developing models for collective marketing and linking market actors to one another either informally or through contracts. In combination with support for the production and storage of high-quality products, the development of marketing institutions or linkages have led to both economic and social benefits for female farmers.

Projects demonstrated positive social and economic results for women. Analyses pointed to increases in sales and/or prices as a result of interventions as well as improvements in income. With regard to empowerment, common results include expected outcomes of project activities such as increased knowledge and skills, market access, participation in organizations, and assets. However, projects have also generated impacts such as increased confidence, shifts in decision-making power or voice at household and community levels, increased community connections or social support, increased leadership, a decrease in workloads, and an increase in bargaining power. A small number of interventions also generated shifts in both men's and women's perceptions of women's status, roles, and responsibilities.

This literature review points to quite a few good practices that generate positive socioeconomic impacts for women. These include the creation or strengthening of women's groups; strategies to increase women's participation in mixed groups; technical trainings for women; the provision of post-harvest or processing technology for women; collective marketing; and the inclusion of specific gender trainings in post-production interventions. In general, interventions provided packages of support and did not rely on a single approach. Therefore, in many cases, it is difficult to associate impact-level indicators with a single activity. The literature review did not yield any examples of practices that consistently did not work. However, it is interesting to note that the interventions included in the literature review generally used approaches that were similar to one another. An enlightening area for further research would be whether these similarities are due to current trends in development practice or due to failures of other types of interventions.

All of the projects included in this analysis have had some degree of success; however, some have had more modest results than hoped for. Of the projects that did report challenges or lessons learned, one common sticking point was issues related to planning and implementation, including gender mainstreaming issues such as a lack of staff gender capacity or coherent gender approaches in design. Projects also discussed implementation issues related to the environments in which they were operating, including gender norms that made it difficult to implement interventions or led to unintended consequences such as men taking over crops that had been seen as "female." Other challenges included limited profitability of enterprises as well as issues establishing linkages to finance or markets. Finally, interventions ran into difficulties related to gaps in institutional or human capacity, such as quality control issues or inadequate training in marketing. While these issues are not necessarily all gender specific, they are common problems faced by interventions aiming to increase women's economic empowerment.

The most significant issue that impedes analysis of post-production interventions is a lack of rigorous impact data related to women's empowerment and economic opportunities. Without this data, it is difficult to compare projects to one another or draw broad conclusions related to what works and what does not. Another challenge is that many project documents focus on describing successes while minimizing attention to failures or trouble spots. While there certainly is value in publishing and documenting success stories, a more evenly focused body of literature would make it easier to avoid repeating mistakes. Currently, we have a decent understanding of what is working but very spotty knowledge related to what has not worked and why.

Moving forward, there are four important areas for improving data collection related to women's post-production economic empowerment. The first is the development of a more robust body of published gender assessments and impact assessments. Reliable and transparent access to a greater body of data will enable practitioners to compare approaches to one another in a far more rigorous way. The second area is for increased collection of data on interventions and approaches to empower women engaged in service provision or marketing who are not farmers. While we know quite a bit about projects that have worked with female seed producers, producers, and processors, there is a significant gap related to projects that have worked with women at other value chain levels. It is unclear if this is because such projects do not exist or if there is successful work happening that has not been documented. On a related note, there are quite a few examples of interventions to empower women processors who are not necessarily farmers; however, the quality of the data is poorer than that of other value chain stages. Thirdly, another potential area for exploration could be promising practices for increasing women's participation in male-dominated organizations or sectors. While this literature review found a few projects that focused on this, the most

common approach was to increase women's economic empowerment through female-dominated groups or activities or through mixed groups with strong female representation. A more robust body of literature related to increasing female participation in male-dominated areas would be useful both for mainstreaming gender in such projects and for comparing whether it is more effective to target women's groups or to empower women through male-dominated sectors or associations. Finally, another information gap is data on women's control over their post-production earnings. While we know that projects have succeeded in increasing women's involvement in entrepreneurial activities, projects have not quantitatively documented how income is controlled within these women's households. Although there is some anecdotal evidence that women are able to retain control over their post-production earnings, more robust data would enable practitioners to better understand these dynamics.

INTRODUCTION

The USAID Feed the Future initiative supports the development of agriculture as an engine of economic growth, food security, and poverty reduction. Key to the success of this initiative is the empowerment of women, who play a vital role in advancing agricultural development, food security, and nutritional outcomes. Much of Feed the Future's agricultural programmatic support to rural women thus far has been concentrated at the production stage. As a result, there is a wealth of information related to women's economic empowerment through production, but there is limited data available related to best practices and promising approaches for women's empowerment at other value chain levels.

This literature review aims to fill this knowledge gap by examining approaches to empower women or increase their incomes in four phases of the value chain besides production: input and service provision, post-harvest handling, processing, and the marketing of agricultural goods. While some of the women who are beneficiaries of the strategies discussed in this review are not engaged in agricultural production, many are farmers who also work at other levels of the value chain. Often, these activities build on or add value to production interventions. The review of available literature reveals that there are many opportunities to increase women's economic empowerment outside of interventions focused on production.

The review focuses on three specific value chains: maize, groundnut, and horticulture (defined as fruit and vegetable production). Projects span Africa, Asia, and Latin America, and findings are divided into four sections based on value chain stage:

- production inputs and services
- post-harvest handling
- processing
- marketing

Findings are not disaggregated by value chain but rather identify commonalities, patterns, and contrasts across all three types of crops.

At each stage, the literature review identifies gender-based constraints and opportunities addressed by interventions, the types of enterprises supported, the types of approaches used, and successes and good practices. This information includes examples of how successful interventions have been designed and organized. The review also summarizes which types of interventions tend to engage multiple value chain stages, which generally focus on one stage, and their economic and social impacts. Although information related to programmatic challenges is more limited, a section at the end summarizes general findings related to these topics across all value chain stages. As the interventions reviewed below demonstrate, there is a great deal of potential to empower women in agricultural value chains at stages outside of production. Such interventions not only benefit women but also their families and communities. They also strengthen the agricultural sector and rural economies as a whole.

METHODOLOGY

This literature review focuses on projects in three crop value chains: maize, groundnut, and horticulture.¹ Projects were identified through keyword searches using a variety of combinations related to the commodities, value chain stages, and/or

¹ USAID/Bureau for Food Security selected the three commodities on the basis of their frequency of appearance in Feed the Future activities identified through keyword searches as potentially addressing nonproduction stages of the value chain; expectation of relatively high engagement with women based on knowledge of general agricultural programming and Feed the Future programming; and having at least one cereal and one noncereal included.

particular occupations or products within the value chains. Other keywords used include, among others, women, gender, empowerment, project, and program. Projects were also identified through bibliographies or because they were mentioned in webpages or documents found through the keyword searches. Due to the small quantity of rigorous materials on the topic, the researchers accepted materials beyond assessments or formal reports, including blog posts or success stories. They used the primary criteria that the intervention work with women on a post-production activity that was tied to income generation and that it document at least one example of a successful or promising approach. Projects that were selected were those that worked with women in farmer organizations or in micro, small, or medium enterprises. The literature review did not include efforts to improve working conditions for female employees in large companies or for female agricultural laborers. Not all projects included were successful in each of their aims. Projects that ended before 2005 were excluded from the literature review.

Although the word *empowerment* is frequently utilized in development projects, its precise definition varies across projects, organizations, and research studies. This literature review focuses on projects that increased women's access to knowledge and skills, physical assets, credit, participation in organizations, and linkages with value chain actors for both inputs and marketing, among other interventions. When discussing empowerment impacts, the review analyzes how such approaches have led to positive changes in women's agency or their capacity to bring about economic change for themselves. For example, increased women's business skills through training was not analyzed as an empowerment impact for programs that used business skills training as an approach. The acquisition or increase of skills is not in and of itself viewed by the researchers as empowerment; rather, it is the application or use of those business skills that demonstrates empowerment. Therefore, if the project documents that such skills training for women led to increased negotiating power, expansion of enterprise, or higher levels of confidence, this is treated as an economic empowerment impact.

The review looks for patterns, similarities, and differences across the three value chains at the four levels of post-production activities. In many interventions, there are overlaps between the different value chain levels. For example, an activity may combine post-harvest handling with processing or processing with marketing, etc. Similarly, there is not always a clean division of production and post-production activities. Improving marketing, for example, may involve trainings related to how to conduct market analyses to determine what to plant. For the sake of clarity, interventions have been grouped according to what is the most dominant activity. In cases where there are two distinctly separate activities, projects are mentioned twice in the review. Additionally, some projects worked with additional crops beyond the three the review focuses on. When results and activity data include several crops, this is noted in the figures at the beginning of each section.

Practitioners reading this document should be aware that this is an effort to disseminate the best information that exists to date rather than an analysis of rigorous studies. Due to a dearth of projects with external gender assessments or evaluations, some projects are included that do not have rigorous or detailed descriptions of their results. Similarly, some evaluations focus on the results but give very perfunctory descriptions of the activities implemented. Although the majority of projects have at least some level of results data, a few particularly innovative projects have been included even though they are in their initial stages.

BACKGROUND

Women have high levels of participation in the agricultural sector in all regions of the world. However, there are significant gender gaps in terms of access to resources and opportunities. Recently, much attention has been given to closing these gender gaps at the production level. For example, the United Nations' (U.N.) Food and Agriculture Organization (FAO) has found that "if women had the same access to productive resources as men, they could increase yields on their farms by 20–30 percent."²

Although most attention has been focused on empowering women at the production stage of the value chain, women are involved at other levels as well. According to the FAO:

Rural women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural

² <http://www.fao.org/gender/gender-home/gender-why/key-facts/en/>

enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes.³

Women’s participation in value chain activities depends on the commodity, value chain stage, and cultural context. Therefore, generalizations “regarding patterns of male and female participation in value chains and the various nodes within them are difficult to make – they are highly context specific even within the same value chain.”⁴ However, some generalizations can be made. For example, women tend to be concentrated in low-input, low-return activities such as domestic trade and small-scale processing. In sectors typically dominated by women, such as household processing or handicrafts, “markets are often saturated and offer low returns.”⁵ Conversely, “men tend to dominate functions with relatively high barriers to entry and correspondingly greater returns (rent), and to control chain management functions.”⁶ Additionally, female farmers tend to be less involved in marketing than in production or post-harvest handling.

In agricultural value chains, women are restricted by issues related to low capacity, lack of assets, and structural barriers including policies and cultural norms. Nonetheless, there are significant opportunities to enhance women’s economic empowerment in post-production activities. In fact, post-production work can hold promise for women who do not have the resources to be farmers, as “even the poorest of women, without key productive assets like land and machinery, can enter value chains by engaging in product development, processing, and marketing services.”⁷ However, as value chains are upgraded and formalized, women face the threat of being pushed out of these more informal roles. This literature review will explore strategies for increasing women’s economic opportunities while strengthening value chain stages outside of production.

FINDINGS

I. Production Inputs and Services

Ten interventions were reviewed related to production inputs and services. Of these interventions, two were in the horticulture value chain, one in the maize value chain, and one in the groundnut value chain, with six crossing more than one value chain (see Appendix I for intervention details).

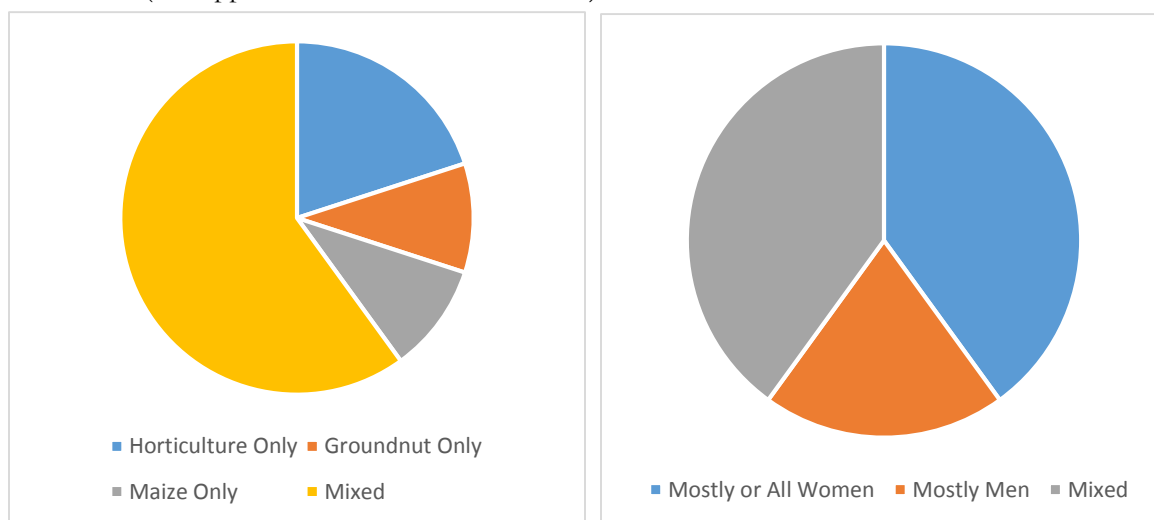


Figure 1 and 2. Production Inputs and Services Value Chains and Organizations or Enterprises

³ FAO, “The State of Food and Agriculture: Women in Agriculture Closing the Gender Gap for Development” (Rome, Italy: FAO, 2011).

⁴ Christopher Coles and Jonathan Mitchell, “Gender and Agricultural Value Chains: A Review of Current Knowledge and Practice and Their Policy Implications,” ESA Working Paper No. 11-05, FAO Agricultural Development Econ. Division (Rome, Italy: FAO, 2011).

⁵ World Bank, *Gender in Agriculture Sourcebook* (Washington, D.C.: World Bank, 2009).

⁶ Coles and Mitchell, “Gender and Agricultural Value Chains.”

⁷ World Bank, *Gender in Agriculture Sourcebook*.

GENDER-BASED CONSTRAINTS AND OPPORTUNITIES

With regard to input provision, six of the projects evaluated in the literature review identified opportunities to empower women or address constraints faced by women in seed, seedling, or planting material production. The reasons for projects' intentional actions around women's empowerment varied. In two Oxfam projects implemented in Nepal and Rwanda and DAI's Alternative Development Program-East in Afghanistan, seed, seedling, or planting material production was selected as a project focus specifically because it was an activity that had market potential and the potential to benefit women and/or smallholders given gendered constraints. The project in Rwanda identified lack of land as a constraint faced by women, and in Afghanistan, women's social restrictions and general lack of economic opportunities were identified as significant issues. Similarly, the Tropical Legumes II intervention in Niger was designed to overcome constraints faced by women groundnut farmers, including a lack of exposure to modern groundnut varieties, knowledge gaps, and marketing issues. The Hill Maize Research Project in Nepal and the Seeds of Life Project in Timor-Leste, on the other hand, mainstreamed women's empowerment into existing interventions focused on the development or dissemination of quality seed. In these cases, the initial impetus for seed production was not women's economic empowerment but rather overcoming general issues in the value chain. Seeds of Life's gender strategy addressed workloads, participation, literacy, land rights, and nutrition.

There are relatively few examples of women's economic empowerment through production support services beyond seeds and planting materials. Two projects that worked with agrodealers for a variety of value chains identified gender gaps in the number of female versus male agrodealers and made efforts to include women or to increase their business skills. The Agro Inputs Marketing project in Mozambique increased the proportion of female-owned input shops from 6 to 15 percent and, during the Agro Enterprise Development Project in Kyrgyzstan, female trade association membership increased from 10.9 percent to 25.8 percent over just two years. However, neither project described the processes by which they increased women's participation. The literature review only found one project, ACIDI/VOCA's PROFIT+ in Zambia, that placed a strong focus on increasing women's participation and capacity as agrodealers. This project built the capacity of selected lead farmers to become community agrodealers (CAD). It recognized that the CAD model not only had the potential to promote local job creation and more effective and efficient linkages with agribusinesses and service delivery to farmers but also presented a job opportunity for rural women. Cereal Systems for South Asia in Bangladesh, which works in the maize value chain, identified an opportunity to provide training to "infoladies," an existing network of "women entrepreneurs that use various information and communication tools (e.g., laptops, mobiles, blood sugar meters) to provide small-fee services to rural people in Bangladesh."⁸ However, this was not a major focus area in the project, and it is unclear if the training had any long-term success.

TYPES OF ORGANIZATIONS SUPPORTED

All but one of the six projects that worked with producers of seed, planting material, or seedlings implemented activities through cooperatives or groups. These groups differed both in terms of size and in their levels of formality. For example, Oxfam's Enterprise Development Program in Nepal, which worked with vegetable seed, supported a single cooperative with hundreds of members. The Hill Maize Research Project, on the other hand, supported over 200 community-based seed production groups, some of which it helped to consolidate into cooperatives. The six projects were evenly split between working with organizations that were all or predominantly women and working with mixed organizations with between 30 and 56 percent female membership.

Seed and planting material projects were evenly split between those that formed new groups or enterprises and those that focused on capacity building for existing groups. An Oxfam project that focused on pineapple planting material production in Rwanda, for example, worked through existing organizations whenever possible but encouraged women to establish new groups in areas where there were none. The Seeds of Life program in Timor-Leste, on the other hand, established a local seed production system both through community-based seed producer groups, which are small and produce community seed that is not tested, and through commercial seed producers, which are larger groups that produce seed that is tested for quality.

The four interventions that did not focus on producing seed, seedling, and planting material focused on enterprises rather than groups. Overall, men dominated in these projects. Three projects worked with existing entrepreneurs, although two of these projects did develop new associations. The Agro Enterprise Development Project in Kyrgyzstan, for example, worked with agro-input entrepreneurs and developed a trade association as part of its activities. The fourth project, PROFIT+, built the

⁸ Cereal Systems Initiative for South Asia – Bangladesh (CSISA-BD), *Cereal Systems Initiative for South Asia in Bangladesh, Annual Report for Financial Year 2013* (Washington, D.C.: USAID, 2013): 56.

capacity of lead farmers to become agrodealers in their communities. During this process, the project linked women with credit opportunities and also made sure that women received business mentorship and training. According to project reports, "in terms of gender empowerment, one-third (65) of the CADs are women who are showcasing continuous leadership efforts in the communities."⁹

Table I. Production Inputs and Services Types of Support

Common Approaches	
Approach	Percent of Interventions (Out of 10)
Input Production/Service Provision Training	90%
Business Skills, Marketing Training, or Capacity Building	80%
Assets (Capital, Technology, Infrastructure)	30%
Credit Linkages	60%
Linkages for Inputs and Markets, Contracts, Vertical Networking	60%
Participatory Research	30%
Gender, Leadership, Empowerment Trainings	20%

All of the interventions in this section included a technical training component. In 90 percent of cases, project documents mentioned offering technical trainings related to inputs, service provision, or planting material production. Most projects also offered training or technical assistance related to business skills, organizational strengthening, or marketing. Only two projects, both implemented by Oxfam, offered specific trainings focused on gender or empowerment: one program supported women with participatory learning classes "to raise women's awareness of their rights at various levels (e.g. household, cooperative, community)," and the other included gender as a topic for crosscutting trainings delivered to female producers.¹⁰ Other projects, however, offered examples of how they designed training activities to meet the particular needs of women or address gender gaps. ACDI/VOCA's PROFIT+, for example, ensured that "women were trained and mentored in business and entrepreneurship," which facilitated women becoming CADs.¹¹ The Seeds of Life Project, in which women were a minority among beneficiaries, focused particular attention on ensuring that trainings were accessible to women who did not speak the dominant language or were illiterate. The Hill Maize Research Project proactively targeted women to participate in trainings as well as all other activities.

Almost all of the projects created linkages with credit providers, input providers, or buyers. This was done through facilitation of relationships, meetings, or contracts. One example, the Hill Maize Research project, advocated for prioritization of women seed producers in contracts with seed companies. Oxfam's project in Rwanda, on the other hand, coordinated with a credit institution to provide women with access to finance and water pumps at cost.

Additionally, three projects provided equipment, technology, or capital. In two cases, both in the maize value chain, the projects provided labor-saving devices such as shellers or seed sorters to reduce women's drudgery or save labor. An assessment conducted by Seeds of Life found that the technology reduced women's labor burden and led to a more equitable division of post-harvest labor.

Three of the projects reviewed in this section were research projects focused on the development and dissemination of seeds. All of these projects conducted participatory research with farmers and included women in seed testing and selection processes. This meant that women's preferences and particular needs were considered when evaluating seed varieties. In the case of Tropical Legumes II, women's seed producer groups chose which varieties they wanted to produce.

⁹ ACDI/VOCA, Production, Finance, and Improved Technology Plus (PROFIT +) Annual Performance Report No. 3: October 1, 2014–September 30, 2015 (Washington, D.C.: USAID, 2015).

¹⁰ Bet Caeyers, *Impact Evaluation Report: Nepal-Pavitra Vegetable Seed Cooperative Project* (United Kingdom: Oxfam Enterprise Development Programme (EDP), 2014), 4.

¹¹ ACDI/VOCA, Production, Finance, and Improved Technology Plus (PROFIT +) Annual Performance Report No. 3: October 1, 2014–September 30, 2015 (Washington, D.C.: USAID, 2015).

SUCSESSES AND PROMISING MODELS

All of the projects included in this section of the literature review have had good results with regard to women's participation in interventions. All interventions except for the Cereal Systems for South Asia also reported positive changes with regard to the expansion of women's entrepreneurial activities through changes such as the creation of new enterprises, participation in new organizations, the adoption of new practices, or the acquisition of new assets. At one end of the spectrum is the Kyrgyz Agro Enterprise Development Project, in which women were a minority. This project established an association and increased the proportion of female trade association members from 10.9 percent in 2003 to 25.8 percent in 2005. At the other end is the Afghanistan Alternative Development Program-East, which worked exclusively with women in one component and established two successful input-related businesses: tree nurseries and vegetable plug seedling greenhouses. According to the project's final report, seedling greenhouses were successful and "farmers who have bought from the women's greenhouses have seen the benefits: higher yields and more money for their harvest. As a result, there is increasing demand for the plug seedlings from these women-owned and managed greenhouses."¹² Similarly, the report found that "all 38 women's nurseries are now operating on a sustainable basis, and sell varieties of fruit and forestry on the local market."¹³

Most projects provided evidence of improvements in women's knowledge or skills. In some cases, evaluations or reports specifically documented changes in knowledge or capacity. For example, the Tropical Legumes II project measured women's knowledge of modern groundnut varieties and found that it increased from 9.77 percent to 73 percent throughout the course of the project. In other cases, evidence is more anecdotal, such as women expressing happiness with their new knowledge. Other reports do not directly discuss increases in knowledge and skills. However, it can be inferred that interventions have been successful in increasing women's capacity from the fact that women were engaging in new entrepreneurial activities.

Not all of the projects included in this section provided information regarding women's incomes or tracked indicators related to changes in women's agency. However, four projects stand out in terms of their ability to demonstrate successes with regard to women's economic empowerment. The first of these projects, Oxfam's EDP in Nepal, supported a mixed-gender cooperative with business mentorship; capital; advisory and brokering support; support in "social mobilization, networking, and coordination," including the facilitation of small loans; and classes specifically for women focused on women's rights in their households, their communities, and the cooperative. An interim evaluation of the program found that beneficiaries' sales of seeds to the cooperative had gone up, but the evaluation was not able to demonstrate that these increases were statistically different from those of the control group. What is striking are the impacts that the evaluation found with regard to women's empowerment. According to the evaluation, "the results clearly show that the EDP intervention has successfully supported Pavitra in improving women's self-efficacy and their say in the running of the affairs of their enterprises and broader communities."¹⁴

Another Oxfam-implemented project in Rwanda showed demonstrable results with regard to women's incomes and empowerment. This project provided training and mentorship on technical topics, business development, and cross-cutting issues including gender, as well as access to credit for women to develop pineapple-planting-material businesses through groups. Oxfam conducted an evaluation with a treatment and control group. The evaluation found impacts that were the direct result of project activities, such as increases in access to credit, participation in producer groups, and confidence to engage in business. However, it also determined that "there were also significant differences found in terms of characteristics less directly linked to the project activities, including attitudes towards women's rights and women's economic roles, social connections, and involvement in decision-making in the household or community."¹⁵ While the evaluation was not able to conclusively demonstrate an increase in household assets, it did find that the majority of project participants reported an increase in income.

The Tropical Legumes II project in Niger, which was implemented by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), worked with farmer association members that were 90 percent women. This intervention involved women in the selection of the varieties that they preferred, trained them in seed production and in running a business, and

¹² USAID/Afghanistan, *Alternative Development Program/Eastern Region Final Report 2005–2009* (Washington, D.C.: USAID, 2010), 10.

¹³ USAID/Afghanistan, *Alternative Development Program*, 12.

¹⁴ Bet Caeyers, "*Impact Evaluation Report*," 42.

¹⁵ Bet Caeyers and Rob Fuller, *Women's Empowerment in Rwanda: Evaluation of Women's Economic Leadership through Horticulture Planting-Material Business* (United Kingdom: Oxfam GB, 2015), 43.

facilitated market linkages with seed companies. According to project reports, women farmers had a guaranteed buyer and were getting a 30 percent higher groundnut price than the price offered in the market at the time of the transaction. ICRISAT also found indications of social changes in participating communities. For example, women in one village elected to rebuild a mosque that had fallen down.

Finally, a research project by the International Maize and Wheat Improvement Center in Nepal also contributed to increases in women’s incomes and empowerment. This project supported 207 community-based seed production (CBSP) entities with 56 percent female participation through trainings, equipment, and infrastructure, and advocacy for prioritization of women in contracts with seed companies. According to an external evaluation:

A clear and consistent message that came out during field survey[s] was that the CBSP group members, including women and [disadvantaged groups], were highly empowered as a result of project support. Participation in the CBSP has increased their incomes and their food security has gone up by at least 3 more months. The women have been empowered to take part in project meetings, seed selection, and other decision-making activities. Their confidence level has increased and they can raise and make their voices heard.¹⁶

II. Post-Harvest Handling

For this section, nine interventions were reviewed. This section is weighted toward the groundnut value chain. Four interventions are focused on groundnuts; three on maize and other crops; and two on horticulture. This is most likely due to the emphasis that has been placed on aflatoxin reduction in the groundnut value chain in recent years (see Appendix I for intervention details).

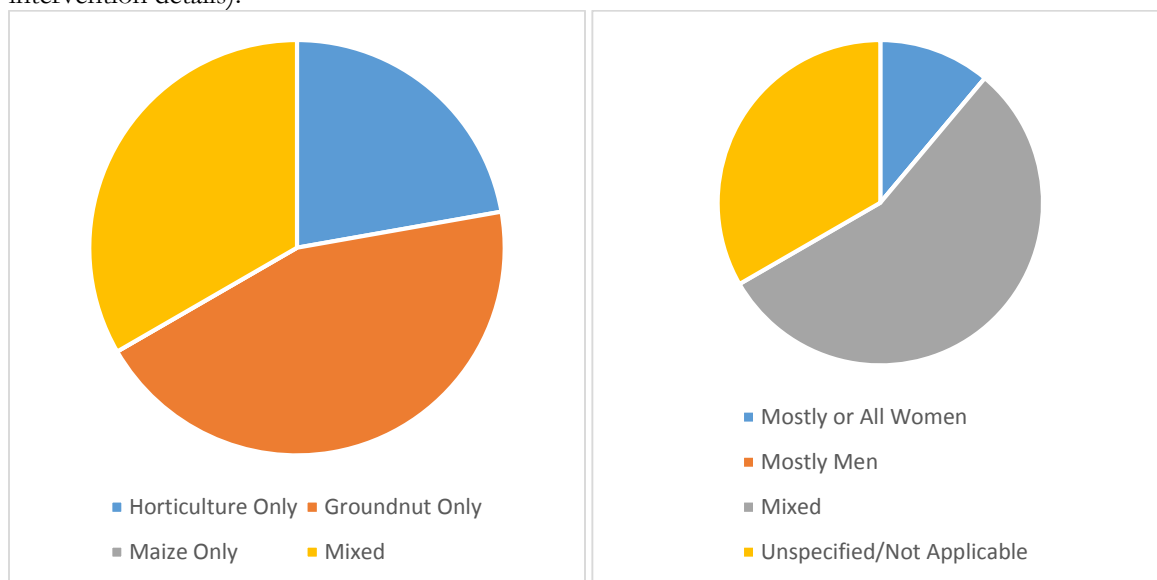


Figure 3 and 4. Post-Harvest Handling Value Chains and Organizations or Enterprises

CONSTRAINTS AND OPPORTUNITIES ADDRESSED

A strong theme that emerged is that women play a significant role in post-harvest work in all three value chains. All but one of the projects included explicitly considered gender-based constraints in their design. The constraints considered vary from project to project. Three of the four projects in the groundnut sector recognized that groundnut shelling, which is usually done by women, is tedious, painful, and time consuming. For example, one project implemented by Self-Help Africa in Ethiopia observed that groundnut shelling is traditionally “done by hand (generally by women) and is very time consuming and labor

¹⁶ Institute for Integrated Development Studies (IIDS), *Evaluation: The Hill Maize Research Project, Phase IV, Report of the External Evaluation* (Washington, D.C.: IIDS, 2014), 28.

intensive.”¹⁷ Another project, implemented in Malawi and Tanzania by CTI, recognized that groundnut post-harvest processes require “substantial, tedious family labor on a nearly continuous, daily basis.”¹⁸ Research for this project found that harvest and post-harvest technologies can decrease women’s drudgery and change the gender division of labor, as men are more likely to engage in mechanized post-harvest work.

Projects in the groundnut sector were also aware that because women often are significantly involved in the groundnut value chain, there are linkages between reducing aflatoxin contamination and increasing women’s empowerment. For example, a project implemented by TWIN simultaneously addressed aflatoxin contamination and women’s empowerment through capacity building and integration into markets because it recognized that women carry out both pre- and post-harvest activities. Similarly, the project implemented by the Peanut Collaborative Research Support Program also addressed gender and aflatoxin issues together because it recognized that “women are the key players in production and trade.”¹⁹ Projects also recognized that the same shelling improvements that reduce drudgery for women also reduce aflatoxin contamination.

On a similar note, two projects in the maize sector and one in the horticulture sector recognized women’s roles in post-harvest handling and the need to work with women to reduce loss. Two of these projects stated that post-harvest loss is a challenge faced by female farmers. For example, according to the Post-Harvest Training and Service Center Project in Ethiopia, women receive low prices for their horticultural crops because they have to be sold simultaneously during the harvest season and because intermediaries know that they too will suffer from post-harvest losses and, therefore, pay accordingly.

TYPES OF ORGANIZATIONS SUPPORTED

Post-harvest activities reached value chain actors in a variety of different ways. Most interventions evaluated for this literature review addressed post-harvest handling at the farm level while some focused on working with processors or traders. Around half of the interventions worked with specific farmer groups or cooperatives. With the exception of one outlier, these groups had mixed membership. The remaining projects either worked with a variety of different participants or worked with farmers but did not specify how they reached them.

In contrast to activities related to inputs and service provision, the interventions in this section generally did not establish new organizations. A notable exception is one project that developed a post-harvest training and services center “to provide practical and profitable technical information, goods and services related to improved postharvest practices” in the horticulture sector.²⁰ This pilot center was designed to provide training of trainers, local training demonstrations, research, services, and supply and equipment sale all in one locale. Although the center has encountered some issues related to the sales and research components, capacity-building activities were successful.

Table 2. Post-Harvest Handling Types of Support

Common Approaches	
Approach	Percent of Interventions (Out of 9)
Post-Harvest Handling Training	89%
Business Skills, Marketing Training, or Capacity Building	33%
Assets (Capital, Technology, Infrastructure)	44%
Credit Linkages	0%
Linkages for Inputs and Markets, Contracts, Vertical Networking	11%

¹⁷ “Improving food safety in Malawi’s groundnuts and giving a voice to women farmers,” NASFAM, accessed July 11, 2016, <http://www.nasfam.org/index.php/news-info/169-improving-food-safety-in-malawi-s-groundnuts-and-giving-a-voice-to-women-farmers>.

¹⁸ CTI, ICRISAT, and Sokoine University of Agriculture, Enhancing Child Nutrition and Livelihoods of Rural Households in Malawi and Tanzania through Postharvest Value-Chain Technology Improvements in Groundnuts, Year Four Project Report (Minnesota: McKnight Foundation, 2013), 1.

¹⁹ “VT 134: Improving the Health and Livelihood of People of East Africa by Addressing Aflatoxin and Gender-related Constraints in Peanut Production, Processing, and Marketing, Peanut CRSP Five Year Report on Activities: 2007-2012,” Feed the Future Innovation Lab for Collaborative Research on Peanut Productivity and Mycotoxin, accessed July 11, 2016, <http://pmil.caes.uga.edu/documents/VT134/FinalReport.pdf>.

²⁰ Diane Barrett, USAID Horticulture Collaborative Research Support Program (Horticulture CRSP), Pilot Project Preliminary Final Report. Project Title: Extension of Appropriate Postharvest Technology in Sub-Saharan Africa: A Postharvest Training and Services Center (Washington, D.C.: USAID, 2013), 3.

Common Approaches	
Participatory Research	22%
Gender, Leadership, Empowerment Trainings	33%

As with the inputs stage, the most common type of activity was training. Topics included post-harvest handling techniques, technology demonstrations, quality control, and aflatoxin reduction, among others. At this value chain level, less than half of interventions involved trainings in marketing or business skills. Although only three projects conducted training explicitly focused on gender or women's empowerment, over half of the projects considered gender in their training design. One example of a project that delivered awareness-raising trainings is the Horticulture Value Chain in Upper Egypt project, which covered equal opportunity, positive work environments, and harassment. The project also incorporated topics such as self-esteem and time management into its technical trainings for women. These trainings along with other activities succeeded in improving post-harvest centers where women worked as employees and increasing women's participation in associations. Another example is the Peanut Collaborative Research Support Project in Uganda, which conducted an aflatoxin awareness-raising campaign with the National Association of Women Organizations in Uganda. Although the report did not mention gender integration in materials, this collaboration increased women's membership in the association.

Another main intervention area was technology dissemination, which was a component or research focus in about half of the projects. In some cases, such as the dissemination of silos in Latin America, technologies were made available to farmers. In others, such as the Self-Help Africa project, technologies were provided through project funds. Examples of technologies include tarpaulins for drying maize, groundnut shellers, and silos for grain storage.

One approach, which is an outlier but is worth mentioning for its reach, is the research conducted by the Peanut Collaborative Research Support project. For this activity, the project worked with local partners to conduct gender-sensitive research on the "gender aspects of peanut postharvest activities"²¹ and to empower women through this process. This led to the 2010 publication of a book titled *Farmers' Stories from Kamuli: Groundnut Knowledge, Recipes, and Everyday Life*.²² The publication has been widely disseminated in the region and has led to improved practices.

SUCCESSSES AND PROMISING MODELS

As with input and service provision, the activities generally achieved good results with regard to women's participation in groups or interventions. For example, in the Horticulture Collaborative Research Support project, women comprised 407 out of 637 post-harvest training participants in the Postharvest Training and Services Center created by the project.²³ This center offered trainings, demonstrations, and advice as well as goods and services for a fee. Similarly, by requiring at least 50 percent female participation in Sell More For More (SMFM) trainings, CARANA was able to reach more than 22,000 women. The only project with potentially problematic results regarding female participation was the silo project implemented by the Swiss Agency for Development and Cooperation (SDC) in Latin America. An impact analysis of this program found that in the majority of cases, the decision to purchase silos was made by men. Nonetheless, this silo technology has had notable impacts on women's empowerment, which are discussed below.

All activities, but two, showed evidence of positive changes for women in terms of the usage of new practices or technologies as well as increases in the size or capacity of enterprises. For example, an evaluation of the Pro-Poor Horticulture Value Chain project in Egypt found that technical trainings increased women's productivity "and led to the adoption of hygienic handling and packaging practices."²⁴ Most projects also documented increases in women's skills and knowledge related to improved post-harvest handling or quality control. For those projects that did not demonstrate increases in skills, two – the SDC silo project and the CTI research project – were primarily focused on technology development and dissemination.

²¹ "VT 134: Improving the Health and Livelihood of People of East Africa."

²² Maria Elisa Christie, Peace T. Kyamureku, and Archileo Kaaya, *Farmers' Stories from Kamuli: Groundnut Knowledge, Recipes, and Everyday Life* (Kampala, Uganda: Office of International Research, Education, and Development (OIREED) at Virginia Tech, 2010), <http://www.oired.vt.edu/wgd/documents/FarmersStoriesFromKamuli.pdf>.

²³ Diane Barrett, USAID Horticulture Collaborative Research Support Program.

²⁴ UN Women, "Gender Mainstreaming Strategy in the Pro-poor Horticulture Value Chain in Upper Egypt (Salesal) MDG-F Programme," from *Advancing Gender Equality: Promising Practices: Case Studies from Millennium Development Goals Achievement Fund* (United States: UN Women, 2013), 95.

Although documentation for multiple projects did not provide impact data or even anecdotal evidence related to changes in sales, income, or agency, there are several examples of promising outcomes that are worth mentioning. The Post-Harvest Training and Services Center project demonstrated strong results with regards to income. According to a project evaluation that included costs, benefits, and changes in practices, “all the examples provided by the 42 [primarily women] respondents showed a positive and relatively rapid or immediate return on investment (ROI), since the increase in their earnings using the improved postharvest practice was higher than their initial monetary investment.”²⁵

Another example is the groundnut technology development project implemented by CTI, which found that technologies had the potential to significantly reduce women’s drudgery. Survey work also revealed that the introduced technologies were changing gender roles: “in interviews with farmers, 97.6% suggested that mechanization of groundnut postharvest operations encourage men to participate more than ever before.”²⁶ Although housework was mentioned most frequently (64.5 percent) as an outlet for how women could use the time they saved through post-harvest technology, 19.5 percent of respondents did suggest that women could start a small business. Project documents did note the importance of monitoring activities to ensure that men did not push women out of groundnut value chain activities.

A project that introduced metal silos in Latin America enabled farmers to store corn and sell it when prices are at a premium instead of selling it directly after harvest. The project report found that although men were the primary decision-makers in adopting silos, silos had both economic and social benefits for women, noting that “silos have improved the status and self-esteem of farmer women. This is because farmer women are the ones who manage silo content. Generally speaking, they are the ones who decide when and how much maize is needed for household consumption or sale on the market.”²⁷ Additionally, the project found that silo technology reduces women’s post-harvest workload and “offers more opportunities for women to sell corn since it is loose and clean, ready to sell at any moment.”²⁸

Anecdotal evidence from CARANA’s project showcases the changes that women in two cooperatives experienced after participating in SMFM trainings focused on post-harvest handling and marketing, among other topics. According to the project’s final report, “women emphasized that before SMFM, their post-harvest losses were high and they were affected by seasonal price variations that resulted in low prices at harvest (e.g., spot selling to itinerant traders). Following the SMFM trainings, these women farmers are now able to produce a higher quality product that sells at a premium price.”²⁹

III. Processing

The literature review includes 11 examples of women’s economic empowerment through processing activities. Of the interventions reviewed, five are in the horticulture value chain, one in both horticulture and maize, three in the groundnut value chain, one in the maize value chain, and one in various value chains including maize. Since fruit and vegetable processing is an activity that has historically been targeted at women, it is not surprising that there are a relatively large number of processing activities in the horticulture value chain (see Appendix I for intervention details).

²⁵ Lisa Kitinoja and Diane Barrett, “Extension of Small-Scale Postharvest Horticulture Technologies – A Model Training and Services Center,” *Agriculture* 5 (2015): 452.

²⁶ Alexandra Spieldoch, “Applying Farmer-Centered Design to Alleviate Women’s Drudgery and Reduce Quality Losses in Groundnut” (proceedings, First International Congress on Postharvest Loss Prevention, Rome, Italy, October 4–7, 2015).

²⁷ Swiss Agency for Development and Cooperation, *March 2008 Latin Brief: Central America: Fighting Poverty with Silos and Job Creation*, accessed July 12, 2016, https://www.eda.admin.ch/dam/deza/en/documents/publikationen/briefing-papers/latin-brief-3-2008_EN.pdf.

²⁸ Sabin Bieri and Annemarie Sancar, “Power and Poverty: Reducing Gender Inequality by Ways of Rural Employment,” (paper presented at the FAO-IFAD-ILO workshops on Gaps, trends, and current research in gender dimensions of agricultural and rural employment: differentiated pathways out of poverty, Rome, Italy, March 31–April 2, 2009).

²⁹ Nathan Van Dusen and Kristin Bayard, *Post-Harvest Handling and Storage (PHHS) Project: Final Report* (Washington, D.C.: CARANA Corporation, 2013).

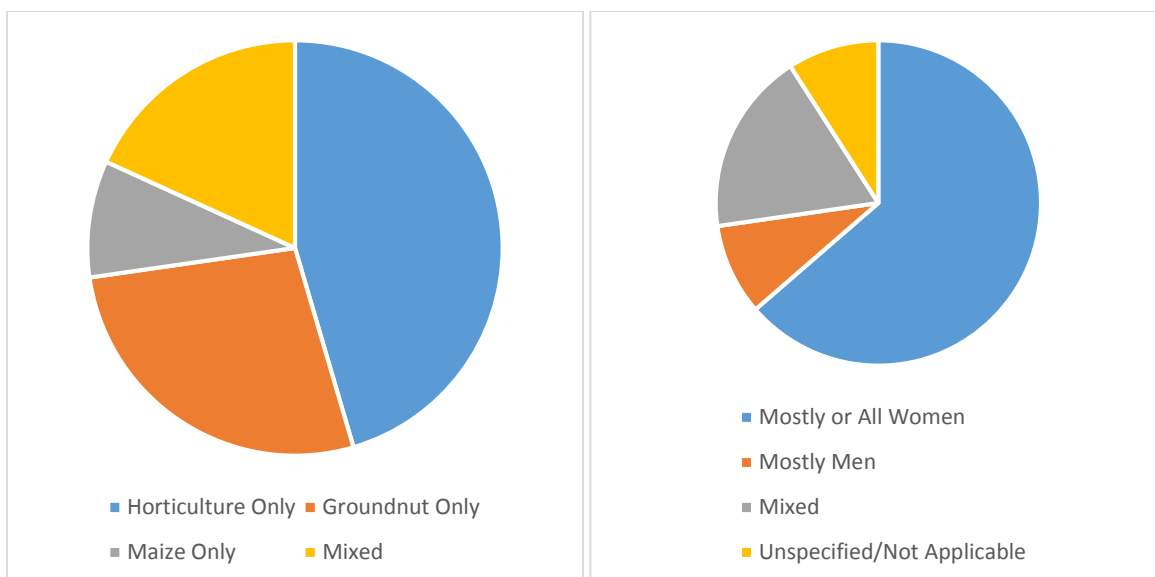


Figure 5 and 6. Processing Value Chains and Organizations or Enterprises

GENDER-BASED CONSTRAINTS AND OPPORTUNITIES

Whether for individual women entrepreneurs, producer groups, or large businesses, most of the food-processing activities reviewed for this study were designed to create economic opportunities for women or to increase women's incomes. The Agonlinmi project implemented by Groupe Energies Renouvelables, Environnement et Solidarités (GERES) saw an opportunity to empower women through the production of high-quality agonlin oil, which is a local groundnut oil that is "much appreciated in Benin because it tastes of grilled peanuts."³⁰ Completed in 2015, this project has not yet published its results. A packing facility in Afghanistan serves as another example that was part of a strategy to give women economic opportunities in a "conservative, closely knit, and patriarchal society."³¹ This packing facility achieved Hazard Analysis Critical Control Point (HACCP) certification and served traders who supply to national and international markets.

The majority of processing interventions also focused on addressing constraints faced by female entrepreneurs. Specific constraints related to processing include insufficient training or knowledge related to processing and to business skills, quality issues, lack of market access, lack of credit, and/or insufficient equipment. Some projects addressed drudgery or tedious labor related to processing. Interventions also pointed to more general gender-based constraints such as the perception that women are not farmers in Uzbekistan, have low levels of participation in the processing industry in Tanzania, or do not have economic opportunities in general in Afghanistan partially as a result of conservative social norms.

Two interventions that worked with women in processing did not seem to have an explicit focus on addressing constraints or opportunities for women. The impetus for one project, which established cottage industry peanut factories for a school program, was to secure a reliable market for the peanut sector. Although the cottage industry activities reached significantly more women than men, this did not seem to be because women were purposefully targeted. However, the project achieved positive impacts for the women both in terms of the knowledge they gained and in terms of profitability. The other intervention, Fruits of the Nile Company, was originally founded to take advantage of women's interest in having a market for products that they were drying using solar dryers. However, the company seems more focused on working with smallholders in general than on explicitly targeting women. Nonetheless, this company works with a large group of female suppliers of dried fruit who benefit from Fair Trade and organic certifications.

³⁰ GERES, *Annual Report 2012* (France: GERES, 2012), 38, <http://www.geres.eu/images/institutionnel/ra/ra-geres-2012-en.pdf>.

³¹ USAID/Afghanistan, *Alternative Development Program*, 10.

TYPES OF ORGANIZATIONS SUPPORTED

Processing projects have supported a variety of business models. Of the 11 cases reviewed, seven involved producer groups, clusters, or cooperatives. Out of the remaining four projects, one worked with individual microentrepreneurs, one with a small enterprise, one with business franchises, and one with cottage industries. Although relatively low, the representation of businesses is higher at this value chain stage than in post-harvest handling or marketing interventions for farmers. Across all interventions, it was most common to work with groups or enterprises that were entirely or predominantly women. The one outlier is the Tuboreshe Chakula project in Tanzania, which worked on food fortification with milling companies. This sector was in a male-dominated portion of the value chain; therefore, the project worked mostly with male-managed enterprises. However, the intervention did have some success in engaging and building the capacity of female entrepreneurs.

At the processing value chain level, it was most common for projects to establish new institutions or enterprises for processing and selling processed goods. For example, ICRISAT's project in the groundnut sector established pilot clusters of around 100 processors each, with management committees. DAI's Alternative Development Program-East established a packing plant run by women. Taking a slightly different approach to establishing new models, the Future in our Mind (FIOM) project upgraded associations into cooperatives by regrouping members and developing processing units that were shared among cooperatives.

Table 3. Processing Types of Support

Common Approaches	
Approach	Percent of Interventions (Out of 11)
Processing Training	91%
Business Skills, Marketing Training, or Capacity Building	73%
Assets (Capital, Technology, Infrastructure)	82%
Credit Linkages	18%
Linkages for Inputs and Markets, Contracts, Vertical Networking	55%
Participatory Research	0%
Gender, Leadership, Empowerment Trainings	9%

All of the projects included in this section provided some form of training or capacity building to processors. All but one mentioned technical trainings that covered topics such as processing methods and equipment usage as well as hygiene, safety, or quality. Some of the processing trainings focused on teaching women how to make new products. These included candied fruits, pickled vegetables, and fortified cereal products, among others. Other trainings helped processors of products such as groundnut oil to improve their techniques or methods. More than half of the projects also provided some form of business development training such as marketing, management, and business skills.

Almost all projects supported processors or processing groups with the provision of equipment and/or infrastructure. This took the form of direct donations of technology or financing for new equipment. A Peanut Collaborative Research Support Program project, for example, supported cottage industries with equipment and infrastructure. The Fruits of the Nile company provided dried fruit producer groups with one-third of the cost of a solar dryer as an interest free loan and facilitated the construction of these dryers. Reducing drudgery was also a motivation for providing equipment. For example, a mill project was designed to benefit both women interested in being mill managers and female customers, who would otherwise spend a significant amount of time grinding by hand. Similarly, a project to provide technology and infrastructure for groundnut oil processors was designed to mitigate “the arduous and time consuming” manual agricultural processing work that is generally done by women in Benin.³²

Over half of the interventions also supported processors with market linkages for their products. Activities in this area included finding new markets for processed goods, building relationships with buyers, and networking events. One project, implemented by the Peanut Collaborative Research Support Program, collaborated with the Guyanese government to develop cottage industries to supply a school feeding program.

³² “Project description. Local Female Entrepreneurship and Development (Agonlinmi),” accessed July 12, 2016, <http://www.geres.eu/en/our-actions/item/333-local-female-entrepreneurship-and-development-agonlinmi#project-description>.

One project with a minority of female beneficiaries, Tuboreshe Chakula in Tanzania, provided extra support to women to overcome gender gaps in the formal processing sector. This support included business formalization support, access to credit workshops, networks among female entrepreneurs and with female bankers, and women-to-women peer group workshops focused on gender issues. Through these activities, the project succeeded in reaching its target of 25 percent female- or jointly owned businesses.

SUCCESSES AND PROMISING MODELS

All of the processing projects included in this section were successful in terms of activity implementation. All projects, but two, documented evidence of adoption of new practices or expansion into new entrepreneurial activities. The two that did not provide this documentation were both food processing trainings, which did not track whether women used their new knowledge to engage in processing businesses. In both of these projects, the trainings were well received. An evaluation of Aglinks, for example, found that women's participation in food processing training programs had increased dramatically over the life of the project and that "women focus group participants were unanimous in their support for the program."³³ A successful processing activity in the groundnut sector is the establishment of cottage industries in Guyana to supply a school feeding program. This project was implemented by the Peanut Collaborative Research Support Program. According to the project's final report, "We have provided infrastructure support to seven cottage peanut butter factories that included the installation of a new higher capacity factory in Aranaputa that serves as a showcase and training facility for the region. ... [T]he trainings to men and mostly women associated with the cottage industries are likely to be the most long lasting" out of any interventions delivered in the program; the skills taught in these trainings are already being observed in other industries in the region.³⁴ Surveys conducted by the Peanut Collaborative Research Support Program found that the cottage industries were profitable.

Most projects showed an increase in women's skills or knowledge, including business skills and improved processing techniques. Some projects directly documented these changes. For example, the Women's Development Center project in Cambodia reported that processing training participants were satisfied with their new skills. Similarly, a project that worked with groundnut processors in Niger found that women had gained knowledge through business skills training, such as the differentiation of profit and gross revenue. Others noted that women were able to process new or higher-quality products.

Around half of the projects reported positive economic impacts for women as measured by profitable enterprises, increased incomes, or better prices. Two interesting examples are the Sukhrod Packing Facility in Afghanistan and the Fruits of the Nile dried fruit company in Uganda. The Sukhrod Packing Facility set up by DAI in Afghanistan is certified to high international food safety standards.³⁵ At the time that the project's final report was written, it was entirely run by women, who were provided training in hygiene as well as management and operation of the facility. According to the project's final report, this facility "provides high-quality, fresh produce from regional farms under the brand, Pride of the Eastern Region. The facility regularly provided packing services to traders of the Eastern Region who supply fresh fruits and vegetables" in Afghanistan and abroad.³⁶ In the first nine months that it charged traders for its services, the facility earned \$34,500 in profits. Unfortunately, project reports do not provide information regarding individual incomes.

The FAO/United Nations Development Programme Post-Harvest Programme introduced solar dryers for food security. However, "it soon found that rural groups were more interested in solar dryers for income generation than for food security."³⁷ Fruits of the Nile was formed "to exploit this commercial interest."³⁸ Producer groups use solar dryers to dry fruit, which is then sorted and marketed by the company. According to a project summary from 2010, dried fruit producers who supplied the company at that time earned \$2,200 per year, around 50 percent of which was profit.³⁹ It is unclear if this refers to

³³ Mendez, England & Associates, *Performance Evaluation of the Agricultural Linkages (Aglinks) Project, September 2013* (Bethesda, Maryland: Mendez, England & Associates, 2013), 2.

³⁴ Greg McDonald and Robert Kemerait, *The Development of the Peanut Sector for Guyana and Selected Caribbean Countries (UFL 155): Final Report (2007-2012)*, accessed July 12, 2016, http://pmil.caes.uga.edu/documents/UF155/Final_Report_UF155_MacDonald_FY2012.pdf.

³⁵ HACCP standards.

³⁶ USAID/Afghanistan, *Alternative Development Program*, 13.

³⁷ Jane Okalebo, "Why women adopt solar dryers," *ENERGLA News* 3 (1997).

³⁸ Jane Okalebo, "Why women adopt solar dryers."

³⁹ The Ashden Awards Case Study, *Case study summary: Fruits of the Nile, Uganda*, accessed July 12, 2016, <https://www.ashden.org/files/Fruits%20of%20the%20Nile%20full.pdf>.

groups or individual producers, although data seem to be broken down on a per capita basis. The company has been successfully using this model for over 20 years.

Almost none of the projects reviewed reported on changes in women’s agency at this value chain stage; when changes are reported, they are anecdotal in nature. One example is the ICRISAT project, which showed that its pilot model improved the agency of female processors in addition to increasing incomes. This project tested a model to form processors into clusters and link clusters with inputs, credit, and markets; create and train cluster management committees; train two members of each cluster in equipment operation; and provide equipment. It found that the processing equipment yielded high returns and saved the processors a significant amount of time. According to a report, “women processors are ... now engaged in managing the processing machines through management committees set up and trained in monitoring and use of equipment and repairs. They are also confidently taking decisions on when to replace the equipment.”⁴⁰

IV. Marketing

At the marketing level, the literature review examined 12 projects. The majority of interventions are in the horticulture value chain or in mixed value chains that include horticulture. Several groundnut projects with marketing components tied them to aflatoxin reduction and post-harvest handling, and these interventions are included in the post-harvest handling section. Thus, there is only one groundnut value chain project included at this stage.

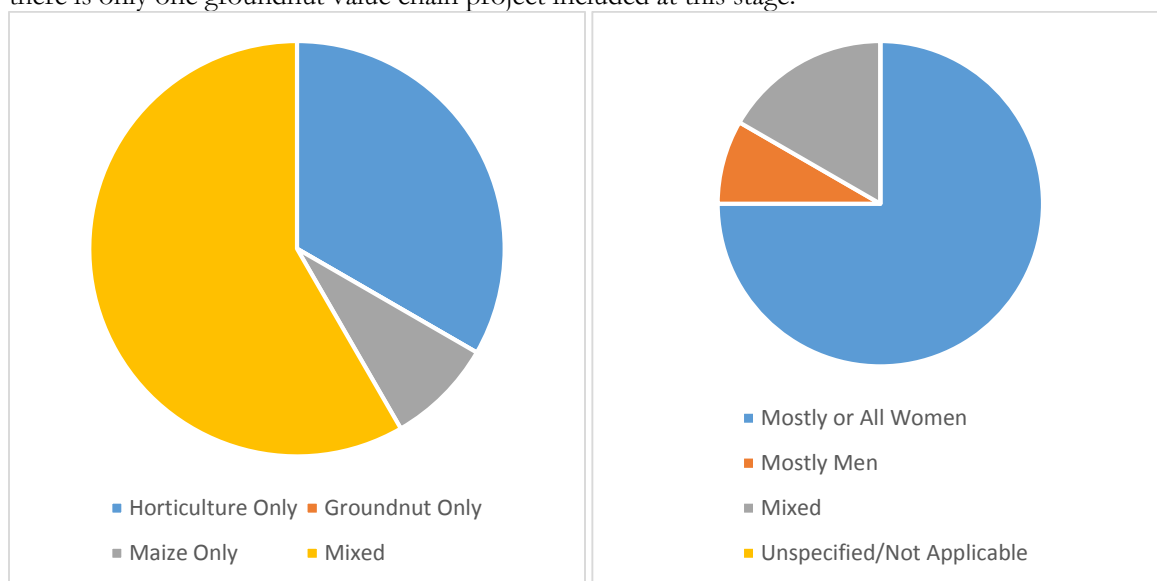


Figure 7 and 8. Marketing Value Chains and Organizations or Enterprises

GENDER-BASED CONSTRAINTS AND OPPORTUNITIES

Projects designed to increase women’s economic empowerment through marketing focused both on farmers and on market women or traders. All interventions that focused on marketing for female farmers addressed gender-based constraints or issues faced by women. The exact nature of the constraints addressed varied between projects. For example, Helen Keller International’s Making Markets Work for Women was designed because tribal women in the project area were engaged in agriculture, but “ethnic exclusion and geographic isolation have hampered tribal women in accessing markets.”⁴¹ Similarly, a vegetable production and marketing project implemented by Mennonite Economic Development Associates (MEDA) was designed for women in Afghanistan because they lacked economic opportunities as well and other basic human rights and services. On a related note, one Farmer-to-Farmer niche project provided marketing support to women because it recognized

⁴⁰ ICRISAT, Inclusive Market-Oriented Development: Demand driven innovation benefiting the poor, *ICRISAT IMOD Exemplars - Volume II* (Telangana, India: ICRISAT, 2015), 42.

⁴¹ Erica Roy Khetrin, “Making Markets Work for Women in Bangladesh,” *New Agriculturist* (November 2012), <http://www.new-ag.info/en/research/innovationItem.php?a=2835>.

that women had limited business skills, which restricted their access to profitable markets and contributed to exploitation by traders. These projects also supported female farmers to improve production.

In the examples of horticulture projects, activities focused on expanding women's existing predominant role in production into marketing opportunities so women could benefit from crops they were already producing. Maize, however, is frequently viewed as a "male crop," complicating women's access to it for marketing. In some cases, such as TechnoServe's JEEViKA project and the Farmer to Farmer niche project, women were already producing maize.

The two projects focused on market women addressed women's inadequate resources or working conditions and their historical position of being overlooked in projects and policies, despite market women playing a significant role in the economy. Of these, the Markets for Change project, implemented by UN Women in the Asia Pacific region, also addresses market women's lack of voice in market governance by working with vendors to form and run associations.

TYPES OF ORGANIZATIONS SUPPORTED

Of the 12 interventions examined in this section, nine focused on marketing for farmers. Eight of these were interventions that supported or established groups; one is a case study of a cooperative. The majority of marketing interventions that focused on farmers worked with groups that were entirely or almost entirely women. Collective marketing was the most common approach, and projects are evenly divided between creating new groups or institutions and developing new marketing systems for existing groups. An example of working with existing groups is TechnoServe's JEEViKA project. In this pilot, TechnoServe developed a model for farmer groups to aggregate and jointly market their products through an electronic platform. Helen Keller International's (HKI) Making Markets Work for Women, on the other hand, took the approach of creating new marketing committees for female farmers.

One notable outlier is the World Food Programme's (WFP) Purchase for Progress (P4P) program. Through this program, the WFP signed contracts with producer organizations for the procurement of commodities that were later redistributed as food aid. This global initiative worked with a large number of producer organizations, which in aggregate had significantly more male than female members. Although this program is very different from the others included in this section, it is an example of a deliberate effort to increase female participation in male-dominated cooperatives through such activities as gender sensitization trainings, setting targets of 50 percent female participation in training activities, and prioritization of women in contracts, among other activities. This project did not succeed in reaching its ambitious gender target of 50 percent participation in P4P; however, it did make notable progress, which is discussed in the Successes section.

The two projects that focused on market women both worked with individual entrepreneurs who sold goods and focused specifically on female beneficiaries. One of these projects worked with vendors to develop market associations.

Table 4. Marketing Types of Support

Common Approaches	
Approach	Percent of Interventions (Out of 12)
Agricultural Training	67%
Business Skills, Marketing Training, or Capacity Building	83%
Assets (Capital, Technology, Infrastructure)	50%
Access to Credit	42%
Contracts, Market Linkages, Networking	67%
Participatory Research	8%
Gender, Leadership, Empowerment Trainings	25%

As with other value chain levels, capacity building was the most common approach. Of the nine interventions that worked with women farmers, eight mentioned training on specific business or marketing topics, including among others business skills, market surveys, literacy and numeracy training, recordkeeping, and joint marketing. The majority of interventions that worked with farmers also provided training related to other value chain stages, such as post-harvest handling, production, or quality control. Three projects offered gender sensitization or awareness trainings.

All nine projects that worked with farmers also put in place either systems or linkages for collective marketing. Almost all facilitated connections with buyers. A few projects focused on formal marketing agreements, while others supported networking and relationship building. An example of a relatively unstructured marketing intervention is HKI's Making Markets Work for Women, which facilitated networking with market actors such as vendors or buyers. According to the project, these relationships were strong and expected to be long lasting. At the other end of the spectrum is Farm Concern International, which organized farmers of African leafy vegetables into marketing support units of around 25 farmers each. These units were clustered in four commercial villages in Kenya; in total, 60 percent of the producers were female. This project facilitated linkages between farmers and a wide range of buyers, ranging from partnerships with informal traders to contracts with supermarkets.

Just under half of the projects that worked with farmers also provided technology to facilitate marketing. Three projects that worked in the maize value chain provided farmer groups with scales for weighing corn. These projects disseminated scales because historically maize has not been weighed accurately, leading to lower sales totals for farmers. In some cases, traders are even purposefully dishonest. One of these projects also provided producer groups with moisture meters to evaluate maize quality. In all three cases, equipping women with these technologies increased their bargaining power with buyers.

Slightly less than half of all marketing interventions also facilitated access to credit. Although the credit extended was generally for production, in two cases it was tied to marketing activities such as contracts or the formulation of effective business plans. In another case, Farm Concern International developed a fund specifically to enable farmers to sell in higher-value markets that do not make immediate payments.

The two projects that worked specifically with market women both provided trainings—such as literacy, financial literacy, or business skills training—and also built or rehabilitated market infrastructure. Additionally, the Sirleaf project established micro-credit for market women, and the project implemented by UN Women focused on forming market groups or associations and increasing women's voices in existing institutions. The two projects working with market women began relatively recently and, therefore, do not yet have impact data.

SUCCESSSES AND PROMISING MODELS

Many of the findings from the marketing section of this literature review support Oxfam's conclusions from its research on women's collective action (CA) in Tanzania, which studied large marketing associations, small women-centered groups, and informal alliances. According to Oxfam's report, CA has "significant economic benefits" for women in both marketing and production.⁴² Women in CA groups earned 68 percent more than women who are not group members.⁴³ However, there was no one type of group that was universally more beneficial to women.

In general, marketing projects have stronger information related to impacts than those at other value chain levels. All of the interventions showed positive changes in women's entrepreneurial activities, including market women's usage of new facilities and farmer participation in collective marketing models. Almost all of the projects also reported increases in women's skills or knowledge, including business knowledge, literacy, and planning skills, among others. Of the nine projects that worked with female farmers, all contributed in some way to economic gains or increasing women's agency, although the degree of measurable success varies across projects. All projects have examples of successful activities or interventions; however, some had better overall results than others.

It is important to note that economic benefits from marketing activities are often tied with improvements or changes in production. The over 800 percent⁴⁴ increase in income among women in MEDA's project in Afghanistan arose from the introduction of vegetable gardening as well as marketing the vegetables. To address mobility and cultural constraints to market access, MEDA introduced a model in which it trained a group of women who were relatively mobile to be sales agents. These women, who were also lead farmers, facilitated market access for other project participants who did not have any mobility.

⁴² Martin Walsh, *Women's collective action in the vegetable sector of Tanzania, Realizing the potential of collective action groups, Coordinating approaches to women's market engagement* (United Kingdom: Oxfam, 2013).

⁴³ Martin Walsh, *Women's collective action in the vegetable sector of Tanzania*.

⁴⁴ USAID, *Pathways out of Poverty Case Study: Integrating Female Farmers in Rural Afghanistan into Sustainable Market Systems* (Washington, D.C.: USAID, 2012).

One particularly interesting project is a pilot conducted by TechnoServe as part of its JEEViKA project in Bihar, India. TechnoServe developed a pilot in which maize was aggregated from 10 women's producer organizations at the federation level. The project also facilitated a partnership "with an online commodity exchange, NDEX e Markets Limited, to sell the maize on an electronic platform."⁴⁵ Additionally, the pilot introduced moisture meters and electronic scales for producer organizations along with equipment and financing. In June 2015, the federation had procured "1014 tons of maize from across 10 producer groups, well above the target of 800 metric tons."⁴⁶ The knowledge and tools gained in the project also increased female farmers' bargaining power with local buyers. A description of this project stated that "thanks to direct electronic access to institutional buyers, elimination of intermediaries, and transparent weighing and grading practices, the groups saw a 15.8 percent increase in price for their maize."⁴⁷

Another interesting example is a project focused on marketing African leafy vegetables, implemented by Farm Concern International and other partners. This project used a commercial villages approach, in which farmers were clustered into marketing support units in four commercial villages. Women comprised about 60 percent of the producers in the commercial villages. The project connected the marketing support units with business service providers as well as buyers. Farm Concern International recognized that a main trade barrier for farmers to sell through formal channels was a lag between when produce is delivered and when farmers are paid. Therefore, it designed a catalytic fund to overcome this gap, although farmer groups were required to start building their own savings funds and move away from the project fund. The four commercial villages generated an estimated 100 million Kenyan shillings (close to US\$1 million) in annual sales of African leafy vegetables.

Several reports described changes in women's voice and agency. Examples include an increase in active roles for women in the community through GIZ's project in Bosnia Herzegovina as well as opportunities to "socialize and band together for mutual support" through the development of market infrastructure in Liberia.⁴⁸ Another example is HKI's Making Markets Work for Women project, which reported increases in income levels as well as other successes. The project has positively impacted women's mobility, access to markets, engagement in their communities, and skills in negotiating prices.⁴⁹ Prior to these interventions, women did not travel; now they regularly go to markets and can bargain for fair prices for their produce. Because the project focused on a variety of value chains, these successes were not limited to horticulture crops.

Although the WFP's P4P program did not meet its targets of 50 percent female membership and leadership in farmer organizations due to unanticipatedly low baseline percentages, it did have positive outcomes related to increasing women's participation in male-dominated cooperatives. WFP developed a global gender strategy and targets, which guided individual countries' gender analyses and approaches. Gender mainstreaming activities included a wide range of activities, such as gender training for both men and women, literacy training for women, and labor-saving technology provision. According to a report, "the participation of women in P4P supported [farmer organizations] increased by ten percentage points from 19% in 2009 to 29% to date [in 2013]"⁵⁰ and "in terms of leadership, the efforts of P4P country teams resulted in an increased female presence on FO leadership committees and boards, with 36% of women occupying positions on P4P-affiliated [farmer organization] boards globally by the end of the programme."⁵¹ Among P4P's important achievements, the report cited "women's increased level of confidence, the shifting gender-transformative dynamics at household and community levels and the opportunities that this opened up to women to access further resource assets."⁵²

A more local example is the Manyakabi Area Cooperative in Uganda, which participated in several projects, including P4P. This umbrella organization supported farmer groups with predominantly female membership. A study found that the

⁴⁵ "Leveraging technology to improve rural livelihoods for women," TechnoServe, accessed July 12, 2016, <http://www.technoserve.org/blog/leveraging-technology-to-improve-rural-livelihoods-for-women>.

⁴⁶ "Leveraging technology to improve rural livelihoods for women," TechnoServe.

⁴⁷ "Leveraging technology to improve rural livelihoods for women," TechnoServe.

⁴⁸ Sirleaf Market Women's Fund, "God first, second the market." *A case study of the Sirleaf Market Women's Fund of Liberia* (Monrovia, Liberia: Sirleaf Market Women's Fund, 2012), 3.

⁴⁹ *2012 Lesson Learning Report: HKI*, Shiree, accessed July 12, 2016, <http://www.shiree.org/wp-content/uploads/2012/12/Lesson-Learning-Report-HKI.pdf>.

⁵⁰ World Food Programme, *P4P's Women's Empowerment Pathways: Roadblocks and Successes 2014* (Rome, Italy: World Food Programme, 2014), 26.

⁵¹ World Food Programme, *P4P's Women's Empowerment Pathways*, 29.

⁵² World Food Programme, *P4P's Women's Empowerment Pathways*, 44.

Manyakabi cooperative provided some economic benefits to women. However, the most significant benefits to female members were related to empowerment: “women have developed greater independence and status; have gained leadership and business skills, and argue that they have improved their coping strategies in general. These intangible benefits have empowered female farmers in [the zone].”⁵³

OVERLAPS ACROSS VALUE CHAIN STAGES

This review has divided projects into four value chain levels for the sake of organization and clarity. However, in general, the projects took a more holistic approach and did not work only at one stage. While there are a few examples of successful outliers that focused on one particular need or area for improvement, most interventions recognized that value chain activities are interconnected. It was especially common to combine marketing interventions with interventions from other value chain stages.

At the level of production inputs and services, about half of the 10 projects included women in production, crop marketing, or other value chain activities. One illustrative example is the PROFIT+ project, which built the capacity of women to run businesses both to provide inputs and to market farmers’ crops. For the projects that concentrated only on input or service provision, it is important to note that many of these projects focused on seed production. Although this paper has considered seed production in its place at the beginning of a crop value chain, it is in reality a value chain all in itself. Therefore, even projects that concentrated on input provision could involve a production, post-harvest handling, and market component as well as the provision of foundation seed and other inputs for seed multiplication.

At the post-harvest-handling level, all but one of the nine projects crossed value chain stages. In most cases, this crossover involved working with farmers on post-harvest handling as well as production or marketing. However, two projects also crossed value chain stages by working with both farmers and processors on improved post-harvest practices and storage techniques. One example is a project conducted by the Peanut Collaborative Research Support Program, which worked with both producers and processors to reduce aflatoxin contamination. Major activities implemented with women included training, awareness raising, and research.

The majority of the 11 processing interventions worked with women as processors. Three projects worked with women both as producers and as processors. One illustrative example is the Fruits of the Nile company, which provided support both for production of fruits and for solar drying. While there were many more farmers than dried fruit producers, those who engage in drying often worked at both value chain levels. Interventions that supported processing enterprises in proper storage or marketing also worked in multiple value chain phases.

All of the nine marketing interventions for producers also worked at other value chain levels, including production, post-harvest handling, and processing. In most cases, improving product quality through improved techniques and strengthening marketing institutions or linkages were activities that built on one another. This approach makes sense as there is no advantage to producing a premium crop without a premium market. Similarly, access to high-value markets is dependent on the quality and reliability of production. For example, WFP’s P4P project gave women access to reliable markets through contracts. The program recognized, however, that in order for this to be feasible, it was necessary to provide farmers with assets and training to meet contracts’ standards. The two projects that worked with market women focused only on the marketing value chain level.

SUMMARY OF ECONOMIC IMPACTS

Economic impacts were primarily measured through (1) women’s improved entrepreneurial position and (2) returns as measured by income, sales, or profit. No projects measured women’s control over income, and several projects measured returns at the enterprise or household levels, leaving women’s control over returns unclear. While no projects have quantitatively measured control over income, some do include empowerment indicators or more qualitative evidence indicating that women have been able to decide how their earnings are spent. HKI’s Making Markets Work for Women found through focus group discussions, for example, that women stated that they would not have seen benefits if their husbands had been the ones to receive project support.⁵⁴ Other projects documented the purchases that women have made with their

⁵³ H Ferguson and Thembela Kepe, “Agricultural cooperatives and social empowerment of women: A Ugandan case study,” *Development in Practice* 21,3 (May 24, 2011): 425, accessed July 12, 2016, doi:1.

⁵⁴ 2012 Lesson Learning Report: HKI, Shiree.

incomes, such as education costs for their children or new household items. While this evidence does indicate that women have retained at least some control over their earnings, this is an important area for further examination.

Projects' assessment of economic impacts ranged in rigor, from measuring incomes across treatment and control groups to anecdotes gleaned from success stories or reports of women's perceptions. Approximately half of the projects in the review provided income or sales information, which was often measured at an aggregate level or not rigorously. Common limitations of the information found through this review include inability to attribute change to project efforts; measuring returns at group, enterprise, or household levels; insufficient time has passed to meaningfully assess returns; or returns were not assessed. In general, the economic data found for processing activities is especially vague, largely at the group or enterprise levels and includes no evaluations. Marketing interventions, on the other hand, have much clearer data related to economic impacts for women.

Although it is impossible to rigorously compare projects with the current data, it is worthwhile to point out general patterns that emerged.

The vast majority of projects reported positive changes in women's entrepreneurship in terms of women's expansion into new entrepreneurial activities, increases in participation in organizations or enterprises, or the strengthening of existing businesses through the usage of new skills, technologies, or business networks. The few projects that did not show results recorded successful implementation of activities and in many cases women's enthusiasm for new knowledge or technologies. However, they either did not track application of new practices or technologies or reported that it was too early to demonstrate results. For example, the Women's Development Center project in Cambodia trained women in food processing and reported that some women planned to open businesses but did not follow up with trainees to track uptake of new practices.

In the production inputs and services phase, there is strong evidence that seed or planting material production through groups or cooperatives can increase women's sales and profits. Three of the six seed and planting material production projects demonstrated profits or increases in sales or income for women. For example, one assessment with a treatment and control group found that the production of planting material had led to an increase in total sales for women and that there was some indication that this was reflected in higher incomes. A fourth project conducted an evaluation with a treatment and control group and did not find that the project beneficiaries were significantly different from the control group in terms of increases in household income. One other planting material project offered more anecdotal evidence of increase in profits.

Although the economic data for post-harvest activities is largely anecdotal and measured at the group level, it indicates that the post-harvest interventions included in this literature review raised women's incomes or sales. In three cases, these impacts come from a reduction in post-harvest losses and/or access to new markets. Another project increased the incomes of the female employees as well as the number of women employed by the center. The one robust analysis focused on a cost-benefit analysis of post-production technologies adopted by project participants. The majority of the sample was women. It found that the adoption of post-harvest technologies led to a relatively rapid return on investment.

Of the 11 processing projects, four discussed economic results for individual processors or for groups. Information found for the four projects indicates that participants, a majority of whom were women, were earning money or were able to obtain better prices than before the project. One of these projects found that the equipment provided to processors substantially reduced costs. Three projects provided economic information at the enterprise level. In two cases (one all-female enterprise and one enterprise with a female majority), the enterprises were profitable, and in one case a cooperative still needed economic support (this enterprise also was mixed with a female majority). None of the processing interventions provide data that are the result of evaluations.

Marketing interventions generally saw to positive economic returns for women. However, because projects with marketing interventions also worked at a variety of value chain levels, associated increases in incomes are likely better attributed to improvements in production and post-harvest handling combined with better marketing. Increases in income range from a striking 800 percent in Afghanistan to more limited gains in Bosnia Herzegovina, which fell under the project's target. Of the nine projects that focused on marketing for farmers, six indicated increases in income for female beneficiaries. Two more projects did not include income data but reported increases in sales or revenues. The two marketing interventions that focused on market women did not provide economic data, so no inferences can be made related to their economic impacts.

SUMMARY OF SOCIAL IMPACTS

This section summarizes changes in women's agency or power in their households and communities in relation. Projects engaged with a variety of aspects of women's empowerment: participation, leadership, drudgery reduction, skills, agency, confidence and self-esteem, and power. Much of the literature included in this analysis either measures empowerment as an outcome or provides anecdotal examples. Unfortunately, it is difficult to draw comparisons because what is counted and discussed in terms of changes for female beneficiaries differs greatly across projects.

The majority of projects included in this literature review worked with organizations in which women comprised at least the majority of members or worked specifically with women. Therefore, there is relatively little data related to increasing women's participation in male-dominated sectors or institutions. Across all value chain stages, there are some examples of projects that aimed to increase women's membership in groups or associations with a majority male membership. All of these projects succeeded in increasing women's participation, although to varying degrees of success. There are also examples of projects that purposefully targeted women for project activities in male-dominated sectors. These projects all succeeded in enhancing women's participation in post-production enterprises. In some cases, women comprised 50 percent of project participants. However, in others, levels of female participation were still as low as 15 or 25 percent. One notable project was implemented by UN Women in Egypt. This project increased women's participation in producer organizations by almost 70 percent through a combination of gender trainings, the formation of women's committees, and capacity building for women.

Nearly all projects demonstrated changes with regard to women's knowledge or skills. Improved knowledge and skills were shown through quantitative assessments of changes in knowledge, anecdotal discussions of increases in women's capacity, and successful adoption of new practices or expansion into new activities. WFP's P4P program implemented a strong gender strategy that yielded economic returns for women as well as increases in women's skills, literacy, and access to credit.

Several projects assessed impacts related to power and agency. While some projects measured empowerment through indicators such as self-efficacy, other descriptions of empowerment were more anecdotal in nature. A strong theme that emerged was changes in women's decision making at the household or community levels and their connections and support within the community. For example, one project that worked with market women found that after the development of improved market infrastructure, women were able to come together to support one another. Another frequently mentioned shift was an increase in bargaining or negotiating power for women. This change was more frequently seen in marketing interventions where change was brought about through increases in knowledge, marketing institutions, and scales for properly weighing products. Women's increased confidence or self-esteem was a strong theme that emerged across different phases of the value chain. Improved confidence arose from knowledge and skills gained through training, asset ownership, and participation in groups or business activities.

The limited information on changes in perceptions of women's roles comes primarily from marketing interventions and also seed and planting material production. Changes included men's willingness to help with housework, a movement away from extremist ideologies in Afghanistan, and more positive outlooks on women's engagement in entrepreneurial activities. As always, it is important to note that many of the marketing interventions included in this literature review were very closely tied to production or processing interventions. In some cases, these shifts in perception on the part of men may be more tied to gender trainings focused on farming or on s

Several projects with processing and post-harvest activities reduced women's workloads and drudgery through new equipment and technology. Although one study showed that women most commonly answered that this free time would be used for other household tasks, the second most common answer was opening small businesses.

ISSUES AND TROUBLE SPOTS IN INPUT PROVISION, POST-HARVEST HANDLING, PROCESSING, AND MARKETING

As this analysis has demonstrated so far, data related to project impacts on either income or empowerment are inconsistent and difficult to compare. However, data related to issues and trouble spots tend to be even sparser and reporting is even more inconsistent. This literature review draws on sources ranging from external evaluations to blog entries, some of which are very forthcoming about lessons and difficulties areas, while others focus primarily on what worked. However, some general themes can be noted in the documents that did provide a more balanced assessment of strengths and shortcomings. Not all of the issues discussed below are gender-based or particular to women. However, because the majority of projects included in this literature review worked either entirely with women or with female-dominated groups, it can be inferred that these are trouble

spots that commonly impact efforts to increase women's economic empowerment. The information that has been accessible suggests that while all projects have achieved some degree of success with regard to women's economic empowerment, there remains opportunity for more intentional and effective interventions that empower women beyond the production phase of the value chain.

One sticking point for projects seems to be issues related to planning and implementation. Although some issues were general, several reports mentioned problems related to gender mainstreaming. These include a lack of staff gender capacity, inadequate gender integration in monitoring and evaluation, and/or the absence of a coherent gender approach in project design and implementation. For example, a gender evaluation of one project found that the program did not have a systematic, theoretical approach to gender mainstreaming; had not adequately identified socioeconomic, cultural, and institutional constraints faced by men and women; and did not have an adequate sex-disaggregated monitoring and evaluation system. Additionally, "the program team lacked sufficient technical capacity to systematically integrate and address gender issues. The gender coordinator's self-rated assessment of her knowledge and skills to tackle gender issues was 'very low.'"⁵⁵

Projects also discussed implementation issues related to the environments in which the projects were operating. Although they both had notable successes, the two projects implemented in Afghanistan, in particular, faced implementation issues related to the restrictive gender norms in which they were working. DAI's Alternative Development Program/Eastern Region (ADP/E) had difficulties related to finding female staff and as well as "difficulty recruiting program participants due to social stigmas."⁵⁶ MEDA's Through the Garden Gate could only find 12 women who had the mobility to work as traders. Other projects faced logistical issues that were not necessarily gender based. For example, HKI's Making Markets Work for Women intentionally targeted female beneficiaries from tribal groups in remote areas. While these beneficiaries were arguably those most in need of support, the remoteness of their living situation made it difficult to effectively implement program interventions.

Three of the reports included in this literature review discussed problematic unintended consequences arising as a result of the environment in which projects were taking place. All three of these examples are gender related. While implementing its project to design technology in the groundnut value chain in Malawi, CTI found that after the development of labor-reducing technologies, men became interested in what had historically been seen as women's crops. Although this may not be problematic in settings where women and men cooperate, CTI suggested that changes in gender roles should be monitored in future activities. With regard to finances, CARE found in its mid-term review that women's increasing incomes through groundnut and sesame production and marketing was leading to an effect in some instances in which men were "retracting some of their financial support to the household."⁵⁷ The WFP found in some contexts that "women used P4P [programs] as a concrete tool for deterring gender-based violence;"⁵⁸ however, a Malawi case study also found that "there were cases where the increasing empowerment of women was met with forceful resistance at the household level, and often resulted in some women experiencing domestic violence."⁵⁹

Establishing effective linkages to markets or finance were other trouble areas common to projects. For example, HKI faced logistical difficulties in linking women in very remote areas to markets. One method tried by the project was the introduction of donkeys for women to transport produce. The project evaluation found that donkeys were not common in Bangladesh, creating a multitude of logistical difficulties such as the need to train participants to care for a new animal as well as a need for skilled veterinary care. In spite of the incomplete planning for this intervention, the project did have some success in training beneficiaries to use donkeys for marketing. Several projects also reported that effective linkages to capital or credit remained an issue, even after project interventions. For example, interviews with Sirleaf Market Women's Fund project participants found that loan amounts were too small to meet their needs. While the market and finance issues mentioned above are not necessarily gender based, an Oxfam research project on collective action in the vegetable sector in Uganda did find that, in general, interventions have not focused sufficiently on women's empowerment in markets or on the specific constraints that women face in producer organizations.

⁵⁵Sonia Akter, *Gender Assessment of Seeds of Life (SoL) Program in Timor-Leste* (Timor-Leste: Seeds of Life, 2015), 2, <http://seedsoflifetimor.org/wp-content/uploads/2013/10/Sol3-Gender-Assessment-Report-Final-Nov-20-2015.pdf>.

⁵⁶ USAID/Afghanistan, Alternative Development Program.

⁵⁷ CARE, *Pathways to Empowerment: Mid-term Review, Malawi 2015*, accessed July 12, 2016, http://www.carepathwaystoempowerment.org/wp-content/uploads/2015/04/MTRSummary_Malawi-4-1-15-PDF.pdf.

⁵⁸ World Food Programme, P4P's Women's Empowerment Pathways.

⁵⁹ World Food Programme, P4P's Women's Empowerment Pathways.

Another common trouble spot was institutional or human capacity gaps related to quality, marketing, gender integration, or institutional sustainability. One example is the Peanut Collaborative Research Support Project, which was able to self-correct. This project found that after it expanded cottage industries for peanut butter production, aflatoxin levels increased. However, the program was able to put in place protocols and equipment for correcting this issue. Another example is an assessment of the Hill Maize Research Project in Nepal, which found that seed producer groups had weaknesses in “improved agronomic practices, market-based production, post-harvest processing and quality control, and marketing.”⁶⁰ It is important to note that this assessment was conducted about nine months before project completion. However, it determined that at the time of evaluation only about half of the groups had the technical capacity to be sustainable. This assessment also determined that the groups had not received adequate training related to gender equity and social inclusion.

Not all projects succeeded in significantly increasing women’s incomes or in strengthening enterprises to the point where they were generating substantial profits. An impact evaluation of Oxfam’s support to the Pavitra Seed Cooperative found, for example, that members’ incomes had increased but not significantly more than members of cooperatives that had not received Oxfam support. Another project evaluation also found that the women’s groups supported by the intervention were generating an income but that it was limited and below the project target. Similarly, a study of a producer cooperative founded by women found that there were “relatively small” economic impacts due to the small size of the cooperative. Even projects with limited financial earnings, however, can have significant impacts on empowerment indicators. This ability to promote significant empowerment impacts was demonstrated by the Pavitra project, which had striking results with regard to women’s empowerment in the cooperative and communities as well as people’s perceptions of women’s roles in economic systems.

It is clear that although many projects had notable successes in increasing women’s economic empowerment, there are also many potential areas for improvement. A greater number of candid assessments and reports that focus both on successes and failures would help to elaborate which issues are in fact the most common and which interventions are the most likely to encounter problems. Due to the complicated environments in which development projects operate, it is unlikely that any intervention would ever be without flaws and trouble spots. However, a more open discussion could enable interventions to avoid needlessly repeating mistakes. Additionally, there are many examples of interventions building on past projects to provide continued support to producer organizations. Building on past projects to meet needs for ongoing capacity support can be an effective strategy to ensure the sustainability of women’s post-production enterprises.

CONCLUSIONS

As this literature review has demonstrated, there is a great deal of potential to increase women’s economic empowerment in the value chain stages of production services and input provision, post-harvest handling, processing, and marketing. In the three value chains reviewed, horticulture is the value chain with the most examples of projects that have worked with women. This is not surprising, considering that this value chain includes a greater variety of crops than the others and also has historically been a focus of interventions targeting women. There was no discernable difference between the attention given to women in marketing, processing, and post-harvest handling activities. With the exception of seed production, examples of efforts to increase women’s economic empowerment at the input stage are relatively sparse.

One important gap to point out is that although these projects operated at value chain stages outside of production, many were still focused on producers. There is a lack of literature related to interventions that work with female traders, vendors, and other value chain actors that are not farmers. The exception to this trend is projects that work with small-scale processors, who may not also be producers. This gap is of particular importance because small-scale middle actors could in fact be negatively impacted by interventions focused on moving producers up the value chain. An important area for further research could be whether there are opportunities to incorporate these women into formal value chains rather than bypassing them in efforts to find higher-value markets for female producers. Interesting areas for investigation would be to see if the common strategies mentioned in this study such as group formation, capacity building, and linkages could be adapted in projects targeting traders or vendors.

In general, most of the interventions reviewed work with groups of farmers or entrepreneurs. There is a wide range of organizations in terms of size, sex composition, and degree of formality. There are examples of successful initiatives in male-

⁶⁰ Institute for Integrated Development Studies (IIDS), Evaluation: The Hill Maize Research Project.

dominated organizations, in groups with relatively even membership, in groups with a female majority, and in all-female enterprises. However, the most common approach was to empower women in groups, enterprises, or sectors that were female dominated.

The most common activities for increasing women's economic empowerment were trainings on topics related to technical skills for specific activities as well as business, management, or marketing. Relatively few projects included specific gender or empowerment trainings, but these did seem to strengthen efforts to increase women's economic empowerment or change perceptions. This literature review also highlights the power of technology to increase women's bargaining power, improve product quality, and/or decrease women's workloads. One striking example is the provision of scales for weighing maize, which enabled women to receive an accurate price for their produce and avoid exploitation by traders. Additionally, technical support for strengthening linkages to markets, inputs, or credit can have a profound impact on women's incomes and bargaining power. In all of the examples of marketing projects that worked with farmers, marketing support took the form of collective marketing. While some collective marketing models and linkages were intricate and involved many components, there are examples of simpler collective marketing efforts that focused on relationship building among value chain actors.

While there are a wide range of promising models and approaches to increasing women's economic empowerment surrounding post-production activities, rigorous impact data related to this topic is relatively sparse. This review has included the best information available, rather than restricting the interventions reviewed to those with rigorous impact data or evaluations. Nonetheless, there are examples of models with demonstrable results that have increased women's economic and social empowerment throughout the value chain.

APPENDIX I: PROJECT DETAILS

Table 1. Input and Production Service Interventions

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
Horticulture (vegetables)	Support for seed production, marketing, and women's empowerment through the Pavitra Seed Cooperative	Enterprise Development Program (Nepal, 2008–Present)	Project supports and invests in small enterprises. Has supported 17 enterprises in 15 countries. Pavitra is one such enterprise. The Pavitra project is £167,000. Prior to EDP, Pavitra had 216 members, now has 816.	Oxfam
Horticulture (pineapple)	Empowerment of women through economic opportunities in the pineapple value chain	Women's Economic Leadership Through Horticulture Planting Material Business (Rwanda, 2011–2014)	216 women were trained, as well as an unspecified number of men. The intervention was the entire project, which was part of a larger program.	Oxfam
Horticulture (vegetable, fruit) and others	Women's sapling and plug seedling businesses	Alternative Development Program-East (Afghanistan, 2005–2009)	\$118.4-million project, which reached millions of people. Gender and microenterprise development was one of eight program priority areas. Within this area, many activities focused on other value chains or sectors.	DAI
Maize	Establishment of local seed production system, mostly through female farmers	Hill Maize Research Project (Nepal, 1999–Present)	Project has reached nearly 51,000 households. About 5,000 people are in the 207 CBSP groups.	CIMMYT
Maize, groundnut, and others	Women's participation in seed production activities	Seeds of Life (Timor-Leste, 2000–Present)	In 2014–15, there were 14,821 CSPG members and 1,495 CSP members. Numbers were not given for research participation.	Timor-Leste Ministry of Agriculture & Fisheries
Maize and others	Training for female entrepreneurs	Cereal Systems for South Asia (Bangladesh, 2009–Present)	Transferred technology to 60,000 families. Expectation to reach another 300,000 families through field days, farmer-to-farmer field days, and technology transfer. This intervention is a small project component.	IRRI
Groundnut	Groundnut seed production and marketing for women	Tropical Legumes II (Niger, 2007–2013)	Intervention worked with 870 seed producers. Project works in six value chains and nine countries, although not all countries work in all value chains.	ICRISAT

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
			Groundnut seed production in Niger is just one component of the project.	
Horticulture, maize, and others	Increasing the number of female agro-input dealers through activities to strengthen input markets for a variety of crops	Agricultural Input Markets Strengthening (Mozambique, 2006–2015)	Project trained 201 agrodealers	IFDC
Horticulture, maize, and others	Training and association membership for agro-input dealers	Kyrgyz Agro Enterprise Development Project (2003–2008)	Project had a USAID contribution of \$4 million and project contribution of another 30%. Capacity building for 9,100 dealers, farmers, and others. Trade association had 170 members.	IFDC
Maize, groundnut, and horticulture (tomato and onion)	Development of community agro-input dealer network	Production, Finance, and Improved Technology Plus (Zambia, 2012–Present)	Project had budget of \$24 million and target of reaching 200,000 smallholders. Promotion and capacity building for CADs was one activity. In 2014–15, project promoted 200 CADs.	ACDI/VOCA

Table 2. Post-Harvest Handling Interventions

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
Horticulture (fruits and vegetables)	Gender mainstreaming strategy for horticulture project	Pro-Poor Horticulture Value Chain in Upper Egypt Project (2010–2013)	Project had a budget of \$7,499,704. It targeted six farmer associations and three post-harvest centers. UN Women had 10 percent of budget but not all of it went to post-harvest activities.	UN Women
Horticulture (fruits and vegetables)	Post-harvest training and services for professionals and farmers	Extension of Appropriate Postharvest Technology in Sub-Saharan Africa: A Postharvest Training and Services Center (2010–2014)	Training of trainers for 36 professionals and trainings for 637 participants. Budget of approximately \$429,000. Intervention was entire project.	Horticulture Collaborative Research Support Project
Maize and others	SMFM training in collaboration with WFP's P4P program	USAID Post-Harvest Handling and Storage Project (Rwanda, 2009–2013)	Project had \$8.3 million budget. 60,085 individuals were trained, and 83,676 are using post-harvest centers developed by project. SMFM training was just one project activity, which reached 22,000 female smallholder farmers by September 2012.	CARANA

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
Maize and others	Promoting the fabrication and distribution of affordable metal silos for family grain storage	Multiple projects in Latin America	Between 1983 and 2009, 670,000 silos were transferred in Latin America, benefitting 415,000 households. Almost half were transferred after project ended in 2003. Project implemented in Guatemala, Honduras, Nicaragua, and El Salvador. New projects being expanded to other countries.	SDC
Maize and others	Support to women in post-harvest handling and marketing	Strengthening Value Chains for Maize and Soybeans for Ugandan Women Farmers (2012–2013)	180 female beneficiaries. In total the project had five objectives, and one relates to maize post-harvest quality.	FtF Niche Project
Groundnut	Research and training with women	Improving the health and livelihood of people of East Africa by addressing aflatoxin and gender-related constraints in peanut production, processing, and marketing (Kenya and Uganda, 2007–2012)	Project included 219 men and 355 women in workshops and short-term trainings. Project has nine objectives. Not all activities have a gender focus, but many target and/or reach women in post-production activities.	Peanut Collaborative Research Support Project
Groundnut	Gender-sensitive technology development	Enhancing Child Nutrition and Livelihoods of Rural Households in Malawi and Tanzania through Post-Harvest Value-Chain Technology Improvements in Groundnuts (Malawi and Tanzania, 2009–2013)	\$333,000 grant. Technology development was one of two components.	Compatible Technology International
Groundnut	Combining women's empowerment and aflatoxin reduction	Working with Women Smallholders to Produce Safe Groundnuts in Malawi (2012–2015)	No information	TWIN and NASFAM
Groundnut	Support for women's post-harvest work	Market Innovation for Smallholder Groundnut Farmers Project (Ethiopia, 2012–2013)	Project had 770 farmer beneficiaries. Grant from Electric Aid was EUR 17,585. However, this just covered technology. Project covered seed multiplication, production, post-harvest handling, and marketing.	Self-Help Africa

Table 3. Processing Interventions

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
Horticulture (fruits)	Household food processing trainings for women	AgLinks and AgLinks Plus (Uzbekistan, 2007–2012 and 2011–2015)	AgLinks had \$5,607,084 budget and AgLinks Plus had a budget of \$12 million. Household food processing was one activity.	DAI
Horticulture (fruits and vegetables)	Establishment of packing facility	Alternative Development Program-East (Afghanistan, 2005–2009)	\$118.4-million project, which reached millions of people. Gender and microenterprise development was one of eight program priority areas. Within this area, many activities focused on other value chains or sectors.	DAI
Horticulture (fruits)	Income generation through fruit solar drying	Fruits of the Nile company (Uganda, formed in 1992)	In 2009, company had 930 farmers and 139 producer groups in network. They sold 37.3 tons of dried banana and 35.5 tons of dried pineapple. Turnover in 2007 was \$672,000. In 2009, turnover fell to \$243,000.	Private company
Horticulture (vegetables)	Cooperative vegetable processing	IMAI Cooperative (South Africa, founded in 2010)	Annual turnover was \$19,900 in 2011, and organization had six full time members and six workers. Cooperative focused on production as well as processing.	Producer cooperative
Horticulture (fruits and vegetables) and others	Trainings in food processing through women's development centers	Women's Development Centers (Cambodia 2006–2010)	\$2,747,000 project with around 3,300 direct beneficiaries, including 2,400 women. Food processing training was one activity.	Cambodia Ministry of Women's Affairs
Maize, horticulture (tomato and pineapple), and others	Cooperative processing for women	Empowering Women through Cooperative Development Project (Rwanda, 2012–2014)	EUR 269,901 project, which targeted 600 women in five areas including maize processing, pineapple processing, and tomato processing.	FIOM Rwanda
Maize	Women-managed maize franchise	Millennium Mills Project (Mozambique, 2013–Present)	Entire project was pilot of three mills	TechnoServe
Maize and others	Increasing women's participation in the processing of fortified food	Tuboreshe Chakula (Tanzania, 2011–2015)	Project worked with 733 millers and 141 blenders, slightly over 25 percent of whom were women. Three out of five products involved maize. Project also included a behavior change component.	Abt Associates
Groundnut	Income generation through peanut processing in cottage industries	The Development of the Peanut Sector for Guyana and Selected Caribbean Countries (Guyana, 2007–2012)	\$83,974 project, in Haiti and Guyana. Activities in Guyana focused both on production and on the cottage industries. Snack feeding program was for 4,000 children.	Peanut Collaborative Research Support Program

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
			Project worked at the production level as well in Guyana.	
Groundnut	Pilot experiment in organizing and supporting female processors	Empowering women farmers through access to processing equipment (Niger, 2012–2014)	Five clusters, each with around 100 women. Entire project focused on female processors.	ICRISAT
Groundnut	Equipment and capacity building for cooperative oil production	SETUP (Benin, 2008–2013)	27 female cooperative members and 300 cooperative employees who are mostly women.	GERES

Table 4. Marketing Interventions

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
Horticulture (vegetables, fruit spices), maize, and others	Marketing as part of income-generating opportunities for extremely poor women	Making Markets Work for Women (Bangladesh, 2009–2012)	Shiree fund issues innovation grants. One of 12 innovation grants issued in two rounds. Round 1 value was \$1,541,283 and round 2 was \$1,794,863. 450 households. Project focused on production, post-harvest handling, and processing in addition to marketing.	Helen Keller International
Horticulture	Economic opportunities for women through groups	Through the Garden Gate (Afghanistan, 2007–2011)	Reached 2,349 women. 90% producers. Project focused on production and post-harvest handling in addition to marketing.	MEDA
Horticulture (fruits and vegetables)	Support to women through a network of groups	Promoting Entrepreneurship in the Fruit and Vegetable Sector of Bosnia Herzegovina (2000–2009)	EUR 6,279,110 project. Support to women's groups is one activity.	GIZ
Horticulture (vegetables)	Research on women's collective action in the production and marketing of vegetables	Women's Collective Action (Tanzania, 2013)	Survey of 28 groups and in-depth study of four groups. Groups focused on production and/or marketing.	Oxfam
Horticulture (fruit and vegetables) and others	Improving market conditions and increasing the voice of market women	Markets for Change (Pacific Islands, 2014–Present)	Over \$17 million, implemented in three countries. Market women sell a variety of goods, including vegetables.	UN Women
Horticulture and others	Improving conditions for market women who sell vegetables and other products	Sirleaf Market Women's Fund (Liberia, launched in 2006)	Multiple grants from different donors, all focused on projects that target market women. Women sell a variety of commodities, including vegetables.	Local nonprofit

Value Chain	Intervention Reaching Women	Project	Scope of Intervention and Project	Organization
Horticulture		Enhancing Market Access for African Leafy Vegetables (2003–2006)	Project implemented in Kenya and Tanzania. Reached 27,000 producers in Kenya. Marketing is the focus of the FCI project, along with improved production and seed provision. Part of a larger initiative.	Farm Concern International
Maize and others	Support to women in post-harvest handling and marketing	Strengthening Value Chains for Maize and Soybeans for Ugandan Women Farmers (2012–2013)	Project reached 180 farmers. Project addresses entire value chain. In total, it has five objectives; one relates to maize marketing and another to production and marketing records.	FtF Niche Project
Maize	New marketing system for women	JEEViKA (Bihar, 2007–2016)	\$235.8-million project. TechnoServe's component is a pilot within the project. Technical assistance project for JEEVIKA. Maize marketing is one of two elements of TechnoServe support.	TechnoServe
Maize and others	Increase women's participation in marketing through farmer organizations	P4P (2009–2013)	Project implemented in 20 countries, reached 1.7 million farmers (25 percent of whom were women).	WFP
Maize and others	Collective marketing	Manyakabi Area Cooperative Enterprise (Uganda, 2002–Present)	Cooperative with 28 farmer groups in 2011. Has 7,146 female members and 694 male members.	Local cooperative
Groundnuts and others		Pathways to Empowerment (Malawi, 2012–Present)	Targets 12,000 female farmers in Malawi. Malawi is one of six countries.	CARE

APPENDIX II: SOURCES

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ENSURING ESCAPES FROM POVERTY ARE SUSTAINED IN RURAL BANGLADESH

LEO

Leveraging Economic
Opportunities

LEO REPORT #32



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JULY 2016

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS

BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
CBN	Cost of Basic Needs
CFPR-TUP	Challenging the Frontiers of Poverty Reduction - Targeting the Ultra-Poor
CLP	Chars Livelihoods Programme
CPAN	Chronic Poverty Advisory Network
DFID	Department for International Development (United Kingdom)
FFE	Food for Education
FGD	Focus Group Discussion
FTF	Feed the Future
HIES	Household Income and Expenditure Survey
IFPRI	International Food Policy Research Institute
LEO	Leveraging Economic Opportunities
MG	Micronutrients – Gender
NGO	Non-governmental Organization
ODI	Overseas Development Institute
ZOI	Zone of Influence

EXECUTIVE SUMMARY

Bangladesh has experienced substantial reductions in both extreme poverty and poverty. The proportion of the population living below the national extreme poverty line has reduced from 50 percent in 1991 to 18 percent in 2010 while the poverty headcount ratio, using the national poverty line, has reduced from 60 percent to 32 percent over the same period. Economic growth, increased non-farm employment (particularly in the ready-made garment industry), international migration, and investments to improve human development outcomes have all contributed strongly to this success. However, some households escape poverty only to live at a level just above the poverty line: 19 percent of the population lives out of poverty, but has a level of consumption less than 1.25 times the national poverty line. They therefore remain vulnerable to slipping into poverty in the event of a shock or stressor, such as an episode of ill-health or a flood.

The specific focus of this report is on “transitory poverty escapes”: a term referring to households that successfully escape from poverty only to return to living in it once again i.e. they become re-impooverished. Analysis of the Chronic Poverty and Long-Term Impact Study for this case study reveals that transitory poverty escapes are a significant phenomenon in rural Bangladesh. In particular, between 1997/2000 and 2010, 10 percent of all households experienced a transitory poverty escape. Of those households that escaped poverty between 1997/2000 and 2006, around 20 percent were again living in poverty by 2010.

This report combines analysis from three rounds of the Chronic Poverty and Long-Term Impact Study with qualitative research approaches; in particular: key informant interviews, life histories, and participatory wealth ranking to further investigate the drivers of transitory poverty escapes or of re-impooverishment. Specifically, it examines why some households are able to escape poverty and remain out of it—that is, they experience sustained escapes from poverty—while others escape poverty only to return to living in it again. The report investigates the resources (land, livestock, and value of assets), attributes (household composition and education level), and activities (including jobs and engagement in non-farm activities) of households that enable them to escape poverty sustainably and minimize the likelihood of returning to living in poverty again.

What matters? Specific findings include the following:

- Households with greater asset value are more likely to experience a sustained escape from poverty.
- Owning more cultivable land reduces the risk of experiencing a transitory poverty escape relative to a sustained poverty escape. Cultivating land is an important source of income and food while ownership of land itself can act as collateral to secure loans; owning land is a measure of social status and can be mortgaged out during hard times.
- An increase in the number of livestock is associated with a reduced risk of experiencing a transitory poverty escape relative to a sustained poverty escape. Buying and selling cattle can be an important source of income as are sales of milk; there is evidence of “livestock ladders” with households moving from rearing poultry and small ruminants to share-rearing and owning cattle. Selling small ruminants, particularly goats, as well as poultry, is an important means to manage risks.
- An increase in the share of dependents is associated with a higher risk of a transitory poverty escape. Life histories also highlight dowry payments for girls as being an important driver of re-impooverishment.
- A more educated head of household is tied to a reduced risk of transitory poverty escapes and impooverishment. The level of education is also important. Households where the head has completed secondary education are less likely to experience a transitory poverty escape than

those where the head has completed primary education. Those with primary education, in turn, are less likely to experience a transitory poverty escape than those where the head has no education.

- Female-headed households are less likely to experience a transitory poverty escape or become impoverished than to experience a sustained poverty escape. This finding should be contextualized for Bangladesh where there are two primary groups of female-headed households: those where the male head of household has migrated (including internationally); and those where the woman has been abandoned, divorced, or widowed. While the latter are among the poorest households in rural Bangladesh and can have limited prospects for sustained poverty escapes given limited income-generating activities that are accessible to women, the former are among some of the better-off households in rural areas due to their receipt of remittances.
- Female-headed households that receive remittances are more likely to experience a sustained escape than a transitory escape.
- When the head of household is involved in non-agricultural activities, the household is more likely to experience a sustained escape. In practice, based on the life histories of households that experienced sustained escapes, heads of these households were engaged in both agricultural and non-agricultural work throughout the year.
- Experiencing a series of shocks in short succession is associated with transitory poverty escapes. Health shocks emerge as a particularly important driver of re-impoverishment.
- Households where the man and woman work together are more likely to experience sustained poverty escapes.
- Households that experience sustained poverty escapes cultivate more than once a year, switch crops regularly depending on market prices, and store crops to sell them when the price is high.

What can be done? Recommendations include the following:

- Both primary and secondary education are important for sustained poverty escape. However, education needs to be relevant for the labor market, and because of this, *technical training and skills development* are crucial, as is *raising awareness* on the types of job available for educated individuals.
- *Avoid neglecting jobs*, given the predominant focus of development interventions in rural areas on self-employment and entrepreneurship. Migration is important here, and interventions should aim to reduce the risks associated with migration, both internal and international.
- *Work toward changing values and behaviors*. Female empowerment and tackling unequal gender relations as a root cause of poverty remain central in efforts aimed at ensuring that escapes from poverty are sustained.
- *Promote mentoring*. Household- and individual-level mentoring and follow-up is useful in providing continuous support to enable them to successfully to follow new livelihood activities and to maintain interest in these activities.
- *Innovate around health care* so that households are protected in the event of health shocks; health insurance is one potential avenue here. In addition, there are households that experience transitory poverty escapes because family members are chronically sick or elderly. A priority here is to link these households with government safety nets so that they have access to long-term support.

I. INTRODUCTION

Analysis of two-wave panel data to examine poverty dynamics reveals a disturbing trend in terms of the numbers of households descending into poverty. Across 14 countries,¹ while some households successfully escape poverty, other households are falling into poverty over the same period. For instance, in Nepal between 2003/04 and 2010/11, 13 percent of households escaped poverty while 9 percent of households fell into poverty (Mascie-Taylor 2013). Meanwhile, in South Africa between 2008 and 2012, 20 percent of households escaped from poverty while 10 percent fell into poverty (Finn and Leibbrandt 2013). In some other contexts and over particular periods of time, more households actually fell into poverty than escaped from it. This includes Tanzania where between 2008/09 and 2010/11, 12 percent of households fell into poverty while 7 percent escaped from poverty (Tanzania National Bureau of Statistics 2011).

Analysis of three-wave panel data by the Chronic Poverty Advisory Network (CPAN) reveals further the incidence of “transitory poverty escapes,” or households that escape poverty subsequently returning to living in it. For instance, in Vietnam, while 14 percent of households escaped poverty between 2002 and 2004, 20 percent of those households had once again returned to living in poverty by 2006. In rural Kenya, 12 percent of households escaped poverty between 2004 and 2007; by 2010, just over 40 percent of these families had returned to living in poverty again (Scott et al. 2014).

Qualitative life histories conducted by the CPAN and hosted at the Overseas Development Institute (ODI) complement the panel data analysis referred to above. The life histories point to the inability of poor and insecure, non-poor households to mitigate, adapt to, and recover from shocks and stresses as key drivers of transitory poverty escapes and impoverishment. To investigate further, and to articulate the role of risk and the importance of risk management in relation to Feed the Future’s (FTF) top-line poverty reduction goals and USAID’s ending extreme poverty agenda, the Bureau for Food Security contracted ODI through the Leveraging Economic Opportunities (LEO) activity to examine the observed variance (at the household and national levels) in transitory poverty escapes in three FTF focus countries: Bangladesh, Ethiopia, and Uganda. Box 1, below, clarifies how the terms “transitory poverty escapes” and “impoverishment” are used in this work, and how they relate to USAID’s resilience agenda.

BOX 1: TRANSITORY POVERTY ESCAPES AND IMPOVERISHMENT

Impoverishment refers to the process whereby a poor person or household becomes poorer, or where somebody who is non-poor slips into poverty. **Transitory poverty escapes** refer to individuals or households that used to live in poverty, succeeded in escaping poverty, and then subsequently fell back into poverty i.e. they became re-impoverished. For the purposes of this work, we view **resilience** as a set of capacities enabling households to remain out of poverty over the long term, even in the face of shocks and stresses. (Source: In other words, the capacity to be resilient means an individual or household is ultimately able to avoid becoming impoverished or to experience a transitory poverty escape.

¹ Panel data sets from the following 14 countries were analyzed in the third Chronic Poverty Report (2014): Burkina Faso, Ethiopia, India, Indonesia, Mexico, Nepal, Pakistan, Philippines, Kenya, Senegal, South Africa, Tanzania, Uganda, and Vietnam. More detail about the data sets analyzed is presented in Annex A.

II. THE CASE STUDY OF RURAL BANGLADESH

The objectives of this case study of rural Bangladesh are (i) to highlight the importance of a poverty dynamics perspective for an agenda to end extreme poverty, ensuring that escapes from poverty are sustained, i.e., that “re-improvement” is prevented; (ii) to investigate the drivers of transitory poverty escapes, or the reasons why some households are able to escape poverty and remain out of it while others escape poverty only to fall back into it; and (iii) to draw out implications for USAID’s ending extreme poverty agenda and programmatic approaches in Bangladesh.

This study brings together:

- New analysis of the panel data collected as part of the Chronic Poverty and Long-Term Impact Study in Bangladesh (Quisumbing and Baulch 2010). This impact study was conducted by the International Food Policy Research Institute (IFPRI) in conjunction with the Chronic Poverty Research Centre and Bangladesh’s Data Analysis and Technical Data Ltd.; it covers individual-, household-, and community-level information. It was created to assess the impact of certain antipoverty interventions on poverty trajectories in the country². Specifically, the Micronutrients-Gender (MG)/agricultural technology data set explored the introduction of new agricultural technologies; the Food for Education/Cash for Education (FFE) data set explored the impact of educational transfers; and the microfinance data set evaluated the short-term effects of the introduction of microfinance within the survey site.

While together the impact study is not nationally representative, the areas chosen do “broadly characterize the variability of livelihoods found in rural Bangladesh” (Quisumbing 2007). Moreover, as poverty in Bangladesh remains a predominantly rural phenomenon, employing this data set enables a closer look at the most prevalent drivers associated with poverty trajectories in the country (Sen 2003).

The analysis in this paper relies on the 1,193 households with available data across the three survey waves of the MG/agricultural technology and FFE data sets³. Three waves were constructed, first in 1997/2000 and then in 2006 and 2010 when both sites were resurveyed.⁴ Poverty status was identified through comparison of household per capita expenditures to lower and upper poverty lines provided by the Bangladesh Bureau of Statistics’ Household Income and Expenditure Surveys. Annex B presents some summary statistics from this data set.

- Insights from key informant interviews with development stakeholders in Dhaka and Jessore districts in the southwest of the country, which is a FTF zone of influence (ZOI). Jessore is not particularly disaster prone. We conducted 16 key informant interviews in Dhaka and two in Jessore. Jessore was purposefully selected for life histories as it is (i) located in the FTF ZOI; and

² The panel survey was undertaken in 102 villages across 14 of Bangladesh’s 64 districts. These districts are: Manikganj, Kishoreganj, Mymensingh, Jessore, Barisal, Chandpur, Cox’s Bazaar, Naogaon, Narail, Nilphamari, Sherpur, Tangail, Habiganj and Kurigram.

³ Analysis was conducted on a subsample of surveyed households. In particular, on households which became impoverished over the survey period (n=48); those which experienced a transitory poverty escape (n=121) and those which experienced a sustained escape (n=484).

⁴ The first survey wave corresponds to 1997 for the MG data set and 2000 for the FFE data set. This difference in years exists because the original studies examined interventions separately across survey sites; the MG panel began in 1996 and comprised four rounds of data collection until the end of 1997, while the FFE panel began in 2000 and involved another round in 2003. In our analysis, we employ data from the last round (late 1997) in the first wave of the MG data set and the first round (2000) of the FFE data set to reduce this difference and maintain a degree of cross comparability.

(ii) analysis of the Chronic Poverty and Long-Term Impact Study revealed a relatively high proportion of households in each of the different poverty trajectories. Annex B gives a list of key informants interviewed for this work.

- Information from focus group discussions (FGD) that can be used for participatory wealth ranking in three villages in Jessore district. Two of these villages were the same villages previously visited by the Chronic Poverty and Long-Term Impact Study and by USAID’s Feed the Future initiative, which has been operating in all three of these villages since 2013. The groups assembled to conduct the participatory wealth ranking comprised both heads of household from households engaged in USAID interventions and those from households not involved with USAID’s activities. In each village, we undertook the exercise twice: once with a group of men and once with a group of women.

Specifically, we conducted a historical participatory wealth ranking for three points in time (2006, 2011, and 2016) using predetermined wealth classifications. We then asked the group to discuss and explain reasons behind the assignment of households to certain categories and the drivers of different poverty trajectories. The participatory wealth ranking exercises were recorded, and the key insights from these were subsequently documented. Annex C gives more details of this approach.

- Life history interviews with individuals who took part in the participatory wealth ranking and who were identified during this exercise as being on different poverty trajectories. These life histories enabled in-depth investigation of the reasons why individuals, and subsequently their households, were able to escape poverty at different points in time; why they became impoverished; or alternatively why they were able to remain out of poverty or were trapped in poverty. The guiding template for the life histories is in Annex D. In each of the three villages, we undertook eight life histories: four with women and four with men. The life histories, along with key informant interviews, were analyzed using MAXQDA with codes to identify those factors associated with sustained poverty escapes, impoverishment, and transitory poverty escapes.
- Existing policy and program assessments and evaluations (see references)
- Wider literature on the extent and nature of impoverishment and re-impoverishment, and the success of anti-poverty efforts in Bangladesh (see references)

A. WHAT IS THE EXTENT OF TRANSITORY POVERTY ESCAPES IN BANGLADESH, AND WHY IS THIS IMPORTANT?

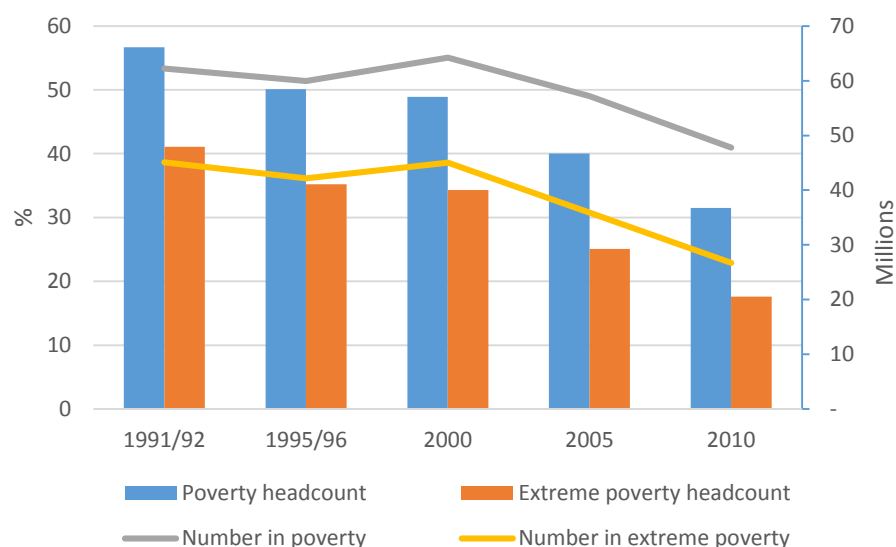
Bangladesh has experienced impressive reductions in the incidence of both poverty and extreme poverty, as illustrated in Figure 1. Overall, the poverty headcount ratio⁵ has reduced from 60 percent in 1991-92 to 31.5 percent in 2010 while the proportion of the population living below the extreme poverty line⁶ has reduced from 50 percent to 17.6 percent over the same period (Bangladesh Bureau of Statistics (BBS) 2010). Significant poverty reduction has taken place in the context of rapid GDP growth, which averaged 4.7 percent during the 1990s and just under 6 percent in the period since. Bangladesh has also seen

⁵ Using the national poverty lines, which are calculated by the Bangladesh Bureau of Statistics using the Cost of Basic Needs (CBN) method, and given as the “upper poverty line” and “lower poverty line.” In this paper, as commonly used in Bangladesh, “poverty” refers to those households living below the “upper poverty line,” while those living below the “lower poverty line” are referred to as the extreme poor.

⁶ Note footnote 5 and how, throughout this paper, the term “extreme poverty” refers to households living below Bangladesh’s national lower poverty line. In other words, the term extreme poverty is not used to refer to those people living on/below \$1.90 ppp, as is used in international discussions.

marked improvements in measures of human development, which exceed those of other countries with a similar level of per capita income. In 2011, the U.N. Human Development Report placed Bangladesh third out of 178 countries in terms of improvements in education, health, and inequality over the last 20 years (Asadullah et al. 2014).

Figure 1: The Poverty Head Count Ratio and Number of People Living in Poverty



Source: BBS (2010) and World Bank Health, Nutrition, and Population statistics.

Analysis of the Bangladesh Household Income and Expenditure Survey (HIES) reveals that though there are some commonalities in the drivers of poverty reduction in the 1980s, 1990s, and the period from 2000, there are also some important differences (Zaman 2012). This section investigates the drivers of poverty reduction at both the macro- and micro-levels across these two periods.

1. MACRO-LEVEL DRIVERS OF POVERTY REDUCTION BEFORE THE 2000'S

Agricultural development in Bangladesh has to be viewed in the context of a devastating famine in 1974 and the subsequent, almost overriding ambition to become self-sufficient in rice production. This ambition was based on the desire to avoid future famines and suffering and, in doing this, to ensure political support for the ruling party, law, and order. Since independence, production has increased threefold (National Agricultural Extension Policy 2012), and there is a sense of pride at the country's achievements in this regard.

Accompanying the progress on achieving rice self-sufficiency, Bangladesh also witnessed progress in reducing both poverty and extreme poverty before the 2000s, with an annual rate of extreme poverty reduction of 1.8 percent in the 1990s (Sen and Ali 2015). During this time, progress in non-income dimensions of poverty came faster than for income dimensions. The human poverty index, which stood at 61 percent in the early 1980s, declined to 35 percent in the late 1990s (Sen 2003). Accelerated income poverty reduction during the 1990s was due in no small part to the increased speed of economic growth, with GDP growing at a rate of 3–6 percent throughout the decade (Sen 2003). The following factors also contributed to reducing poverty prior to 2000 (Kabeer 2004):

- A decline in fertility rates: with the birth rate reducing from around 7.0 children per woman in 1970 to 2.3 children per woman in 2010 (Chowdhury et al. 2013)
- The Green Revolution in agriculture

- Changes in the policy environment, specifically structural adjustment measures for economic liberalization
- Growth in the rural non-farm sector
- Investment in infrastructure development. In particular, analysis of household panel data from the late 1990s reveals that rural road investments significantly reduced poverty through increased agricultural production, higher wages, lower input and transportation costs, and higher output prices. Rural roads also lead to higher school participation rates among school-aged boys and girls (Khandker et al. 2009).
- Policies leading to improvements in human capital, mainly through public sector promotion of social services including health care, drinking water provision, and education. For instance, since the 1990s the Bangladesh government has given systematic attention to increasing primary school enrollment rates, with these steadily increasing and reaching 100 percent by the end of the decade (Lewis 2011). A combination of public social policy and organized NGO interventions also saw striking improvements in the delivery of health services and health outcomes. Particularly noteworthy is that the immunization rate increased from 1 percent in the early 1980s to over 70 percent within 10 years (Chowdhury, Bhuiya, and Aziz 1999 in Asadullah et al. 2014), and maternal mortality has decreased by 75 percent since 1980 (Sen and Ali 2015). A key innovation, which enabled effective delivery of health services and improved health outcomes, is the use of household visits by community health workers (Adams et al. 2013).
- Though NGOs have played a contested role in poverty reduction, NGOs involved in service provision, including microfinance services, have largely been seen as an enabler for women’s empowerment (Kabeer 2004).

2. MORE RECENT MACRO-LEVEL DRIVERS OF POVERTY REDUCTION

In the 2000s, both poverty and extreme poverty remained largely rural phenomena. In 2010, the poverty head count was 43.8 percent in rural areas and 21.3 percent in urban areas. In terms of extreme poverty, 21.1 percent of people in rural areas and 7.7 percent of people in urban areas were extremely poor in 2010 (BBS 2010). Agriculture, including crops, fisheries, and livestock, meanwhile remains the major source of livelihoods and the largest employer in the country: 47.5 percent of the population is directly employed in this sector, while around 70 percent depends on agriculture in one form or another for their livelihoods. The agricultural sector therefore remains crucial in poverty reduction (Miah et al. 2015).

The 2000s have seen impressive reductions not just in poverty but also in extreme poverty, with the proportion of the population living in extreme poverty falling from 34.3 percent in 2000 to 17.6 percent in 2010 (BBS 2010). However, 27 million people are still living in extreme poverty, which remains qualitatively different to conventional poverty and is characterized by functional landlessness and landlessness (Goto et al. 2011; Sen and Ali 2015). This has implications for the extent and mechanisms through which they can benefit from programs for (crop) agriculture. The need for specific interventions to meet the specific needs of extremely poor households was stressed by key informants (see also Ali and Mujeri 2016). Human capital improvements for the poorest segments of the population have continued into the 2000s, with notable achievements including a decline in the under-five mortality rate for the lowest asset quintile from 121 deaths per thousand in 2004 to 64 deaths per thousand in 2011. In addition, the share of illiterate people among the extreme poor has declined from 64 percent to 46 percent over the previous seven years (Sen and Ali 2015).

The nature of poverty reduction has also varied over the decade since 2000. In the mid-2000s, Bangladesh was argued to be entering “a phase of inequality” (Sen and Hulme 2006, 46), where the poorest were getting “left behind” in national progress. In particular, between 2000 and 2005, the rate of poverty

reduction was greater in the wealthier eastern part of the country, as compared to the much poorer west; this exacerbated the east-west divide (Government of Bangladesh 2005).

Since 2005 though, growth is argued to be more pro-poor (World Bank 2013). Poverty reduction has also been much more regionally balanced: in particular, the Jamuna bridge, which opened in 1998, has contributed to increased prosperity in the northwest of the country (World Bank 2013). In addition, both own-account farmers, including smallholders, and agricultural daily wage laborers have seen improvements in their situation (World Bank 2013). In particular, reductions in extreme poverty and poverty between 2005 and 2010 have predominantly been driven by **increased returns to existing endowments (particularly labor and land)**, rather than a shift in the endowments that poor people own or have access to (World Bank 2013). However, returns to existing endowments have been greater for some than for others. For instance, since the 2000s, the rate of poverty reduction has been greater among households with larger landholdings, which is defined as households with more than 1.5 acres of land (World Bank 2013).

Specifically, net food producers have benefitted from increases in the price of food, especially during 2007–2008 (World Bank 2013), while agricultural wage laborers have seen their **real wage rates increase**, with these increases accelerating during the second half of the decade (Wiggins and Keats 2014). This is in sharp contrast to declining returns for agricultural occupations during the 1980s (Wodon in Zaman et al. 2012). Rural real wages have particularly accelerated since 2005, with an annual growth rate of approximately 10 percent for both male and female workers during agricultural peak and lean seasons (Zhang et al. 2013). This has led some to argue that, since 2005, it has been increases in labor income connected to growing economic activity that has played the largest role in reducing extreme poverty (Azevedo et al. 2013).

A key driver of growth in rural real wages is **more ample job opportunities in the non-farm sector**, especially jobs for women in the manufacturing sector (Zhang et al. 2013). While the ready-made garment sector employed 1.3 million people in 1995, this increased to 3.6 million in 2010 with a particularly rapid increase since 2004 (Zhang et al. 2013); the sector has been a key driver of economic growth during the 2000s as well (World Bank 2010). **Migration, both domestic and international**, has also contributed to the rise in agricultural and rural wages for the remaining workers in rural areas (Sen and Ali 2014). Indeed, despite the high up-front costs of international migration, the share of the two lowest land-owning groups in rural areas (owning up to 0.40 ha) among rural households reporting international migrants increased considerably from 38 percent in 2000 to 54 percent in 2008 (Hossain et al. 2013 in Sen and Ali 2014).

3. A MICRO PERSPECTIVE: EVIDENCE ON THE DRIVERS OF HOUSEHOLD DESCENTS AND ESCAPES

The previous section has focused on the macro-level drivers of poverty reduction. This section presents existing findings from micro-level data including household surveys, both cross-sectional and panel, as well as from household-level qualitative research about what drives escapes from poverty and causes falls into or further into poverty. This section investigates findings in terms of the following categories:

1. The initial household **resource base** including land, livestock, value of assets, electricity, and piped water
2. Household **attributes and capacities** including age, household size and structure, gender, education, and skills
3. The types of **activities** that household members engage in including employment, non-farm enterprise, crop agriculture, and remittances
4. Household **shocks**, including the number and types of shocks

a. Poverty ascents. In terms of household resource base, the *accumulation of both land and non-land fixed assets* has been found to drive poverty ascents across the literature (see, for example, Hossain and Nargis 2010; Davis 2011a; Ahmed et al. 2016). Davis (2011a) finds that individuals who *own or have access to productive tangible assets such as land and livestock* are more likely to fare better.

Meanwhile, those households with a *stronger human capital base* tend to be faster at accumulating assets and displaying positive economic mobility. Related to this are intangible assets like head of household education, social status, and female economic empowerment that are also important in propelling households upward (Davis 2011a; Kabeer 2004; Ahmed et al. 2016). However, while a shift to higher levels of education among heads of household is associated with improving welfare, the overall returns to education at each grade level, as compared to the 1980s and 1990s, has declined in the 2000s. While the returns to education still increase with the level of education attained by heads of household, the authors suggest that higher numbers of children going to school is likely to have resulted in an overall reduction in the “wage premium” for educated individuals in the labor market (Zaman et al. 2012).

Having a *lower dependency ratio*, and particularly fewer children, is also important for poverty reduction. Analysis of HIES data reveals that changes in household size and the education of household members contributed the most to consumption growth between 2000 and 2005. In particular, there was a sizeable reduction in household size over the five-year period: the average size of households fell from 5.2 to 4.9 members as a result of fewer children in the household (Zaman et al. 2012). If household size had not reduced between 2000 and 2005, poverty reduction would have been almost half of what it actually was (World Bank 2008 in Zaman et al. 2012).

Besides a household resource base and capacities, *household activities* are also indispensable in deciding poverty trajectories. Determinants of upward trajectories responsible for poverty reduction have included *crop intensification, diversification of agriculture, irrigation, and the growth of non-farm activity* (Sen 2003). Kabeer (2004) also notes business and trade to be drivers of poverty ascents, especially where these comprise non-agricultural activities. In addition, Hossain and Nargis (2010) find that it is not necessarily occupational shifts but rather the engagement in non-farm activities itself that contributes to upward economic mobility. International migration and remittances also drive poverty ascents (Kabeer 2004; Hossain and Nargis 2010; Davis 2011a).

Meanwhile, poverty escapes can also partly be a case of *avoiding shocks*. Quisumbing (2011) finds that households that experience upward mobility are significantly less likely to have health expenses as well as expenditures on dowry and wedding costs.

b. Poverty descents. While poverty reduction in Bangladesh has made large strides over the last decades, there have been large flows not only of poverty ascents but also of descents. Such flows are not observed through changes in the poverty head count alone. Examining the *drivers of poverty trajectories* is important in order to formulate more effective poverty-reduction strategies (Sen 2003; Sen and Ali 2015). It also provides a means of tackling chronic poverty as well as preventing re-impooverishment and impooverishment.

While the extreme poor are very susceptible to shocks and to sliding further down into poverty as a result, households living above the poverty line are also vulnerable to shocks, though not to the same extent. “The slippages of the non-poor and moderate poor into extreme poverty makes the project of ending extreme poverty solely through a climbing-up strategy a very difficult task” (Sen and Ali 2015). In particular, in Bangladesh, 18.6 percent of the population lives out of poverty, yet consumes less than 1.25 times the (upper) national poverty line. This means that a sizeable proportion of the population is vulnerable to slipping into poverty in the aftermath of shocks, whether a natural disaster, health shocks, crop failure, or theft (NSSS 2015). Recent analysis by IFPRI indicates that descents by the non-poor into poverty are not insubstantial, with 12 percent of rural households falling into poverty between 2011/12

and 2015 (Ahmed et al. 2016).⁷ This section examines some of the reasons for impoverishment and downward mobility in Bangladesh in recent decades.

In terms of the household resource base, land is not only a key asset for upward mobility, but **land ownership is also associated with a reduced likelihood of downward mobility**. Excess income tends to be invested in land, it can be sold in times of crises, and it endows household members with social status that contributes to their social capital (Davis 2011a). Sen (2003) also finds escapes from poverty and downward movements to both be affected by initial asset position as proxied by the amount of land owned. Besides land, other structural factors such as debt, in addition to **intangible factors like social stigma, violence, and physical insecurity, contribute to “social disadvantage” and poverty descents** in the country (Sen 2003; Davis 2011a).

In terms of household attributes and capacities, **high dependency ratios** have been found to drive poverty descents (Ahmed et al. 2016). Building on the **gender** dimension, Asadullah (2012) finds that downward mobility in wealth exists particularly in cases where sons split off from the father’s household. These household divisions as well as other family disputes that may stem from land or dowry-related issues also exert a downward pressure on households across income quintiles (Baulch and Davis 2008).

Investigating poverty dynamics in the late 1990s, Kabeer (2004) finds that female headship and the relative absence of adult male members as well as adult members without an education are all associated with descents into poverty. She relates this to the limited choice of activities for these individuals, confined mainly to agricultural wage labor, which, in that period, provided low wages and was associated with poverty traps.

Shocks such as illness or natural disasters that destroy assets or crops have played a key role in initiating poverty descents in Bangladesh (Hossain and Nargis 2010). Episodes of illness tend to be especially severe for poor households, wherein families face a double disadvantage due to the loss of productivity of an earning member as well as health-related expenses (Kabbeer 2004). Besides illness and dowry, difficulties in repaying loans also contributes to household-level crises and a decline in well-being (Kabbeer 2004; Davis 2011a; Quisumbing 2011). Ahmed et al. (2016) found that crop losses from floods, droughts, pests, and diseases can play an equally significant role in driving descents into poverty. Meanwhile, Quisumbing (2011) does not find that flooding is a major driver of poverty, something which she suggests may be due to flood response efforts. Certainly, with the growth of non-farm employment opportunities it is likely that natural disasters currently play a less important role in poverty descents than they did in previous decades.⁸

An important programmatic response to prevent impoverishment is **social protection**. Households that receive social safety net income that comprises more than 15 percent of their total household income are less likely to fall into poverty (Akhter et al. 2016).

Table 1 presents recent findings from FGDs in Jessore district.

Drivers of poverty escape and upward mobility include a range of factors associated with increased agricultural production, market access, and prices as well as factors related to improvements in the position of women, which have occurred particularly over the previous five years.

⁷ Analysis of the Feed the Future sample of IFPRI-PRSSP’s Bangladesh Integrated Household Survey. This comprises a sample of roughly 2,000 households in southwest Bangladesh.

⁸ Interview with Binayak Sen.

Table 1: Drivers of Upward Mobility in Particular Communities over Previous Five and Ten Years

Between 2006 and 2016 (Over the previous 10 years)	Between 2011 and 2016 (Just over the previous five years)
Farmers could not produce crops if they did not have money. Now, however, they can obtain loans from any NGO for agriculture when they need one.	Increased price of milk and meat. This is linked to increased border controls with India and the ban on exporting cattle from India. Increased price of jute and rice.
Training by NGOs on livestock rearing and modern crop agricultural practices. This means farmers can now cultivate more than one crop on one piece of land per year.	Improved relationships with agricultural input and output dealers due to higher levels of production. Dealers come to the village and distribute fertilizer, pesticides, and seeds, and farmers no longer have to buy these from markets. Fertilizer is also now of an improved variety (<i>guti urea</i>).
Increased awareness of the value of education and, in particular, of educating children. “Now we try to convince our children but in previous parents were not that serious about educating their children. They were not bothered about whether children went to school or not. But now we try to make our children educated so that they can get sufficient light and air to live.” [Fasiatala Female, FGD]	Increase in the wage offered for agricultural day labor. “Five years ago, wage of day labor was Tk 100–150 per day where it is now Tk 250/300 ⁹ per day.” [FGDs in Ishwaripur]
	Migration abroad and to other cities in Bangladesh. In Ishwaripur village, 35 people are currently working abroad.
	Increased information and communications, including through TV and mobile phones. Through mobile phones, rural people can now communicate with local livestock doctors. When needed, they can consult with doctors about livestock treatment over the phone. They can also learn about different topics through various TV programs. [Banstalli Female, FGD]
	Improved road infrastructure, enabling easier transport of agricultural produce to markets.
	Husbands and wives are working outside the home together. Generally, women work outside the home in rural areas, but recently, more women across Bangladesh are working outside the home. Increasingly throughout the country, men and women are working outside the home in equal numbers. Besides household chores, women now tend homestead gardens and rear livestock on their homesteads. [Ishwaripur Male, FGD] “Many women in our area help their husband[s] grow crops on agricultural land. They also work as day laborer[s]. Now many women work in Dhaka or in Jessore.” [Banstalli Female, FGD]
	Homestead gardening to meet nutritional needs and to supplement household incomes.

⁹ At the time of writing, Tk 78 is approximately \$1.

Between 2006 and 2016 (Over the previous 10 years)	Between 2011 and 2016 (Just over the previous five years)
	Through USAID's agriculture extension program, women plant more vegetables on their homesteads. [Banstalli Female, FGD; Fasiatala Female, FGD]
	Improved relations between mothers-in-law and daughters-in-law. When daughters-in-law increase family income by engaging in income-generating activities, then the mother-in-law and other older people support them and permit them to attend the NGO meetings and trainings.

Table 2, meanwhile, presents the *drivers of downward mobility and impoverishment* as reported during the FGDs. Interestingly, all drivers were common across the previous 10 years, with none being specific to the previous five years. These drivers include different types of shocks such as natural disasters, dowry, death, and illness as well as stressors that can drive downward mobility over the longer term. These stressors include having limited land assets and being unable to earn enough to maintain your situation; this can lead to being trapped in loan repayment cycles.

Table 2: Drivers of Downward Mobility in Particular Communities over Previous Ten Years (2006–2016)

Natural disasters, including continuous heavy rain, flooding, storms, and flash floods. Destroy both houses and crops.
Death of an income earner. When the one and only bread winner of the family dies, the whole family is driven into poverty. A female respondent from an FGD in Banstalli village explained that her husband recently died. For his treatment, she had to spend about Tk 4 lakh. ¹⁰ Her son was studying in higher secondary school, but after the death of her husband, he had to drop out and work as an agricultural day laborer to repay the debt.
Illness or accident
Death of livestock
Dowry. Across the FGDs, dowry is given as one of the causes of a deteriorating economic situation among families. To provide a dowry, many families have to sell land, mortgage out their land, or take out loans and then are trapped in a cycle of destitution by taking loans to repay loans.
Failed international migration. If a family member goes abroad, the family has to take out a huge loan or sell key assets. If that family member comes back to the country without having earned much money because he was cheated by a broker, then the family is likely to experience trouble. As one FGD participant explained, "in 2011, my son went abroad by spending four lakhs money. But we have lost all the money as the broker stole it." [Fasiatala Female, FGD]
Lack of land ownership. Most working men work as agricultural day laborers. Even people who farm their own land also work on other's land. For people who do not own their own land, however, it is hard to escape poverty through agricultural wage labor alone. In addition, through sharecropping, farmers must give half the crops to the land owner. With agricultural wages, a person will not be able to make enough money to secure a land-lease. If farmers do not have their own land, they cannot improve their condition through leasing land or sharecropping. [Banstalli Male, FGD]
Lack of savings to manage shocks. "Many people among us don't save money for emergency situation[s], they spend all of their earnings to live. So, when those people fall in any trouble, then they have to borrow money with interest." [Ishwaripur Male, FGD]
Trapped in loan repayment cycles. "Many people take a loan from NGOs when they are in trouble. They have to repay the loan with interest through installments made within several weeks. So for repaying one loan, they have to take a further loan from another NGO. In this way they can't overcome their poor condition." [Banstalli Male, FGD]

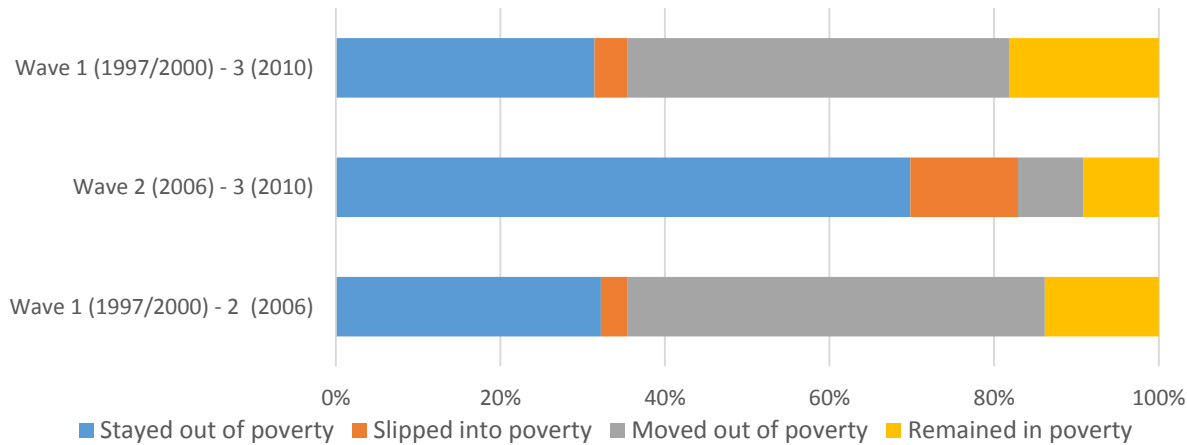
¹⁰ One lakh is 100,000 taka.

“Taking a loan is a popular trend in this area. Many people take a loan without really needing it. Again many people can’t utilize the loan money properly and fall into a poorer condition trying to repay it.” [Ishwaripur Male, FGD]
Increased dependents or children. If there are a lot of children in the family and only one person earns for the family, then the family cannot escape from poverty easily, since increased numbers of children means more expenditures. As such, families with fewer children can improve their condition more easily than families that have more children. [Banstalli Male, FGG; Ishwaripur Male, FGD]
Drug addiction, gambling
Limited education and aspirations. People are failing to plan for the future or have a goal for what they want to achieve.
Household and family division. For instance, when sons start their own households, usually both the new and the old households suffer. When a family unit divides, property is also divided amongst the inheritors. In this way, family division reduces the amount of land owned that the original household can cultivate and reduces the number of wage earners. [Ishwaripur Female FGD]

4. THE EXTENT OF DIFFERENT POVERTY TRAJECTORIES AND TRANSITORY POVERTY ESCAPES

This section introduces analysis of the Chronic Poverty and Long-Term Impact Study, and in particular, analysis of survey rounds from 1997–2010 to investigate poverty dynamics. Figure 2 indicates that just over half of the households escaped poverty between waves 1 and 2 (between 1997/2000 and 2006), while only 3 percent fell into poverty during the same period. Between 2006 and 2010, only 8 percent of households moved out of poverty. Examining the dramatic reduction in poverty between waves 1 and 2 reveals a *large share of households that have escaped poverty during this period but that remain clustered just above the poverty line* (Davis and Baulch 2009). Interestingly, 13 percent of households slipped into poverty between the latter two years of the survey. Of this, over three quarters (78 percent) were transitory escapers, meaning they had once been poor, escaped poverty, and become poor once again.

Figure 2: Poverty Dynamics in Rural Bangladesh, 1997–2010



Source: Analysis of Chronic Poverty and Long-Term Impact Study. N=1,193.

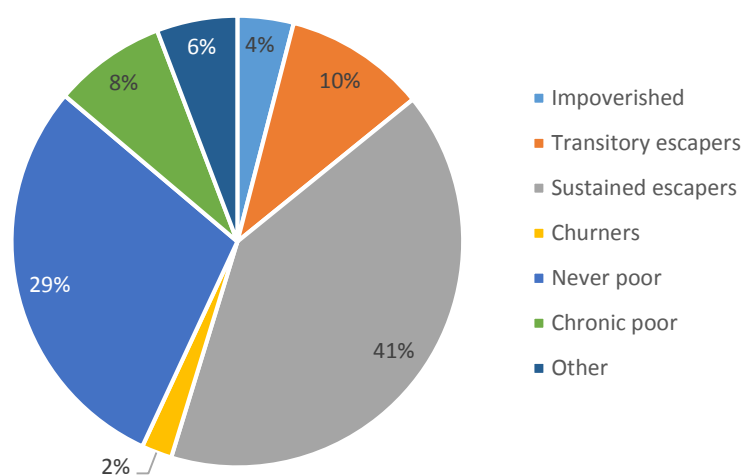
Examining poverty trajectories that households have experienced *over the entire survey period, we see that 10 percent are transitory escapers and another 4 percent become impoverished* (Figure 3).¹¹ Optimistically, two in five households are sustained escapers, meaning that they were in poverty in the first wave of the survey but thereafter escaped poverty and remained above the poverty line in the

¹¹ The specific trajectories of these different groups are: Impoverished: Non-poor (N) in wave 1, Poor (P) or N in wave 2, P in wave 3. Transitory poverty escapers: PNP. Sustained escapers: PNN. Churners: NPN. Never Poor: NNN. Chronic Poor: PPP.

subsequent two waves. The large number of sustained escapers is testament to Bangladesh’s poverty reduction successes.

However, in spite of this hopeful trend, we still see that almost a quarter of the sample comprises households that either experience a transitory poverty escape, churned around the poverty line, became impoverished, or were chronically poor. Transitory escapers are the largest of these four groups. As such, it is worth investigating the factors associated with transitory poverty escapes in Bangladesh and whether the gains accrued to sustained poverty escapers can be replicated by those households which experience transitory poverty escapes.

Figure 3: Poverty Trajectories in Rural Bangladesh, 1997–2010



Source: Analysis of Chronic Poverty and Long-Term Impact Study. N=1,193.

B. WHY DO SOME HOUSEHOLDS ESCAPE POVERTY ONLY TO FALL BACK INTO IT, WHILE OTHERS ESCAPE POVERTY AND REMAIN OUT OF POVERTY OVER TIME?

This section investigates how different factors help or hinder sustained poverty escapes. These factors include (i) household resource base; (ii) household attributes and capacities; (iii) engagement in certain activities; (iv) shocks; and (v) household strategies. Findings from mixed-methods research are presented to examine further why some households are able to experience sustained escapes while others experience transitory poverty escapes or become impoverished. In particular, the research draws on the following sources:

1. Analysis of three waves of the Chronic Poverty and Long-Term Impact Study (see Box 2 for a summary of the analysis approach; the full regression results and further justification of the analysis approach are presented in Annex E)
2. Life histories with 24 rural households in Jessore district on different poverty trajectories

The findings presented in this section therefore draw either on the quantitative analysis, the qualitative research, or from both research methods. Several of the findings from the quantitative analysis are not statistically significant at conventional levels¹²; this is in part a function of the small sample size: 121 transitory poverty escapers and 484 sustained escapers. Where not statistically significant findings are also included, this is clearly stated and these findings are included as they are supported by insights from the life history research.

BOX 2: APPROACH TO EMPIRICAL ANALYSIS

Pooled multinomial logistic regressions form the basis of our empirical investigation into the determinants of transitory poverty escapes and impoverishment. In our equations, the base outcome is whether a household has experienced a sustained poverty escape. We control for a host of characteristics of the household head, as well as demographics and regional variables. Our equation is similar to that employed in Scott et al. (2016), where:

$$Pr(\text{Poverty Trajectory}_{i,t} = 1 \mid \beta, v_{i,t}) = F(\beta_0 + \beta_1 \text{Head}_{i,t} + \beta_2 \text{Upazila}_{i,t} + \beta_3 H_{i,t})$$

for $v_i = (1, \text{Head}_i, \text{Region}_i, H_i)$

where $\text{Poverty Trajectory}_i$ is probability of the household i experiencing a transitory poverty escape, becoming impoverished, or sustaining a poverty escape,

Head is a vector of variables defining the characteristics of the household head,

Upazila is a set of dummy variables stating in which upazila the household resides and whether it is located in an urban or rural area, and

H is a vector of household specific controls.

In interpreting the results, a variable coefficient that is greater than one indicates that a household has a higher risk ratio of the outcome (transitory poverty escape or impoverishment) relative to the base reference group of sustained escapers.

I. INITIAL HOUSEHOLD RESOURCE BASE

Analysis of the panel data reveals that an increase in the log of per capita expenditures is associated with a reduced risk of experiencing a transitory poverty escape relative to sustaining a poverty escape, with the result being statistically significant.

Key finding: Household assets are associated with reductions in the relative risk of experiencing a transitory poverty escape.

Panel data analysis reveals that an increase in household asset value as well as the presence of a sanitary toilet and electricity are all associated with a reduced likelihood of transitory poverty escape relative to experiencing a sustained poverty escape, with all except the electricity variable being statistically significant at conventional levels.

With the arrival of electricity to villages, qualitative research reveals that some people have invested in irrigation pumps powered by electricity (rather than diesel). During the life history interview, Amran Ali from Banstalli village points to the profitability of this investment, which he made through selling two cattle.

¹² Results are presented in the text as statistically significant if $p < 0.01$, $p < 0.05$ or $p < 0.1$. The actual level of significance of each finding is given in Annex E.

He uses the irrigation pump to water his own crops (in particular *irri* rice), and he rents out his pumps to earn money seasonally. He estimates that he earns about Tk 2,000 for every bigha¹³ of land irrigated in a season. In 10 years, after the costs of repairing the machine, he believes that he has earned Tk 10 lakh.

The quantitative findings displayed a slight discrepancy: improved drinking water sources, defined as supply water or water from tube wells, is significantly associated with an increase in experiencing a transitory poverty escape. This is possibly on account of continued problems with these water sources. In the decade since 2000, between 35 and 77 million people in Bangladesh were exposed to arsenic in drinking water. The situation is especially severe in rural areas, where as much as 97 percent of the population relies on tube wells as their primary water source.¹⁴

Key finding: Ownership of more cultivable land reduces the likelihood of experiencing a transitory poverty escape.

As expected, panel data analysis reveals that an increase in the amount of cultivable land owned is associated with a statistically significant reduced risk of a transitory poverty escape, though the size of the coefficient is very small. The qualitative research reveals how land ownership is not just a marker of economic wealth but also of social status. Given the widespread importance of land, Rohima explains that they think of their “lands as a bank.” Pathways out of poverty frequently involve the accumulation of land assets. For example, while Selim used to work as a day laborer on others’ lands during his childhood and youth, he now cultivates his own land, growing paddy and vegetables on 2.5 bighas, which is a marker of his upward mobility and a driver of his sustained escape from poverty. Selim became a landowner both through purchasing land and inheriting it. Having land, and the associated future income streams that may arise from it, can also be an important form of collateral in accessing an NGO loan. Selim was able to access an NGO loan after receiving 1 bigha of land from his father. He used this loan of Tk 10,000 to lease-in more land for cultivation.

Life histories reveal that the elevation of the land is also important. Ashraf notes that when he inherits land from his father, he and his brothers will get approximately 2 bighas each. He would like to inherit a certain block of land that is higher than the rest of father’s lands where he would be able to grow high-value crops and vegetables. He believes that, as he has contributed much to their extended family, his mother, brothers, and sisters will comply with his demand. If a household owns sufficient land, then leasing out a portion can be an important way of managing shocks. When asked how his family would manage if there was a natural disaster, Imran Ali explains that “if we need money then we... [lease] out some land. If we [lease] out 1 bigha of land, then we can manage Tk 70,000.” This intergenerational commitment to land ownership was described as an “addiction until death” by Zulfikar, who himself stated that he, too, had plans to purchase land after accumulating enough money. For his part, Ishwar purchases land almost every year from his business profits. He now owns 264 *decimals*¹⁵ of crop land and 40 decimals of homestead land. He explains that “buying land has become a passion for me and so I go and buy land every year.” In all instances, this engagement with cultivable land has been a source of sustained poverty escape for their households.

Key finding: An increase in the number of livestock is associated with a reduced relative risk of a transitory poverty escape and impoverishment.

The panel data analysis reveals that households owning livestock numbering higher than the median are less likely to experience a transitory poverty escape and become impoverished, though the results lack statistical significance. The importance of livestock for sustained poverty escapes is reinforced in the life

¹³ A bigha is a unit of land area. One bigha is approximately one-third of an acre.

¹⁴ <http://www.who.int/bulletin/volumes/90/11/11-101253/en/> and source therein.

¹⁵ A decimal is equal to 1/100 of an acre.

histories, where livestock is frequently mentioned as a resource from which households derive at least part of their income or production needs. Many households that were faring well tended to rear cattle and raise poultry in conjunction with other forms of income-generating activities. For example, Bakul Begum's husband cultivates the land he inherited while she rears poultry. Both husband and wife work together to look after their three cows. Amran Ali, meanwhile, actively buys and sells cattle as a small business in addition to engaging in crop agriculture. Each year he buys and sells more than one cow. On average, he buys a cow with the proceeds from his crop income for Tk 8,000–10,000 and sells it one to two years later for Tk 30,000–40,000. Biplop purchases cattle and rears them for several months before selling them for a high price at Eid. He started this business when he was 15 years old, and by the time he got married at age 22, he had earned enough from this to buy an irrigation pump for Tk 25,000. Rabeya Khatun's story (Box 3) illustrates how accumulation of livestock can be an important component in upward trajectories. Livestock can also be an important income-generating activity for women as it can be predominantly reared on and around the homestead.

BOX 3: INVESTING IN LIVESTOCK

The station of Rabeya Khatun's family started to improve when her husband's income from vegetable trading improved and they were able to buy two cows. These two cows then gave birth to two calves; the income from the milk and the increased asset value helped to put her and her family on an upward trajectory. After her husband secured employment in 2003 as a second-class government employee in the Jessore Dairy Firm, they bought another cow, which gave birth, gaining them additional income from selling milk. In 2005, her husband's job became permanent, and their income again increased. Rabeya also worked hard rearing the livestock and doing small agricultural work. With their surplus income, they bought a cross-bred cow that gave birth and produced 18 liters of milk a day, which they sold for Tk 30 per liter. Savings from their multiple sources of income meant that they were then able to invest in buying 2 bigha of land. Currently, they own four cross-bred cattle.

For others, livestock is a tool to mitigate or stall downward trajectories. For example, though Shofiquil inherited several plots of land from his father, he has currently given them out to lease. He suffered two strokes, the latest in 2014. As a result, he is no longer able to cultivate his own land and had to lease out his last remaining piece of land to fund his daughter's marriage. At the moment, he relies on two cows, one that he owns and another that he share-rears,¹⁶ as his main activity; these have at least temporarily helped prevent further economic descents.

2. HOUSEHOLD ATTRIBUTES AND CAPACITIES

Key finding: An increase in the share of dependents is associated with a higher risk of a transitory poverty escape.

The panel data analysis reveals that an increase in the share of dependents is associated with an increased risk of experiencing a transitory poverty escape relative to experiencing a sustained escape, though the finding is not statistically significant at conventional levels. The importance of the number of earning members, relative to dependents, also emerges from the life histories. Amran Ali highlights how he and his brother, during their youth, were able to work on their father's land doing day labor and rearing cattle. This tipped their father's household from being an extreme poor household to being a poor household.

¹⁶ Share-rearing livestock (cattle, small ruminants, and poultry) is an arrangement analogous to sharecropping where members of poor households rear livestock on behalf of wealthier ones. The specifics of the arrangement vary, but it normally entitles poor households to either keep every alternate offspring or half the profits from the sale of the animal(s).

It is worth mentioning that it is not just the presence of children that affects household trajectories. In the long term, poverty trajectories are also likely to be influenced by the gender of young dependents, and this emerges strongly from the life history research. While sons are likely to provide a family with a higher capacity to earn and contribute to household income through receipt of dowry upon their marriage, daughters can prolong impoverishment as households seek to pay their dowries (Kabeer 2004).

From the life histories, for many families, early marriages emerge from a need to ensure their daughter's union while she remains socially desirable. The perception also remains that marrying off daughters when they are young safeguards their integrity. For example, Amran Ali's daughter got married when she was just 13 years old in order to prevent interactions with other boys who would "disturb his daughter beside his house." Dowries are often reframed as "gifts" as opposed to a required payment upon marriage; in principle, these marriage-related expenses caused significant hardships for many families. In the FGDs, dowry emerged as one of the causes of re-impoverishment for many families. To pay for dowries, these families often had to sell or mortgage their lands or otherwise take out a loan. The story of the marriage of Shofiqul's daughter illustrates the impacts of wedding costs and dowry for the girl's family only too starkly (Box 4).

BOX 4: THE POTENTIALLY CRIPPLING COSTS OF MARRYING YOUR DAUGHTER

In 2012, Shofiqul arranged the marriage of his only daughter, Shapna, when she was 13 years old. He bore the costs of the wedding ceremony, which were just over Tk 50,000, though he says that his son-in-law's family did not demand a dowry. He obtained this money by selling a cow for Tk 18,000, taking a gift from a range of relatives totaling Tk 5,000, taking a loan from BRAC worth Tk 20,000, and borrowing from neighbors. He also took Tk 12,000 from a moneylender, which he repaid with 12 *maund*² of paddy.

However, the marriage did not last. Shapna's husband and his mother tortured her, with Shapna's mother-in-law encouraging her son to torture her. Shapna's husband also had affairs. In 2013, Shapna was sick with diarrhea, and Shofiqul paid Tk 12,000 to cure the illness, costs which neither Shapna's father-in-law nor husband contributed to. Shofiqul took a loan from ASA to fund this. Shapna stuck with the marriage for two years, but then she was unable to endure it any longer and so she divorced her husband. Because of this, she was not able to receive any of the money outlined in the marriage contract. Shapna returned to her father's house.

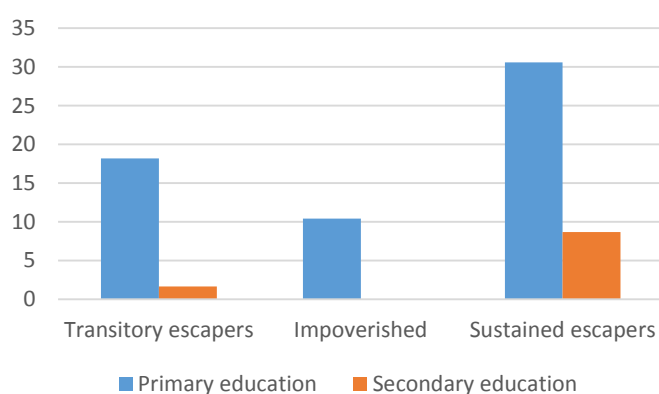
A year ago, Shofiqul arranged Shapna's second marriage; she is now 16 years old. Again, he spent Tk 50,000 on the marriage and also bought two goats; he took out a loan from an NGO to finance these purchases. He says that in the previous three to four years his family has faced so many different problems, and they have taken out loans from different NGOs each time. He now needs to take out a loan to repay his outstanding loan payments.

In addition, the boy's relatives demanded that Shofiqul buy a motorbike for the boy's family. This was because it was Shapna's second marriage while it was only the boy's first. Shofiqul agreed but could not afford to buy one straight away. This meant that Shapna had to stay living in her parent's house for another nine months until the motorbike was bought. To afford the motorbike, Shofiqul had to lease out his last remaining land for Tk 116,000 and sold a cow for Tk 26,000. Shofiqul, who is now 60 years old, says that his family has now fallen to its lowest level. They have just one cow and one share-reared cow. They are unable to cultivate land as they have leased everything out. He does not see a ladder for them to climb back up, and they are surviving in extremely bad conditions economically, physically, and mentally.

Key finding: Education reduces the risk of transitory poverty escapes and impoverishment, with the level of education also playing a role in the magnitude of this reduction.

In the data set, 28 percent of household heads have completed primary education, while another 11 percent have completed secondary education. When results are disaggregated by poverty trajectory, we see that heads of households who have experienced sustained escapes have higher primary and secondary education completion rates (Figure 4). Regression results confirm that household heads with primary and secondary education are less likely to experience a transitory escape, highlighting the gains to be had through education. That the size of the coefficient is much smaller for the secondary education variable reinforces the importance of higher education as a means of successful, sustained poverty escapes. All education variables are statistically significant at conventional levels.

Figure 4: School Completion Rates by Household Heads



Source: Analysis of the Chronic Poverty and Long-Term Impact Study

While life history respondents largely acknowledged their desire to be educated and the route out of poverty that education could provide, it is difficult for poor households to prioritize this investment. Selim, while wanting to educate his children, failed to study when he was younger due to his household's poverty during his childhood. Rabeya gave up studying when she was 11 years old also on account of her father's difficulties in bearing all of the children's educational expenses. Meanwhile, her sisters had to leave school and get a job in the garment factories when they were young as their father was sick with pneumonia and tuberculosis for nine months. Similarly, Arman Ali left school when he was only six years old. When asked why, he responded, "we couldn't eat three times a day; how could we continue [to] study?" Moreover, there remains an acceptance of maintaining the *status quo* of activities and life trajectories. Arman mentioned that when he was young, he knew he had to help his father in the field. As such, continuing education was viewed as largely unnecessary in this occupational trajectory.

Life histories also revealed that girls are more likely to drop out of school than boys due to marriage (see previous section). By the time they go to secondary school, girls are often seen as a "burden" for their families and so are removed from school to be married.¹⁷ Rafiqul married his daughter three years ago, when she was 15 years old. Rafiqul's wife believed that if they did not marry her at a young age then they would be unable to get her married. They are happy that their daughter is married as she is now living in a better situation, and they no longer need to worry about how they will afford to marry her to a suitable man.

Key finding: Female-headed households are less likely to become impoverished or re-impoverished, relative to sustained poverty escapes.

Across specifications, the panel data analysis reveals that female-headed households are less likely to experience a transitory poverty escape or become impoverished than to experience a sustained escape

¹⁷ Interview Mahmuda, USAID.

from poverty. This is particularly the case in relation to impoverishment, where the coefficient is much smaller than it is for transitory escapes. The lower risk of impoverishment for female-headed households relative to a sustained poverty escape is statistically significant, though not where the outcome is transitory escapes.

Contextualizing this result in terms of migration patterns in Bangladesh provides a rationale. In particular, as a result of international migration, there are two types of female-headed household. Some households are headed by a woman after her husband migrates abroad; these households tend to be relatively wealthy given that they receive international remittances, which can both smooth and increase household income. Other female-headed households are those in which a woman has been abandoned, widowed, or divorced; these tend to be amongst the poorest households in the country.¹⁸ As such, the presence of a female-headed household is not necessarily associated with widowhood or the death of a primary male income earner. Rather, many households are female-headed on account of migrating male members.

Certainly, without appropriate safety nets in place, abandonment, divorce, or widowhood for a woman means downward mobility. This is particularly due to the limited availability of socially acceptable income-generating activities for women in rural areas, especially for those with limited educations. Livestock rearing, as previously mentioned, is frequently in the domain of women; working as a maid is another option. Though Sadia's husband is still alive, he is very ill: "I'm the head of the family now as my husband does nothing; he doesn't go to market—I've to do everything and hence I'm the head. I shoulder the responsibility of my family single-handed." Her situation, as described in Box 5, is therefore indicative of the realities faced by the second type of female-headed household.

BOX 5: THE LIMITED INCOME GENERATING OPTIONS FOR RURAL WOMEN

In 2006, Sadia's husband broke his collarbone while moving earth on a construction site. Since then, he has not been able to undertake any manual labor. He was the primary wage earner. After her husband broke his collarbone, Sadia started working in other people's houses for the first time. She boiled paddy, winnowed rice, cleaned the cow shed, swept the courtyard, and washed the utensils and clothes in three houses. Each day, she worked in two houses and she would get almost 5 kg rice from the two daily as wages. By selling the rice that she got working at other people's houses, she purchased chili, oil, salt, turmeric, onion, and garlic. Her sister and father also helped her out, to which she exclaims, "Can I sit idle for the help to be given by my father and sister? I've to feed myself."

After working for six months, her 16-year-old son demanded that she stop working as a maid and that, instead, he would work as an agricultural laborer. Sadia explains, "He doesn't want anybody to say that his mother works as a maid."

3. HOUSEHOLD ACTIVITIES

Key finding: An increase in remittances is associated with a statistically significant reduction in the risk of impoverishment but a not statistically significant increase in transitory escapes. Female-headed households that receive remittances, in contrast, are less likely to experience transitory escapes.

Panel data analysis reveals that an increase in the amount of remittances that a household receives is associated with a statistically significant reduced risk of impoverishment but an increased, though not statistically significant, risk of experiencing a transitory poverty escape. However, the risk of transitory poverty escapes reduces (though is still not statistically significant) amongst female-headed households

¹⁸ Interview Ahmed Akhter, IFPRI, and Mahmuda, USAID.

that receive remittances. It could be that remittances to rural male-headed households are less likely to indicate migration with the objective of increasing household income but rather are indicative of migration as a result of desperation in order to cope with a crisis.

Life histories reveal several instances of successful and failed migrations. Selim's experience is a positive one. In 2014, his eldest son went to Malaysia to find work. His son's journey was a success, and as a result, Selim now receives Tk 10,000–15,000 per month in the form of international remittances. Bansari explains how in 2013 her husband acquired Tk 4 lakh through borrowing from relatives and taking a high-interest loan from a neighbor so that he could emigrate to Iraq. He has now been in Iraq for three years and sends back Tk 10,000 every month. With this money, Bansari has repaid the loans and has leased and purchased land. Because of the money from her husband, Bansari says that the family is now running well. In three to four years' time, she would like her 15-year-old son to go abroad as well.

It is also worth stressing here that the returns on investments in the form of international migration are not always seen and that migration alone is not always a route toward sustained poverty escapes. Rather, some households engage in asset sales, deplete their savings, and borrow extensively to finance a family member's migration. Moreover, in instances where the recruitment agent is corrupt and disappears with the money, or the job abroad is in fact unavailable or provides less remuneration than originally anticipated, poverty traps may become an inescapable reality for many (Kabeer 2004). The case of Ranya Begum's and Bakul's sons (Box 6) illustrates this particular danger. The migration of Amran Ali's son meanwhile reveals that even migration which is successfully arranged, and with the correct paperwork, may not be as economically attractive as initially thought (Box 6).

BOX 6: INTERNATIONAL MIGRATION, NOT ALWAYS A GOLDEN GOOSE

Three years ago, a broker from Gopalganj came to Fasiatala village. Ranya's elder son wanted to be sent to Oman by that broker. The broker came to her house and explained that migration to Oman required Tk 4 lakh. Ranya sold 10 *katha*¹ of land for Tk 3.5 lakh. This was land that she'd got from her father. She then borrowed the rest of the money and paid the broker. But Ranya's son was not able to go Oman. The broker left the area, taking her money with him.

In 2012, Bakul's husband planned to go to the Maldives with the help of his friend who asked for Tk 1.5 lakh to arrange this. Bakul and her husband sold one cow for Tk 39,000 and found another Tk 90,000 through mortgaging out some of their land. In addition to this, they had some savings. Through all of these means, they arranged the Tk 1.5 lakh. Her husband went to the Maldives and spent two years there. During the time he was there he sent back money, and they released their land from the mortgage. But after two years, her husband found out that his visa for the Maldives was illegal, and he was imprisoned in the Maldives. After three months in prison he came back to Fasiatala. Then they struggled to run the family because they had spent all their savings and sold assets for him to go to the Maldives. The money that he sent back over the two-year period was insufficient to cover those losses. The household's economic condition started to decline. Then they took a loan from the NGO ASA and started to cultivate paddy and vegetables again. Thanks to a huge harvest their condition started to improve again. Now they belong to the middle class.

Amran Ali's son wanted to go to Saudi Arabia, and he needed Tk 3 lakh total to go. His son's father-in-law gave Tk 70,000, and Amran Ali put forward the rest. He borrowed Tk 1 lakh from the landlord – his accrued interest of 60 maund of paddy per year on this loan. His son came back after two years, and by then, the loan had not been repaid. His son came back as he was homesick, and he came back with Tk 16,000 in cash. He also brought back a blanket containing many possessions.

Local migration, meanwhile, can have the objective of improving a household's situation, as shown in the success story from Bakul's childhood when her father moved to Jessore for work and then chose to make

it his permanent home. He was able to earn more money in Jessore than he could have done in the rural areas; then, when he was older, they returned to the village. Ishwar, however, describes the role of migration in his late teens, before marriage, instead as a means of ensuring his family's survival. As a teenager, Ishwar had to work as an agricultural day laborer alongside his father in order to support the family, which was going through a rough patch. With Tk 2,000, which he had managed to save, he started a small business selling jute with a friend. However, this business capital slowly disappeared due to the daily needs of his family. As he explained, "I was then wandering aimlessly as a vagabond. I worked as a reaper, a mason, and did odd jobs to earn a living and contributing to our family income and moved to far off places like Jessore, Noapara."

Key finding: Employment, or self-employment, of the head of household renders a household less likely to experience a transitory poverty escape and become impoverished. If the head of household engages in non-agricultural work, this is an even stronger guarantor of sustained poverty escapes.

Panel data analysis reveals that the head of household having a job¹⁹ is associated with a reduced risk of transitory escapes and impoverishment, though the result lacks statistical significance. Meanwhile, non-agricultural work as the primary occupation of the head of household (whether employment or self-employment) is also associated with a reduced risk of transitory escapes and impoverishment, though again the results are not statistically significant.

Two important limitations of using household surveys to assess job status in rural Bangladesh were highlighted during the qualitative fieldwork:

1. Under-reporting of income-generating activities by female-headed households. Kabeer (2004) found that many women who identify their primary occupation as "housework" engage in activities such as rearing livestock, growing vegetables, producing handicrafts, and even being active in small businesses. As such, even female heads who are "unemployed" in the data set may in fact engage in or contribute to income-generating activities that are not captured by the household questionnaire.
2. Identification of primary occupation can be difficult. The time spent on and money earned from different occupations varies throughout the year. Across almost all the life histories conducted, all heads of household had more than one occupation at the time of the interview.

The life history interviews highlighted the following different forms of non-agricultural work that household members engaged in in the immediate vicinity that contributed to improving the household condition:

- *Masonry*: Amir's father earned Tk 300–400 a day from working as a mason, and when he was a teenager, Amir joined him, earning Tk 100–150 daily—a higher wage than either of them could have achieved if working as an agricultural day laborer. Receiving both these wages, the family lived well. Amir has now started his own household, and he still works as a mason for the majority of the time. However, it is difficult to support his young family (he also has a young child) as a mason; there is hardly any masonry work during the rainy season. During this period, he tries to find work as a rickshaw puller. However, this is not always possible and so they often need to take a loan or a shop loan to see themselves through the rainy season (see also Box 10).
- *Garments and sewing*: In Ranya's household, her son and his wife work in garments in Dhaka and send back Tk 3,000 every month to help with household costs. Meanwhile, Ranya sews hand-

¹⁹ Having a job is used here to refer to individuals engaged in any income-generating activity – either through employment or self-employment (including own-account agriculture). Heads of household who do not have a "job" therefore include female-headed households where the woman identifies herself as a "housewife" and households in which the head is "retired," is a student, or refers to himself or herself as "disabled" or "unemployed." It is not possible to disaggregate between self-employment and wage labor.

crafted *kantha* (quilts). For each *kantha*, she receives Tk 1,400, while making one takes four to five days.

- *Earth cutting*: Earth cutting is done as part of government road-building schemes and is also related to loading private trucks. Sadia's husband cut earth from highlands and paddy fields and then loaded it onto trucks for filling in ponds and other low-lying land in Jessore. He cut earth for more than 10 years because the daily wages were higher than for other types of labor, such as agricultural labor.
- *Trading of agricultural crops*: Akhter Hussein's father combined working on his own land and working as an agricultural day laborer with trading in vegetables. His father "bought raw materials from the storehouse and then sold the raw vegetables sitting on the roadside in Barinagar market." With the money he made from this, he was able to lease-in land. He also had a shop where he tried to sell vegetables and other goods. Akhter now runs this shop. However, he only opens it in the late afternoon and evening as there are just not enough customers during the daytime. They now mainly only keep running the shop in memory of his father as it has become a place where people congregate and sit. Akhter says that up until now, the shop has not made a profit.
- *Renting out agricultural machinery (including tractors and irrigation pumps)*

However, engaging in non-farm work is not necessarily a win-win. As the story of Akhter Hussein's father's shop, above, illustrates, some forms of self-employment can prove to be unprofitable. In other cases, accessing certain forms of salaried work not only requires personal connections but also entails up-front costs (Box 7).

BOX 7: ACCESSING SALARIED GOVERNMENT JOBS VIA UP-FRONT PAYMENTS

Rafiqul gave Tk 3 lakh in bribes to get his son a job in the air force. He sold 10 katha of land to get this money. However, Rafiqul's son did not get the job, and he lost all the money. Rafiqul points to the long-term implications of the loss of his land for household well-being, stating that "10 katha [of] lands are more important than bank's Tk 10 lakh."

One of Neela's relatives was serving in the army, and in 2011, he offered to arrange an army job for her brother if they paid Tk 1 lakh as a bribe. For this, her father took Tk 50,000 from different moneylenders in the village and another Tk 50,000 as a loan from the Jagoroni Chakro Foundation. Her brother successfully got the job. However, in that year, they suffered much. They had to reduce spending on education and other basic household expenses including food and clothing. In the long term though, this sacrifice was worth it for her brother who got a well-paying job.

While getting a regular, salaried job is an ambition for some, Ishwar's story illustrates how, for some individuals, entrepreneurship and self-employment can be viewed as a more desirable and effective route for sustained poverty escapes (Box 8).

BOX 8: COMBINING SALARIED WORK WITH ENTREPRENEURSHIP, THEN RELYING SOLELY ON SELF-EMPLOYMENT TO ACHIEVE AN UPWARD TRAJECTORY

Ishwar was born in 1970. After getting married at 17 years old, he went to Jessore, accompanied by two friends, to join the training of the *Ansar* (internal security force). At that time, a certificate was awarded after a month-long training and on the basis of performance. Ishwar successfully achieved the certificate. Those who achieved this certificate were then eligible for jobs as security guards, but this kind of recruitment also depended on the recommendation of the Ansar VDP commander and obtaining this recommendation required a bribe. Ishwar sold his cow and gave Tk 1,500 to a commander as a bribe for a job reference, but he still failed to get the job and lost Tk 700. Later he met the Ansar VDP commander and secured a job as a security guard on a night coach of an intercity bus by paying Tk 2,000 as bribe. He was given a fixed salary of Tk 900 per month by the bus company. However, there were other benefits in terms of food, which were worth Tk 150 per month. Moreover, a seat was allotted to the security guard in the bus, but Ishwar would sell the seat to a passenger for Tk 200 and stand instead. In addition, he was entitled to get from the bus owner a packet of “Navy” brand cigarettes each night of the journey, and as he did not smoke, he would sell the cigarette packet, too. In addition, he would buy 10 Indian sarees from Tulotola in Jessore and carried them to Dhaka. In this way, he could earn Tk 100 more per day.

Within the first three months of getting his job, Ishwar had paid off his father’s old debt of Tk 10,000 from Pubali Bank with his salary and additional income from working on the intercity bus. After six months on the job, he leased 300 decimals of land for Tk 3,000, and after another year, he leased 33 decimals of land for Tk 5,000. He leased out the land. In this way, he was able to pull his family out of poverty step by step, explains Ishwar.

After two years at his job, in 1989, robbers stabbed a member of the Ansar VDP to death while looting the belongings of the coach passengers one night. After this incident, the security guards demanded at least three guards for each bus, but none of the bus owners could accept their demands. Rather, they stopped recruiting Ansar VDP members for this job and decided to try protecting themselves. Consequently, he lost his job. Ishwar had only Tk 15,000 in cash then.

In the early 1990s, he dealt in rice for a couple of years, and alongside this, he helped his father and brothers work on leased land. He also started taking out loans for others. He took out a loan of Tk 6,000 in his father’s name from Krishi Bank and bought paddy for Tk 125–130 per maund. His total collection of paddy that year became 60 maund. After hoarding the paddy for some time, he sold the paddy before the next paddy harvest for Tk 200 per maund. Thus his total capital was Tk 12,000. He bought paddy with that money, and with the addition of paddy from his own land, the total amount of paddy became 80 maund. He sold the paddy when its price became high, and he leased 18 decimals of land for Tk 10,000.

At that time, he also joined a textile mill in Jessore as a night guard and was paid a salary of Tk 1,500 per month. Including overtime, he was able to earn Tk 2,000 per month. Alongside his night guard job, he started cultivating irri rice and *amon* for two seasons a year on his own and leased land. He also sold rice at his house. He would earn daily profits of Tk 40–50 with which he would meet the daily necessities of his household. His other sources of income began to thrive. He earned Tk 2,000–3,000 per year by rearing some goats, too. Between 1993 and 1994, he bought for the first time 29 decimals of land from his brother-in-law for Tk 13,000. Several years later, he also bought some land from his father and inherited land from him as well. With his salary and his profits from farming and trading rice, he was able to buy 16–17 decimals of land almost every year, eventually owning 132 decimals of land. With his increasing land purchases, he gave more attention to his farming job. He left the job at the textile mill after serving there as a night guard for six years. He was making a daily profit of Tk 200 from dealing in rice.

CONTINUED ON NEXT PAGE

BOX 8 CONTINUED

In 2004, he started selling pesticides, diesel, and fertilizer along with a man named Lutfar from his village. In the very first year, they made a profit of Tk 7,500. On the advice of his wife, he started selling fertilizer himself the next year and made a profit of Tk 50,000. After two to three years, he made a profit of Tk 1 lakh per year. After continuing this business for six to seven years, the dealership was introduced and eventually wholesalers stopped giving commodities on credit. Thus, his profits margin were greatly reduced.

At present, Iqbal Hossain's annual income is about Tk 1.5 lakh from his diesel, rice, cow, and goat businesses. Now, he produces about 200 maund paddy a year. Whenever he needs some extra money, he takes loans from various NGOs. He also borrowed money from these NGOs while purchasing his lands. He still buys land. As to his future plan, he said, "I had a mind to set up a rice mill with a big terrace."

As noted previously, nearly all heads of household among the 24 households from which life histories were collected are engaged in more than one occupation. While the minority have managed to diversify into non-agricultural activities, the majority are engaged in multiple activities that are linked to the agricultural cycle, meaning that they have not managed to diversify their risk factors. In particular, almost all heads of household cultivate their own land while also engaging in at least one other form of labor. **From the life histories, it emerged that heads of household from households experiencing sustained poverty escapes engage in at least one non-agricultural activity in addition to cultivating their own land.**

4. HOUSEHOLD SHOCKS

Key finding: Experiencing a series of shocks in short succession is associated with transitory escapes.

Analysis of the household panel data reveals that while households that have experienced one shock are less likely to experience a transitory poverty escape, an increase in the number of shocks increases the risk of transitory escapes. However, shock variables in the empirical equations lack significance, and their magnitudes are largely negligible. Certainly, there are limitations as to what survey data can tell us about household shocks. This is due to incomplete response categories in shock modules as well as a lack of depth on how shocks, coping strategies, and poverty are linked.²⁰ In addition, the one-off nature of shocks means that they may often be missed in household surveys, despite their long-term impacts on household poverty dynamics (Baulch and Davis 2008). This finding is also similar to that found internationally, with data analysis revealing that while one shock can be manageable, a succession of shocks are critical in driving people into poverty (Baulch 2011).

In contrast, life history interviews undertaken for this study provide a richer understanding of the role of shocks in poverty trajectories. They particularly highlight the important role that health shocks play in driving re-impovery, either in terms of an especially significant episode of illness for the primary income earner; a series of smaller health shocks; or health shocks that occur in close succession to other types of shocks.

A series of health shocks afflicted Ranya Begum. In the past, she had to sell land to provide Tk 13,000 for her elder daughter's uterus infection. She then had to sell even more land and trees in the same year when her son also fell ill and required clinical care for three months. For this illness, Ranya expended Tk 3 lakh 50 thousand. In the last three years, Ranya has also been sick. For her diabetes and pain, she spends Tk

²⁰ <http://www.tandfonline.com/doi/pdf/10.1080/00220388.2014.959934>.

500 each month. Fortunately, her eldest son sends her Tk 3,000 a month, and she receives irregular payments from her daughter so that she can afford the costs of medicines. However, to cope with their family's medical expenses, Ranya has reduced her amount of food consumption.

Part of the problem is that health shocks require an infusion of cash in a relatively short period of time, which does not allow its victims to apply for an NGO loan, even though these types of loans in principle are mainly designed to be given to households for productive investments. Moreover, no one has health insurance, which is not available in fieldwork villages; as a result, families experiencing health shocks often end up borrowing the required funds from relatives or informal money lenders, with the latter incurring extremely high interest rates.

While health shocks repeatedly came up as household stressors in the life history interviews, a succession of health and non-health-related shocks also acted to promote poverty descents and transitory escapes. Sadia Begum incurred a cost of Tk 80,000 for her daughter's dowry and marriage in 2002, of which Tk 50,000 was borrowed from a local lender. It took her four to five years to repay the loan, which they managed through selling their cows and crops, and using her husband's income from agriculture. The family's ability to rely on her husband was jeopardized in 2006, however, when he became seriously injured during his day job. Treatment for his injury cost Tk 10,000 in addition to ongoing medication; to deal with the expenses, the family had to sell the biggest cow in their herd. In addition to dowry and health shocks, political disturbances also inflicted pain on the family two years later when her husband was threatened during the parliament elections due to his support for the Bangladesh Nationalist Party. This resulted in a mental illness that required psychiatric help amounting to Tk 9,000 in just one day. To this day, he lives in constant fear. This condition coupled with his illness reduced the amount of work that he is able to perform and his income-earning potential. Sadia explains how, due to this series of shocks, her family "can just manage our daily meal but we are yet to be solvent again since our daughter's marriage. So we have to spend carefully as we are faced with financial constraint at the moment."

5. HOUSEHOLD STRATEGIES

Key finding: Asset sales and obtaining a loan are coping strategies associated with a reduced risk of transitory escapes and impoverishment.

We next ran the same set of regressions but included a variable to capture coping strategies. Specifically, the independent variable of interest in two sets of equations is: 1) whether the household relies on an asset mortgage or sale, or 2) whether they take out a loan as a primary coping strategy when confronted by a negative shock. Results indicate that households that engage in these coping strategies are at a lower relative risk of transitory poverty escapes and impoverishment, though none of these results are statistically significant at conventional levels.

However, the qualitative research highlights how the type of asset sale in the first instance is likely to make a difference. Specifically, for households that have to sell off land in a distress sale due to a shock, this could be problematic as it reduces their wealth and is likely to worsen their well-being trajectory over time. Shompa Khatun's situation best illustrates this scenario (Box 9).

BOX 9: DISTRESS SALES OF LAND CAN WORSEN A HOUSEHOLD TRAJECTORY

Shompa experienced several hardships over the last two decades. First, her daughter had pneumonia, for which she sold a cow for Tk 30,000 and spent Tk 5,000 of this on her daughter's treatment. Unfortunately, her daughter died just a few months after birth. With the remaining Tk 25,000, her husband bought 7 *shotangsho*¹ of land, where he cultivated paddy and jute. He also continued to work as an agricultural day laborer. In 2007, her well-being improved after her husband secured a job as a mason through the help of a friend.

However, Shompa's situation took a turn for the worse when in 2013 a storm broke her kitchen rooftop. As a result, her husband cut bamboo and began to repair the rooftop, during which time he had a stroke. Unfortunately, Shompa was at a neighbor's house at the time running errands, so she came upon her husband later. She immediately rushed him to Jessore Hospital with the help of a friend. To generate funds to pay for her husband's treatment, Shompa sold 7 *shotangsho* of land for Tk 35,000. The treatment proved unsuccessful, so she then had to take her husband to Dhaka. Again, circumstances proved unfavorable, and her husband died five days later. Today, Shompa is destitute, subsisting through cultivating 10 *katha* of land that she leased from her elder brother. The land she parted with in a distress sale was her last available productive asset.

The seven *shotangsho* of land that Shompa sold in response to a negative shock provided a one-time lump sum payment in distress, but in the long term, this payment failed to offer her a means of escaping poverty or improving her well-being. In addition, she has now lost a critical source of future income and food.

The life histories also reveal that taking a loan, while potentially effective for some households, is not always sustainable or effective. Moreover, formal loans often do not reach households most in need that face a crippling shock or series of shocks. For instance, it is particularly difficult to access appropriate finance to pay for health shocks. Rafiqul explains that he takes loans from his brothers and his neighbors but not from NGOs as the speed of loan acquisition is too slow and does not meet his or his family's pressing health needs.

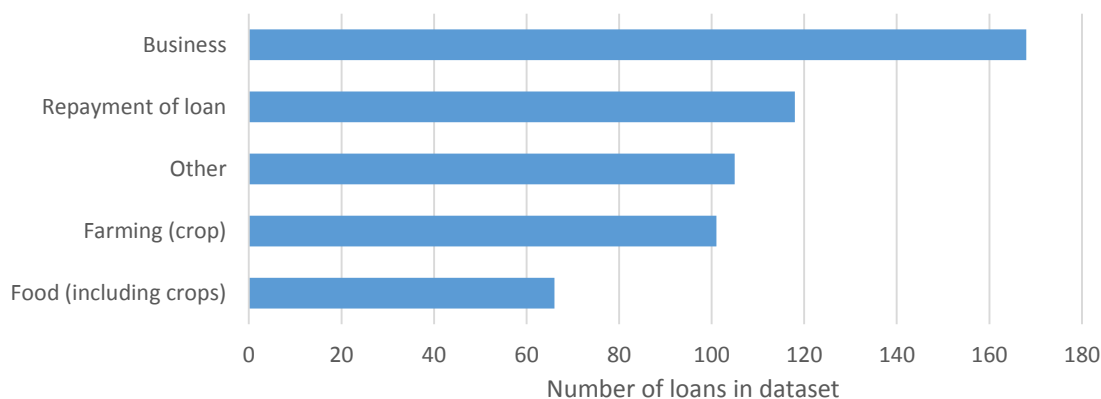
Another issue is that these loans, when they are obtained, are sometimes exploitative. For example, natural disasters that occurred almost every year wreaked havoc on Shofiqul's lands; as a result, he regularly needed to secure loans from local moneylenders. In these instances, the lenders would often be the buyers of his jute and paddy. The process of loan acquisition, he notes, was arduous. For example, there would be a long wait, and when the loan was finally agreed to, the main condition imposed was that Shofiqul would not be able to sell his crops anywhere without the agreement of the lender. Shofiqul is now taking out loans in order to repay previous loans (see Box 4).

To explore the impact of loans outside of their use as a coping strategy, we further investigated the panel data and constructed a separate variable indicating whether a household has an outstanding loan at the time of the questionnaire. As the loan variable could only be constructed from the MG data set, the resulting equation makes use of this subsample alone from the Chronic Poverty and Long-Term Impact Study. Findings illustrate that households that have taken out a loan are less likely to experience a transitory escape though more likely to become impoverished. While these results lack statistical significance, they do point to the double-edged sword that loans sometimes become. Though loans may promote wealth ascents for some families, difficulties in repaying for others creates a hardship that could propel some households into a downward spiral (Kabeer 2004).

Figure 5 tabulates the five most common reasons for loan acquisition in the MG data set, representing over two-thirds of all loans taken out in the sample. Most of these loans (63 percent) come from NGOs

operating in the country, with the Grameen Bank capturing a quarter of NGO loans. Results indicate that 14 percent of loans that were outstanding at the time of survey were requested to repay other loans, the second largest reason for loan acquisition. The fifth most common use of loans was for food.

Figure 5: Five Most Common Reasons for Loan Acquisition



Source: Analysis of MG subsample from the Chronic Poverty and Long Term Impact Study.

Key finding: Government and NGO assistance reduces the risk of transitory escapes and impoverishment, though the results are not statistically significant.

Panel data analysis reveals that households that receive some form of assistance, defined in the equation as assistance from government and NGO programs, including education stipends, pensions, and allowances, are less likely to experience a transitory poverty escape or become impoverished, though the results are not statistically significant at conventional levels. Using other survey data in Bangladesh, Ahmed et al. (2016) found that there is a threshold beyond which assistance becomes useful. Specifically, social safety net transfers that are more than 15 percent of total household income prevent households from sliding into poverty. However, as Box 10 illustrates, government social safety nets are not open to everyone and require substantial up-front payments. If government social safety nets are to be an effective tool to prevent impoverishment and re-impoverishment then they need to be more effectively targeted.

BOX 10: DIFFICULTIES ACCESSING SOME GOV'T SOCIAL SAFETY NETS

Mahbuba in Ishwaripur: Two months ago, her father-in law had to make an “unofficial payment” of Tk 3,000 in order to receive an elderly allowance card. Since obtaining the card, he now receives Tk 400 per month as an old-age allowance.

Rafiqul in Icchapur explains that his mother is 70 years old. She lives with her younger son and though she really needs it, she does not get the old-age allowance. Rafiqul explains that all the government allowances are given to the relatives of the local chairman and the counselor. In this village, ordinary people did not get any government safety nets without money.

Amran Ali in Banstalli village explains that neither he nor his wife have ever benefitted from any government safety nets. He explains that, “...political cadres get these. As we are not in those cadres so we do not benefit.”

Key Finding: Households where the man and woman work together are more likely to experience sustained poverty escapes.

The life histories highlight the importance of a husband and wife working in partnership and together if the household is to experience a sustained escape from poverty. As Amran Ali, who is approximately 60 years and has experienced a sustained poverty escape, explains, “My wife has made a great contribution to my present condition.” He has also put 12 katha of land in his wife’s name to demonstrate to his children and their families the significant contribution that she has made, a contribution which may not be as visible to his children as Amran Ali’s physical labor. Rasheda’s father also points to his and his wife’s joint contributions toward putting the family on a sustained pathway out of poverty (Box 11).

BOX 11: WORKING AS A TEAM

Rasheda’s father is the primary breadwinner. He earns money through cultivating his own land, working as an agricultural day laborer and as a mason. At 5:00 a.m., he goes out to their fields to work and returns home at 8:00 a.m. Then he does masonry work from morning until afternoon. He earns nearly Tk 2,000 a week by doing masonry work. He prefers masonry work to agricultural day labor as this earns him a greater wage. He previously worked solely as an agricultural day laborer, and he really struggled to provide three meals a day for his family.

Rasheda’s mother also goes to their fields every day to do smaller tasks, such as weeding. She is also responsible for arranging for the tractor of a relative to be rented out, and she receives Tk. 2,500 per bigha of land prepared. She has to return half of the total income earned through renting the tractor to its owner annually. Apart from this, she also rears the cattle and raises the poultry at her homestead. At present, she is raising one cow. As Rasheda’s father is illiterate, her mother completed class 8.

Ishwar, whose upward trajectory is described in Box 8, is keen to mention the important role that his wife has played in their success. In addition to managing the household, she plays an important role in supervising the rice business when Ishwar is away and in rearing the goats. He is extremely proud to have a wife who plays such an instrumental role in the progress of their family.

Key Finding: Sustained poverty escapes have often involved not just hard work but also recognizing opportunities and taking a risk that pays off.

As Davis (2007) notes, common causes of poverty escapes for some households drive the impoverishment of others, for they are accompanied by considerable risk. The two most noticeable instances of this are (i) paying the up-front money required to send a family member abroad for work; and (ii) taking an NGO loan for a productive investment. Given the important role that both of these can play in sustained poverty escapes, minimizing the risks associated with these two activities could be a promising area of support. Particularly in relation to taking an NGO loan, Rasheda Khatun’s father (Box 12) points to the importance of the loan he took being a soft loan with flexible terms and conditions. He sees this loan as a “tipping point” when the well-being of the household started to improve significantly.

BOX 12: TAKING A SOFT AND FLEXIBLE LOAN TO ENABLE A STEP-CHANGE IN LIVELIHOODS

Nearly 20 years ago when Rasheda was a one-year-old child, the NGO Banchte Shekha launched its program in Banstalli village to give soft loans to villagers on easy terms and conditions. Rasheda's parents took a loan of Tk 6,000 and bought two calves for Tk 5,000 and with the remainder Rasheda's father started growing paddy. At the end of the year, they sold one small cow for Tk 5,000 and with that money cultivated crops on leased-in land. After a couple of years, he sold the other cow for Tk 18,000 with which Rasheda's parents bought two cows for Tk 10,000. With the remaining Tk 8,000 they leased-in 10 katha of land. On this land, he grew mustard for the first time and got a bumper crop that year, harvesting as much as 13 maund of mustard.

With the proceeds of selling the mustard, he leased in more land where he started cultivating boro paddy and seasonal vegetables. Twelve years ago, when Rasheda was only nine years old, her father bought 10 katha of cultivable land for Tk 35,000. He accumulated the money to buy this through selling a cow and crops. Her father then grew chili in 5 katha of the newly purchased land and paddy in the other 5 katha. That year, through selling chilli, they made a profit of Tk 28,000. Her father bought another 8 katha of cultivable land with this profit.

BOX 13: TAKING AN NGO LOAN FOR PRODUCTIVE INVESTMENT

During the first 10 years of their marriage, Ranya's husband worked as a mason and as an agricultural wage laborer. Ranya, meanwhile, raised ducks, hens, cattle, and goats on their homestead. Eighteen years ago, an NGO named Jagoroni started working in Fasiatala. Every week, Ranya saved Tk 2 with Jagoroni. Having built up her creditworthiness, she then took out a loan of Tk 1,200, which she used to buy paddy from people's land. She dried and milled the paddy, and her husband would sell the rice in the market. This trade yielded a good profit and enabled them to build a new house.

Key Finding: Households that experience sustained poverty escapes cultivate more than once a year, switch crops regularly depending on market prices, and store crops to sell them when the price is high.

All life histories with sustained escapers point to the importance of “active” cultivation. Shofiqul stresses, in particular, the significance of new crop varieties, including irri rice, in enabling sustained poverty escapes: new crop varieties enable more than one season of crops to be produced on the land. “The Ershad government brought in irri rice to remove poverty,” he explained. More recently, farmers have been complementing paddy cultivation with that of other vegetables. IFPRI points to the current low price of rice, which is encouraging some farmers to switch to high-value crops. However, cultivation of these crops requires capital and can be risky as they are less hardy in the face of environmental shocks and stresses.²¹ The experience of Amran Ali's sustained escape highlights the importance that “intelligent cultivation” has played in his upward trajectory (Box 14).

²¹ Interview Akhter Ahmed, IFPRI.

BOX 14: SUSTAINED POVERTY ESCAPES BASED ON CROP CULTIVATION AND AGRICULTURAL-LINKED LIVELIHOOD ACTIVITIES

Amran Ali is 60 years old and his family currently own 6 bighas of land. They also have two irrigation pumps, two cows, 600 kg of rice stored in the house, and Tk 8,000 in cash from selling the rest of that paddy. They are going to buy a cow with this money. Amran Ali is also a livestock service provider as he learned this skill from a local Hindu master in the village.

During his childhood, Amran Ali's father was landless. Amran Ali explained that his own success came about through hard work; in his words, there has been no night and no day in his life as all the time he has been working. According to him, there is no improvement without hard work. In particular, he has worked a lot on the land as a sharecropper and day laborer, and more recently he has worked on his own land. He now has pain in his neck from all the years he has worked hard. He is still working hard at 60 years old. As a child, Amran Ali reared livestock for other people and worked as an agricultural day laborer. Later in his youth, unbeknownst to his father, he would get up very early in the morning to sharecrop with his brother. His father also managed to lease some land, and he and his brother also worked on this.

He saved money from working on leased land, from sharecropping, and from agricultural day labor and then bought some land. Together with his brother, they bought 7 decimals of land for Tk 4,000. They bought it before his marriage. When he got married approximately 45 years ago, he and Zahirion worked on this land growing rice. Both of them also worked in the paddy fields as day laborers. They stored some of the paddy after the harvest and sold it several months later when the price was higher. They then also started growing wheat as the profit on this was greater; again, they stored some for two to three months and then sold it when the price rose.

Both he and his wife sharecropped land and did day labor on others' land. He was also a businessman as he collected rice from the field, processed it at home with Zahirion, and then sold it to the market.

After a while, Amran Ali was able to take out a mortgage on his 2 bighas of land and bought 5 katha of land. He planted cucumber on the mortgaged land, which was profitable, and then he grew rice on his own land. About 15 years ago, he used money from selling paddy to buy a calf. After the calf grew up, he sold it and then bought two irrigation machines, which they now rent out. In 10 years, they estimate that they have earned Tk 1 lakh in profit from renting out the irrigation machines. Now, when he can, he buys cattle with any profit from crops. He sells these after several years, making a profit. Cattle are an asset that increases in value very quickly, he notes.

Now Amran Ali is growing more vegetables, and he is making money from these by selling them in the bazaar. He is aware of which vegetables will be profitable, and he cultivates those. He farms rice paddy on lowland and vegetables on the upper lands. After harvesting the paddy, he plants jute on the lowlands. He learns from farmers in other places or in neighboring fields and, having learned from their experiences, tries to cultivate them on his lands.

Amran Ali has been fortunate that neither he nor Zahirion nor their four children have faced any large health shocks. However, he notes that they regularly experience tribulations in agriculture including loss of crops through disease or natural disaster, as well as the loss of several cattle. He points out that Bangladesh has the most fertile land in the world, and without these shocks, everyone would be very rich. However, for the large part, he is able to manage these shocks: while crops may fail in one season, he is able to make back those losses with the next harvest. In the meantime, he normally has food stores with which to feed his family, and they are able to take an advance from the rice dealer. He notes that now that they have enough of their own land, everything will be fine.

C. ANALYSIS OF POVERTY DYNAMICS USING A POVERTY BAND

Key Finding: It is unlikely that transitory escapers are churners. However, amongst the group of households that have larger variations in their per capita expenditure between survey years, owning cultivable land is minimal, suggesting that earlier results may understate the importance of land ownership in helping prevent severe re-impoverishment.

We next created a 5 percent band of uncertainty above and below the poverty line around which poverty status is now defined. This was done to reduce measurement errors in the identification of transitory escapers and distinguish between “churners” and transitory escapers. Following this strategy, only two out of three households originally identified as transitory escapers remain. However, it is only a limited methodological concern that the remaining one out of three transitory escaping households may be churners, as none of these households vacillate purely within the 5 percent poverty thresholds while following the general inverted U-shape trajectory across survey waves. In other words, in at least one of the three points in time, the household has a level of per capita expenditures that is outside the 5 percent band of uncertainty around the poverty line.

Though the majority of the households previously classified as transitory escapers are not churners, it is nevertheless worth examining which factors, if any, are different between the two groups of certain and potential transitory escapers.²² Creating summary statistics of the two groups, the only noticeable difference is in the amount of cultivable land owned. In 2010, the group of certain transitory poverty escapers for the most part did not own any cultivable land, while the subset of potential transitory poverty escapers owned at least a little cultivable land—specifically, a median of 0.13 acres. This suggests that the negligible magnitude of cultivable land ownership in reducing the risk of transitory poverty escapes may have been slightly understated in the earlier analysis. However, we cannot be certain of this in the absence of regression-based analysis, which requires larger sample sizes than currently available within these subsets of certain and potential transitory escapers.

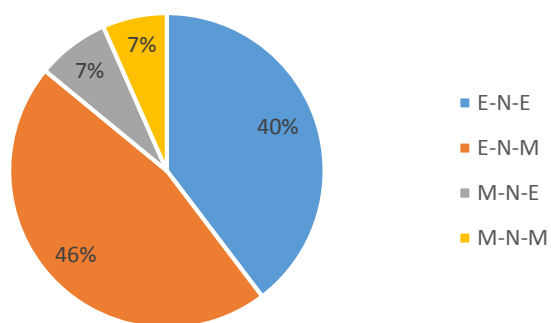
D. INVESTIGATING TRAJECTORIES OUT OF EXTREME POVERTY

Key Finding: Two out of five households both begin and end the survey periods in extreme poverty. More positively, three out of four households that have sustained their poverty escape have begun from a baseline of extreme poverty.

While 10 percent of households in the data set are identified as transitory poverty escapers, this says little about the magnitude of their poverty ascents and subsequent descents. Examining their trajectories in more detail (Figure 6), we find that two out of five households experiencing a transitory poverty escape both started and ended the period in extreme poverty. These households had thus gone a long way toward becoming non-poor in 2006 but then plummeted back into extreme poverty by 2010.

²² Here, we define certain transitory escapers as those that are transitory poverty escapers who never have a per capita expenditure within the poverty band. Potential transitory escapers, in contrast, are those whose expenditure is within the poverty band during at least one of the survey waves.

Figure 6: Movements into and out of Poverty and Extreme Poverty



E=extreme poor; M=moderate poor; N=non-poor

While sample sizes are too small to robustly test the determinants of these transitory escape trajectories through regression analysis, we can nevertheless examine some of their characteristics descriptively. Heads of households experiencing transitory escapes that have begun and ended the period in extreme poverty tend to have lower levels of education compared to other transitory escape trajectories displayed in Figure 6. Just 8 percent of this

subsample has completed primary education, compared to a quarter that has completed primary education amongst those transitory escapers who started or ended the period in moderate poverty as outlined in Figure 6. Similarly, persons with disabilities are more common within these households, and their heads of household are relatively less engaged in non-agricultural employment. In terms of their household resource base, it is also less common for these households to have improved water sources or a sanitary toilet and also to own cultivable land.

Among the subset of sustained escapers, we observe that three out of four households that have experienced sustained poverty escapes have done so from a baseline of extreme poverty. This is in spite of having low levels of human capital endowments and resource bases, as measured by primary education and cultivable land, relative to those that sustainably escaped from a baseline of moderate poverty. This presents cause for optimism as it suggests that in Bangladesh households living in extreme poverty are also able to escape poverty in a sustainable manner.

E. IMPLICATIONS FOR USAID AND FOR WORK TO PROMOTE SUSTAINED PATHWAYS OUT OF POVERTY

Analysis of three rounds of panel data collected as part of the Chronic Poverty and Long-Term Impact Study reveals that 41 percent of households experienced sustained escapes from poverty during the period from 1997/2000 to 2010. Over the same period, 10 percent of households experienced a transitory poverty escape.

The panel data analysis for this case study reveals several important areas of intervention to support sustained escapes from poverty in rural areas. Table 3 gives more details and summarizes the main findings. The results presented in Table 3 include those where the variable is significant either in driving transitory poverty escapes or in driving impoverishment. The livestock, dependency ratio, and job variables, while all not statistically significant at conventional levels, are also presented as they emerged as important issues based on the qualitative life histories; the direction of this association is the same as the panel data analysis finding. As mentioned earlier in this report, the small sample sizes of households that experienced transitory poverty escapes or became impoverished is likely to have contributed to some findings being not statistically significant at conventional levels.

Table 3: Summary of Determinants from Panel Data Analysis

	Transitory escapes	Impoverishment
Resource base		
Per capita expenditure	-	-
Asset value	-	-
Cultivable land area	-	
Livestock number	-	-
Private toilet	-	+
Electricity	-	-
Piped water	+	+
Attributes and capacities		
Dependency ratio	+	+
Female-headed household	-	-
Head of household has education	-	-
Activities		
Head of household has a job	-	-
Head of household involved in non-farm activities	-	-
Receipt of remittances	+	-

Significant results are presented in white cells.

+ means that this determinant increases the likelihood of experiencing a transitory poverty escape, or becoming impoverished, relative to experiencing a sustained escape.

In terms of the **household resource base**, **land** is an important asset that is associated with a statistically significant reduction in the likelihood of a household experiencing a transitory poverty escape relative to experiencing a sustained escape. Land is important both as a source of food and income: households can mortgage out land as a source of income. As such, it becomes important to ensure that land markets operate effectively and that people feel confident in the security of their land titles if they mortgage or lease out land.

Livestock is another important asset in preventing re-improvement and transitory escapes. Livestock can be reared with the purpose of asset accumulation through bull rearing and “livestock ladders”: households invest in cattle with profits earned from rearing poultry and small ruminants. In addition, small ruminants are an important asset that can be sold to cope with a shock. Protecting these livestock assets, including through access to effective and affordable veterinary care, is therefore important for sustaining pathways out of poverty. Livestock rearing is also an income-generating activity that women can engage in on and around the homestead. Livestock are therefore often an important livelihood activity for households where **women and men work as a team to sustain poverty escapes**.

Given the importance of household resources in ensuring sustained poverty escapes, a number of development programs in rural Bangladesh are transferring resources directly to extreme poor households. The theory of change around these asset transfer programs is that a group of people who, while living in extreme poverty, are given the necessary support or a “big economic push” or a series of economic pushes are able to experience sustained poverty escapes without receiving government safety nets over the long term. This approach is also known as the “graduation approach”: this approach supports the transfer of assets accompanied by a regular stipend, training, and the promotion of savings behavior. BRAC’s Challenging the Frontiers of Poverty Reduction - Targeting the Ultra-Poor (CFPR-TUP) project and the large-scale, Department for International Development (DFID)-funded extreme poverty programs, including the Chars Livelihoods Programme (CLP) and Shiree, are all based on the graduation approach (see Box 15 and Box 16).

BOX 15: THE MEDIUM-TERM IMPACTS OF THE GRADUATION APPROACH AS IMPLEMENTED BY BRAC

An evaluation of the medium-term impacts of BRAC’s CFPR-TUP project uses a large-scale randomized control trial that covers over 21,000 households in 1,309 villages. These households are surveyed four times over a seven-year period. One objective of the evaluation is to study how women’s choices over labor activities in village economies correlate with poverty and whether enabling the poorest women to take on the activities of their richer counterparts can set them on a sustainable trajectory out of poverty.

At baseline, the poor mostly engage in low return and seasonal, casual wage labor while wealthier women solely engage in livestock rearing. The program enables poor women to engage in livestock rearing, increasing their total earnings. This leads to asset accumulation (livestock, land, and business assets) and poverty reduction, both accelerating after four and seven years. In other words, these impacts continue and even increase following the end of the beneficiary’s two-year period of intensive program involvement.

Meanwhile, these gains do not come at the expense of others. The livestock-rearing businesses of non-beneficiaries are not crowded out, and wages received for casual jobs increase as the poor reduce the labor supply for labor-intensive activities. *Source: Bandiera et al (2016).*

BOX 16: THE SUSTAINABILITY OF IMPROVEMENTS IN LIVES FOLLOWING CLP INTERVENTIONS

The CLP provides targeted extremely poor households with an intensive package of support for 18 months. Following the end of this support, it then assesses households’ status against 10 graduation criteria. These cover domains of income/consumption; assets; nutrition; female empowerment; vulnerability; and access to services. If a household achieves six of these 10 criteria, then it is deemed to have graduated successfully. The table below shows the proportion of beneficiary households achieving successful “graduation” after having received CLP support. It shows how, in the case of CLP beneficiaries, 66.2 percent continue to achieve at least six of the 10 graduation criteria five years after CLP support was provided.

However, the table also reveals that there is neither a linear increase over time nor a consistent proportion of beneficiaries who remain graduated, potentially suggesting the fragility of gains made. CLP staff point to the fact that households still rely heavily on wage labor, which has a significant bearing on three of the graduation criteria. Meanwhile, supply and demand for labor fluctuates throughout the year, and the inability of an income earner to work can have serious implications for the level of household income.

Years after CLP support end	0 Years*	1 Year	2 Years	3 Years	4 Years	5 Years (2014 annual survey)
CLP 1				69.6	49.2	66.2
2.1	66.7	66.6	54.0	75.0		
2.2	81.3	65.1	74.5			
2.3	86.7	90.4				
2.4	91.1					

*Within 3 months of support ending

Source: Kenward et al. (2015)

A primary reason for the success of the graduation approach is that **households are regularly monitored and mentored**. Follow-up and regular household visits (every week in the case of BRAC's STUP) reflect the fact that asset accumulation requires appropriate and suitable reinvestments. This requires building the capacity and skills of beneficiaries both to increase the output from their investments and also to know how to assess market conditions and identify appropriate times and places to sell produce and then re-invest the proceeds. Amran Ali's sustained poverty escape (Box 14) clearly reveals the importance of regularly switching crops depending on market prices as well as selling livestock during periods when the market price is high.

In terms of **household attributes and capacities, education** emerges as important for ensuring sustained poverty escapes in both the qualitative and quantitative research. The head of household having completed primary school reduces the likelihood of a transitory poverty escape relative to experiencing a sustained poverty escape while the head of household completing secondary school reduces this likelihood even further. In male-headed households, the level of education of the female spouse is also important (Ahmed et al. 2016), and this may also be related to higher levels of female empowerment and decision making within the household. An important tipping point in the lives of girls is if they are prematurely withdrawn from school, either due to poverty or because of early marriage. Interventions that aim to keep girls in school until the completion of secondary education, or its equivalent, therefore remain crucial.

Building human capital is important to increase returns from self-employment and to gain access to a more stable "job." In several of the life histories, parents had invested in their children going to college so that they would not have to work in the fields during adulthood. However, in all instances, parents were worried about the types of job that education would enable their children to access, with teaching being seen as the most viable option. Ensuring that educated youth, and their parents, are aware of the types of job that they could access is therefore important. In addition, **building adolescent skills** is viewed by the key informants as critical for future generations to sustain any improved living conditions. They point to the **importance of vocational training**, particularly training that is aligned with labor market requirements and activities that women are able to engage in. In general, the current system is outdated given current market conditions and focuses on skills such as plumbing and carpentry which, given the social context, are also inappropriate for women.

In terms of **household activities**, while engagement in non-farm activities emerges from both the panel data analysis and the life histories as important for sustaining poverty escapes, the life histories and key informant interviews highlight further how **self-employment is often insufficient to prevent transitory poverty escapes**. A key lesson from implementing the graduation approach is that microenterprise development frequently does not provide households with a sufficiently regular income to enable them to use that income to manage shocks. In the context of Shiree, which transfers productive assets to extreme poor households, this means that the income-generating activity that beneficiaries select is a secondary income source for those households that manage to avoid transitory escapes. This is reflected in the findings from the life histories where households experiencing sustained poverty escapes combined different income sources, spanning both wage labor and microenterprises (e.g., crop agriculture and livestock rearing). Even those households with their own land continued to work as agricultural wage laborers on others' land or as masons in order to earn daily wages and extra income.

The vast majority of development interventions in Bangladesh support entrepreneurship and microenterprise development. However, given that **households that experience sustained poverty escapes have labor income in addition to that from self-employment**, including income from own-account farming, it may be that a key question for development interventions is what can be done to increase access to and incomes from different jobs? The qualitative fieldwork highlights a number of potential avenues:

- **Reducing the risks associated with international migration:** This could include making people aware of the economic returns from migration – in particular, the salary required in order to make this an economically viable proposition. Given that female-headed households that receive remittances are significantly less likely to experience a transitory poverty escape than a sustained escape from poverty, this could be a particularly interesting area to investigate.
- **Increasing connections between rural areas and growing export-oriented industries,** such as the RMG sector.

Investments in agriculture also remain important for sustained poverty escapes. From the life histories, all the households that experienced sustained escapes achieved this through engaging in a combination of agricultural and non-farm activities. *Improving agricultural productivity and marketing* therefore remains essential to prevent re-impooverishment, particularly given the dependence of non-farm activities in rural areas on the agricultural economy. Indeed, with a few exceptions (such as masonry and international migration), the majority of non-farm activities in rural areas should be viewed as agriculture-driven non-farm employment.²³ The viability of non-farm activities in rural areas, such as small shops, very much depends on local purchasing power, itself largely a function of the success of engagement in agriculture.

Access to appropriate finance is required to sustain poverty escapes. Despite widespread access to finance in rural Bangladesh, this is not necessarily appropriate for people's needs. From both the FGDs and life histories, being trapped in vicious cycles of loan repayments is an important driver of transitory poverty escapes. In particular, flexible terms and conditions emerge as important for credit to be able to contribute to sustained poverty escapes. Meanwhile, it is important that different types of credit are designed for (i) helping households quickly access finance in the instance of health shocks and (ii) enabling productive investments.

Addressing health shocks is critical. Both the life histories and the experiences of implementing the graduation approach²⁴ highlight again and again the role of health shocks in driving both transitory poverty escapes and impoverishment. Health insurance is not available in Bangladesh, with the exception of a few NGO-led initiatives. Given the poverty of the poorest households, if health insurance were to be accessible for them, their premiums would need to be subsidized.

In addition to addressing short-term health needs, it is important to recognize that *some households become re-impooverished due to members developing a chronic illness or entering old age*. The panel data analysis reveals that government and NGO stipends are associated with a reduced likelihood of transitory poverty escapes or becoming impoverished, though the findings are not statistically significant. It is important that households that become labor constrained or that have to bear regular medical expenses for chronic illnesses are **linked with government safety nets**. It is estimated that around 5 percent of households are labor constrained, requiring continued assistance over time. However, there are currently difficulties in terms of targeting these safety nets as well as the often inadequate level of benefits that they provide.

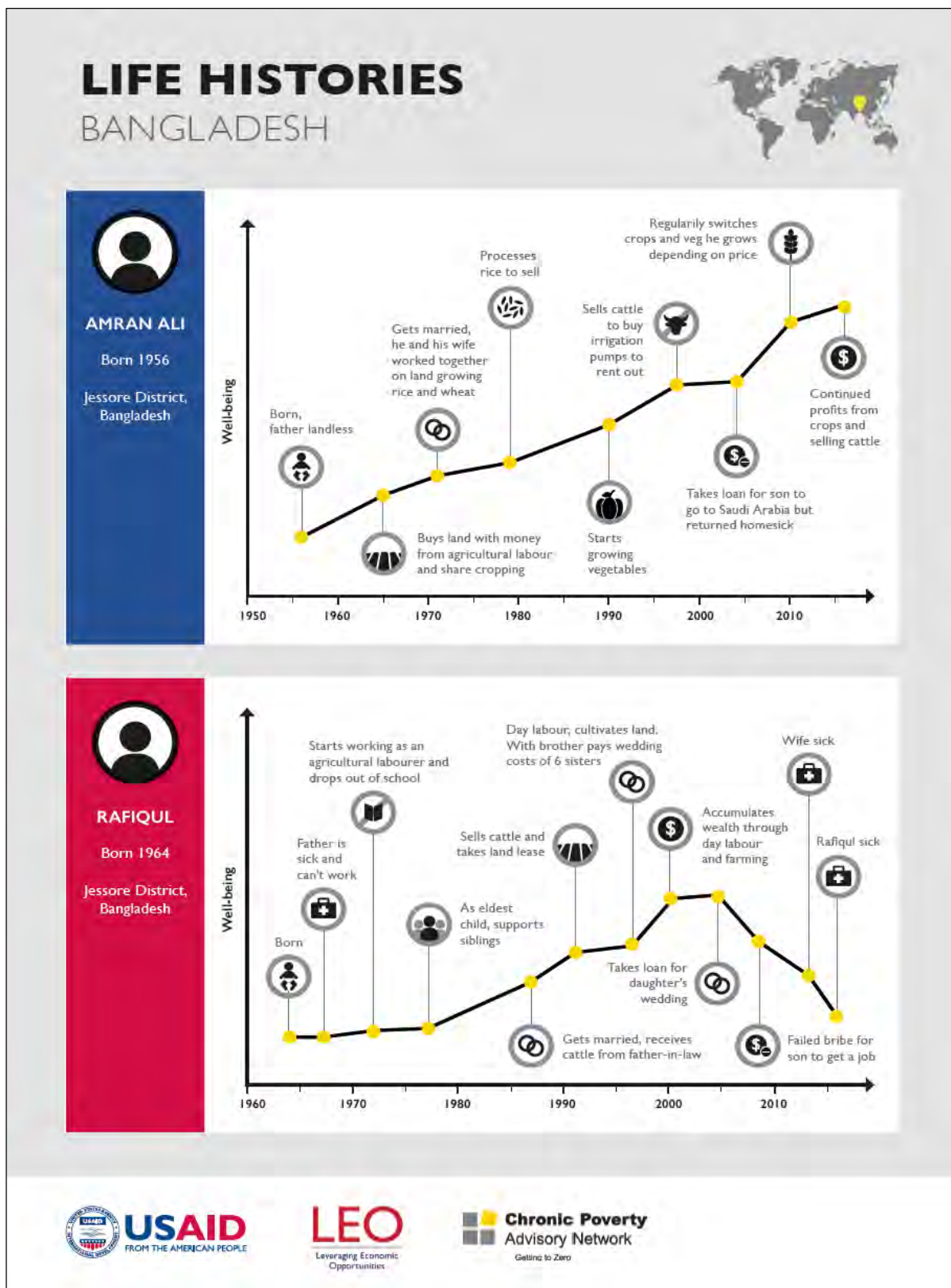
In order to prevent escapes from poverty being transitory, economic interventions need to be accompanied by interventions that aim to change long-term behaviors. Of particular importance are interventions that aim to change behavior related to (i) savings and developing a habit of saving and (ii) promoting women's empowerment. Intensive approaches are needed to change behaviors, such as door-to-door campaigns by NGOs to increase the use of contraception. It is also possible that some people will listen more to people, or champions, from the local community rather than external NGO staff. One particularly prevalent cause of transitory poverty escapes is dowry payments. Some progress does seem to

²³ Interview Akhter Ahmed, IFPRI.

²⁴ Interviews with Mushtaque (BRAC), BRAC-TUP team, Arifur Rahman (DFID), and Syed Hashemi (CGAP).

have been made here: during community-level fieldwork, people referred to payments as “gifts” and stressed that they were not forced to give them, though this was not necessarily reflected in interviews.

Figure 7: Life Histories, Bangladesh



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ANNEX A: PANEL STUDIES IN THE CHRONIC POVERTY REPORT

Enquête Permanent Agricole (EPA) conducted by the Ministry of Agriculture of Burkina Faso focuses on the rural population. The sampling frame is based on the agricultural census and comprises agricultural households, which consists of 81.5 percent of all households – 95 percent of rural households and 45 percent of urban households. In particular, the sample frame includes agricultural households that are not engaged exclusively in horticulture – accounting for 94.2 percent of households in rural areas and 5.8 percent of households in urban areas. The sample is selected in two stages: first villages and then farms. The sample is stratified by farm size (Ministere de L’Agriculture de l’Hydraulique et des Ressources Halieutiques, Burkina Faso, 2009). Source of analysis: Wetta et al. (2011).

Enquête de Suivi de la Pauvrete, Vulnerabilites et Pauvrete Chronique au Senegal has a sample size of 1,200 households. Broadly speaking, the sample is nationally representative but is not necessarily representative of smaller geographic areas and regions. Source of analysis: Fall et al. (2011).

Ethiopian Rural Household Survey (ERHS) is representative of households in non-pastoralist farming systems in Ethiopia. Given that only 15 communities are sampled, generalizations to the whole of rural Ethiopia should be made with caution (Dercon et al. 2012; Dercon and Hoddinott 2011).

India National Council for Applied Economic Research (NCAER) panel follows 13,000 rural households across a 12-year period from 1993/94 to 2004/05. Data are derived from nationally representative sample surveys carried out by the NCAER. Source of analysis: Krishna et al. (2011).

Indonesia Family Life Survey (IFLS) is representative of around 83 percent of the Indonesian population covering 13 out of 33 Indonesian provinces (Widyanti, et al. 2009).

Indonesia National Socio-Economic Survey (Susenas) covers a nationally representative sample (Dartanto and Nurkholis 2013).

Kagera Health and Development Survey (KHDS) is representative of the Kagera region in Tanzania. Conclusions can be generalized to rural Tanzania, as shown by Christiaensen et al. (2013) and Beegle et al. (2011), but results have to be interpreted with caution.

KwaZulu-Natal Income Dynamics Study (KIDS). The initial 1993 KIDS survey was part of the World Bank Project for Statistics on Living Standards and Development and was, therefore, designed to be representative at the provincial level. The later 1998 and 2004 surveys excluded white and colored households due to their small numbers and high concentration in few clusters (May et al. 2006).

Mexican National Rural Household Survey (ENHRUM). Data from the first round is from 2002, and data from the second is from 2007. The sampling strategy was designed by the Mexican National Institute of Statistics and Geography to be representative of Mexican rural communities with populations between 500 and 2,499 habitants (representing more than 80 percent of Mexico’s rural population). The country was divided into five regions, and 16 villages were selected from each region. The sample consists of more than 1,700 randomly selected households located in 80 villages from 14 Mexican states. The results presented here are from a panel consisting of 1,529 households (Gomez Urquiza and Lopez-Feldman 2013).

Nepal Living Standards Survey. Approximately 1,200 households are covered in the panel between the 2003/04 NLSS2 and the 2010/11 NLSS3. This panel is a sample from the national cross-sectional survey,

which is constructed to be nationally representative. The sources of analysis are Mascie-Taylor (2013) and Gaiha et al. (2014a).

Pakistan Rural Household Survey 2001 and 2010. The first round, the Pakistan Rural Household Survey (PRHS), was carried out in 2001 in rural areas of 16 districts selected from all four provinces. The 2010 round re-covered these 16 original panel districts. An urban sample was also added to the third round (though the figures presented here just give the rural panel), and it was renamed the Pakistan Panel Household Survey (PPHS). The sample may, however, have over-represented the poorer regions. (Arif and Farooq 2012).

Philippines Family Income and Expenditure Survey (FIES) provides a sample that represents the whole country and its 17 regions. Source of analysis: Reyes et al. (2011).

South Africa's National Income Dynamics Study (NIDS) cross-section samples are nationally representative (Finn and Leibbrandt 2013). Source of analysis: Scott et al. (2014).

Tanzania National Panel Survey is a nationally representative panel survey. The first round was conducted in 2008/09 and the second in 2010/11. Altogether, the NPS sample is comprised of 409 clusters (census enumeration areas in urban areas and villages in rural ones) and 3,265 households (Tanzania National Bureau of Statistics 2012). Source of analysis: Tanzania National Bureau of Statistics (2012).

Tegemeo Agricultural Survey, Kenya is conducted nationwide and is representative of rural, non-pastoralist households in Kenya, covering all eight major agroecological zones (Suri et al. 2008). It is representative of about 85 percent of the rural Kenyan population and about 60 percent of the rural areas (land surface). This is because the data set excludes the North Eastern region, which is sparsely populated but constitutes about 40 percent of the Kenyan land. Source of analysis: Scott et al. (2014).

Ugandan National Panel Survey (UNPS) covers a nationally representative sample of households (UBOS 2010). Source of analysis: Scott et al. (2014).

Vietnam Household Living Standards Survey (VHLSS) is a nationwide survey that is representative of the whole country, its eight regions, and its provinces as well as urban and rural parts. Source of analysis: Baulch and Hoang Dat (2011).

ANNEX B: SUMMARY STATISTICS

Table 1: Transitory Escape Households

	Obs	Wave 1	Wave 2	Wave 3
Resource base				
Per capita expenditure (Bangladeshi Taka - BDT)	121	413.68	1137.00	1251.73
Value of assets (BDT)	121	23,444.54	25,197.59	41,512.64
Amount of cultivable land owned (acres)	121	56.08	29.86	31.14
Livestock > median in wave 1 (%)	121	0.28	0.20	0.23
Household has piped water (%)	121	0.71	0.61	0.69
Household has private toilet (%)	121	0.18	0.74	0.83
Household has electricity (%)	121	0.07	0.29	0.32
Rooms per person (number)	121	0.44	0.30	0.39
Attributes and capacities				
Household size	121	5.46	4.93	5.27
Share of children (%)	121	0.48	0.27	0.34
Share of dependents (%)	121	0.52	0.34	0.39
Age (years)	121	44.26	49.57	50.89
Female head (%)	121	1.10	1.14	1.14
Head with primary education (%)	121	0.11	0.17	0.18
Head with secondary education (%)	121	0.01	0.02	0.02
Activities				
Head is employed (%)	121	0.93	0.85	0.85
Total jobs in household	121	3.13	1.89	2.04
Employment in non-agriculture	121	0.56	0.56	0.53
Household receives assistance (%)	121	0.36	0.68	0.49
Household receives remittances (%)	121	0.08	0.48	0.17
Household receives loan (%), MG sample	57	0.84	0.74	0.68
Shocks				
Number of shocks	121	3.30	3.30	0.19
Presence of shock (%)	121	0.95	0.95	0.47
Health expenditures per capita/month (BDT)	121	124.71	490.31	633.90
Household with at least one disabled members (%)	121	0.48	0.48	0.48

Table 2: Impoverished Households

	Obs	Wave 1	Wave 2	Wave 3
Resource base				
Per capita expenditure (Bangladeshi Taka - BDT)	48	827.96	1044.45	1257.50
Value of assets (BDT)	48	23,196.38	26,741.94	41,033.44
Amount of cultivable land owned (acres)	48	65.11	41.88	34.28
Livestock > median in wave 1 (%)	48	0.38	0.23	0.17
Household has piped water (%)	48	0.83	0.60	0.73
Household has private toilet (%)	48	0.29	0.83	0.83
Household has electricity (%)	48	0.10	0.21	0.25
Rooms per person (number)	48	0.64	0.28	0.32
Attributes and capacities				
Household size	48	4.27	4.69	5.02
Share of children (%)	48	0.35	0.30	0.34
Share of dependents (%)	48	0.38	0.34	0.41
Age (years)	48	42.46	47.93	51.46
Female head (%)	48	1.04	1.08	1.08
Head with primary education (%)	48	0.10	0.08	0.10
Head with secondary education (%)	48	0.02	0.00	0.00
Activities				
Head is employed (%)	48	0.98	0.88	0.88
Total jobs in household	48	2.58	1.75	2.06
Employment in non-agriculture	48	0.56	0.38	0.44
Household receives assistance (%)	48	0.31	0.56	0.40
Household receives remittances (%)	48	0.06	0.29	0.10
Household receives loan (%), MG sample	24	0.79	0.67	0.79
Shocks				
Number of shocks	48	3.19	3.19	0.19
Presence of shock (%)	48	0.96	0.96	0.42
Health expenditures per capita/month (BDT)	48	137.36	213.40	250.27
Household with at least one disabled members (%)	48	0.44	0.44	0.44

Table 3: Sustained Escapers

	Obs	Wave 1	Wave 2	Wave 3
Resource base				
Per capita expenditure (Bangladeshi Taka - BDT)	484	441.55	1546.92	2574.92
Value of assets (BDT)	484	20,783.47	54,097.68	98,503.96
Amount of cultivable land owned (decimals)	484	105.92	69.56	69.85
Livestock > median in wave 1 (%)	484	0.48	0.22	0.26
Household has piped water (%)	484	0.86	0.64	0.76
Household has private toilet (%)	484	0.32	0.85	0.93
Household has electricity (%)	484	0.12	0.45	0.71
Rooms per person (number)	484	0.54	0.36	0.43
Attributes and capacities				
Household size	484	5.61	4.70	4.37
Share of children (%)	484	0.43	0.23	0.27
Share of dependents (%)	484	0.47	0.30	0.34
Age (years)	484	44.21	50.20	50.18
Female head (%)	484	1.07	1.13	1.15
Head with primary education (%)	484	0.23	0.29	0.31
Head with secondary education (%)	484	0.09	0.08	0.09
Activities				
Head is employed (%)	484	0.95	0.85	0.84
Total jobs in household	484	2.29	1.86	1.96
Employment in non-agriculture	484	0.57	0.50	0.51
Household receives assistance (%)	484	0.35	0.49	0.36
Household receives remittances (%)	484	0.11	0.53	0.18
Household receives loan (%), MG sample	378	0.67	0.72	0.61
Shocks				
Number of shocks	484	2.58	2.58	0.19
Presence of shock (%)	484	0.96	0.96	0.44
Health expenditures per capita/month (BDT)	484	147.37	310.66	584.19
Household with at least one disabled members (%)	484	0.45	0.45	0.45

ANNEX C: APPROACH TO PARTICIPATORY WEALTH RANKING

In Bangladesh, it is not possible to access the household identifiers from the Long Term Poverty and Impact Study. However, we have the village identifiers, and given that USAID also works in some of those villages, we are able to return to them for this research.

This means that the research needs to recreate household wealth trajectories over the previous 10 years using participatory wealth ranking. UP elections provide a useful way of roughly pinning down an event in the last five years and one in the last 10 years.

Specifically, it will conduct historical participatory wealth ranking for three points in time using pre-determined wealth classifications.

Approach to historical wealth ranking (estimated time 2.5 hours):

1. Assemble a focus group of 15–25 participants. Explain the purpose of exercise – stress that this is research and there will be no direct benefits coming from this exercise.
2. Introduce the focus groups to different wealth categories, which have already been determined by previous research (see table below). Ask FGD participants their opinion on those different wealth categories (these categories were slightly adapted during each FGD). Display the wealth categories and talk through them.

Wealth categories for participatory wealth ranking (households do not have to have all characteristics).

	Assets	Education	Nutrition
Indicators of very rich households (khub dhoni)	Household assets or income that is equal to 10 acres (or more) of cultivable land for medium-sized households. Owns profitable medium or large business (e.g., renting out agricultural machinery) or has government/NGO job. Has savings, receives remittances, has many cattle.	All children in school will complete secondary education or beyond.	Balanced diet
Indicators of rich households (dhoni)	Household assets or income that are equal to 2 to 10 acres of cultivable land for medium-sized households. Owns profitable medium-sized business or has government/NGO job. Has some cattle.	The majority of children are in school; some will complete secondary schooling.	Three meals a day, has a varied diet
Indicators of medium households (medhom)	Household assets or income that are equal to 1 to 2 acres of cultivable land for medium-sized household. Tin house, regular job. They can maintain their assets in the face of a common shock.	Children do not complete secondary education or receive external support to complete secondary school.	Eat three meals a day but not a very varied diet
Indicators of poor households (gorib)	Less than 1 acre of cultivable land for medium-sized households. Small house with insufficient rooms.	Not all children attend school.	2–3 meals a day but poor quality. Eat meat 1–2 times a month.

	Assets	Education	Nutrition
	Livestock in the same house. In the face of a common shock, they would become very poor.	Children cannot complete primary school.	
Indicators of very poor households (khub gorib, na keye chole)	Landless or near landless. Most depend on day labor (rickshaw, poultry, sharecropping, etc.). Jute/thatched house in poor condition.	Children not in school. Parents cannot afford uniforms and class materials.	Not enough food, which is harmful to health.

For the purposes of identifying households which are transitory escapers, the poverty line is set between the level of medium and poor households in the above table.

3. Ask those households present to assign their current situation (2016) to a particular wealth category by attaching post-it notes to the large piece of paper.
4. Then ask them about their situation five years ago and ask them to assign themselves to a category for that time period.
5. Explain to the focus group how households are on different wealth trajectories and start a discussion about the reasons behind impoverishment and upward mobility between 2011 and 2016. Start to fill in a table, like the table below.
6. Do the same exercise for 10 years prior.
7. Explain to the focus group how households are on different wealth trajectories and start a discussion about the reasons behind impoverishment and upward mobility between 2011 and 2006. Continue to fill in a table, like the table below.
8. Ask if they know of any households in the community on PNN or PNP trajectories? Write those names on post-its and stick on the large paper.

Main Reasons for Impoverishment and Upward Mobility

Between 2005 and 2010 (10 Years Ago and Five Years Ago)		Between 2010 and 2015 (Today and Five Years Ago)	
Bullet point drivers of upward mobility	Bullet point drivers of downward mobility	Bullet point drivers of upward mobility	Bullet point drivers of downward mobility

9. Investigate if there are any differences in reasons for impoverishment across the two time periods (e.g., opening of a health center may have resulted in a fall in health shocks, climatic conditions, etc.).
10. Have a discussion about the different types of support/program involvement for households on the different trajectories. Ideally, we can then conduct life histories with households receiving different types of support (e.g. stipends, being in farmer organizations).

ANNEX D: LIFE HISTORY INTERVIEW TEMPLATE

Life Histories with one head of household, either male or female. Ideally, they will be the person who took part in the FGD. If that is not possible, then whichever of the male or female household head who is available.

IMPORTANT POINTS

- The outputs of the life history interview will be: 1) a narrative of the respondent's life and 2) a life history map (see end of document for an example).
- Map the life of the respondent against the pre-determined well-being classifications.
- Life periods are:
 - Childhood: 0–12 years
 - Youth: 13 years to marriage/start of own household OR 20 years (whichever is relevant)
 - Young adulthood: Marriage/start of own household or 20–40 years
 - Late adulthood: 40 years – 60 years
 - Old age: 60 years +
- Ensure you identify well-being levels at these points:
 - Childhood
 - Just before start of own household/marriage
 - Just after start of own household/marriage
 - Now
- Focus on upward and downward mobility and reasons for these changes (why the upward or downward mobility in well-being)

Introduction, focus, and consent

- When you arrive at the household, introduce yourself and the research.
- Purpose of the research
- Explain our focus in as much depth as you need to – that you want to understand changes in assets and well-being during their lives and to learn more about why such changes happened. Positive and negative events. Explain to them that at five different points in their lives you will be asking them the following questions: what has enabled them to improve their lives; if they have fallen back, why have they done this; if they were able to manage in the face of shocks, how were they able to do this.
- Obtain informed consent, i.e., ensure that the respondent agrees to take part in the interview
- The interview will be anonymous: it will not include their name.
- You are going to take notes and record the interview; these notes will only be seen by other members of the research team. The recording will only be made available anonymously to the people who will be transcribing the interview.
- You will write short stories from the interview; some of these (without their names) will be seen by other people.
- Ask permission to take a photograph (if you plan to do so)

- Other people will see their photographs (without their names)

Getting started

- Write down interviewee's name, age, and gender and the interviewer's name
- Note individual's appearance and demeanor (happy, sad, anxious, etc.)
- Describe house and compound

Genealogy/demographic

- Draw genealogy trees or tables and note sexes/ages (dates of birth) of the household members (nuclear household or if there are other family members living in the same homestead, include those members); who's married to whom; include multiple spouses and circle the respondent's household; and the level of education of each household member (especially the person being interviewed and the spouse).
- If it is a female-headed household, ask how it became this way (for example, death of husband or migration or other circumstance).
- Focus on people within the household

Livelihoods and assets now

[Note for researchers: You can choose whether to do this now or do this chronologically.]

[Note to researchers: Interested in physical assets, which may include land, livestock, implements (hoes, trailers, carts, ploughs, and tractors), number of houses, "state" of houses (i.e., tin roof), clothes/household items, mode of transport, consumer durables (e.g., mobile phones). Get as accurate an estimate as possible, but rough magnitude is better than no magnitude at all (e.g., more than five cows but less than 20).

- Can you rank your livelihoods now? (i.e., primary, secondary, and tertiary livelihoods)
- For the household
- Probe for all other livelihood activities/sources
- What assets do you have in the household? Can you rank them in terms of value?
- Does your house have electricity?
- Do you have a mobile phone?
- Do you own the land you work on? If you had to sell it, whose decision would it be? Sharecropping, leasing, or mortgaging—which type? Or are you working off someone else's land?

[Note to researcher: This is a good point to locate the respondent on Y-axis of the life history diagram.]

Childhood – approximately 0–12 years old

[Note to researcher: at this point, we are getting at parent's livelihood and assets.]

- When and where were you born?
- Parents: Where are your parents from? (Origins of the family: in the case of migration from another place, when did they move and why?)
- Siblings: How many? Which birth order? Are they sisters or brothers?
- Education: What level of education did your parents have? What level of education do you and your siblings have? How was your education and your siblings' education funded?
- Livelihood of parents: Can you rank your parents' livelihoods (i.e., occupation during your childhood)? What was the main occupation of your parents? What was their second occupation/source of income? What was their third occupation/source of income?
- If involved in crop agriculture, which crops and why?

- Who were the crops sold to? Who did you get agricultural inputs from?
- What was the nature of those relationships (i.e., selling crops/getting inputs, etc.)?
- Assets of parents: What assets did your parents have? Can you rank them in terms of value or importance for income generation?
- House and compound: Describe your house and compound when you were a small child (e.g., at age 8 years old).
 - Electricity?
 - Building materials?
 - How did it compare with other compounds in your village?
 - How did it compare with the house that you live in now (much better, better, the same, worse, much worse)?

[Note to researcher: This is a good point to locate the respondent during childhood on Y-axis.]

- Home life:
 - Relationship with parents and siblings
 - Responsibilities – what were your chores?
 - How was work divided among different members of the family (young, old, men, women)?
 - Food – type of food and number of meals/day?
 - Leisure activities?
 - Health of interviewee and family during childhood?
- Relationships for building livelihoods and coping with shocks:
 - Key relationships: landlords, friends, employers, richer households, social networks, neighbors, kinship networks, employment relations, cooperatives, and banks
 - Looking back over this early part of your life, do any difficult events or periods stand out?
 - Probe shocks, coping strategies taken, channels of support (relatives, friends, NGOs, church, moneylenders, etc.)
 - Note carefully all changes in asset levels, ask if there are any assets that have been particularly important for escaping poverty? Any death of livestock that has been influential?
 - Note changes in livelihoods. Any non-farm income/activity/enterprise? How did they get this?
 - Looking back over this early part of your life are there any positive events or periods that stand out?

Youth– approximately 13 years to marriage (or 20 years old, whichever is more appropriate)

- When did you leave school?
- Probe around if, when, and why respondent left school?
- Livelihoods: What livelihood activities did you engage in and can you rank them from the most important to the least important in terms of income?
- If involved in crop agriculture, which crops and why?
- Who were the crops sold to? Who did you get agricultural inputs from? What was the nature of that relationship?
- First job/enterprise/livelihood activity: What was it? Rank livelihood activities at this period of your life in terms of their importance to household income and food security (e.g., farming, livestock rearing, job, small enterprise, etc.)?
- How did you get this job/start this enterprise/move into this livelihood activity? Did you get help from anyone?
- If you migrated away from the village, did you have a job before you went? How did you find this job? How did you send money back to your family?
- If you started a non-farm enterprise, why did you decide to start this? If so, who and how did this work?

- Describe working conditions/constraints/profitability/shocks/risks/coping strategies associated with the different livelihoods activities.
- Any credit/loans taken out? For what? Largest amount? Ever taken loans to repay loans?
- Any participation or engagement in social safety nets? How important is this for your household? When/ in what event has it been especially important?
- Looking back over your youth, are there any difficult events or periods that stand out? (Use this to probe for shocks, coping strategies, changes in asset levels, and changes in livelihood strategies.)
- Looking back over your youth, are there any positive events or periods that stand out? (Use this to probe for opportunities, investments, and resilience.)
- Assets during youth and before marriage/starting own household: What assets did you have before starting your own household? How does this compare with assets during childhood? Account for changes in asset holdings – probe reasons for sales and main source of finance for purchases or main reasons for acquisitions and from whom.
- Key relationships: landlords, friends, employers, richer households, social networks, kinship networks, employment relations, cooperatives, and banks

Young adulthood

- Marriage:
 - Are you married?
 - How did you meet your husband/wife?
 - Parent's/family's views of the match?
 - How much was the dowry? Was all of it able to be paid? What was the source of the dowry and where did it go?
 - Move to your spouse's village – feelings about that/problems; setting up home; relationship with in-laws/ extended family/community; relationship with spouse
- Livelihoods:
 - Assets at marriage – in particular productive assets – livestock, agricultural implements, land, rickshaw, etc.
 - What livelihood activities did you engage in, and can you rank them from the most important to the least important in terms of income and food security? Which were the most important assets for following each particular activity?
 - Describe the working conditions/constraints/profitability/shocks/risks and coping strategies associated with each of these livelihood activities.
 - If involved in crop agriculture, why are you farming? Which crops are you farming? Who owns the land on which you farm? If sharecropping/leasing, what are the arrangements of this? Is it easy to find land to sharecrop/lease here?
 - Have price changes of agriculture goods (either inputs such as seeds or the sales price of crops) affected you? How?
 - How did you get any better livelihoods during these years?
 - Did you ever migrate? How did you get the good/better job if you did?
 - Social networks that helped you get jobs/work?
 - Any credit/loans taken out? For what? Largest amount? Ever taken loans to repay loans?
- Children:
 - Make sure dates of births have been identified
 - Any difficulty with births?
 - How have you financed the education of your children?
 - Remittances from older children/kin
- Health:
 - Health of interviewee and family?
 - Impact on household well-being?

- Were there any periods of sickness? If so, who was sick, and where did you go for treatment? How much did it cost, and how did you find that money?
- Relationships
 - Ask about the relationships that were important for building their livelihoods and for coping with shocks.
 - Key relationships: landlords, friends, employers, richer households, social networks, kinship networks, employment relations, cooperatives, banks
 - Any participation or engagement in social safety nets? How important is this for your household? When/in what event has it been especially important?
- Looking back over your early adulthood, are there any difficult events or periods that stand out? (Use this question to probe for shocks, coping strategies, channels of support [relatives, friends, NGOs, churches, moneylenders, etc.], changes in asset levels, and changes in livelihood strategies.)
- Looking back over your early adulthood, are there any positive events or periods that stand out? (Use this question to probe opportunities, investments, aspiration, and resilience.)

Late adulthood

- What assets does the household now have? Which assets were particularly important for the different livelihood activities?
- Compare assets at marriage and now and account for changes. Account for changes in asset holdings – probe reasons for sales and main source of finance for purchases or main reasons for acquisitions and from whom.
- Were any assets particularly important for escaping poverty? Has the loss of any particular asset been important in a household experiencing any downward mobility? How did the household cope with the loss of this asset?
- Compare livelihoods at marriage and now and account for changes. For instance, is there now any non-farm income/activity/enterprise? What was the source of finance for this? Why did they decide to start this?
- If involved in crop agriculture, why are you farming? Which crops are you farming? Who owns the land that you farm on? If sharecropping/leasing, what are the arrangements of this? Is it easy to find land to sharecrop/lease here?
- Have price changes of agriculture goods (either inputs such as seeds or the sales price of crops) affected you? How?
- Has there been any change in the profitability of these livelihoods between early adulthood and late adulthood? Has the nature of shocks facing these livelihoods changed over time?
- Health
 - Health of interviewee and family?
 - Impact on household well-being?
 - Were there any periods of sickness? If so, who was sick, and where did you go for treatment? How much did it cost, and how did you find that money?
- Important relationships for sustaining livelihoods and coping with shocks:
 - Key relationships: landlords, friends, employers, neighbors, richer households, social networks, kinship networks, employment relations, cooperatives, and banks. If any of these relationships have been important, how have they been important?
 - Any participation or engagement in social safety nets? How important is this for your household? When/in what event has it been especially important?
- Looking back over your late adulthood, are there any difficult events or periods that stand out? (Use this question to probe for shocks, coping strategies, channels of support [relatives, friends, NGOs, church, moneylenders, etc.], changes in asset levels, and changes in livelihood strategies.)
- Looking back over your late adulthood, are there any positive events or periods that stand out? (Use this question to probe for opportunities, investment, acquisition, aspiration, and resilience.)

Older age

- How is life during older age?
- Working or not work? Are you able to support yourself? If not, who is supporting you?
- Health?
- Were there any periods of sickness? If so, who was sick, and where did you go for treatment? How much did it cost, and how did you find that money? If you are taking regular medication, where do you get this from?
- Widowhood: Age when spouse died; implications; feelings; change in status?
- Relationships with others: responsibilities; support from children; role in community; status?
- Any participation or engagement in social safety nets? How important is this for your household? When/in what event has it been especially important?
- Looking back over your older age, are there any difficult events or periods that stand out? (Use this question to probe for shocks, coping strategies, channels of support [relatives, friends, NGOs, church, moneylenders, etc.], changes in asset levels, and changes in livelihood strategies.)
- Looking back over your older age, are there any positive events or periods that stand out? (Use this question to probe for opportunities, investment, acquisition, aspiration, and resilience.)

ANNEX E: REGRESSION RESULTS AND ANALYSIS APPROACH

The Bangladesh transitory poverty escape study employed pooled multinomial regressions. This was chosen to maintain methodological consistency across country reports where in some cases we were faced with small sample sizes in our subset of interest yet a variety of predictors. While pooling data does not remove endogenous household-specific characteristics or allow the examination of changes within households over time, pooled models have gained popularity not only because of the “small N” problem which we face in this study but also because it allows investigation into variables with minimal or non-existent variability, which we were also interested in examining in our study.

Table 1: Drivers Associated with Poverty Trajectories *The last two columns include an interaction term (remittance* female head)*

VARIABLES	Transitory escapes	Impoverishment	Transitory escapes	Impoverishment
Log (per capita monthly expenditure)	0.0548*** (0.0150)	0.609 (0.202)	0.0555*** (0.0152)	0.613 (0.203)
Assistance	0.979 (0.145)	0.831 (0.169)	0.978 (0.145)	0.830 (0.169)
Remittance	1.007 (0.185)	0.606* (0.172)	2.363 (1.363)	0.424 (0.386)
Remittance* Female head			0.478 (0.227)	1.366 (1.026)
Household size	1.019 (0.0493)	1.000 (0.0783)	1.020 (0.0494)	0.999 (0.0783)
Share of children	1.752 (1.280)	0.915 (0.941)	1.818 (1.330)	0.896 (0.923)
Share of dependents	1.256 (0.808)	1.361 (1.196)	1.246 (0.803)	1.375 (1.208)
Age of household head	0.933* (0.0334)	1.026 (0.0587)	0.931** (0.0333)	1.027 (0.0587)
Age-squared	1.001** (0.000364)	1.000 (0.000587)	1.001** (0.000364)	1.000 (0.000586)
Female head	0.662 (0.206)	0.263*** (0.130)	0.823 (0.277)	0.233** (0.135)
Head with primary education	0.692* (0.134)	0.358*** (0.110)	0.692* (0.134)	0.357*** (0.110)
Head with secondary education	0.209***	0.0733**	0.211***	0.0733**

VARIABLES	Transitory escapes	Impoverishment	Transitory escapes	Impoverishment
	(0.106)	(0.0757)	(0.107)	(0.0756)
Number of shocks	1.030	0.982	1.029	0.982
	(0.0439)	(0.0575)	(0.0439)	(0.0575)
Presence of shock	0.965	0.861	0.964	0.860
	(0.220)	(0.260)	(0.221)	(0.260)
Log (per capita monthly health expenditure)	1.047	1.004	1.043	1.004
	(0.0388)	(0.0491)	(0.0388)	(0.0492)
Household with disabled member	0.907	0.659*	0.891	0.657*
	(0.142)	(0.145)	(0.141)	(0.145)
Head is employed	0.944	0.747	0.886	0.756
	(0.316)	(0.360)	(0.298)	(0.370)
Number of jobs in household	1.095	0.993	1.089	0.993
	(0.0696)	(0.101)	(0.0695)	(0.102)
Rooms per person	1.087	1.264	1.122	1.246
	(0.216)	(0.334)	(0.223)	(0.332)
Piped water	1.355*	1.208	1.358*	1.206
	(0.243)	(0.294)	(0.244)	(0.294)
Private toilet	0.658**	1.166	0.661**	1.168
	(0.126)	(0.309)	(0.126)	(0.310)
Electricity	0.922	0.582**	0.926	0.581**
	(0.163)	(0.150)	(0.164)	(0.150)
Log (asset value)	0.895*	0.882	0.895*	0.882
	(0.0564)	(0.0781)	(0.0565)	(0.0782)
Cultivable land area	0.997**	1.000	0.997**	1.000
	(0.00116)	(0.00135)	(0.00116)	(0.00135)
Livestock > median in first year	0.869	0.915	0.865	0.918
	(0.158)	(0.221)	(0.158)	(0.222)
Non-farm enterprise	0.835	0.441***	0.835	0.442***
	(0.136)	(0.0952)	(0.136)	(0.0953)
Thana controls	Yes	Yes	Yes	Yes
2006/2007	36.84***	2.774**	36.28***	2.746**
	(13.35)	(1.234)	(13.14)	(1.222)
2010	106.3***	2.826*	104.4***	2.789*

VARIABLES	Transitory escapes	Impoverishment	Transitory escapes	Impoverishment
	(48.80)	(1.616)	(47.96)	(1.598)
Constant	3.472e+08***	46.54	2.814e+08***	49.89
	(6.921e+08)	(123.5)	(5.617e+08)	(133.1)
Observations	1,958	1,958	1,958	1,958

See form in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2: Effect of Coping Strategies on Poverty Trajectories

Coping strategy:	Asset sale		Take out a loan	
	Transitory escapes	Impoverishment	Transitory escapes	Impoverishment
Log (per capita monthly expenditure)	0.131***	1.584	0.131***	1.601
	(0.0382)	(0.564)	(0.0382)	(0.569)
Coping strategy	0.934	0.920		
	(0.176)	(0.238)		
Assistance			0.954	0.939
			(0.159)	(0.217)
Remittance	0.969	0.900	0.969	0.901
	(0.159)	(0.208)	(0.159)	(0.208)
Household size	0.996	0.600	0.996	0.600
	(0.203)	(0.192)	(0.203)	(0.192)
Share of children	1.000	1.060	1.000	1.061
	(0.0536)	(0.0959)	(0.0536)	(0.0957)
Share of dependents	1.236	0.738	1.255	0.749
	(1.069)	(1.006)	(1.086)	(1.021)
Age of household head	1.857	1.664	1.842	1.670
	(1.419)	(2.012)	(1.408)	(2.019)
Age-squared	0.966	1.026	0.966	1.027
	(0.0394)	(0.0673)	(0.0393)	(0.0675)
Female head	1.000	1.000	1.000	1.000
	(0.000406)	(0.000691)	(0.000405)	(0.000692)
Head with primary education	0.691	0.231**	0.698	0.235**
	(0.236)	(0.134)	(0.237)	(0.136)

Coping strategy:	Asset sale		Take out a loan	
Head with secondary education	0.723	0.378***	0.715	0.374***
	(0.156)	(0.132)	(0.154)	(0.131)
Number of shocks	0.144***	0.0944**	0.145***	0.0950**
	(0.0918)	(0.0981)	(0.0921)	(0.0987)
Log (per capita monthly health expenditure)	1.020	0.990	1.017	0.987
	(0.0445)	(0.0608)	(0.0440)	(0.0602)
Household with disabled member	1.063	1.050	1.063	1.051
	(0.0433)	(0.0591)	(0.0433)	(0.0591)
Head is employed	0.867	0.534**	0.864	0.530**
	(0.153)	(0.138)	(0.153)	(0.137)
Number of jobs in household	0.766	0.591	0.774	0.602
	(0.277)	(0.325)	(0.280)	(0.331)
Rooms per person	1.125*	1.048	1.126*	1.050
	(0.0770)	(0.118)	(0.0772)	(0.119)
Piped water	0.618	1.905	0.615	1.880
	(0.278)	(1.011)	(0.276)	(0.996)
Private toilet	1.391*	1.136	1.391*	1.132
	(0.279)	(0.317)	(0.279)	(0.315)
Electricity	0.623**	1.220	0.625**	1.222
	(0.127)	(0.349)	(0.127)	(0.350)
Log (asset value)	0.872	0.601*	0.871	0.599*
	(0.179)	(0.181)	(0.179)	(0.181)
Cultivable land area	0.887*	0.849	0.886*	0.848*
	(0.0618)	(0.0845)	(0.0618)	(0.0845)
Livestock > median in first year	0.998**	0.999	0.998**	0.999
	(0.00122)	(0.00155)	(0.00122)	(0.00155)
Non-farm enterprise	0.996	1.134	0.988	1.118
	(0.202)	(0.307)	(0.201)	(0.304)
Thana controls	0.945	0.516***	0.939	0.514***
	(0.171)	(0.125)	(0.170)	(0.124)
2006/2007	14.71***	1.357	14.71***	1.342
	(5.821)	(0.677)	(5.819)	(0.668)
2010	35.99***	1.023	35.56***	1.000
	(17.78)	(0.646)	(17.62)	(0.633)

Coping strategy:	Asset sale		Take out a loan	
Constant	1.153e+06***	0.0962	1.146e+06***	0.0881
	(2.522e+06)	(0.289)	(2.508e+06)	(0.263)
Observations	1,527	1,527	1,527	1,527

See form in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3: Loans in MG subsample

VARIABLES	Transitory escapes	Impoverishment
Log (per capita monthly expenditure)	0.0312*** (0.0119)	0.404** (0.178)
Loan	0.882 (0.208)	1.123 (0.358)
Assistance	1.074 (0.215)	0.866 (0.235)
Remittance	1.100 (0.285)	0.764 (0.284)
Household size	1.067 (0.0783)	1.099 (0.126)
Share of children	1.501 (1.384)	0.281 (0.337)
Share of dependents	0.411 (0.322)	0.942 (0.884)
Age of household head	0.909** (0.0438)	0.965 (0.0670)
Age-squared	1.001** (0.000492)	1.000 (0.000724)
Female head	0.582 (0.267)	0.712 (0.418)
Head with primary education	0.903 (0.238)	0.202*** (0.109)
Head with secondary education	0.367 (0.281)	2.26e-07 (0.000212)
Number of shocks	1.059 (0.0677)	0.958 (0.0890)

VARIABLES	Transitory escapes	Impoverishment
Presence of shock	0.832 (0.241)	1.073 (0.411)
Log (per capita monthly health expenditure)	1.036 (0.0536)	0.983 (0.0684)
Household with disabled member	0.752 (0.165)	0.468** (0.149)
Head is employed	0.958 (0.465)	1.453 (0.954)
Number of jobs in household	1.050 (0.113)	0.822 (0.143)
Rooms per person	1.589 (0.648)	1.628 (0.706)
Piped water	1.919** (0.568)	1.023 (0.365)
Private toilet	0.812 (0.218)	1.489 (0.554)
Electricity	0.884 (0.202)	0.733 (0.236)
Log (asset value)	0.778*** (0.0751)	0.768** (0.0970)
Cultivable land area	0.997** (0.00175)	1.000 (0.00234)
Livestock > median in first year	1.138 (0.259)	1.178 (0.365)
Non-farm enterprise	0.754 (0.165)	0.552** (0.161)
Thana controls	Yes	Yes
2006/2007	112.1*** (66.66)	6.036** (4.253)
2010	443.8*** (311.9)	9.135*** (7.628)
Constant	4.373e+09*** (1.161e+10)	654.0* (2,167)
Observations	1,376	1,376

See form in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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INVESTIGATING SUSTAINED POVERTY ESCAPES: A ‘HOW TO’ METHODOLOGICAL NOTE FOR RESEARCH INTO POVERTY DYNAMICS

I. INTRODUCTION

Poverty is a dynamic phenomenon; while some people remain in poverty for long periods of time, over the same period others may escape poverty, others fall into poverty and yet others escape poverty and fall back into it. An understanding of the nature of poverty trajectories is important as different trajectories require different programmatic responses; in addition, if poverty reduction efforts will ever be successful in the long term, escapes from poverty must be sustained over time. Box 1 gives more information about two of these trajectories and how they relate to USAID’s resilience agenda¹.

BOX 1: IMPOVERISHMENT AND TRANSITORY POVERTY ESCAPES

Impoverishment refers to the process whereby a poor person or household becomes poorer, or where someone who is non-poor slips into poverty. **Transitory poverty escapes** refer to individuals or households that used to live in poverty, succeeded in escaping poverty, and then subsequently fell back into poverty i.e. they became re-impovertised. Households are considered to make a **sustained poverty escape** if they are able to escape poverty and remain out of it over the medium-term (e.g. at least for five years, although the time period applied may vary according to available data). Other poverty trajectories, that are not discussed in detail in this brief, include the **chronic poor**, who remain living in poverty at all points in time and **churners**, who fluctuate at around the poverty line over time.

For the purposes of this work, we view **resilience** as a set of capacities enabling households to remain out of poverty over the long term, even in the face of shocks and stresses. In other words, the capacity to be resilient means an individual or household is ultimately able to avoid becoming impoverished or experiencing a transitory poverty escape.

The purpose of this note is to introduce a methodology for investigating the extent of impoverishment and transitory poverty escapes, as well as the factors that help protect against impoverishment and support sustained poverty escapes. It details the four basic elements needed in order to conduct this exercise (Section II), six steps of the actual research process (Section III), and some cautionary notes on the limitations inherent in this type of analysis (Section IV).

This methodology uses **mixed methods research approaches** (see Box 2²). Specifically, it combines:

- Analysis of **household panel data** with at least three waves (i.e. surveys which return to the same households at least at three points in time³).
- The collection of **qualitative life histories** with households on different poverty trajectories. In particular, with those which experienced a transitory escape and those which have seen a sustained escape from poverty.

¹ USAID (2012) defines resilience as the ability of people, households, communities, systems and countries to mitigate, adapt to and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.

² Also see Addison, T.; Kanbur, R. and Hulme, D. (2008) Poverty dynamics: Measurement and understanding from an interdisciplinary perspective. BWPI Working Paper 19. Manchester: Brooks World Poverty Institute and Shaffer, P. (2012) Ten years of ‘Q squared’: Implications for understanding and explaining poverty. *World Development* 45, 269-285 for more information on the value of using mixed-methods approaches for research into poverty dynamics.

³ Impoverishment can also be examined with two wave panel data.

This approach was undertaken in [Bangladesh](#), [Ethiopia](#) and [Uganda](#)⁴ during the course of 2016 as part of research USAID conducted into transitory escapes and resilience, through the Leveraging Economic Opportunities⁵ (LEO) activity. A [synthesis of findings](#)⁶ from across these cases is also available.

BOX 2: THE ADVANTAGES OF USING MIXED METHODS RESEARCH FOR INVESTIGATING POVERTY DYNAMICS

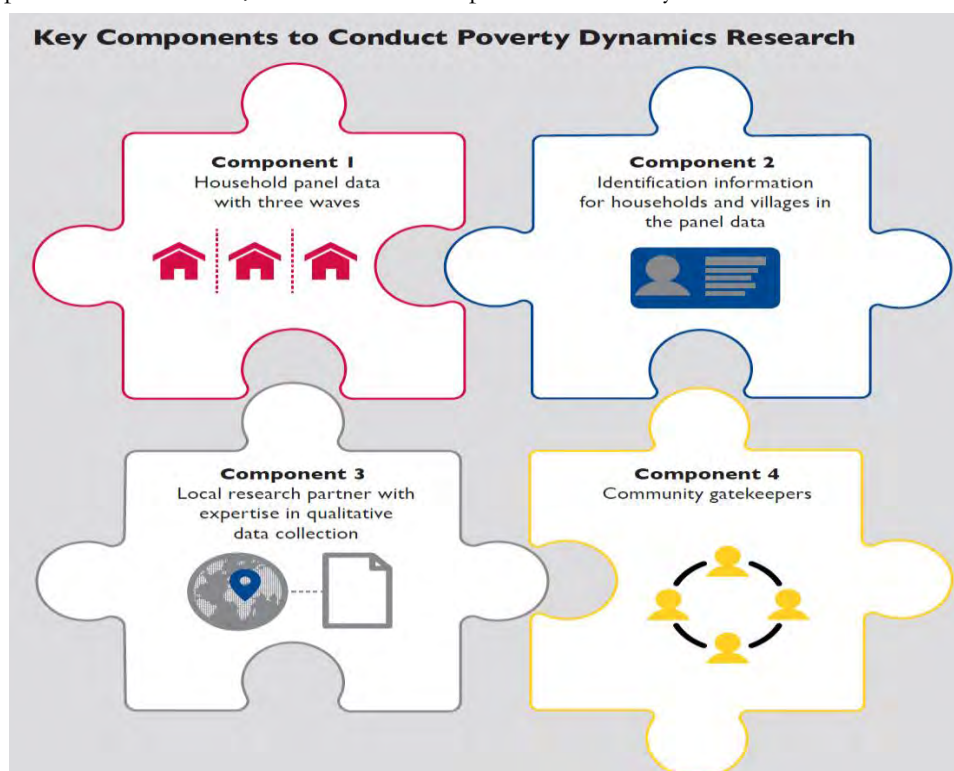
Quantitative research methods, and in particular the analysis of large-scale household panel survey data, can reveal important information about the *extent* of different poverty trajectories. It can also provide insights into the factors (e.g. involvement in the non-farm economy; ownership of livestock) associated with those trajectories as well as an indication of which combination of factors is important.

What household survey analysis cannot tell us is *why* particular factors, or combination of factors, are important or the multi-dimensional causes, processes and pathways of poverty escapes and descents. This information can be gained from in-depth qualitative investigation, including through life histories, which also reveal participants' own perceptions and interpretations of their poverty trajectories. Qualitative investigation also enables greater understanding of the role of contextual factors in poverty trajectories.

Combining quantitative household panel data analysis with qualitative life history collection therefore brings together the strengths of these two research traditions, enabling a more comprehensive understanding of the extent and drivers of poverty trajectories.

II. FOUR NECESSARY COMPONENTS TO CONDUCT THIS RESEARCH

As the graphic below illustrates, there are four components necessary to conduct this research.



⁴ For Bangladesh: <https://www.microlinks.org/library/ensuring-escapes-poverty-are-sustained-rural-bangladesh>; For Ethiopia: www.microlinks.org/library/ensuring-escapes-poverty-are-sustained-rural-ethiopia. For Uganda: www.microlinks.org/library/ensuring-escapes-poverty-are-sustained-uganda.

⁵ For more information, see www.activoca.org/leo.

⁶ www.microlinks.org/library/resilience-and-sustained-escapes-poverty-highlights-research-bangladesh-ethiopia-and-uganda

1. Household panel data with three waves

Panel datasets are those which observe the same cases, such as households, over multiple periods of time. Unfortunately, only a few developing countries have such datasets. Moreover, many of these datasets cover only rural areas, whereas it is preferable that the data is **nationally representative** so that results may be generalizable to the population at large.

In assessing transitory and sustained escapes specifically, there is an additional requirement that the longitudinal data span at least **three waves**. This is because two-wave data can indicate whether a household was poor in one period and subsequently non-poor, but reveals no information about the wealth of the household after their escape from poverty. It could be that the household has remained non-poor at a later third stage (which we identify as a sustained escape from poverty), or that they have fallen back into poverty (a term we denote as a transitory poverty escape). Three-wave panel data allows the researcher to examine the third-stage wellbeing and so determine these longer term poverty trajectories of households.

In addition to three-wave panel data, a **longer time period between waves** (anything over a year) is preferable to shorter year-after-year waves. As there is not a steadfast rule of thumb of the time period appropriate between waves, researchers are advised to use their judgment. Long timespans allow researchers to assess whether a poverty escape is sustained over a considerable period of time, and ensure that identification of chronically poor or transitory escape households, for example, is not just a reflection of time of data collection. Box 3 highlights some considerations researchers need to be well-aware of in analysing panel data and presenting findings⁷.

BOX 3: CONSIDERATIONS WHEN USING MULTIPLE WAVES OF PANEL DATA

In utilising panel data, potential issues may be encountered. Some are listed below:

- **Attrition:** If members of a panel drop out of the study, the sample may no longer be representative of the original population. This is only the case *if* the “probability of attrition is systematically related to certain household or community characteristics” (Baulch, 2011).
- **Small sample sizes:** Linked to the issue of attrition, is the resulting small sample sizes that may emerge in panel datasets. Moreover, when examining certain poverty trajectories such as transitory escapes (Poor (P) in Wave 1, Non-Poor (N) in Wave 2, and P in Wave 3) or sustained escapes (N-P-P), analysis is effectively conducted on these subsamples of interest as opposed to the entire population at large. With small sample sizes, results may be less generalizable to the population at large. Smaller samples also come with a larger standard error and variability, which in turn could make it less likely that results are statistically significant.
- **Composition of households:** As households continue to be surveyed over time in panel waves, the sample interviewed become older and may be less representative of the original population. In addition, households may fragment due to factors such as marriage or migration, and in many instances these split households may be costly to track. Often, methodological documents accompanying the datasets provide information on how to deal with split (or merged) households; these may suggest for example restricting analysis to the household with the largest number of original members or wherein the original household head is still present. In any instance, as time goes on and the panel’s representativeness declines, the only solution may be to create a new panel.

⁷ For more information, see Baulch, B. (2011). “Why Poverty Persists: Poverty Dynamics in Asia and Africa”. Edited by Bob Baulch. Cheltenham, UK: Edward Elgar.

2. Access to the household identifiers for households included in the panel survey

It is ideal to have access to the household identifiers⁸ for households surveyed so that life histories can be conducted with those same households identified as ‘transitory escapers’ or ‘sustained escapers’ during the panel data analysis. These can sometimes be obtained from the organisation that funded or undertook the data collection. Partnering with the organisation which undertook the panel survey can increase the likelihood of being able to access some household identifiers. However, if the panel is on-going it is unlikely to be possible to identify specific households in the survey given the possibilities of this research influencing household responses in future waves. There are also issues of confidentiality that mean that often the household identifiers are not released. If this is the case, we introduce an alternative approach below for identifying households for life history collection.

3. A local research partner with experience at qualitative data collection

This is easy to overlook, but vital. The collection of life histories requires relatively senior qualitative researchers. Allowing time for training and analysis is also important. The collection of qualitative data is a very different skill to survey data collection.

4. Community gatekeepers

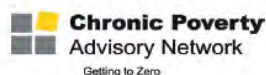
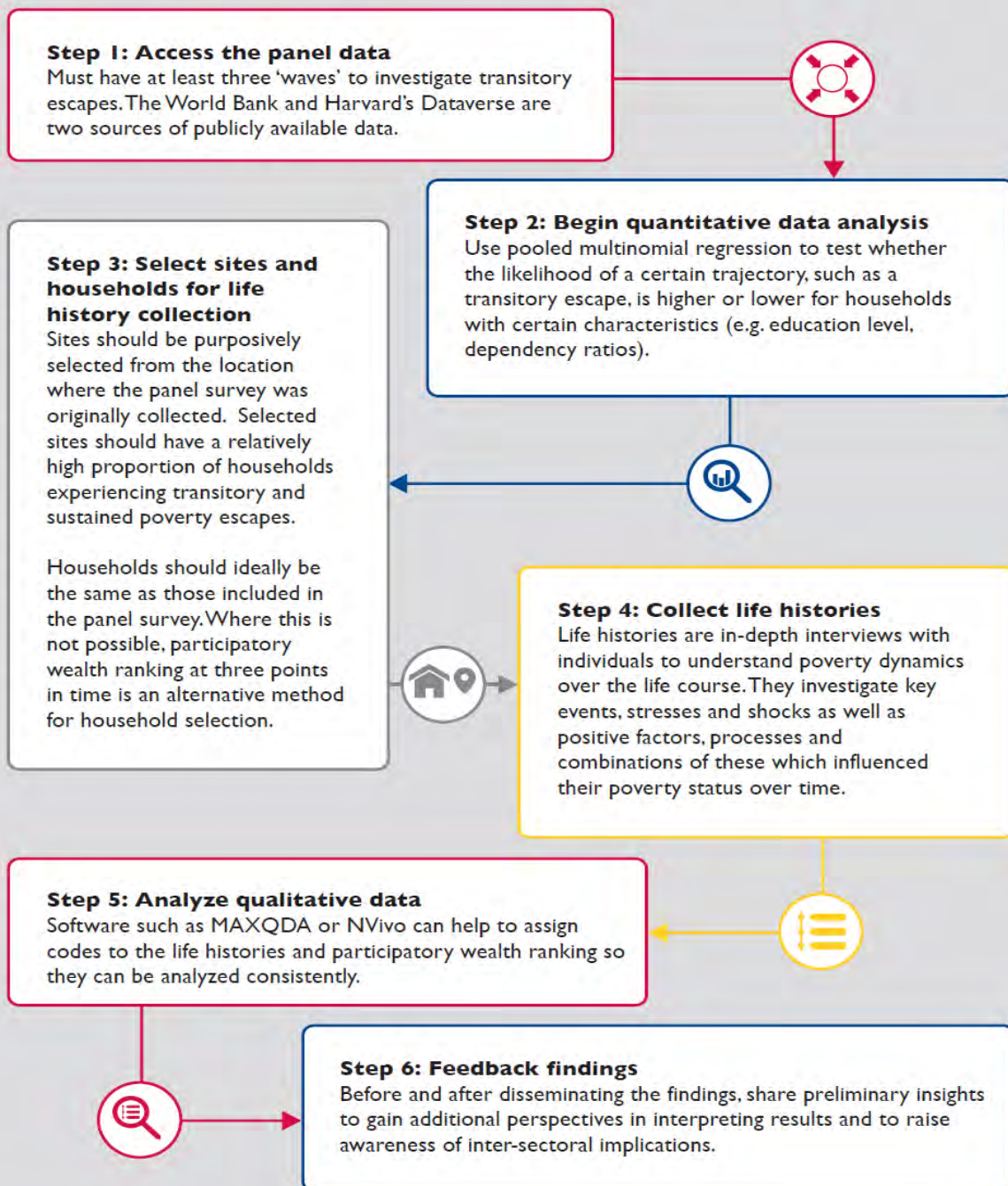
While not essential, it is helpful to have existing links with the communities in which qualitative research will take place in order to speed-up setting-up fieldwork. However, this also comes with implications e.g. being associated with certain development programmes, making it even more important clearly to explain the purpose of the fieldwork from the outset.

III. THE PROCESS

This section discusses seven key steps to conduct mixed methods research into poverty dynamics. The graphic on the following page presents a snapshot of these steps, which are then further discussed.

⁸ Publicly available datasets do not enable identification of the individuals and households visited; rather assigning anonymous, unique IDs to individuals and households. Being able to access household identifiers means that you have the information to enable you to revisit that particular household e.g. household head name and spouse name, in addition to village name. In some surveys GPS information for each household is available.

Poverty Dynamics Research: Highlights of the Methodological Process



STEP 1: Accessing data

Many panel datasets are publicly available to download.⁹ These may be accessed through various online repositories (e.g. the [World Bank](#), [Harvard's Dataverse](#), to name a few¹⁰). Others require a one-time fee, while some are commissioned directly to respond to a certain research or policy question and may not be available for public consumption. In these latter instances, it may prove useful to email the producers of the questionnaires or researchers who have used the panel data, as they may have knowledge on and facilitate your access to the dataset.

STEP 2: Quantitative data analysis approach

Regression methods: Pooled multinomial logit regression is an effective method by which to assess the drivers of transitory escapes, impoverishment, and sustained poverty escapes. These regressions allow us to test whether the likelihood of a certain trajectory, such as a transitory escape, is higher or lower for households with certain characteristics in comparison to households with different characteristics. For instance, whether household dependency ratios or the level of education of the household head make transitory poverty escapes more likely than sustained escapes.

Pooling the data is a way in which to deal with small sample sizes and also examine the effect of variables across years in generating certain poverty trajectories. Pooling the data takes N households over T years and combines these variables together into $N*T$ observations and so providing a larger sample size. It is true that pooling data does not remove endogenous household-specific characteristics, or allow investigation into changes within households over time. However, pooled models are increasingly popular today. They help overcome the “small N” problem, as observations from all waves are combined, which is especially valid when an imbalance emerges from investigating a variety of predictors¹¹. Moreover, they allow investigation into variables that may not change over time.

Beyond the primary analytical model mentioned above, it is recommended that additional quantitative analysis be undertaken to complement the findings. Some suggestions are listed below:

- **Interactions:** Results can be disaggregated by gender of the household head, region of residence¹², and other variables relevant according to country contexts. If regressions using these subgroups may not be feasible due to small sample sizes, interaction effects¹³ are also worth examining. Interaction terms are used when the estimated impact of a predictor variable on the outcome variable depends on a third variable, thus allowing for additional hypotheses to be tested.
- **Poverty band:** Monetary measures of poverty may be subject to measurement error, which could in turn result in misclassifications of poor and non-poor households and of poverty transitions. To ensure regressions yield valid estimates, researchers may consider using a poverty band on either side of the poverty line around which poverty status is defined (Baulch, 2016, internal document). In our case studies, this was set at 5% above and below the national poverty lines. Practically, this means that for a household to be classified as a sustained poverty escaper in a three-wave panel, it would need to move from a level of consumption below this poverty band in wave 1, to a level of consumption above this poverty band in wave 2 and to remain above this poverty band in wave 3.

⁹ For a list of panel data in developing and transition countries, visit <http://www.chronicpoverty.org/resources/2014/7/1/panel-data>.

¹⁰ <http://iresearch.worldbank.org/lsmssurveyFinder.htm> and <https://dataverse.harvard.edu/>

¹¹ See Schmidt M.G. (1997). Determinants of Social Expenditure in Liberal Democracies. *Acta Politica* 32(2): 153-173 and Scott, L.; Diwakar, V. and Okech, M. (2016). Ensuring Escapes from Poverty are Sustained in Uganda. LEO Report Number 27.

¹² For an example of disaggregation by household head and region or residence, see discussion in Scott, L.; Diwakar, V. and Okech, M. (2016). Ensuring Escapes from Poverty are Sustained in Uganda. LEO Report Number 27.

¹³ For more on interaction effects, please refer to the Ethiopia and Bangladesh case studies, at www.microlinks.org/leo.

- **Poverty lines:** Where there is a **lower and upper poverty line**, depth of poverty could be examined more substantively as these pose different policy implications for households (Scott and Diwakar, 2016). It may also prove useful to consult literature suggesting alternative poverty lines. For example, in Uganda, there is substantive research into the insecure non-poor, identified as those with expenditures under twice that of the national poverty line. Using this threshold as an “upper” poverty line provides another layer to vulnerability analyses. For instance, it may reveal that those households which have escaped poverty in fact still remain vulnerable to falling back into poverty; in Uganda, for example, analysis of panel data revealed that 82% of households that had transitorily escaped poverty remained insecure non-poor in years when they were not under the poverty line¹⁴.

Finally, in instances where there exists a large share of poor households across waves, it could also be effective to look at **movements under the poverty line**. This could even be done using fixed effects regressions, which enable an investigation into changes within variables of interest and so enrich the analysis from the pooled regression methods above. Analysis of such movements in rural Ethiopia, home to a large share of impoverished and transitory escapers, revealed that an expansion of the household asset base was associated with expenditure increases below the poverty line, while vulnerable employment and poor family planning were associated with expenditure declines¹⁵.

STEP 3: Site selection for life history collection

Site selection takes place following initial panel data analysis. The aim is to collect life histories in at least four villages where the panel data was previously collected. These villages are purposively selected on the basis of having a relatively high proportion of households which have experienced transitory and sustained poverty escapes over the period.

STEP 4: Household selection for life history collection

There are two approaches to identifying households which experienced sustained and transitory poverty escapes; (i) through panel data analysis; and (ii) using participatory wealth ranking (PWR; see Box 4. Annex B of the Uganda case study also provides more details). The former has the advantage of maintaining one definition of poverty; a consumption definition. The latter meanwhile, brings-in local understandings of poverty and wealth and adds further insights into the role of particular contextual factors in poverty dynamics. In some contexts, it may be more appropriate to separate focus group discussions into men and women.

BOX 4: USING PARTICIPATORY WEALTH RANKING (PWR) FOR HOUSEHOLD SELECTION

PWR is an approach often used by researchers and NGOs to assign individuals to wealth categories. Under this work at least one PWR is undertaken in each village, through a focus group discussion (FGD), with roughly 25 participants comprising a cross-section of the village. This work uses pre-existing wealth categorisations and asks FGD participants to assign themselves to a wealth category today; for five years previously and then for ten years previously. This is followed by a group discussion about the reasons for ascents and descents over the period. The exercise takes approximately 2.5 hours and requires at least two facilitators.

¹⁴ Scott, L.; Diwakar, V. and Okech, M. (2016). Ensuring Escapes from Poverty are Sustained in Uganda. LEO Report Number 27.

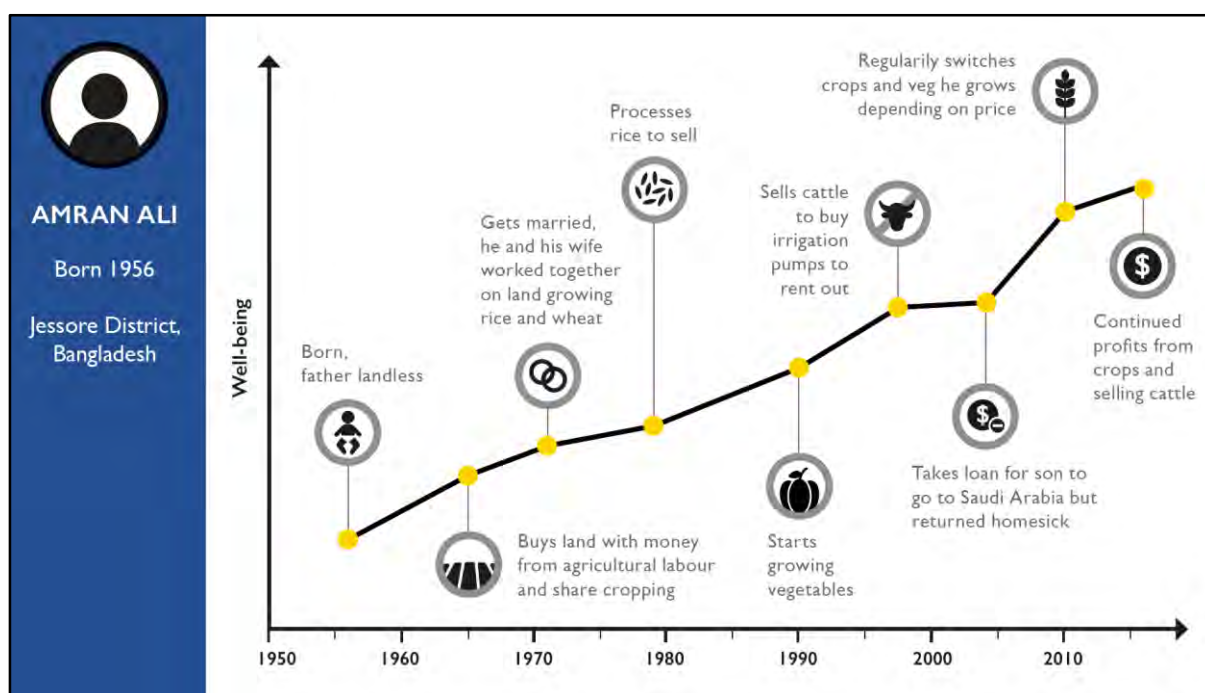
¹⁵ Mariotti, C. and Diwakar, V. (2016) Ensuring Escapes from Poverty are Sustained in Rural Ethiopia. LEO Report Number 36.

STEP 5: Life history collection

Life histories¹⁶ are in-depth interviews with individuals to understand poverty dynamics over the course of their life; they are sometimes then translated into a graphic (see Figure 1) that visually represents, over time, key events, stresses, shocks, as well as positive factors, processes and combinations of these which influenced their poverty status over their life course. Annex C of the [Uganda case study](#)¹⁷ is a guide to conducting life history interviews for this work. The previous studies in Bangladesh, Ethiopia and Uganda undertook eight life histories in each of four villages. However, there is no ‘golden rule’ as to the number and it is important to remember that qualitative research is not a ‘numbers game’, but rather the objective is to gain an in-depth understanding of the processes behind poverty escapes and descents. If PWR is used to identify the households then life histories should be collected from the same individuals present in the focus group discussion.

In terms of *time and resources*, it is ideal for teams of two to undertake each life history; one person to take notes (in addition to recording the interview, if permission has been granted) and the other to ask the questions. If interview times have been fixed in advance (for instance at the end of the PWR exercise) and distances are not too far, it is possible for a team of two to complete up to four life histories in one day.

Figure 1: A life history diagram for a ‘sustained escaper’



Source: Scott and Divakar (2016)

STEP 6: Qualitative analysis approach

Following the write-up of the qualitative life histories, these can be uploaded into qualitative data analysis software (such as MAXQDA or NVivo). Useful codes for analysing the drivers of impoverishment and transitory escapes are: resource base; attributes and capacities; activities; managing shocks; and strategies.

¹⁶ For a blog by the author on conducting life histories in practice, see www.microlinks.org/blog/art-collecting-qualitative-life-histories-and-what-they-can-teach-us-about-resilience.

¹⁷ <https://www.microlinks.org/library/ensuring-escapes-poverty-are-sustained-uganda>

STEP 7: Feeding findings into programming and policy decisions

In addition to disseminating the final findings, it is important to share preliminary insights from the work in order to gain additional perspectives when interpreting the results and to raise awareness of, and interest in, the inter-sectoral implications of the work. For instance, findings may indicate that certain economic activities (e.g. wage work, entrepreneurship, own-account farming) livelihood strategies (e.g. diversification across sectors, migration), household capacities (e.g. number of children, female empowerment, education of the household head), or overall enabling environments and social protection contexts are more or less associated with sustained poverty escapes. Programmers and policy makers should reflect on the implications of this for partnerships, program components, target sectors/sub-sectors, public-private initiatives, and M&E systems.

Timeline: The entire seven-step exercise described above can be undertaken in approximately two to three months. This roughly comprises two weeks for panel data analysis, two weeks for fieldwork preparation, two weeks for life history collection, two weeks for life history analysis and write-up and the remaining period for writing-up the case study and consulting with colleagues about the findings.

IV. CAUTION: WHAT NOT TO EXPECT

Researchers should not expect to arrive at a definite ‘answer’ about the drivers of impoverishment and transitory escapes. There are several potential reasons for this:

- qualitative and quantitative findings can point in different directions and reveal contrasting findings¹⁸;
- particularly if sample sizes are relatively small, the quantitative panel data analysis may reveal results that are not statistically significant. It is therefore important to view quantitative findings in light of insights from the qualitative life histories; and
- the qualitative research proposed is a small ‘n’ sample, meaning that it is not possible to generalise across the country. Rather, the qualitative findings provide an indication of areas which may be worth further investigation or consideration in programme design and implementation. For instance, for the Bangladesh case study, life history research was undertaken in Jessore district; a district which is not especially disaster-prone. Environmental hazards did not emerge as an important driver of transitory escapes and impoverishment in the qualitative research. This may partly be a function of site selection.

V. CONCLUSIONS

This note outlines one methodological approach for assessing the extent, and drivers of impoverishment and transitory poverty escapes. Research of this nature not only contributes to the growing evidence base around poverty dynamics, including on both sustained and transitory escapes, but also enables the development community to design, tailor and support more effective programs and partnerships that ensure escapes from poverty are sustained over time.

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¹⁸ See Davis, P. and Baulch, B. (2011) Parallel Realities: Exploring poverty dynamics using mixed methods in rural Bangladesh. *Journal of Development Studies* 47(1): 118-142 for further discussion.



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Strengthening Partnerships, Results,
and Innovations in Nutrition Globally

MARKET PURCHASE MOTIVATIONS AMONG RURAL MEN IN THE KHULNA DISTRICT OF BANGLADESH

A QUALITATIVE STUDY



This publication was made possible by the support of the American people through the U.S. Agency for International Development under Cooperative Agreement AID-OAA-A-11-00031, the Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project.

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A QUALITATIVE STUDY

JULY 2014

This report is made possible by the generous support of the American people through the US Agency for International Development (USAID) under the terms of the Cooperative Agreement AID-OAA-A-11-00031 (SPRING), managed by JSI Research & Training Institute, Inc. (JSI). The contents are the responsibility of JSI, and do not necessarily reflect the views of USAID or the US Government.

ABOUT SPRING

The Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project is a five-year USAID-funded Cooperative Agreement to strengthen global and country efforts to scale up high impact nutrition practices and policies and improve maternal and child nutrition outcomes. The project is managed by JSI Research & Training Institute, Inc., with partners Helen Keller International, The Manoff Group, Save the Children, and the International Food Policy Research Institute. SPRING provides state-of-the-art technical support and focuses on the prevention of stunting and maternal and child anemia in the first 1,000 days.

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ACRONYMS

AIS	Agriculture Information System
ASF	animal source foods
FNS	farmer nutrition school(s)
FGD	focus group discussion
HKI	Helen Keller Institute
IFPRI	International Food Policy Research Institute
MOHFW	Ministry of Health and Family Welfare
MNWP SUN	National Nutrition Working Group, Scaling Up Nutrition
NGO	nongovernmental organization
RCHCIB	Revitalization of Community Health Clinics in Bangladesh
NGNESP	NGO Gardening and Nutrition Education Surveillance Project
SMS	short message service
SUN	Scaling Up Nutrition
USAID	U.S. Agency for International Development
WEAI	Women's Empowerment in Agriculture Index

EXECUTIVE SUMMARY

The Strengthening Partnerships, Results, and Innovation in Nutrition Globally (SPRING) project is a five-year global nutrition project funded by the U.S. Agency for International Development (USAID) and managed by JSI Research & Training Institute, Inc., with partners Helen Keller International (HKI), The Manoff Group, Save the Children, and the International Food Policy Research Institute (IFPRI). SPRING provides state-of-the-art technical support and focuses on the prevention of stunting and maternal and child anemia in the first 1,000 days. SPRING/Bangladesh seeks to improve the nutritional status of women and children by improving nutritional practices, increasing dietary diversity and food quality, and decreasing the burden of disease in Barisal and Khulna Divisions. The program addresses the need for increased dietary diversity and food quality by introducing and promoting the cultivation of nutrient-dense foods (primarily fruits and vegetables), poultry rearing, and fish farming, to increase the availability of nutrient-dense foods within the household, thereby increasing women and children's access to higher-quality foods. Success in increasing dietary diversity and food quality will require that members of households either: (1) grow and consume homegrown produce of higher nutritional value than normally present in their diets, or (2) use income gained from improved agriculture in ways that improve dietary diversity and food quality. This study addresses the second category of household action by providing insights into men's purchasing motivations to help develop promotional strategies to encourage their nutritious or nutrition-positive purchases.

The decision-making processes that farm households follow are complex, and perhaps more so in Bangladesh. In general, men are responsible for the majority of interactions with society outside the extended family. That is, men are the ones who use household income to buy food at the market. Assuming that men and women may have different motivations for making various decisions around marketing, understanding who participates in specific decisions is essential in determining whose motivations SPRING's social and behavior change communication (SBCC) initiative should attempt to influence.

OBJECTIVES

This research sought to identify and explore men's motivations for specific food purchases from the market. The study strictly refers to men's purchasing behavior and is presumed to represent the case of food purchase using income gained from staple or other row crop production (i.e., non-homestead production) or the primary source of household income.

METHODS

A focus group discussion (FGD) approach was selected to investigate social norms and perceptions about men's market behavior in rural Bangladesh. The purpose of the focus group was to create categories of market purchases (e.g., items purchased by "good" or "bad" husbands, or items for infants and young children), and categories of foods (e.g., essential foods, desirable foods, unpleasant, children's foods).

Participants were recruited from four purposefully selected areas within SPRING working areas in Khulna Division, with two villages in Rupsa Union (Noihat and Shreerampur) and two villages in Phultala Union (Hazrapara and Pariardanga). SPRING identified participants from beneficiary lists who met the selection criteria of: a) participation in the SPRING-led homestead gardening intervention; b) two-parent household; c) parents of an infant/child younger than two years; d) not currently pregnant; and e) wife's age between 18 and 35 years.

RESULTS

MEN'S PRACTICES IN PURCHASING FOODS

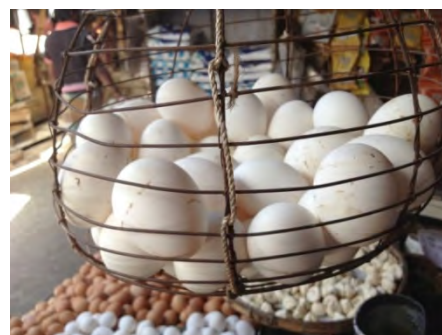
The male head of household is responsible for making food purchases at the market for his family. If for any reason he cannot go, another man in the family, such as a son or father, will take on that responsibility. Rarely will his spouse go to the market in his place. There are examples of women making purchases, but in these instances, certain conditions seem to be important, such as a market being very close to the home and the man being preoccupied with work, or being away from home.

The frequency of market visits depends on available cash; a close relationship exists between when a man is paid and how often he goes to the market. Day laborers tend to go to the market daily, whereas salaried workers go monthly to purchase bulk essentials like rice or pulses and return more frequently for smaller items and perishable foods.

Essential purchases are mostly food items that men feel must be purchased immediately when they are needed. These include rice, pulses, cooking oil, soap, and onions. Although fruit and eggs are considered costly, men will sometimes buy both for children, which suggests that they may view these as essential for children.

If men have "extra" money, they tend to buy more regularly purchased items (e.g., four kg of rice instead of two) rather than more expensive or higher-quality items. Purchasing higher-quality or desirable foods (e.g., beef and poultry) was noted by some, but desirability is determined by taste rather than nutritional value. This suggests that interventions to increase household income will likely not lead to increased dietary diversity in the absence of behavior-changing activities that promote the use of additional income to purchase diverse foods.

Food prices influenced whether the participants purchased certain vegetables or fish for their family, and also seemed to influence perceptions of nutritional value. A common perception is that more expensive foods or bigger foods have better nutrition and taste. Furthermore, the purchase of less or more expensive items is considered a reflection on a man's socioeconomic status, making the purchase of low-cost items embarrassing. Participants projected this idea on to the quality of foods. For example, more expensive vegetables were thought to have more and better vitamins.



When making choices at the market, the participants felt that a man would choose quantity over quality, especially if that decision saved money for more/ other food items.

MEN'S PERCEPTION OF NUTRITION

According to the study participants, nutritious foods are vegetables ("vegetables with vitamins" like sweet gourd and pumpkin), fish, eggs, pulses, milk, and fruit. When they were asked to clarify what is meant by "nutrition" or "nutritious," the participants showed little knowledge of specifics beyond an appreciation for vitamins. Men know vitamins are important; however, there is no understanding of what nutrition really is. There was a strong perception of vegetables as a good source of vitamins; in contrast, animal source foods (ASF) were seen as unhealthful and less nutritious than vegetables.

The participants considered fruit to be a good buy for children's nutritional needs. Imported fruit and local fruit were seen as separate categories. Imported, more expensive fruit, such as apples and grapes, were frequently mentioned as nutritious.

The participants believe that nutritious foods impart physical and mental strength, provide energy, support health, and promote intelligence. The participants were emphatic that they wanted to provide good food for their children. Doctors and scientists are trusted sources of nutrition information.

A remarkable variety of foods were perceived as "bad." The participants expected foods to make them feel good. Bad feelings, sensations, and illness influenced their opinions of "bad" food, with bad feelings ranging from illness to discomfort, such as gas. Unseen or imperceptible factors like chemical additives or pesticide contamination also influenced the participants' opinions about bad food.

FOODS FOR CHILDREN

The participants reported that they bought specific foods for children, such as milk, eggs, fruit, fish, rice, potato, and banana. *Khechurii*, a mixture of pulses and rice, usually with vegetables added, was considered a nearly ideal food for children.

Most participants agreed that sick children do not like to eat and frequently lose their appetite, so they try feeding different items. The foods that men provided in order to coax a sick child into eating included cake, biscuits, buns, bananas, and snack foods. The participants showed a clear consensus that when a child refuses to eat, sweets are offered. According to the participants, getting a child to eat anything was more important than getting them to eat nutritious foods.

Not surprisingly, the perception that children love eating sweets is strong, although men recognize that children like some other foods as much as sweets. These foods include fruit (grapes, oranges, tomatoes, mangos, apples, and pomegranates), vegetables (carrots and pumpkins), and ASF (eggs and milk). Although these foods are perceived as equally convenient to purchase as sweets, men perceive them to be expensive.

There was a strong distinction between “outside” foods and foods prepared in the home. The participants described outside foods as packaged and imported foods. Outside foods could be either processed or fresh. The participants felt that children develop less interest in eating rice and vegetables if they fill up on outside foods like chips and biscuits. Generally, the participants felt that buying biscuits, cake, and other outside foods for their children was wrong, but most said they did it anyway.

PURCHASE MOTIVATIONS: PROMOTING HAPPINESS, AVOIDING CONFLICT

Giving children cake, biscuits, and other sugary foods, collectively referred to here as sweets, was very common, even though the participants seemed to know they were not nutritious foods good for children. The most important motivations for giving children sweets were emotional triggers: sweets made the child and the father happy. The findings indicate that the participants prioritized familial wellbeing and happiness above other things, even over health considerations.

To achieve this happiness, men tend to give their children sweets when children cry, or when they are pestering their mother (e.g., a hungry child cries and disturbs his mother while she prepares breakfast). Men's perceptions that sweets are inexpensive, easy to obtain (e.g., from tea stalls), and convenient “single portion” foods appear to facilitate their use as a pacifier for children—despite perceptions that sweets are bad, causing upset stomach, worms, diarrhea, and dental caries and also spoiling appetite.

Additionally, the participants discussed giving sweets to children to satisfy their own happiness and reported that sweets as a “must buy” at the market. Most feel nothing is sacrificed to buy them. Others acknowledge they buy smaller quantities of staple foods, fruits and vegetables. Some sacrifice purchasing betel leaf and cigarettes.

The participants highly valued being good husbands to their wives in order to keep the family happy and avoid conflict. According to the participants, a good husband responds to his wife's wants and wishes, especially with regard to purchasing the food items she requests.

Joint decision making about food purchases is valued to keep the family happy and at peace. There appears to be a high degree of discussion about market purchases between men and women. Men believe that making decisions together is a key element for a happy and peaceful home.

Buying fresh vegetables that are clean, shaped right, and without infection is a sign of a clever buyer and a good husband. Men that purchase good combinations of foods are clever. A clever buyer knows which vegetables match with which fish. A clever buyer takes care to get value for money; for example, he will sort out potatoes before he purchases them and not be tricked by a lower per unit price and buy something that he will have to discard. A clever husband pays “some extra attention to...good [shopping] and must follow quality and quantity both.”

Men's marketing choices reflect, positively or negatively, on their image in the community as well. What men buy influences how their neighbors see them. A responsible husband makes wise purchases and thus projects a good image in the community (perhaps explaining the fact that none spoke of tobacco purchase, despite the high national prevalence of cigarette smoking).

Although the male head of the household is the final authority on which food and non-food items are bought at the market and when they are bought, women seem to have a say in what is purchased, and men appreciate women's guidance.

CONCLUSIONS AND RECOMMENDATIONS

Five recommendations are proposed for promoting the purchase of nutritious foods by men, specifically for pregnant and lactating women and children under two years. One of these recommendations is for social change, and four are for behavior change communications. The social change recommendation addresses an issue that underlies all of the behaviors to be promoted, and a successful campaign to promote this social change would be expected to also substantially improve behavior change. All of the proposed recommendations for social and behavior change will need to evoke men's primary motivation: that men ideally strive to achieve happiness in their home and avoid conflict.

SOCIAL CHANGE RECOMMENDATION

Currently, men's perceptions of "nutrition" are based on many misunderstandings and misconceptions about what foods are nutritious, what makes a food nutritious, and the cost of purchasing a nutritious diet for children under two years of age and girls/women of reproductive age. For example, men are not aware that nutritious food includes not only vegetables but also ASF. These misconceptions limit the potential of behavior change communications to promote nutritious diets, since men are unaware of the necessary elements for creating a nutritious diet. Creating an environment that promotes pro-nutrition market purchases will require change on the social level by redefining the social norm of what nutrition is.

Achieving a major change in the perception of what "nutrition" means is indeed ambitious, but the widespread belief that vegetables are highly nutritious—presumably the result of previous campaigns promoting vegetable consumption—suggests that similar success may be possible for promoting new concepts of what nutrition is and how it can be obtained.

Five themes that emerged from this study underscore some key areas where social change can support the promotion of food purchase and child feeding practices that are associated with better nutritional outcomes for women and children: (1) men believe that less expensive foods are less nutritious; (2) men believe that nutritious foods are expensive and thus are not a "good buy" given restricted resources; (3) men believe that only wealthy families can afford nutritious foods, and they would not purchase "poor man's food"; (4) while aware of the nutritional value of vegetables, men do not consider ASF as an important source of "nutrition"; and (5) men believe that they must give sweets to children because this is the only effective way to pacify them and keep them happy. By promoting the following five themes as alternatives, a positive social environment can be created to support the adoption of new marketing and child feeding practices:

1. Foods that are less expensive are not necessarily less nutritious.
2. Nutritious foods can be inexpensive and a "good buy."

3. Wealthy families purchase highly nutritious inexpensive foods such as small fish and eggs.
4. There are many ways to meet nutritional demands of children under the age of two.
5. Children need not only vegetables but also ASF (animal source foods) for better nutrition.

BEHAVIOR CHANGE RECOMMENDATIONS

1) **BEHAVIOR: FATHERS PURCHASE A WIDER VARIETY OF FOODS**

The current practice of purchasing the same selection of foods, and the belief that nutritious foods are expensive, both limit dietary diversity. Even when men have extra money, they purchase more of the same foods rather than foods with a higher nutritional value. With extra money, men should be encouraged to purchase more small fish, local fruit, and eggs in addition to normal market purchases to feed a wider variety of foods to pregnant and lactating women and children under the age of two.

2) **BEHAVIOR: NOT TO FILL UP CHILDREN ON SUGARY SNACKS**

Men are feeding children first thing in the morning before food is prepared (before meals) to distract children who disrupt the mother's cooking, and to pacify an impatient child who is hungry for breakfast. Men reach for sweets as a snack food because they are easy, accessible, and affordable.

3) **BEHAVIOR: TEA STALL OWNERS AND DISTRIBUTORS OFFER NUTRITIOUS SNACKS FOR CHILDREN THAT FATHERS CAN BUY**

Currently, men buy sweets for their children at the local tea stall. Buying sweets is convenient and quick and provides an opportunity for men to visit a popular social outlet. If equally inexpensive and convenient, but more nutritious, snacks were available at the tea stall—snacks that would pacify children—men likely would purchase them because they know that sweets are not the best option for children's nutrition. Instead of purchasing sweets, men could buy local fruit or other nutritious snacks for children.

Engage tea stall owners and food distributors to ensure a communal understanding of what a nutritious snack is and why it is important for children. Tea stall owners must stock (or continue to stock) the identified nutritious snack. It is important to ensure limited disruption to the current practices of men and ensure tea stalls do not lose business.

4) **BEHAVIOR: FATHERS PURCHASE NUTRITIOUS SNACKS FOR CHILDREN**

Instead of purchasing sweets, men could buy local fruit, pitha or other nutritious snacks for children. Engage tea stall owners and food distributors to ensure buy in and an understanding of what the nutritious snack is and why it is important for children. Tea stall owners must stock (or continue to stock) the identified nutritious snack. It is important to ensure limited disruption to the current practices of men and ensure tea stalls do not lose business.

5) **BEHAVIOR: MAKE HOMEMADE NUTRITIOUS SNACKS FOR CHILDREN**

Currently men buy and give sweets to children because they are easy, accessible, and cheap foods that children love. Instead of purchasing sweets for children, men can purchase ingredients for women so every week they can make a homemade nutritious snack food. One option could be “improved” pitha. Pitha is a widely popular food in Bangladesh made of various combinations of flour, molasses, and other ingredients. Recipes vary considerably, but existing recipes can be modified (or recipes that are more nutritious can be promoted) to create a more nutritious alternative to the nutritionally inadequate snacks men currently provide. Ideally, the alternative pitha would need to keep well so that women could prepare it infrequently (i.e., once each week), to ensure that preparing the snack would not excessively burden women as well as to help meet the requirement that the snack is conveniently available when a child needs pacifying.

BACKGROUND

The Strengthening Partnerships, Results, and Innovation in Nutrition Globally (SPRING) project is a five-year global nutrition project funded by the U.S. Agency for International Development (USAID) and managed by JSI Research & Training Institute, Inc., with partners Helen Keller International (HKI), The Manoff Group, Save the Children, and the International Food Policy Research Institute (IFPRI). SPRING provides state-of-the-art technical support and focuses on the prevention of stunting and maternal and child anemia in the first 1,000 days. SPRING/Bangladesh seeks to improve the nutritional status of women and children by improving nutritional practices, increasing dietary diversity and food quality, and decreasing the burden of disease in Barisal and Khulna Divisions. The program addresses the need for increased dietary diversity and food quality by introducing and promoting the cultivation of nutrient-dense foods (primarily fruits and vegetables), poultry rearing, and fish farming, to increase the availability of nutrient-dense foods within the household, thereby increasing women and children's access to higher-quality foods. Success in increasing dietary diversity and food quality will require that members of households either: (1) grow and consume homegrown produce of higher nutritional value than normally present in their diets, or (2) use income gained from improved agriculture in ways that improve dietary diversity and food quality. This study addresses the second category of household action by providing insights into men's purchasing motivations to help develop promotional strategies to encourage their nutritious or nutrition-positive purchases.

The decision-making processes that any farm household follows are complex, and the processes are perhaps even more complex in Bangladesh. In Bangladesh, men are generally responsible for the majority of interactions with society outside the extended family. That is, men buy seeds and other inputs for cultivation, men perform most field crop work (fields lie outside the homestead), men are responsible for selling the farm's produce, and men are the primary food purchasers for the family. Research has explored whether men's roles change when crops and livestock are produced within the homestead, and therefore women have more responsibility for the work of cultivation or rearing, and perhaps more say in the crops planted, inputs acquired, products sold, and food purchased. Even in the homestead production setting, however, women are unlikely to be the decision makers concerning the purchase of food from the market because these purchases are ultimately made by men, regardless of whether women have input into the decision (Quisumbing and de la Brière 2000).

A number of factors influence household food purchases, including income, food prices, parental education, nutritional knowledge, culturally based customs, and food preferences (Bouis and Novenario-Reese 1997). Several models that describe the process of consumer choice have been proposed and tested, and these models suggest



Family interviewed (M. Antal)

that there are a wide range of factors beyond knowledge that influence what people spend their money on. For example, making expenditures can serve to establish an individual's status relative to others in her or his peer group, and not making specific purchases may be associated with a loss in status (Hopkins and Kornienko 2004). Vegetables are considered lower-status foods in Bangladesh (Bouis and Novenario-Reese 1997; Greiner and Mitra 1995). Purchasing some low-cost nutritious foods (e.g., dark green leafy vegetables) may be considered a lower status activity than purchasing other foods that are higher in price." When shopping at the market, men might be influenced by "what others will think" rather than by nutritional benefits.

Furthermore, studies have shown that when shoppers consider the trade-offs between giving up familiar items, their comfort with the status quo can favor small rather than large changes in purchases (Tversky and Kahneman 1991). Importantly, a family's use of income to purchase nutritious foods, while desirable for the promotion of better nutrition, may pose some financial risk for poor households if in doing so they sacrifice food or nonfood items that are more important to the family's livelihood or survival.

Several studies have examined household food expenditures in Bangladesh from an economic standpoint (e.g., Ahmed 1993, and many others) by assessing income elasticities associated with expenditures on various food items. These elasticities, however, simply describe cross-sectional relationships in purchasing practices at different levels of income, not the motivations behind making the purchases or the influence of the household's own food production on the purchases. No studies exist to describe the relationship between income and the purchase of nutritious foods, or foods containing specific nutrients. Evidence exists to suggest, however, that the income elasticity for food purchases is higher than for purchases of clothing, housing, durable goods and other items (Han and Wahl 1998). On one hand, this may indicate that perceived need for specific foods makes those foods more desirable for purchase; on the other hand, this may indicate that clothing, housing, durable goods, and other items have the highest priority, and food expenditure increases only when income rises above a threshold amount necessary for meeting these basic needs.

The source of a household's income may influence the types of purchases made with that income. Study from HKI's NGO Gardening and Nutrition Education Surveillance Project (NGNESP) in Bangladesh demonstrates households' purchasing behavior in the context of additional income gained specifically through homestead gardening. Results from NGNESP and other similar studies have shown that the majority of households use income gained through participation to purchase supplementary food items, such as meat, fish, and cooking oil (Kiess et al. 1998), with as many as 70 percent of households using income from homestead gardening to purchase additional food for the household (Talukder et al. 2010). Other uses of income derived from gardening included essential household expenses and investment in productive assets, including reinvesting in gardening (Kiess et al. 1998). While this may simply reflect the higher income elasticity of food items in comparison with nonfood items, it may also reflect the fact that women tend to have more input into or control over the use of income gained through homestead production.

Income that is under the control of women has been shown to translate more efficiently into positive household health and nutrition outcomes than income under the control of men (Haddad and Hoddinott 1994). In Bangladesh, cultural norms may work against female control of income as these cultural norms value female seclusion and

tend to undervalue female labor (Haddad and Hoddinott 1994; Smith, Ramakrishnan, et al. 2002; Thomas 1997). Although in the poorest households, women are actually fairly active in the agricultural sector as day laborers (Sraboni, Quisumbing, and Ahmed 2012). Studies by IFPRI in Bangladesh of USAID's Feed the Future initiative intervention areas found low levels of women's empowerment in agriculture, with 80 percent of women not rated as empowered according to the women's empowerment in agriculture index (WEAI), and nearly half of women stating that they felt they had little input in decisions relating to agricultural production (Ibid). The report also concluded that women lack control over household resources. Women's relatively low level of control over household income may strongly influence the types of purchases—especially food purchases, made at the market.

Obviously, when determining whether a food to be purchased from the market is “worth the price,” a consumer weighs a variety of factors like quality, taste, and preference. Nutritional value is an important factor in this assessment (Variyam et al. 1999; Block 2002; Block 2003; Chowdhury et al. 2009; Birol et al. 2011), but knowledge of the nutrient content of foods is generally low in low-income settings. Nutrition education may have substantial potential for influencing food purchase choices to support improved diets.

METHODS

This study focuses exclusively on men's purchasing behavior and is presumed to represent the case of food purchase using income gained from wage labor or, to a lesser extent, staple or other row crop production (i.e., non-homestead production) and wage labor in Khulna, Bangladesh.

The study employed two data collection methods to triangulate information on food purchasing decisions and motivating factors: the first was focus group discussions (FGDs) to elucidate participants' categorizations of purchases and motivations; the second was in-depth interviews with a subset of FGD participants to obtain greater detail about their own specific motivations for different categories of market purchases.

Four sites were purposefully selected within SPRING working areas in Khulna Division, with two villages in Rupsa Union (Noihati and Shreerampur) and two villages in Phultala Union (Hazrapara and Pariardanga). The villages were selected based on their participation in the SPRING homestead food production intervention. SPRING recruited FGD participants from their beneficiary lists using the selection criteria of: (a) household's participation in the SPRING-led homestead gardening intervention, (b) two-parent household, (c) parents of an infant/child younger than two years, (d) wife not currently pregnant, and (e) a wife of reproductive age (between 18 and 35 years old).

FOCUS GROUPS



Phultala focus group discussion (Photo by T. Schaezel)

The FGD approach was selected to investigate social norms and perceptions about men's market behavior in rural Bangladesh. A topic guide was designed to generate discussions about marketing behavior. The topics in the guide included perceptions about foods in the market, foods bought specifically for women and children, and general market purchase habits. The guide included questions designed to promote discussion about foods that are considered nutritious, foods that are appropriate for children and/or women, staple foods and "luxury" foods, and so forth. Picture cards of local food and non-food items were used to facilitate discussion using a card sort

approach. Participants sorted cards into groupings such as: items people usually buy, items bought when resources are scarce, and items bought when resources are plentiful. The purpose of the card sort was to generate discussion about the participants' rationale for classifying items in specific categories, not simply to understand their opinion concerning the items.

A moderator, notetaker, and supervisor led the FGDs. Prior to conducting the FGDs, the supervisor briefed the moderator and notetaker on maternal, infant, and young child feeding issues; the SPRING project; and the objectives and purpose for the research. The moderator translated the topic guide into Bangla and reviewed it with the supervisor prior to the first FGD.

Each of the four FGDs was held in the courtyard of a dwelling centrally located in each village and each group consisted of approximately 10 men. All of the discussions were recorded on a laptop computer using an external microphone, and the notetaker used these recordings to create transcripts in English. The moderator created a summary for each FGD, after which the team analyzed the transcripts and summaries in order to synthesize a final, combined report.

Preliminary findings were presented to the project managers and other stakeholders who are working in the nutrition sector in Bangladesh and were the basis for concepts to explore in the in-depth interviews.

IN-DEPTH INTERVIEWS



Rupsa focus group discussion (Photo by T. Schaezel)

A subset of 24 men from the focus groups was selected for in-depth interviews. This subset was selected randomly from the FGD participant lists to include six men from each of the four villages. In each of the four villages, a team of three interviewers and one supervisor conducted the interviews.

The study supervisors developed the interview questionnaire based on a review of the translated FGD transcripts and summaries of each FGD created by the moderator. Prior to conducting the interviews, the supervisor held a two-day training to brief the research team on maternal, infant, and young child feeding issues, SPRING, and the

objectives and purpose for the research.

The interviews focused on the participants' own perceptions and practices around nutrition and food, with extensive probing concerning the rationale for categorizing market items and foods, and about their personal motivations for purchases within these categories. The following key concepts, identified in the FGDs, were explored with special emphasis on individual motivators and behaviors:

- Perception of vegetables and animal source foods (ASF) as nutritious foods
- Foods that are good for children
- Rationale for giving children different types of food

- Purchases sacrificed in order to purchase special foods for children
- Women's role in food purchasing decisions
- Value of purchases in terms of quality and quantity
- Qualities of a good husband

The in-depth interviews were conducted in Bangla, from a structured Bangla-language questionnaire, and responses were translated to English directly following the interviews to allow for same-day review.

After the completion of all interviews, all responses were organized by question, after which the responses were entered into a matrix organized by themes based on the concepts noted above (e.g., foods for children, or qualities of a good husband). Subsequently, final summaries were created for each concept to organize and analyze findings. Social and behavior change recommendations were made by The Manoff Group, with input from the SPRING/DC and SPRING/Bangladesh teams and were based on key findings for the promotion of nutritious or nutrition-positive purchases and actions. The recommendations are based on the motivational factors that were identified in the study.

PARTICIPANT CHARACTERISTICS

The villages selected for this study were somewhat atypical: despite being located in a rural agricultural area, nonfarm occupations predominated (e.g., brick field laborer, van puller). Phultala Union is fairly well off by rural standards, and participants' occupations and education reflected this. Pariardanga village participants were masons, teachers, and students, and all were educated to class three or higher. Hazarapara village participants were farmers, fishermen, and factory workers, and all were educated to class two or higher. In comparison, Rupsa Union is poorer. Noahati village participants were primarily van or cart pullers, although all but one reported some education. In Shreerampur, participants were brickfield workers and van pullers, with half of the group self-reporting as illiterate. All Shreerampur participants were squatters on government land.

STUDY LIMITATIONS

Due to the size and scope of the study, caution should be exercised when generalizing the findings beyond Khulna, Bangladesh. However, to the extent that men's marketing practices are consistent throughout Bangladesh, the results could prove useful for promotional activities in other areas of the country.

RESULTS

MEN'S PRACTICES IN PURCHASING FOODS

The male head of household is responsible for making food purchases at the market for his family. If for any reason he cannot go, another man in the family, such as a son or father, will take on that responsibility. Rarely will his spouse go to the market in his place. There are examples of women making purchases, but in these instances, certain conditions seem to be important, such as a market's proximity to the home and the man being preoccupied with work, or being away from home. *"I go to the market when we need boro jeenish [literally "big things"; bulk items-rice, oil] but when we need choto jeenish [small things], like vegetables, my wife buys them from a nearby location."*

In Hazarapara village, which is somewhat peri-urban, roving vendors sell vegetables directly to households. When this occurs, women can buy vegetables without leaving the homestead. Participants related that they leave money for their spouse to make purchases from vendors, but according to one participant: *"If a man is around, he will help negotiate the price."* Consensus in this village was that the door-to-door vendor system is a positive development, as it allows daily vegetable purchases, which results in consumption of fresher produce and a better combination of curry and vegetables (the wife who, does the cooking, chooses the vegetables to "match" the curry).

FREQUENCY OF MARKET VISITS

There is a close relationship between when a man is paid and when he goes to the market to shop. Men paid monthly salaries go to the market monthly to purchase bulk essentials, like rice or pulses and more frequently for smaller items and perishable foods. Men who are paid weekly follow a similar pattern on a weekly basis, while others, especially day laborers, go to the market daily without distinguishing between "big thing" and "small thing" purchases. In general, money is spent as it is earned on daily and weekly household needs, most frequently on food items. Local markets can be weekly or daily, and this may also influence when men go to the market.

ESSENTIAL PURCHASES

Across all four FGDs, participants discussed and classified similar items identified by the household as essential. Generally, the classification of essential seems to be influenced by household need and available income (i.e., one person's luxury may be considered essential by another). Essential purchases at the market were mostly food items, such as staples bought in bulk and vegetables and fish purchased daily. The participants reported buying heavier items, such as rice and pulses, spices, and garlic, weekly or monthly in bulk. Although households typically consume rice three times a day, most purchase it weekly. Other essential items purchased immediately when needed included cooking oil, soap, and onions. The participants sometimes bought fruit and eggs for children, even though they were considered costly, suggesting that some consider these essential purchases for children.

PURCHASES MADE WITH EXTRA MONEY

Most participants reported that when households have more money on hand than usual, they spend the extra money immediately rather than save it. The overall consensus was that the items men purchase with surplus funds are not different from those normally purchased—they simply buy *more* of the items they usually buy, such as vegetables and rice, rather than additional or higher-quality items. For example, a man will buy 4 kilograms (kg) of rice, even though he usually buys 2 kg, rather than, for example, buying fish and the usual 2 kg of rice. Depending on the household's needs, men may also use surplus funds to pay off or pay down loans or buy clothes for children, soap, furniture, or other household items like utensils or pans. This suggests that interventions to increase household income will likely not lead to increased dietary diversity in the absence of behavior-changing activities that promote the use of additional income to purchase diverse foods.

A secondary, less-common theme that emerged in the FGDs was the use of surplus income to buy beef and poultry. These foods were identified as higher-quality foods in terms of nutrition and/or foods perceived as more desirable to eat. Notably, when purchasing these foods, the participants did not consider the nutritional value of the foods to be a motivating factor. That is, among those who made these purchases, the primary motivation was a simple desire to consume beef or poultry rather than the nutritional value of those foods.

Finally, the participants reported that most households try to keep a one-month supply of rice as a safety net. The participants felt that households that always have extra money might save extra money, but none of the participants considered themselves in an income bracket to be able to do this.

PRICE AND PERCEPTION OF VALUE (NUTRITIONAL OR OTHERWISE)

Food prices influenced whether the participants purchased certain vegetables or fish for their family, and also seemed to influence perceptions of nutritional value. A common perception is that more expensive foods have better nutrition and taste. FGD participants quoted a Bengali proverb, "*Shastaar duur abostaa*," which means that cheap items must be bad. "*We put low-price vegetables in the bag immediately after buying to avoid others seeing my inability to buy standard vegetables.*" Low-price vegetables include cabbage, amaranth, and green leafy vegetables such as pui shaak (Malabar spinach), data shaak (Chinese spinach), ghatii shaak, kodhu shaak, and kochu shaak (taro leaves). These items, which are, in fact, valuable in terms of nutritional content, were thought to be less nutritious than more expensive items.

Furthermore, the purchase of less or more expensive items is considered a reflection on a man's socioeconomic status, making purchase of low-cost items embarrassing. For example, participants reported that green leafy vegetables are commonly purchased at the market because of their low cost, but they are identified as "*food for poor people*" and are not valued as nutritious foods. One participant was embarrassed to buy green leafy vegetables and said he "*hides them in a bag so his neighbors don't see.*"

Conversely, the desire for and appeal of expensive food items was projected to also mean that a food was of better quality, with more nutritional value. One participant offered: "*Good things are more expensive.*" The participants reported a strong

preference to purchase and eat expensive vegetables that they thought to “have more vitamins” if possible. These types of perceptions have an impact on nutritious food purchases.

TASTE PREFERENCES

The items that were purchased for adults—primarily for taste—are chewing gum, meat, eggs, and pulses for curry. One participant strongly advocated for musk melon as a food purchased primarily for its taste. Foods that the participants considered to be primarily for men's taste included tea, foods that have a hot taste, and sweets. Foods that the participants considered to be preferred by women included dry fish and foods with a sour taste, like local fruits (tatul and amraa), mango (presumably green mango), pickles, and olives.

Not surprisingly, different groups cited different foods as desirable primarily for taste, but consensus was fairly uniform about gender-based differences in taste preference. Notably, something that is nutritious was not associated positively with taste.

QUALITY: MORE EXPENSIVE AND BIGGER ITEMS ARE BETTER

The idea that a man could buy a low-cost item that would also be nutritious was not something that most of the participants had considered. The participants voiced a willingness to buy such an item, “if in fact, it exists.” One participant observed, for fairly obvious reasons: “It is better for us if we can buy good things at less cost. We will buy the same food with equal nutritional value at a lower price where there will be savings. Definitely we would then be able to buy other food.” Although the participants agreed in principle to make these kinds of purchases, this contradicted other statements concerning the desire to avoid “cheap” or “poor man's food.” Another common notion was the idea that big items are better. One participant gave the example of fish: “Big fish are better than small fish.” Another related this idea to nutrition: “Big and expensive vegetables have more vitamins than small or cheap vegetables.”

QUANTITY: MORE FOR LESS EQUALS MORE FOOD FOR THE FAMILY

According to some of the participants, the more food a man can provide for his family the better. Although saving money was rare, one participant said, “If we buy more with less money we can save. The food can be taken for a greater number of days.” Getting more food for the family was very important: “As we are people earning low income, if we buy more, it is better for us. If there is more food, it can be consumed for a longer period of time.”

When making choices at the market, the participants felt that a man would choose quantity over quality, especially if that decision saved money for more/other food items, and even if it meant purchasing “bad” foods. As one man offered, “I buy tomatoes even if slightly rotten because there is a mix of good and bad. Then I buy rice if money remains in my hand.” Importantly, the participants' preference for quantity coincided with their beliefs about nutritional value, as some felt that more food was better for nutrition: “Foods contain more nutrition if there is more in quantity.”

MEN'S PERCEPTIONS OF NUTRITION

WHAT IS NUTRITION?

According to the study participants, nutritious foods are vegetables (*"vegetables with vitamins"* like sweet gourd and pumpkin), fish, eggs, pulses, milk, and fruit. When they were asked to clarify what is meant by "nutrition" or "nutritious," the participants showed little knowledge of specifics beyond an appreciation for vitamins. *"Vitamins are in vegetables"* was common knowledge. Although one participant stated *"we can get vitamins from eggs, meat, and big fish,"* most opinions ran to vegetables as nutritious foods, with little appreciation of the nutritional value of ASF. For example, several participants strongly declared that meat and peanuts were bad foods for children. Furthermore, participants offered many examples of nutrition-related knowledge that simply was wrong. One example was: *"Sweets are good for children because these raise their intelligence."* Another participant stated that bananas *"have iron, calories, and give the body strength."* While bananas do contain iron, they are not a particularly good source.

The participants considered fruit to be a good buy for children's nutritional needs. *"Fruits are very, very good for health."* Imported fruit and local fruit were seen as separate categories. Imported, more expensive fruit, such as apples and grapes, were frequently mentioned as nutritious. The local fruits listed included kul borroi, guava, green coconut, tomato, banana, carrot, papaya, pomegranate, and mango. Since imported fruit is more expensive, it was often noted by the participants as being more nutritious.

WHAT DOES NUTRITION DO?

The participants believe that nutritious foods impart physical and mental strength, provide energy, support health, and promote intelligence. The participants were emphatic that they wanted to provide good food for their children. For example, *"vegetables are palatable to have and always good for health of everyone, even for a newborn baby,"* and *"all green leafy vegetables are good for high vitamins."* There was some consensus that green leafy vegetables were highly nutritious. For example, some of the participants thought that green leafy vegetables helped the eyes and the brain work better and were the *"best foods"* to eat. *"They have vitamin C and are better than other vegetables."* However, as noted earlier, some of the participants were ashamed to purchase green leafy vegetables because they were cheap to buy, and they perceived other vegetables, ones that were more expensive, to be more nutritious.

HOW DO MEN KNOW WHAT NUTRITION IS?

When asked the source of information they rely on to inform them about nutritious foods, the participants identified scientists, doctors, and family members. *"These foods are good because scientists say it is so."* One participant said he read the information about nutritious foods in a book. The opinions of doctors were valued above other sources of information.

BAD FOODS FOR THE HOUSEHOLD

A remarkable variety of foods were perceived as “bad.” The participants expected foods to make them feel good. Bad feelings, sensations, and illness influenced their opinions of “bad” food, with bad feelings ranging from illness to discomfort, such as gas. Unseen or imperceptible factors like chemical additives or pesticide contamination also influenced the participants’ opinions about bad food.

Most common among these purchases were foods that tasted good but were not good for health, such as fried foods, foods cooked in too much oil (e.g., sweetmeats and potato fry), biscuits, and cigarettes. Also common were foods of inferior quality due to defect or deformity, unhygienic preparation (including chemical additives), or spoilage. Another type of bad food was food that had ill effects on the body, such as inducing dehydration or introducing worms and other sickness. For example, “We eat potato fry because we work under the sun. We need to eat watery items to avoid *koshaa*” (a disease that happens from the sun and dehydration).

Among those participants who favored a balanced diet including both ASF and vegetables, moderation (rather than diverse nutrient sources) was the primary justification: “There are some rules to having food. For example, if we eat 1 kilogram of meat at a time, definitely we will have digestion problems. So moderation is good for health.” Some participants tried to have meat and animal products daily, but “we don’t eat [ASF] every day because we are poor.” Others disagreed with this practice, stating that “meat and fish are not equally good for having every day.” Participants agreed, however, that vegetables were important every day.

Beef was identified by some participants as a bad food. Participants in one FGD spoke in depth about why beef was a bad food, with the common responses being that it caused allergies and skin diseases. In one FGD, many participants believed vegetables to have more “power” than meat and eggs. When asked to compare a diet of only vegetables with one of only meat, eggs, and fish, some felt that a balance of both is best, but others felt that a vegetarian diet was the better option for nutrition.

One participant had strong feelings about pesticides: “All items are now poisonous because all food items are produced and processed with chemical pesticides, even fish, beef, and poultry are reared with the feed mixed with chemicals.”

FOODS FOR CHILDREN

GOOD FOODS FOR CHILDREN

The participants reported that they bought specific foods for children, such as milk, eggs, fruit, fish, rice, potato, and banana. *Khechurii*, a mixture of pulses and rice, usually with vegetables added, was considered a nearly ideal food for children: “We give *khechurii*, as it is nutritious.” In addition to *khechurii* being considered an appropriate food for children, the participants noted that doctors and health workers recommend feeding it. The participants knew that vitamins are good for children, although they referred to vitamins as a generic item with little specific knowledge of individual vitamins or the fruits and vegetables that contain them. As mentioned above, however, the participants’ misconceptions about vitamins were common, such as the belief

that the price of a food item directly related to its nutritional value: *“There is not much extra money to buy vitamin items like expensive vegetables.”*

The participants gave children nutritious foods to improve strength, energy, and intelligence. The nutritious foods most commonly described were vegetables, fruit, and fish. Some specific examples of participant statements include these:

- “By eating fish, children are getting the benefits of vitamins and iron they expect. Fruits improve energy and give plenty of vitamins.”
- “Fruits develop the body and intelligence.”
- “Drinking milk keeps the body healthy, improves energy, and is appetizing.”
- Nutritious foods “increase protection power against diseases so children do not fall ill.”

GOOD FOODS FOR SICK CHILDREN

Participants reported that they would feed a sick child what they considered to be nutritious foods like pineapple and tomato juice. The participants said that, generally, a family will give an ill child more liquids with normal foods. Most participants agreed that sick children do not like to eat and frequently lose their appetite, so they try feeding different items. The foods that men provided in order to coax a sick child into eating included cake, biscuits, buns, bananas, and snack foods like cheera (flattened dry rice mixed with molasses and sugar). *“My kid doesn’t want to have rice. I am forced to buy biscuits. I have to keep my kid alive.”*

The participants in all four groups showed a clear consensus that when a child refuses to eat, sweets are offered. *“When a child shows reluctance to eat nutritious foods we try to persuade them to eat.” “If they refuse they are provided with cake, pitha, or biscuits.” “If they refuse to eat, after a while try to feed them whatever they like.”* According to the participants, getting a child to eat anything was more important than getting them to eat nutritious foods. For many participants, their understanding of feeding for sick children focused on providing favorite foods and liquids, without consideration of nutritional content.

It should be noted that some of the participants offered a surprising alternative to sweets as a way to stimulate a sick child’s appetite: bitter or sour foods. These were believed to restore taste to allow the child to eat: *“A child with fever will drink lemon juice.”*

WHAT DO CHILDREN WANT?

Participants reported that they tried to save money at the market to budget for things they said children love to eat, such as cake, pitha, and biscuits. Some mentioned feeding their children special foods like chocolate, biscuits, chips, and ice cream. Many mentioned *Horlicks*¹ as something children love and that *“increases the size of a child’s brain,”* although they also noted that households rarely purchased it due to the high cost.

¹ A hot malted-milk drink powder that is fortified with vitamins and minerals.

The participants mentioned other foods that children *“like just as much as sweets”* such as: fruit (juice, grapes, orange, tomato, mango, apple, banana, and pomegranate); vegetables (olives, pickles, carrot, and pumpkin) and ASF (milk and eggs). As has been mentioned, most of the participants agreed that *“there is nothing better than fruits.”* However, the participants perceived that sweets cost much less than fruit, and so they bought sweets instead: *“Sweets are available and at a cheap price.”* *“Nutritious food or fruits are costly but cakes are cheap so I buy them.”* *“I did not have enough money so I bought cake.”* In actuality, some fruits (e.g., banana) cost roughly the same as sweets, especially if purchased in bulk. For example, one banana costs around Taka (Tk) 4, and sweets such as biscuits (Tk 12 per packet), cakes, and buns (both Tk 6) are roughly comparable in price.

BAD FOODS FOR CHILDREN

Ironically, considering the common practice of giving sweets to children, nearly all participants agreed that sweets were bad foods for children to eat. The participants knew that sweets were not the best foods nutritionally, but happiness was prioritized over nutrition. This motivation seemed to outweigh the negative aspects of giving sweets. The participants reported many ill effects of giving children sweets, including worms, diarrhea, upset stomach, dental cavities, and spoiling children's appetites for nutritious foods. Some examples of participants' opinions included these:

- *“It is possible that the child may become happy, but may then fall sick after eating sweet foods.”*
- *“Generally children like sweet foods very much. They are happy to get them. That's why we should take care of the health issues after keeping them happy.”*
- *“When children cry, we provide cake, pitha, or biscuits. At the time, we do think about whether these foods will improve or deteriorate the children's health.”*

Participants stated they would never give yogurt to their children under the age of two, nor would they feed them spicy or hot-temperature foods. One group noted they would not give children under the age of two peanuts, because they are too hard and hamper digestion (although, conversely, another group felt that peanuts were highly nutritious and good for children). Some issues related to cold-temperature foods were discussed. One participant noted, *“We don't buy ice cream for children because they can get a cold and cough if they eat ice cream in the winter.”* Another participant mentioned, *“Children can become sick if they have ice cream.”* Despite these feelings, the participants might give in to children's pleading for ice cream and other similar foods even if it was considered a food that should never be given to a young child: *“Sometimes we are forced to buy ice cream because the child demands it.”* Chanaachur (a wheat-based, salty and sometimes spicy, crunchy snack mix) is another food children demand yet was considered bad for children because it causes gas, diarrhea, and stomach pain.

There was a strong distinction between “outside” foods and foods prepared in the home. The participants described outside foods as packaged and imported foods. Outside foods could be either processed or fresh. The participants felt that children develop less interest in eating rice and vegetables if they fill up on outside foods like chips and biscuits. Generally, the participants felt that buying biscuits, cake, and other

outside foods for their children was wrong, but most said they did it anyway. Some participants mentioned dirty and unsafe conditions were prominent where these foods were created and packaged, and that this was an important reason that children should not consume them. Some participants believed these foods could cause diarrhea, damage to teeth, and loss of appetite. The participants strongly distrusted industrially produced or processed foods, preferring instead foods grown and produced in the community.

AFFORDABILITY AND SWEETS FOR CHILDREN

The participants included sweets as a “must buy” at the market. Some participants stated that they did not need to make sacrifices to purchase sweets: *“children want to eat sweet foods,” “money is not a problem for this matter,”* and *“these are easily available and can keep them happy.”* However, most noted that at times they must forgo other purchases—even food purchases—in order to buy sweets. Some illustrative responses demonstrating this were these:

- “We buy sweet foods since the children become happy to get them, but sometimes we think about money. We have to maintain our family considering the income side. We also have to keep the child happy.”
- “Sometimes I buy cakes by buying a smaller quantity of rice. Because when the child cries we need to give him something.”

Other participants acknowledged that in order to purchase sweets, they bought less of the staple foods, fruits, and vegetables. Some mentioned sacrificing their own betel leaf and cigarettes. The nutritional consequences for children of sacrificing some foods to purchase others is unknown since sufficient nutritious food might be available for children even if the household purchases less of other foods for adults. The primary nutritional problem would arise when husbands purchase fewer nutritious foods for children in order to purchase sweets, as was voiced by one participant, who claimed that *“at times, buying fruits for children is forgone in favor of cakes.”*

A small subset of the participants did prioritize buying fruits and vegetables over sweets. For example, *“I do not give up other foods for buying cake, pitha, or biscuits. Instead, I buy grapes, sweet fruit papaya, and oranges.”* *“We can buy grapes, apples, and oranges instead of cake, pitha, or biscuits. Children become happy to get fruits.”*

PURCHASE MOTIVATIONS: PROMOTING HAPPINESS, AVOIDING CONFLICT

The participants reported many goals and motivations for giving foods to children, ranging from giving sweets for the emotional rewards for the parent and the child to giving nutritious foods to nourish growth and development.

HAPPY CHILDREN

Giving children cake, biscuits, and other sugary foods, collectively referred to here as sweets, was very common, even though the participants seemed to know they were not nutritious foods good for children. The most important motivations for giving children sweets were emotional triggers: sweets made the child and the father happy. The findings indicate that the participants prioritized familial well-being and happiness above other things, even over health considerations.

According to the participants, one strong motivator for giving sweets to children was making them happy, especially when a child was being difficult: *“Everyone in the family desires that a child always remains jolly,”* and *“Every parent wants to make their children happy.”* Related to this is the participants' use of sweets for pacifying an upset child:

- *“Sweet foods are more important than nutritious foods because we have to give sweet foods when the baby cries or makes demands for something.”*
- *“We don't want the baby to cry, it is uncomfortable.”*
- *“To stop the baby from crying, the cake, biscuit, pitha should be kept handy.”*

A recurrent theme related to pacifying children was about the timing of giving sweets. Several participants mentioned that sweets are handy for pacifying a child who is bothering their mother while she cooks. This was an especially important concern in the morning, when children awaken hungry but must wait for their mother to prepare the first meal. The convenience of sweets, easy to fetch from a nearby tea stall, made them ideal for this purpose. *“Sweets are also easy to get if children cry or demands something.”* Of course, this raised the concern that a pacifying sweet might displace normal food consumption, and more than one respondent mentioned that *“if given in excess, [sweets] can spoil the appetite of taking normal food.”*

The participants appreciated that sweets were convenient and accessible. *“At times when there is no other food and children are crying, then I buy cake, pitha, and biscuits for them, but sparingly.”* *“It is better to fill the stomach with cake, biscuit, pitha rather than not having any food.”* *“We would buy sweets to fulfill their hunger.”* *“If there is no more food in the home, give sweet foods to make the children happy.”* Participants frequently mentioned that feeding sweets to children before food was prepared was a common practice, especially first thing in the morning.

HAPPY FATHERS

Additionally, the participants discussed giving sweets to children to satisfy their own happiness. One participant felt his child loved him more and he was happy his child was well behaved: *“I buy sweets because the children become happy, come to me, get in my lap and smile,”* and, *“Yes my child becomes happy to eat sweets. I of course feel better because my child gives a smile, eats it [the sweet] and comes closer.”*

A few minority opinions did exist on this subject, however. Some participants frowned on the practice of giving sweets to children because it provided a short-term rather than a lasting benefit, as summed up in one man's statement: *“Generally children are happy having sweet foods temporarily. Every family should keep aware of long-lasting good health and avoid temporary happiness.”* Nonetheless, the opinion was nearly universal that if children complained enough for sweets, men would always give in to them: *“No, I do not give sweets, but when my child becomes insistent, then I am forced to give them.”*

HAPPINESS AND CONFLICT AVOIDANCE

The participants highly valued being good husbands to their wives in order to keep the family happy and avoid conflict. According to the participants, a good husband

responds to his wife's wants and wishes, especially with regard to purchasing the food items she requests. The primary motivation identified for current market purchases was happiness and avoiding conflict in the household. The participants overwhelmingly mentioned that they wanted to be happy as a father and feel loved by their children. A healthy child was important, but secondary to a happy child.

The participants felt like they had little control over what a child wants, and would provide food even if doing so was contrary to what they thought was appropriate. *"Men decide what to give children, but sometimes they cry for food. Children see other children eating sweets and they want it too. There is nothing a man can do."* The participants were sensitive to their children's hunger or desire for food, and sought to satisfy or pacify them with food. They gave children food to ease crying, even if the child was not hungry.

WIVES' INFLUENCE



Wife of one participant (Photo by M. Antal)

The participants valued joint decision-making to keep the family happy and at peace. There appeared to be a high degree of discussion between husbands and wives about market purchases. The participants saw women as knowledgeable about household food matters, especially because they know what and how to cook for the family. They respected their opinions and acknowledged their wives' input, although the study did not track whether or not men actually bought what women requested. The participants believed that making decisions together was a key element for a happy and peaceful home.

All of the participants reported making decisions about what items to purchase at the market with their wives. Illustrative statements include: *"If she asks me to bring something, I do, especially vegetables, eggs, and milk,"* and *"I do not know whether it is healthy, but I buy what she wants to eat."* Responding to what women want was apparently a factor in determining if a man was a good husband. Foods that participants mentioned "good husbands" bring to their wives included fish, fruit, sweets, vegetables, eggs, milk, meat, curd, and fried foods. Interestingly, the participants described different foods depending on if their wife was pregnant or not. The foods participants mentioned they brought to their pregnant wives were fruit, fish, eggs, milk, vegetables, *Horlicks*, and sweets.

This is not to say that the participants consulted women on all purchases. On the contrary, they reported buying many daily necessities without any input from their wives. These items included *"regular family needs, like rice, dal, oil, and onion,"* *"new things from the market, like vegetables and fish,"* and sweets.

The participants seemed to be highly motivated to foster a happy, peaceful, and harmonious household environment, and cited this as the primary reason why decisions were made jointly:

- “We discuss to keep peace and harmony in the family. If I would buy something but my wife did not like it, it will create a problem. It is wise to discuss.”
- “If we make decisions jointly, peace remains in the family. We sit to decide together before going to the market what to buy or which one will be good to bring home. This keeps the family in peace.”
- “If I buy something from the market without deciding together, it may cause problems. At times she suffers silently. If we decide jointly then there will be no anger.”
- “This family belongs to both of us and we should accept the bad and good of our family. That is why we make decisions jointly for future happiness.”

According to the participants, although the male head of the household is the final authority on food and non-food items bought at the market, and when they are bought, women seem to have a say in what is purchased. Men appreciate a woman's selection of foods that go together for preparation and taste. Efforts to promote more nutritious foods among women may thus influence the foods that men purchase:

- “I listen to what my wife says. I also have my say. Then the decision made becomes good.”
- “At first we make a list of shopping items, and then check how much money there is. Sometimes my wife tells me to buy this or that. Later I decide according to the price and amount of money I have.”
- “She tells me what to buy. I try to buy all the things if money permits.”
- “If we decide together then everything is good. Men cannot always understand what is good or what is bad.”
- “My wife advises me regarding my baby's food.”

The participants reported that women value the size and value of food. For instance, *“My wife becomes very happy when I bring home big fish.”* *“If I buy big fish then my wife loves me more.”* Interestingly, all of the participants specifically mentioned fish as big. The participants felt women value expensive foods traditionally associated with people with higher socioeconomic status, for example *“costly ice cream”* and pilau (rice). *“Pilau is rich men's food. It tastes good and is also good for health.”* The participants also felt women want variety: *“If I buy the same thing again she is angry.”* *“If I bring the same vegetables or fish then she opposes.”* Some women also value nutrition: *“Once I bought an unknown type of biscuit, then she said that rather it would have been good if you had bought grapes with this money.”*

BEING A “GOOD HUSBAND”

According to participants, a good husband must ensure that the family has enough food. Purchasing foods at the market is a responsibility men take seriously because they feel obligated to provide for the family and make sure no one goes hungry.

Men's marketing choices reflect, positively or negatively, on their image in the community. Good husbands "*manage food for the family*" and must "*properly manage food for the children.*" Additionally, buying fresh vegetables that are clean, shaped right, and without infection was a sign of a clever buyer and a good husband.

The participants did not report spending money to purchase items known to be bad for health, like tobacco or betel leaf. "*We try to avoid betel leaf. We eat betel leaf only at festivals.*" "*Gul [tobacco] is bad which we want to stop having [sic].*" These were not considered useful purchases and were seen as excessive, although the participants might not have been completely truthful in the interviews concerning these types of purchases, and may have told interviewers what they thought they wanted to hear. According to the World Health Organization (2011), tobacco smoking is common in Bangladesh: 46 percent of males over the age of 15 use tobacco and 28 percent smoke cigarettes. As one participant noted: "*The majority [of] men have cigarettes.*"

Nonetheless, participants felt that good husbands "do not spend money on bad activities": "*If I buy biscuits, betel leaves, cigarettes, my wife does not like it.*" "*She becomes angry if I buy intoxicating types of things.*"

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings summarized above, five recommendations are proposed for promoting the purchase of nutritious foods by men, specifically for pregnant and lactating women and children under two years. One of the recommendations is for social change, and four are for behavior change communications. The social change recommendation addresses an issue that underlies all of the behaviors to be promoted, and a successful campaign to promote this social change would be expected to also substantially improve behavior change. All of the proposed recommendations for social and behavior change will need to evoke men's primary motivation: that men ideally strive to achieve happiness in their home and avoid conflict.

SOCIAL CHANGE RECOMMENDATION

Currently, men's perceptions of "nutrition" are based on many misunderstandings and misconceptions about what foods are nutritious, what makes a food nutritious, and the cost of purchasing a nutritious diet for children under two years of age and girls/women of reproductive age. For example, men are not aware that nutritious food includes not only vegetables but also ASF. These misconceptions limit the potential of behavior change communications to promote nutritious diets, since men are unaware of the necessary elements for creating a nutritious diet. Creating an environment that promotes pro-nutrition market purchases will require change on the social level by redefining the social norm of what nutrition is.

Achieving a major change in the perception of what "nutrition" means is indeed ambitious, but the widespread belief that vegetables are highly nutritious—presumably the result of previous campaigns promoting vegetable consumption—suggests that similar success may be possible for promoting new concepts of what nutrition is and how it can be obtained.

Five themes that emerged from this study underscore some key areas where social change can support the promotion of food purchase and child feeding practices that are associated with better nutritional outcomes for women and children: (1) men believe that less expensive foods are less nutritious; (2) men believe that nutritious foods are expensive and thus are not a "good buy" given restricted resources; (3) men believe that only wealthy families can afford nutritious foods, and they would not purchase "poor man's food"; (4) while aware of the nutritional value of vegetables, men do not consider ASF as an important source of "nutrition"; and (5) men believe that they must give sweets to children because this is the only effective way to pacify them and keep them happy. By promoting the following five themes as alternatives, a positive social environment can be created to support the adoption of new marketing and child feeding practices:

1. Foods that are less expensive are not necessarily less nutritious.
2. Nutritious foods can be inexpensive and a "good buy."
3. Wealthy families purchase highly nutritious inexpensive foods such as small fish and eggs.
4. There are many ways to meet nutritional demands of children under the age of two.

5. Children need not only vegetables but also ASF for better nutrition.

SUGGESTIONS FOR PROMOTION OF THEMES

- Recommendations, in communications campaigns, from doctors (the most trusted source of information) concerning the high nutritional value of inexpensive yet nutrient-dense foods.
- Drama (in the community or through mass media) in which a clever husband, who always provides well for his family and uses money wisely, shows a friend how he chooses low-cost but nutrient-dense foods within his limited budget.
- Drama (in the community or through mass media) in which a poor man observes (to his surprise) a wealthy man buying low-cost “poor man’s food” and asks him why he would do so.
- Drama (in the community or through mass media) in which the male head of a happy family manages to pacify a cranky child with nutritious snacks (e.g., fruit, egg, or specially-made nutritious snack), earning him the affection of the child and the admiration of his wife.
- Reinforcement of themes promoted in drama and mass communication with interpersonal communication approaches and print materials.

OPPORTUNITIES FOR SPRING

SPRING could work closely within existing groups such as the National Nutrition Working Group, the Scaling Up Nutrition (SUN) civil society group, the Revitalization of Community Health Clinics in Bangladesh (RCHCIB) NGO Coordination Meeting, and at other national meetings to develop and promote a new philosophy with all national nutrition stakeholders. For example, this new philosophy must shift attitudes and behaviors away from the current view of nutrition being limited to vitamins and vegetables and to include ASF. Methods include:

- Promote a new perception of nutrition at upazila and union advocacy events by mainstreaming nutrition into health and agriculture.
- Conduct courtyard sessions with men and influential family members about nutritious food items to showcase communications materials and dramas developed.
- Hold community group meetings that include a local doctor (who has a great influence on the community) to discuss best practices.
- Use the Agriculture Information System (AIS) to send nutrition-related short message service (SMS) messages (per the recommendations above) to subscribers (male and female farmers).
- Leverage opportunities with partners such as the SHIKHA and Sisimpur projects to showcase the above-noted messages in both national and local mass media campaigns.

BEHAVIOR CHANGE RECOMMENDATIONS

1) BEHAVIOR: FATHERS PURCHASE A WIDER VARIETY OF FOODS

The current practice of purchasing the same selection of foods, and the belief that nutritious foods are expensive, both limit dietary diversity. Even when men have extra money, they purchase more of the same foods rather than foods with a higher nutritional value. With extra money, men should be encouraged to purchase more small fish, local fruit, and eggs in addition to normal market purchases to feed a wider variety of foods to pregnant and lactating women and children under the age of two.

Next Steps

- *Develop promotional messages appropriate for SMS, short slots for television, radio, and/or print.*
- *Promote behavior through available media channels including SMS messaging, published newsletters, community radio programming, an agriculture extension television program on a national television station, and at their agriculture information and community center as part of the AIS.*
- *Work with SHIKHA, WorldFish, and other partners to streamline communication on eggs and small fish for consumption by pregnant and lactating women and children under the age of two.*

Opportunities for SPRING

- Incorporate nutrition into AIS and Ministry of Health and Family Welfare (MOHFW) programs through available media channels.
- Increase coordination among nutrition programs at the upazila and district level.
- Promote purchasing a wider variety of foods through FNS sessions.

2) BEHAVIOR: TEA STALL OWNERS AND DISTRIBUTORS OFFER NUTRITIOUS SNACKS FOR CHILDREN THAT FATHERS CAN PURCHASE

Currently, men buy sweets for their children at the local tea stall. Buying sweets is convenient and quick and provides an opportunity for men to visit a popular social outlet. If equally inexpensive and convenient, but more nutritious, snacks were available at the tea stall—snacks that would pacify children—men likely would purchase them because they know that sweets are not the best option for children's nutrition. Instead of purchasing sweets, men could buy local fruit or other nutritious snacks for children.

Engage tea stall owners and food distributors to ensure a communal understanding of what a nutritious snack is and why it is important for children. Tea stall owners must stock (or continue to stock) the identified nutritious snack. It is important to ensure limited disruption to the current practices of men and ensure tea stalls do not lose business.

Next Steps

- Men, tea stall owners, and/or distributors identify alternative foods that are convenient, inexpensive, and pacify children to serve as nutritious snacks. The snack food

will need to meet tea stall owners' and distributors' needs for storage, transport, and profitability. It will need to meet the fathers' needs for convenience, cost, and child-pacification efficacy.

- Test alternative snacks such as khechurii and fruits.
- Develop a business model and enlist partners for the introduction of the product.
- Communicate with husbands/wives about sweets that cause loss of appetite, and, due to unhygienic preparation, create dehydration, diarrhea, and other illnesses. Promote an alternative that is shown to be acceptable.

Opportunities for SPRING

- Promote identified alternative nutritious snack food options through the AIS system's media channels.
- Consider offering to promote the product among project participants as an incentive to attract participants.

BEHAVIOR: MAKE HOMEMADE NUTRITIOUS SNACKS FOR CHILDREN

Currently men buy and give sweets to children because they are easy, accessible, and cheap foods that children love. Instead of purchasing sweets for children, men can purchase ingredients for women so every week they can make a homemade nutritious snack food. One option could be "improved" pitha. Pitha is a widely popular food in Bangladesh made of various combinations of flour, molasses, and other ingredients. Recipes vary considerably, but existing recipes can be modified (or recipes that are more nutritious can be promoted) to create a more nutritious alternative to the nutritionally inadequate snacks men currently provide. Ideally, this alternative pitha would need to keep well so that women could prepare it infrequently (i.e., once each week), to ensure that preparing the snack would not excessively burden women as well as to help meet the requirement that the snack is conveniently available when a child needs pacifying.

Next Steps

- Identify an alternative nutritious snack and test its acceptability with children, mothers, and fathers. Preferably they identify a recipe that is already in use that can be modified to be more nutritious to limit any additional work for women.
- Develop communications promoting husband/wife dialogue so that fathers purchase the ingredients needed to make the snack.
- Develop communications promoting the snack as a nutritious contribution to a happy family.

Opportunities for SPRING

- Introduce and promote the homemade snack through peer-to-peer nutrition-related community activities with SPRING households and health, aquaculture, and horticulture partners.

- Potentially engage Sisimpur to include older children in the process of making nutritious pitha.
- Potentially organize snack preparation as an income-generating activity for rural women.
- Conduct recipe demonstrations at community health fairs and other events.
- Create videos on preparation of healthful snacks through use of Digital Green technology.
- Promote the identified nutritious snack foods through FNS sessions.

3) BEHAVIOR: NOT TO FILL UP CHILDREN ON SUGARY SNACKS

Participants reported feeding their children first thing in the morning before food is prepared (before meals) to distract children who disrupt the mother's cooking, and to pacify an impatient child who is hungry for breakfast. Men reach for sweets as a snack food because they are easy, accessible, and affordable.

Next Steps

- Work with families to identify alternatives for pre-meal snacks such as a game, a spoonful of rice, or the "nutritious alternative" snack described above.
- Develop promotional communication around snack timing and delaying pre-meal snacks, and emphasize the motivation of happy families (and the happiness of a well-fed child).
- Encourage play and promote other ways of making children happy before meals that do not provide extra work for families.

Opportunities for SPRING

- Introduce a communications approach through peer-to-peer nutrition-related community activities to SPRING households, and to health, aquaculture, and horticulture partners.
- Promote alternatives at FNS sessions.

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FROM THE AMERICAN PEOPLE

SPRING
Strengthening Partnerships, Results,
and Innovations in Nutrition Globally

For those of us who don't have to do it, it is hard to imagine what it is like to live on so small an income. The chances of moving out of poverty depend, we assume, either on international charity or on incorporation into the globalized economy. The hottest public debates in world poverty, therefore, are those about aid flows and debt forgiveness, and about the virtues and vices of globalization. Discussion of what the poor might do for themselves is less often heard.

Suppose that your household income indeed averaged \$2 or less a day per head. How do you budget? How do you make sure there is something to eat and drink every day, and not just on the days you earn? (One of the least-remarked-on problems of living on \$2 a day is that you don't literally get that amount each day. The \$2 a day is just an average over time.)

Consider Hamid and Khadeja. The couple married in a poor coastal village of Bangladesh. After their first child was born, they gave up rural life and moved, as so many hundreds of thousands have done before them, to the capital city, Dhaka, where they settled in a slum. Hamid eventually got taken on as a reserve driver of a motorized rickshaw, while Khadeja stayed home to run the household, raise their child, and earn a little from taking in sewing work. Home was one of a strip of small rooms with cement block walls and a tin roof, with a toilet and kitchen space shared by the eight families that lived there.

In an average month Hamid and Khadeja lived on the equivalent of \$70, almost all of it earned by Hamid, whose incomes arrived in unpredictable daily amounts that varied according to whether he got work that day, and if he did get work, how many hours he was allowed to keep his vehicle, and how often it broke down. A fifth of the \$70 was spent on rent, and much of the rest went toward the most basic necessities of life – food and the means to prepare it. Their income – an uncertain 78 cents per person per day – put them among the poor of Bangladesh, though not among the very poorest. By global standards they would fall into the bottom two-fifths of the world's income distribution tables.

You wouldn't expect them to have much of a financial life. Yet their year-end household balance sheet shows that Hamid and Khadeja, as part of their struggle to survive, within their slim means, were active money managers. Far from living hand-to-mouth, they had built up reserves in six different financial instruments, ranging from \$2 kept at home for minor day-to-day shortfalls to \$30 sent for safe-keeping to his parents, \$40 lent

out to a relative, and \$76 in a life insurance savings policy. Hamid also made sure he always had \$2 in his pocket to deal with anything else that might befall him on the road.

In addition to saving, borrowing, and repaying money, Hamid and Khadeja, like nearly all poor households, also saved, borrowed, and repaid in kind. Khadeja, sharing a crude kitchen with seven other wives, would often swap small amounts of rice or lentils or salt with her neighbors. Virtually all of the rural Bangladeshi households followed the well-established tradition of *musti chaul* – of keeping back one fistful of dry rice each time a meal was cooked, to hold against lean times, to have ready when a beggar called, or to donate to the mosque or temple when called on to do so.

Hamid and Khadeja kept track of their financial transactions in their heads, but their records were accurate. When we asked how they managed to do this when so many transactions were ongoing, Khadeja said, "We talk about it all the time, and that fixes it in our memories." One of their neighbors remarked, "These things are important – they keep you awake at night."

In our book we were struck by two thoughts that changed our perspective on world poverty, and on the potential for markets to respond to the needs of poor households.

First, we came to see that money management is, for the poor, a fundamental part of everyday life.

Second, we saw that poor households are frustrated by the poor quality – above all the poor reliability – of the instruments that they use to manage their meager incomes. If poor households enjoyed assured access to a handful of better financial tools, their chances of improving their lives would surely be much higher.

This runs against common assumptions about poor families. It requires that we rethink our ideas about banks and banking. Some of that rethinking has already started through the global "microfinance" movement, but there is further to travel. Our findings point to new opportunities for philanthropists and governments seeking to create social and economic change, and for businesses seeking to expand markets.

Excerpt from Portfolios of the Poor: How the World's Poor Live on \$2 a Day by Daryl Collins, Jonathan Morduch, Stuart Rutherford, and Orlanda Ruthven, published by Princeton University Press, 2009. Adapted with permission of the publisher. For their research, the authors worked in Bangladesh, India, and South Africa with more than 250 poor households who kept financial diaries tracking their money-managing habits. (See www.press.princeton.edu/titles/8884.html)



- National Capital (5,640,000 in 2001)
- over 2,000,000
- over 800,000
- over 200,000
- other main city
- other city
- Chief town of division



Amplifying Outcomes by Addressing Inequality: The Role of Gender-transformative Approaches in Agricultural Research for Development

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Abstract

Increasing agreement on the relevance of gender and social equalities to agricultural development outcomes has not come with the same consensus within the development community regarding ways to intervene

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* Paula Kantor's death as a result of a tragic terrorist attack on May 13, 2015 has left a painful void as is felt with the loss of a mentor, a friend, a teacher, an ardent supporter. This article is one of her final works she submitted before succumbing to her tragic fate. We co-authors would like to dedicate this piece in loving memory and honor of Paula whose selfless dedication will subsist through all the lives she touched with her warmth and passion. We hope to keep her passion alive by striving to achieve what she believed in. She joined Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT) as a senior scientist (gender and development specialist) in February 2015 to lead an ambitious

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in the sector to foster equality. The guiding principles of agriculture research for development (AR4D) and its focus on capacity development can contribute to this debate and to advancing gender integration in the sector if the “social threads” within its principles are developed more thoroughly. The aim of the article is to articulate how the social dimension of AR4D could be further developed through the conceptualization and operationalization of gender-transformative approaches (GTAs). The article provides a case study from the aquaculture sector of Bangladesh to illustrate why this is needed, and it describes some ways forward to move GTAs into agricultural practice and test their contributions to development outcomes. Such an action research agenda will generate learning that can be used to make the most out of synergies between enhanced social equality and capacities to innovate.

Keywords

Gender, AR4D, transformation, capacity to innovate, Bangladesh

Introduction

Since Boserup’s seminal work on women’s roles in African agriculture (1970), researchers have produced a considerable body of evidence documenting how gender and wider social inequalities affect access to productive resources, technologies, markets, networks, and business services in the agriculture sector. For example, often-cited empirical works by Udry (1996), Saito, Mekonnen, and Spurling (1994), and Jones (1986) quantify the “gender gaps” in agricultural inputs and in some cases estimate the productivity gains from their reversal. Recent additions to this literature include compilations, such as, the FAO’s

new project aimed at empowering and improving the livelihoods of women, men, and youth in important wheat-growing areas of Afghanistan, Ethiopia, and Pakistan. Before joining CIMMYT, Paula served as a senior gender scientist with Consultative Group for International Agricultural Research (CGIAR) sister organization WorldFish for three years from 2012. At WorldFish, working in Bangladesh, Malaysia, and Egypt, Paula contributed significantly to the design and development of gender-transformative approaches for the CGIAR Research Programs (CRP) on Aquatic Agricultural Systems (AAS) and Livestock and Fish.

2010–2011 State of Food and Agriculture (2010), the Gender in Agriculture Sourcebook (2010), and multiple studies on gender and asset rights, testing new methods for collecting intra-household asset data and documenting gender gaps.¹

Such evidence continues to be generated and used to advocate increased investment in gender-responsive programming, often using efficiency arguments to advance the case. These arguments relate the documented gender differences in access to resources to shortfalls in development and food security achievements, and cite the widely applied assumption of women's relative altruism and concomitant allocation of larger shares of their earnings to the family (Meinzen-Dick, Behrman, Menon, & Quisumbing, 2012; Quisumbing, 2003; World Bank, 2001). For example, the 2010–2011 State of Food and Agriculture estimates that if gender differences in the access to agricultural resources were reversed, agricultural output in developing countries would increase between 2.5 and 4 percent, which itself could reduce the number of malnourished people by 12–17 percent, assuming, of course, that the increased production is available and affordable to those currently malnourished.

While there is increasing agreement that gender and social inequalities matter to agricultural development outcomes, there is less consensus around how to intervene in the sector to address these inequalities. Some support efforts to increase women's access to resources, generally working within the existing social norms and structures, while others seek what they expect to be more lasting changes by acting both on and within the existing social structures to create an environment in which both women and men have more and better livelihood options.

This article argues for an approach to gender integration that recognizes and responds to the constraints imposed by the social context on poor and marginalized people's opportunities and outcomes, in order to unlock their potential to participate in and benefit from agricultural development. It articulates how the guiding principles of agriculture research for development (AR4D)² and their focus on capacity development can contribute to this debate and to advancing more conceptually robust approaches to gender integration in the sector, if the "social threads" within its principles are developed more thoroughly. The next section articulates how AR4D provides openings for integrating critical social and gender analysis within its processes. The third section uses a case study from the aquaculture sector in southwest Bangladesh to illustrate why such social and gender integration is relevant to technology adoption and its outcomes, while the final section provides further

guidance on how to address inequality and foster social change that can enable poor and marginalized rural populations to better contribute to and make the most of technological advances.

Enhancing the Social and Gender Focus on AR4D

AR4D provides an opening for innovative and critical gender integration approaches through its focus on innovation, learning, and action processes, and on the need to create a favorable environment for AR4D practices. It does so by fostering change in personal attitudes and mindsets, in organizational practices and cultures, and in how organizations interact in wider innovation systems (Hawkins et al., 2009). Systems are defined by these interactions, which in turn allow innovations in products or processes to be brought into social use. While social and gender equalities do not feature consistently or strongly in many articulations of AR4D principles and approaches (Manyire & Apekey, 2013 are a strong exception), the AR4D approach of bringing together perspectives and knowledge of varied stakeholders, and to learning from and about each other through working together, can create shifts in mindsets that raise awareness of the relevance of gender equality to agricultural development. However, to realize this, the operationalization of these principles must be inclusive and should purposefully enable women and other marginalized groups to have voice within them.

AR4D seeks to bring together analysis, action, and change across multiple levels of spatial, economic, and social organization, in recognition of the need to foster change across the innovation system (Hawkins et al., 2009). This multilevel and systemic orientation, along with the interest in models of inclusive action and learning, has clear synergy with analyses of and action to address the multiscale drivers of gender and social inequalities like sociocultural norms and how they prevail and interact across the micro- and macro-level social, economic, and political contexts. Gender and social inequalities are conceived of as social constructs, embedded in the way societies define the roles of and relations between women and men, which in turn govern the distribution of resources (Martin, 2004; Risman, 2004). Gender infuses all aspects of the daily lives of women and men through the way it shapes what is acceptable and appropriate for them to be and do. This means that gender affects the following: how women and men conceive of themselves and their capabilities; how women and men interact and relate within the

framework of social expectations in different spheres, such as, the home and the community; and how opportunities are structured and resources are distributed within institutions, such as, the market and the state. Therefore, as in the case of fostering the uptake of AR4D principles and practices, shifts in mindsets and attitudes are needed at the individual, organizational, and institutional levels if attention to social and gender equalities is to become embedded in the agricultural sector both within agricultural research and development organizations, and in their work in communities (De Soysa & Jutting, 2007; Jutting & Morrison, 2005). Achieving these mindset shifts in relation to both AR4D principles and gender equality can realize the synergies between enhanced equality and innovation capacities, unlocking social barriers to innovation and creating the conditions for enduring and equitable improvements in the livelihoods of the poor and marginalized. For example, AR4D's efforts to enable farmers to take up and benefit from existing innovations can be better realized if the underlying and differing constraints behind the uptake for women and men are differentially understood and addressed.

Enhancing the social content of AR4D, and the critical nature of debate on how to address gender and social differences in the access to and control over agricultural resources and opportunities, relies on deepening understandings of the concepts of poverty and inequality, particularly of their underlying drivers. The foundation of this analysis is an understanding that poverty and inequality are caused in part by unequal power relations that shape how society operates and the range and quality of opportunities available to different social groups determined by gender, class, race, ethnicity, or caste (Kabeer, 2000; Mosse, 2007). Therefore, interventions must address more than the symptoms of poverty and social inequality (i.e., lack of access to resources, markets, etc.); they also need to catalyze critical questioning of and action in response to the norms, attitudes, and institutionalized rules and relationships creating and maintaining poverty and inequality.

This understanding of poverty and inequality is informed by social-ecological models that understand human action and behavior to both affect and be affected by the social environment across various levels of influence from the micro to the macro (McLeroy, Bibeau, Stechler, & Glanz, 1988). Thus, attention to changes in mindsets, rules, practices, or resources at any one level alone (e.g., the community) will be insufficient to foster enduring change, as will attention only to structures of constraint (e.g., property rights) or only to individual agency (e.g., women's

access to resources). Change processes are complex and must cross actors and scales and include efforts to enhance the voice and agency of the poor and marginalized in innovation and empowerment³ processes, as well as enable their own efforts to challenge the structures of constraint (Kabeer, 2012).

While an increasing number of agricultural research programs are beginning to acknowledge the influence of the social context on innovation and the capacity to adapt to changing social and ecological systems, few seek to foster change in the elements of society that stop the poor and marginalized people from articulating and achieving their goals. This consequently limits the ability of these programs to achieve impact at scale because existing social inequalities may keep significant portions of the population, such as, ethnic minorities, poor men, and women, from participating in or benefiting fully from development efforts (Hickey & du Toit, 2007; Kabeer, 2000; Mosse, 2007; Wood, 2004). Not addressing the barriers created by existing norms and attitudes also limits the enduring nature of development outcomes. By not addressing the underlying causes of poverty and gender inequality, for example, projects may produce superficial changes in the participation of women or other marginalized groups in an economic activity that return to “normal” after the project. Alternatively, projects may produce unintended and potentially harmful outcomes because the interests and incentives of the poor or women were not understood and addressed. For example, a study showed that a rise in the productivity and income from fish ponds in Bangladesh did not result in the expected nutritional improvements for women and girls in the household in part because there was no effort to address the sources of gender inequality (Kumar & Quisumbing, 2010). More positive and sustained outcomes for women resulted in a project where women were assisted in claiming long-term rights over public water bodies through forms of collective action (Nathan & Apu, 1998).

Lack of funds, time, and capacities to conduct gender and social analysis and to utilize the results for program design hinder attempts to reorient programs to a more transformative approach to gender integration, which seeks to address the underlying causes of gender inequality rather than just reducing the various gender gaps between men and women. Another constraint is the political realities of development agencies and the need to “sell” gender in efficiency terms in order to gain a foothold (Cornwall, Harrison, & Whitehead, 2007; Eyben & Napier-Moore, 2009). The frequent orientation of agriculture research and programs to understanding and addressing the symptoms of gender inequality

provides a key rationale for a new approach to gender and social analysis in AR4D that engages with the causes of inequality. The case study in the following section provides further justification for this need as well as guidance for ways forward to enhance the critical social content of AR4D processes.

Homestead Aquaculture Technology: The Relevance of Gender Relations to Technology Adoption and Sustained Use

A recent study in Southwest Bangladesh, supported by two CGIAR Research Programs (Climate Change, Agriculture, and Food Security and Aquatic Agricultural Systems), examined how gender relations shape if and how women and men adopt and use agricultural innovations, specifically cage aquaculture and homestead pond polyculture and how benefits and consequences of technology adoption are distributed among individuals, households, and communities. The study was conducted in four communities of southwest Bangladesh where two United States Agency for International Development (USAID)-funded projects—Cereal Systems Initiative for South Asia in Bangladesh (CSISA-BD) and Aquaculture for Income and Nutrition (AIN)—with a focus on disseminating aquaculture technologies were operational. The communities chosen were from the agro-ecologically similar Khulna and Barisal districts, which face climatic risks, particularly floods, waterlogged soils, and increasing salinity of both land and water. All four villages have a mixture of Hindu and Muslim population with agriculture as their main source of income. The villages were chosen based on the operating areas of CSISA-BD and AIN where these two women-targeted technologies were disseminated.

Qualitative research methods were used in order to understand the full range of factors shaping how women and men adopt and use innovations, including less tangible and thus less easily measurable gender power relations and dynamics. The intention was to point out to project designers, researchers, and implementers that targeting women for a technology that seems befitting and convenient for women⁴ may not necessarily translate into their using the technology or even benefiting from it. The study emphasizes the various effects such technology targeting may have on women and their families and what project designers need to be aware of in the AR4D process.

The methods included focus group discussions with villagers and innovation adopters, and in-depth interviews with both women and men in innovation adopting households and other key informants. In total, the field teams conducted 121 focus group discussions (FGDs) and interviews, which were recorded and transcribed in Bangla. The transcripts were then translated to English for analysis. An initial data coding structure was agreed upon by two lead researchers following the fieldwork after which a large number of transcripts were coded and analyzed (using a collaborative qualitative data analysis software, Dedoose). However, due to the significant amount of data collected in the field, it was not feasible to analyze all the transcripts. The results summarized here focus primarily on the qualitative data analysis of a sample of interview transcripts with “innovation adopters” ($n = 67$; 42 women and 25 men). This sample includes all research sites, innovation types (cage and pond polyculture) and the two major religious backgrounds of communities.

Fish cage aquaculture⁵ was initiated as an adaptive research study to test the technical feasibility (including stocking density, feed conversion ratio, productivity, and profitability) of the cage aquaculture technology in different agro-ecological zones of Bangladesh. Its viability lies in the fact that one does not need to own the water body to undertake cage aquaculture but can utilize the common open-access water bodies that run beside many households in Bangladesh. With the decline in capture fisheries, many are opting for aquaculture in *ghers* (converted rice fields used for farming shrimps and prawns) and ponds, but the poor landless farmers mostly cannot avail of that option. Thus, poor landless women were a key target for introducing this innovation, and the project sought to involve women living close to common water bodies, and without any substantial productive water resources of their own. As an adaptive trial, the cages and other inputs were provided free of cost to the women farmers who were expected to reinvest from the profits after the first production cycle (see Table 1).

The household system interventions initiated under CSISA-BD and AIN include polyculture of carp and/or tilapia with small indigenous fish (*Amblypharyngodon mola* with high-nutrient qualities, hereafter referred to as *mola*). They also encouraged the intensive utilization of space by producing high-value vegetables in homestead areas and pond dykes, based on the seasonal crop calendar. Many household-based fish ponds targeted by CSISA-BD for improvement were used previously for traditional fish culture resulting in low productivity. Introducing small indigenous fish, such as, *mola* in efficient, low-risk, polyculture

Table 1. Dissemination Mode According to Research Site and Innovation Type

Trial	Innovation Type	Receive Inputs	Receive Training	
			Men	Women
Village 1	Cage	Yes	No	Yes
Village 2	Cage	Yes	Yes (outside village)	Yes (in village)
Village 3	Cage	Yes	Yes	Yes
	Pond—Typical	No	Rarely	Yes
	Pond—Demo	Yes	Rarely	Yes
Village 4	Pond—Typical	No	Rarely	Yes
	Pond—Demo	Yes	Rarely	Yes

Source: Morgan et al. (2015).

systems of high-value fish like carp and tilapia was promoted as a means to generate additional income for the family besides improving their nutritional intake.

CSISA-BD and AIN both use training, participatory farmer trials/demonstrations, and linkage events⁶ as the principal means to promote aquaculture technologies. The demonstration farmer is one who is selected to demonstrate a given technology and a group (consisting of an average of 25 “typical” farmers) is provided with opportunities to observe the methods applied, and results achieved, by this farmer, thereby enabling them to replicate similar results for themselves. The demonstration farmer approach is used with homestead ponds. CSISA-BD targets only women for its homestead pond polyculture dissemination, while AIN targets a majority of women but with a mix of men as well. Participants received inputs, training or both, depending on the type of innovation (see Table 1).

In-depth analysis of the sample of innovation adopters reveals how social differences, including gender-specific differences, shape the process of disseminating smallholder aquaculture innovations as well as their adoption, and the division of benefits among participants. The study observed how different households function differently when it comes to responsibilities and decision making around the technology. The cage and pond polyculture technologies were both delivered in a similar manner to the target women by both the projects. The study observed the way in which these women adopted and interacted with the technology that was given to them. These interactions were found to depend on the relations among the women themselves and with other

members of their household and members of the community, including project staff.

This finding demonstrates the need for technology-focused projects to engage more explicitly with underlying social barriers if they are to achieve their desired results.

Factors Affecting Innovation Dissemination and Uptake

A combination of physical, natural, human, and/or social capital is required for the initial uptake of the aquaculture technologies (i.e., secure water access or investment capital for inputs and previous knowledge or experience with aquaculture). It helps to improve the likelihood of the technology's success. Poor households are less likely to have sufficient capital; even in the households that do have capital, women are less likely to have sufficient control over it. This makes it challenging for the target group of poor women to take up and sustain their use of novel aquaculture innovations.

How inputs are disseminated (via training and/or asset transfer) and to whom also has implications for the program's success. In one village, men and women within households were trained on separate tasks required for cages (men on marketing and women on feeding and cleaning), which may lead to or reinforce gender-differentiated roles affecting workload and the distribution of benefits.

Women who attended training on pond polyculture agreed that their workload had increased since the training, in part because their husbands were not included in it. Both men and women adopters expressed the opinion that men should also attend the training. Rokeya, an 18-year-old Muslim woman who participated in the training in Village 3, said that even though the household receives inputs, it was only she who received training: "In a family, it isn't enough if one person is aware. If [training] is given to everyone in the family, then all the members will be aware. Benefits can come."

Although the women adopting new technologies in this study did attend training for the most part, some faced significant obstacles in doing so. Parvin, a 25-year-old Muslim woman, also in Village 3, details the opposition she faced from her husband, as well as her mother-in-law, father-in-law, and brother-in-law, for attending the training. Despite this opposition, she initially went to the training sessions because she liked

them and could learn new things. However, she explains how dominant gender norms related to mobility and gender roles eventually led her to stop attending training and farming fish:

My husband also doesn't like all this. He also doesn't like that I went to the meeting. The woman should stay at home. Fish farming is done by the men...I stopped farming fish. It was difficult for me to go the training. I have a small child, I have household work...Again there are outside men at the training. They see us...I didn't go any more after those 3-4 days. I didn't go anymore because I have hassles here.

Use of the demonstration farmer model for dissemination (wherein one farmer receives assets to model the innovation to a larger group who receives training but not assets) created confusion, jealousy, and tension, affecting the potential for intra-community or intragroup knowledge sharing. Of the 22 typical pond adopters in total who receiving pond training, at least 13 revealed feeling some kind of negative emotions at not receiving similar inputs as the demonstration farmer. These feelings seemed to affect these women's motivation to take up what they learned at training, with many blaming the lack of inputs (in combination with their lack of financial capital) for not taking up the new farming techniques. For example, a 30-year-old Muslim woman Anwara (Village 4) said, "I don't give [the training book] much importance, you know why sister, because we worked hard all month and they didn't give us fish, that's why."

The confusion caused by the limited distribution of assets even led to tension among couples. Ayesha, a 30-year-old Muslim woman in Village 4, compared not receiving inputs to failing an exam: "If anyone fails in any paper in an exam then how does the heart feel? And this fish that [the demonstration farmer] got, how does her heart feel and we who didn't get the fish, how do our hearts feel?" Her feelings appeared to be reinforced by her husband, as revealed by Ayesha: "My husband also says, you go swaying to the meeting and come back swaying, only [that] fisherman's wife got the fish." Similarly, at least three other women in the same village mentioned that their husbands blamed them for not receiving inputs when another woman did. A 45-year-old Muslim woman Sadeka said: "When we go home, the husband says you go for no reason⁷ clicking your shoes to get training, what benefit do you get, they didn't give you fish." This reaction has implications for women's continued or future involvement with training opportunities, as evidenced by Ayesha's husband's decision to prohibit her from meetings: "My husband prohibited me from going to the meeting. You have been

going to the meeting for so many days but they don't give you anything. That is why the husband says it's bad or forbids me."

Factors Affecting Current and Future Innovation Use

Though the innovations are targeted at women, the women adopters said they rarely felt capable of independently doing the work required or making financial and/or technical decisions related to the innovation. For many of the women adopters, the men in their household or groups of men made the key decisions and did most of the work, while the women either supported or were mere bystanders. Despite efforts to transfer innovations to women and even set up bank accounts in their name, women's link to the innovations is often only on paper. This was particularly true for the cage aquaculture. The type of innovation, combined with context-specific extra-village, inter-household and intra-household relations, shape the levels of self-efficacy that women have vis-à-vis the innovation (see Figure 1 and Table 2).

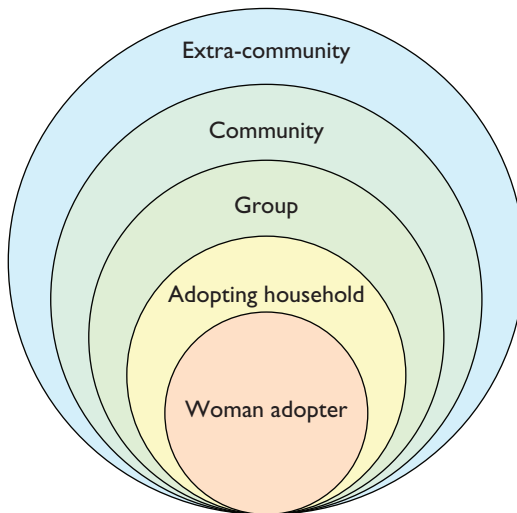


Figure 1. The Web of Relationships Influencing Women's Adoption Use and Benefits from Technology

Source: Morgan et al. (2015).

Table 2. Multi-Level Factors Influencing Technology Adoption, Use and Benefits

Scale	Factors Influencing Adoption, use, and/or Distribution of Benefits
<p>Intra-household relations: Relations between and among women adopters and others in their household</p>	<ul style="list-style-type: none"> • Different households function differently when it comes to responsibilities and decision making around a technology. In some cage-adopting households, the men are primarily responsible for using the fish cages while women support or stand by; women hold the title to the innovation in little more than their name. In other households, women do the majority of the work and make key technical and financial decisions with the support of their husbands. In still other households, couples report making decisions jointly and sharing the labor and responsibility in a complementary way. • Of the sites adopting cage aquaculture, Village 1 stands out as the exception with the maximum number of individuals saying they either jointly share responsibility for the innovation or that women make more of the key decisions. Village 1 is different from the other villages in a number of ways: It is the only village classified as “other urban” (the others are rural), the only one with a majority Hindu population, and has the highest literacy rate. • Gender-specific expectations and roles condition what men and women are perceived to be able to do—and thus do or do not do—relative to the cage aquaculture. In general, women may spend much of their time or even more of their time than men in taking care of the cage, but in the end, men are considered indispensable in completing the work required. This renders the women’s efforts in maintaining the cage as more of a supportive role and it is perceived that they cannot manage this technology without men. There is a strong perception that women cannot do many of the tasks that men are typically responsible for due to limitations of knowledge or physical strength (to lift or move the cage) and because of social norms limiting entry into the water (to care for the cage) and women’s mobility (limiting them from any tasks outside the home, especially the market). In this way, cage aquaculture highlights or serves to reinforce existing gender roles and norms.

(Table 2 Continued)

(Table 2 Continued)

Scale	Factors Influencing Adoption, use, and/or Distribution of Benefits
Inter-household relations Relations between women adopters and groups of adopters	<ul style="list-style-type: none"> <li> <p>• In contrast, in pond-adopting households, men and women are more likely to say that women are primarily responsible for adopting and using the innovation, with men supporting them when they are available. Pond adopters mention fewer constraints to women's labor activities and women are perceived to be able to use and benefit from the innovation largely independently. Even in the face of more entrenched constraints (such as, gender norms on mobility), both men and women identify ways by which women can subvert the constraints, for instance, by hiring day labor or using a middleman to access markets. Targeting women as recipients of pond polyculture training may be seen as providing spaces for bending or negotiating with dominant gender norms and roles, which projects can potentially do more to enable. The new capacities of women, realized by themselves and recognized by others, open up other livelihood options for them, and may free up time for others in the household to pursue alternative work. That said, where women are seen to be capable of doing more, they end up doing a lot more. Some find this additional work a hassle, especially if their husbands leave it all to them; while others feel it is worthwhile to sacrifice their leisure time for this new livelihood opportunity. Therefore, positive changes triggered by innovations in the type of work that men and women actually do, and are perceived to be capable of doing, must be balanced against the additional workload required.</p> <li> <p>• In all cage-adopting sites, the innovations are used collaboratively to some extent. Pooling labor, knowledge, skills, and financial resources as a group can enable those who cannot manage to provide any of these sufficiently on their own. As input costs are high and the cage physically large to move, a group mechanism helps to facilitate the uptake and use of the innovation, especially for women; in many cases, reducing reliance on men and enabling working more effectively and economically.</p>

(Table 2 Continued)

(Table 2 Continued)

Scale	Factors Influencing Adoption, use, and/or Distribution of Benefits
<p>External village relations: Relations between women adopters and external support (e.g., project officers)</p>	<ul style="list-style-type: none"> • Unequal power relations within the group affect the ability of individual adopters to make decisions that suit their preferences (i.e., around investments) or to reap benefits in line with their labor contributions. This is particularly difficult for individual women, as the group level can provide an extra layer of power relations that reinforce inequitable gender roles. • Individual adopters may find it more difficult to influence how the technology is being used when the control is taken over by other powerful members of the family. For example, in one village the “group” of adopters controlling the innovation was actually five male members of a family, rather than the women at whom the innovation was meant to be targeted. Therefore, groups are not inherently transparent and equitable; they need to be managed well and members’ capacities built to encourage cohesion and the wider social benefits that can result from collective action. • As the cage assets were disseminated as part of an adaptive research trial, the project officers had very strong roles in technical support and financial decision-making with the intention of giving full control to adopters after four years. This led to heavy dependency on the project officers and lack of a feeling of ownership. Thus, the level of support and involvement of the project officers can lead to more or less external dependency, with implications for perceived ownership and sustained independent use. • Pond polyculture adopters, meanwhile, mention being encouraged to be self-sufficient.

Source: Morgan et al. (2015).

Lessons Learned and Ways Forward

The nature of the innovation (cage aquaculture versus pond polyculture) combined with the local context, social norms around intra-household decision making, and a variety of interpersonal relationships contribute to the configurations shaping who uses, decides on and benefits from

the innovations in each research site. Even though the innovations are targeted at women, in reality, power relations, specifically gender power relations, at every level affect the extent to which women actually use these innovations. This has implications for if and how these innovations will continue to be used in future, among the target group and beyond, and thus their capacity to deliver more equitable and resilient livelihood options at scale. Key issues to be considered for improving how existing and future technological interventions engage with social relations include the following:

1. Use adaptive research trials to test not only the technical merits of a technology but also its fit with the social realities of a range of users—women and men, and across poverty levels. Purposefully diversify trial adopters and trace the development outcomes of different socio-economic groups to understand their capacities, limitations, and preferences when actually adopting and using innovations. Testing how technical solutions merge with social realities provides a more realistic trial and helps inform scaling strategies. Bringing together a multidisciplinary team from the start to design and monitor such interventions is recommended to achieve this.
2. Targeting individual women in households requires engagement with men in those households as well in order to achieve more sustained outcomes. This involves including men in training and/or working with men and women together when disseminating innovations to encourage men's support for uptake, and to improve opportunities for intra-household sharing and communication. Care needs to be taken to understand how to do this in ways that are win-win for women, men, and households.
3. Revisit the mechanisms used to disseminate innovations (groups, demonstration farmer models) to ensure that they foster intra-community learning and sharing required to scale-out horizontally, and they do not add conflict to intra-household relationships.

Fostering Transformation to Enable People's Potential

The case study highlights the importance of understanding and engaging with social relations as part of AR4D in order to improve the adoption of agricultural technology, its sustained use, and the equitable distribution

of its benefits. Social barriers that hinder various groups from achieving their full potential can end up limiting agricultural outcomes. If agricultural technologies are to achieve their potential poverty reduction and food security outcomes, and if their benefits are to be equitably distributed, the social enabling environment needs to provide more and better choices, opportunities and voice to those traditionally excluded, including women. A change in the social system is required that transforms the attitudes, norms, and practices of the actors and institutions engaged within these social systems, which limit the opportunities and outcomes of A4RD for marginalized groups.

Changing Social Systems

Fostering such a change in social systems is at the core of gender-transformative approaches (GTAs) to integrating gender into development programs. GTAs differ from other gender integration approaches in how they define the problems underlying gender inequality and therefore the solutions put forward to foster change. They engage with the complexity of gender to support women and men to act on the norms, attitudes, and wider structural constraints that limit their opportunities and outcomes; the institutional context is seen as a key barrier to equality, justice, and the achievement of development outcomes (Chant & Sweetman, 2012; Kabeer, 2012; Okali, 2012; Razavi, 2009). The case study serves to emphasize the need for integrating GTAs into the AR4D processes, without which the equitable uptake and scale out of such technologies will not be fully attained, and which could even lead to undesirable outcomes. Key characteristics that distinguish GTAs from other efforts, including the ones presented in the case study, to integrate gender in agricultural research for development interventions include (Kantor, 2013) the following:

1. Development of a deep understanding of people in their context and the way social inequalities intersect to affect choices and outcomes
2. Engagement with both women and men as both have a role and stake in gender-transformative change
3. Engagement with different actors and institutions across scales in recognition of the way that social inequality is created and maintained through their attitudes and practices
4. Commitment to address unequal power relations

5. Commitment to foster iterative cycles of critical reflection and action as a means to challenge oppressive norms, behaviors, and structures.

The research presented in the case study serves to point out the need for GTAs which seek to foster change in: individual capacities (knowledge and skills), attitudes, agency, and actions; the gendered expectations embedded within relationships between people in the home, in groups, and in organizations; and institutional rules and practices. These changes are expected to lead to more and better livelihood choices for poor and marginalized women and men, more equitable norms and institutions, finally leading to an expansion in their potential to contribute to and benefit from technologies (see Figure 2).

The interconnected and cross-scale nature of the changes underlines the complexity of the challenge involved in fostering transformative change. For example, a wife may want to work outside the house or a husband may want to take on more childcare responsibilities but the attitudes of family members may need to shift in order to facilitate such a change in their accepted roles. Community opinion leaders and local service providers can stymie or support progress through how strongly they hold on to norms and attitudes that limit women's access to opportunities, such as, by upholding mobility constraints. Community norms may influence the willingness of families and individuals to step outside of what is expected of them, due to fear of the consequences of not conforming. Both private sector and development organizations can play a role in supporting or constraining gender transformative change. As in the case study, private sector actors may be blind to women as economic agents, and bypass their needs and interests in the design and dissemination of technologies. Staff within development organizations need to understand the relevance of, and actively support, gender integration, viewing it not as an added work burden but as a core part of any activity, central to its success. Finally, donor approaches, including project timetables and pressures for scale and rapid results, can affect how development is done and the ability to invest in longer-term program approaches that address the structural inequalities underlying many development challenges.

Development actors cannot impose gender-transformative changes upon individuals, communities, or societies from the outside. Therefore, a willingness to engage in gender-transformative change processes needs to emerge from among those who will bring about and experience the changes—the families, communities, and local and national institutions composing a given society. Development actors have a role in sparking

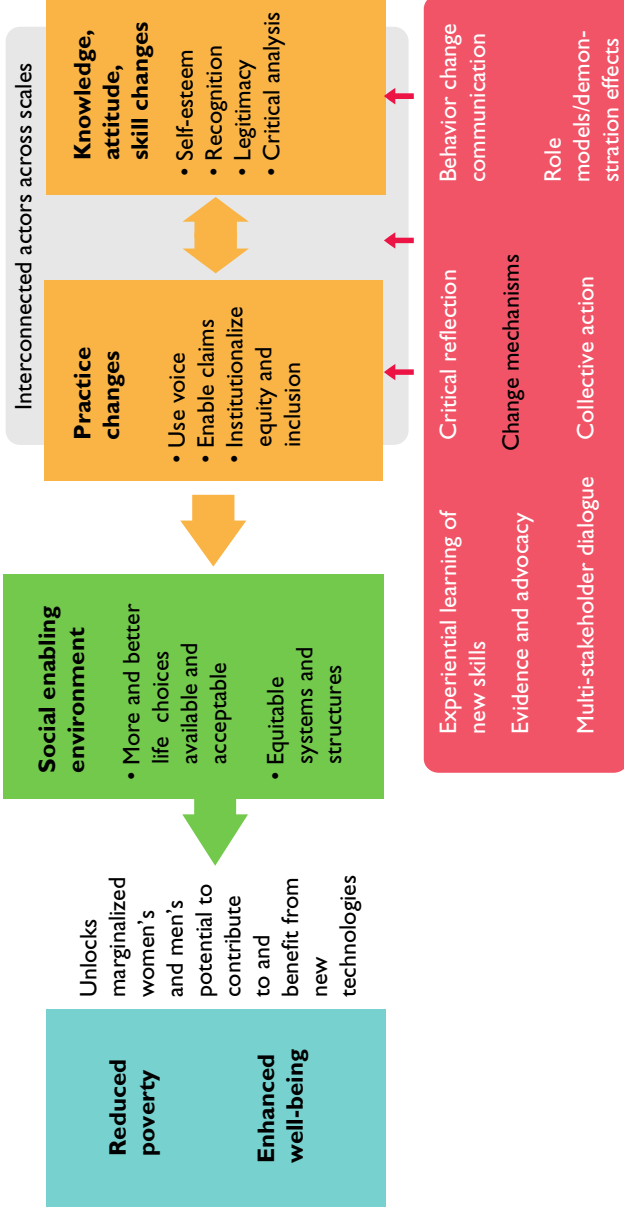


Figure 2. A Theory of Gender Transformative Change

Source: Cole, Kantor, Sarapura and Rajaratnam (2014).

such processes by providing information, linking people to different networks, or demonstrating through role models or other means that change is possible, but not by defining what change is “good.” For development actors to play this supporting role, they themselves must buy into the argument that social and gender justice are important in their own right, as well as underlie the achievement of other development goals.

One key challenge for the uptake and application of GTAs in agriculture is to not see them as separate from more “technical” interventions and vice versa. A main hypothesis related to GTAs is that it is through implementing them hand in hand with technology-focused, livelihood-enhancing interventions that optimal results from both are achieved (CGIAR Research Program on Aquatic Agricultural Systems, 2012). Achieving this marriage of the social and technical requires rethinking how technical interventions are delivered (i.e., the process) and to whom, and planning how purely social interventions can be sequenced and layered with technical ones. Examining whether and how integrated packages of social and technical interventions foster gender-transformative change across contexts and social groups, and affect technology adoption and use, is a central research agenda for GTAs in the agricultural sector.

One potential way to foster gender-transformative change within agricultural interventions is to apply transformative learning approaches within the interventions as a means to develop critical consciousness. Transformative learning approaches support the use of agricultural interventions as vehicles to enhance the capacity and willingness of participants to critically question how the social world works and its role in creating and maintaining poverty and gender inequality (Apgar & Douthwaite, 2013; Argyris & Schon, 1978; Brookfield, 2000; Kabeer, 2012). The process encourages participants to probe into problems and engage with their underlying causes. The causes emerge through deeper questioning and critical engagement that builds an understanding across actors of the underlying structures of the social system and how they work to constrain the ability of various groups to fulfill their own potential. This process provides opportunities to identify and engage in actions to redesign rules, norms, and practices so that better outcomes are achieved for all.

Mechanisms to Change Critical Consciousness

A range of mechanisms might foster this critical consciousness. Participatory action research, including equity targeting farmer field school approaches, is one mechanism that has shown success in catalyzing change

in social relations through building confidence in and demonstrating the capacities of marginalized groups (Friis-Hansen, Duveskog, Taylor, 2012; Humphries et al., 2012; Phillips, Waddington, & White, 2015). Adult learning approaches focusing on social issues also can be incorporated into technology training, and delivered to families and communities, as a means of linking technology knowledge transfer to a critical analysis of the social barriers at the family and community levels that affect the effective and equitable use of technology. For example, WorldFish-Bangladesh has adapted portions of Helen Keller International's *Nurturing Connections* curriculum, a six-month behavior change program for all family members, aimed at challenging intra-household inequalities and gender discriminating practices that underlie food insecurity and under-nutrition, to be delivered alongside technical training on homestead pond aquaculture. It was pilot testing the adaptation in two Southwestern Bangladesh villages in 2014 within the formerly studied CSISA-BD project to explore how merging technology training with activities questioning social barriers influences individual confidence, self-efficacy, and gender attitudes among women targeted for technology adoption, their spouses, and homestead pond production outcomes. The results of the aforementioned case study led to the revision of the technology delivery mechanisms for women.

Apart from merging technical training with social messages, other major changes introduced included discarding the demonstration of model farmer approach, forming smaller preference-based learning subgroups, modularizing the training throughout the production cycle, inclusion of other family members in various sessions and use of community theatre groups in linkage events to create awareness about gender issues. The social consciousness raising exercises selected from HKI's (Helen Keller International) manual were meant to address the challenges women were largely found to face whilst endeavoring to apply the new technical knowledge. The smaller preference-based learning subgroups and exercises on trust and team work helped to counter some of the group-based power dynamics that the study helped to identify. Inclusion of family members enabled women to attend the training without the family members causing barriers to their attendance. Also, since input support was uniform across all trainees, as a result of discarding the demonstration farmer model, there was more harmony amongst the groups. Finally, the technical livelihood incentive made the attendance of family members and participants more permissible in the social messaging exercises, which involve games and discussions around sensitive

gender behaviors and attitudes. The results will inform revisions of the curriculum for its application at scale, accompanied by a wider investigation of the curriculum's efficacy in fostering gender-transformative change and supporting sustained technology adoption and the equitable distribution of the associated benefits.

Behavior change communication (BCC) approaches, such as, community theatre, gender champions, and the use of role models or positive deviance to demonstrate that change in gender relations is possible, are approaches that can be layered on top of technical interventions to foster sustained, locally driven dialogue on the effects of gender and social inequalities on livelihood outcomes (Mahmud, Sultan, & Huq, 2012; Underwood, Brown, Sherard, Tushabe, & Abdur-Rahman, 2011). BRAC's Gender Quality Action Learning (GQAL) program is one example of BCC approaches. It was initiated in 2001 in Bangladesh for members of BRAC's village organizations with the aim of empowering women and promoting more equitable gender norms in the home and community as part of BRAC's overall poverty reduction programs. The strategies GQAL used to achieve its aims include: identifying and training women, men, and couples as gender justice educators (GJEs) who both commit to changing gender relations in their own relationships as well as being voices against gender discrimination and violence against women (VAW) in the community; courtyard meetings where women and men from the community are encouraged to discuss gender issues with GJEs, use of media campaigns and popular theatre to reinforce messages, and focus group discussions with male groups and female groups to stimulate awareness and ideas within the community about how to apply their learning (Mahmud et al., 2012). The idea behind the program is to build momentum for change by working with people to change individually and within their households, and then supporting these people to become change-makers in their villages.

A 2011 assessment of the changes among the women associated with the program found the following outcomes (Mahmud et al., 2012):

- Changing perceptions and attitudes about gender roles in the household, though less actual behavior change
- Successful community initiatives against VAW
- Income earning women in "good" performing GQAL sites who received assets under BRAC's Targeting the Ultra-Poor (TUP) program were more likely to self-report improvements in their social and economic status, self-confidence, and gender relations at home

Collective Action

Factors identified as influencing these outcomes included the commitment and capacity of individual staff members; ability to mobilize elite interest and involvement in the program; capacity to engage other civil society actors like youth groups and school committees; presence of other rights based and/or women's empowerment organizations in the communities; and community characteristics, such as, few class divisions and better social cohesion. These factors point to the need to work with partners and in coalitions in order to reinforce messaging about social and cultural change, and achieve a sufficient groundswell to shift opinion.

GQAL has been implemented with BRAC's TUP program and this seems to have improved results. The evaluation notes that this relationship needs more exploration to strengthen both of the interventions and their outcomes (Mahmud et al., 2012). It also recommends mainstreaming GQAL within BRAC programming overall; this is in line with the expectation that delivering economic (or technical) and social interventions together will foster more sustainable and equitable development outcomes.

Collective action is another mechanism that builds shared experiences and interests and creates a critical mass for change (Baden, 2013; Kabeer, 1994). It is commonly thought that the engagement of women or other marginalized individuals within groups to address concerns and share experiences creates strong bonds in the process ("power with") while simultaneously building individuals' empowerment, or "power within." It also can be a way to challenge "power over" through coming together to contest inequalities (Rowlands, 1997). These experiences can expose the members to new learning besides helping to foster critical questioning of the world around them. Collective action can also build skills to speak out, advocate, and act to create change in the way systems and structures work. However, such outcomes tend to bear fruit only when they are pursued intentionally. Groups and associations that are used instrumentally as a means to enhance the efficiency of project delivery, such as, in some microcredit programs, may be less likely to experience these outcomes. For example, an Oxfam study on women's collective action in agriculture found little evidence of transformative change resulting from the existing practices it studied, mainly because the efforts to enhance women's market access through collectives focused primarily on overcoming technical constraints (Baden, 2013). There were greater empowerment outcomes when market-oriented collectives also incorporated objectives around addressing social norms or were joined with complementary efforts to

address social constraints. Further investigation of the durability and distribution of the economic outcomes of these joint social–technical initiatives is needed, to better understand the relationship between gender-transformative change and improved livelihood and food security.

Conclusion

This article makes a case for improving the design and delivery of AR4D interventions through more purposeful inclusion of factors underlying social and gender inequality and the operationalization of GTAs. A case study on how gender relations influence the adoption of homestead aquaculture technologies demonstrated the need to marry social and technical interventions in order to avoid unintended consequences, and to help foster an enabling environment in which all people can achieve their potential. The expectation, which forms the backbone of a gender and technology research agenda, is that such integrated interventions will result in more sustained adoption of technologies and more equitable distribution of their benefits. Better articulating and delivering on the social elements of AR4D principles can support this effort, through the realization of synergies between enhanced equality and innovation capacities.

Notes

1. See, for example, work on assets rights by the International Center for Research on Women, by IFPRI and the “*In Her Name: Measuring the Gender Asset Gap*” project.
2. AR4D is an accumulation of all attempts at merging agricultural research within a practical space where it is relevant and can be utilized to address challenges that leave an impact on communities dependent on agriculture. It is guided by the principle that generating knowledge is not enough but processes have to be in place that not only enable generation of relevant knowledge but that can be learned and utilized by communities within an environment that enables adoption and scale-up through coordination and interaction among different stakeholders and institutions.
3. Empowerment processes refer to the efforts undertaken to enable farmers to feel a sense of control over their own lives and which enable them to take action for change. These efforts can include transfer of knowledge, access to different resources, and giving them a voice which is heard.
4. In Bangladesh, many projects target women in technologies around homestead areas as it is deemed appropriate for women considering the

- mobility constraints they face and the household responsibilities they have to carry out.
5. Both fish cage aquaculture and pond polyculture technologies were studied from CSISA-BD, while only the pond polyculture technology was studied in the AIN sites.
 6. A day where farmers share with the community and value chain actors what they have learnt and produced.
 7. This is an expression meaning women leave the house all confidently and happily, their shoes making noise as they leave but come back disappointed. Expression like “clicking shoes” and “swaying hips” are used in a somewhat demeaning manner to describe their way of leaving the house which is then to no avail. Such expressions are commonly used in Bangladesh to poke one another when one’s efforts bring no gains.

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8. Scope of Work

Attachment A – Scope of Work

1. **Contractor Name:** Marydean Purves
2. **Place of Performance:** As determined mutually by CNFA and Contractor
3. **Level of Effort:** Not to exceed 31 Days
4. **Period of Performance:** September 26, 2016, and ending on December 2, 2016
5. **Reporting to:** Bangladesh AIP Chief of Party, Alexis Ellicott

I. **General Program Description and Background Information**

The Agro-Inputs Project (AIP) is a \$14 million USAID-funded Feed the Future (FTF) program in Bangladesh. AIP has established the Agro-Input Retailers Network (AIRN) that is contributing to the improvement of quality and availability of agricultural inputs to farmers in the FTF zone. This is being achieved through a network of 3,000 agro-input retailers (AIRN members) who receive training and technical assistance on the safe handling, storage, and application of quality inputs, business ethics and other related topics. AIRN members are expected to serve about 1 million smallholders, generating more than \$100 million in sales.

AIP will achieve its goal through the following interventions:

1. **Establish an Agro-Inputs Retailers Network:** Creation of AIRN, a first-of-its-kind agro-inputs training organization serving retailers in the FTF zone
2. **Improve Effectiveness of Agricultural Inputs Market Information Systems:** Distribution of 115,000 hard copy (e-copies will be used when possible) Monthly Price Outlook Bulletins, supported by an innovative GIS-based input market information system; demand creation for improved quality inputs through 500 demonstration plots
3. **Enhance Knowledge and Application of Quality Standards:** Promotion of input quality standards to 50 input supply companies and 3,000 AIRN retailers. Eight new input quality standards developed by industry associations (with public and private stakeholders) presented to USAID for referral to the Bangladesh Policy Research and Strategy Support Program (BPRSSP); knowledge and demand for quality inputs increased through communications and outreach campaign
4. **Strengthen Local Organizations' Institutional Capacity:** Three organizations receive comprehensive organizational capacity assessment (OCA) and necessary assistance in organizational capacity development (OCD). The objective is organizational strengthening of these organizations, and utilization of their technical expertise to implement AIP-related activities via sub-award

In 2013, an initial gender analysis was conducted in order to identify specific actions AIP could take to effectively address gender equity constraints in the agricultural inputs sector within the scope of the project. The goal of the actions designed as a result of the analysis was to empower female program participants and measure impacts using aspects of the Women's Empowerment in Agriculture Index (WEAI) tool.

The findings and recommendations provided AIP with a greater understanding of gender roles, relations, constraints and opportunities to influence the activities of the project. The results of the original gender analysis led to the creation of the matching-grants activity for AIP, through women expressing interest in becoming agro-input retailers. As a result of the success of the initial analysis, AIP is conducting a final

gender assessment to review gender focused and tangential project activities in the final year of the project to measure how AIP addressed and responded to gender dynamics in technical programming and methodologies. With a particular focus on the in-kind women's grantee program, the gender assessment will highlight successes and gaps in programming to assess AIP solely on its commitment to addressing gender issues.

As the original analysis, conducted via informant interviews, household surveys, focus group discussions and case study, provided key recommendations on how to integrate gender into program initiatives, this follow up gender assessment will measure the processes and results through a similar research agenda, with a comprehensive review of existing activities. These findings will assist CNFA in assessing vital components of AIP implementation, as well as assist CNFA and partner implementers in the future design of programmatic activities.

II. Gender Assessment Research Focus

1. Follow-on review from 2013 Gender Analysis pertaining to the WEAI, with a specific focus on AIP female beneficiaries (grantees)
2. Qualitative assessment of AIP's women's only Matching Grants Program (challenges, opportunities, lessons learned)

III. Tasks

The consultant will lead a gender assessment process that focuses on the following elements:

1. Conduct a gender assessment in line with AIP's 2013 Gender Analysis, including male agro-input retailers and social counterparts to analyze changes in empowerment amongst target population of women retailers;
2. Conduct a qualitative assessment of AIP's women's only Matching Grants Program (challenges, opportunities, lessons learned);
3. Document and present findings and recommendations via a written report and oral debrief with AIP Chief of Party and project staff, as available. The consultant is encouraged to use creative methods to present findings, but must submit a written report, structure and delivery date to be determined by AIP.

This consultancy is for a period of approximately 31 working days (6-day work week basis in country), inclusive of travel time to and from Dhaka, Bangladesh. The current estimation is that the consultant will be in-country for approximately three weeks.

All travel arrangements will be made by CNFA. The gender consultant will receive primary support from AIP's Grant Team based in Khulna, as well as its three partner NGOs: the Ashroy Foundation, Banchte Shekha, and the Association of Voluntary Actions for Society (AVAS) - to conduct field work for the assessment.

IV. Deliverables

1. **Work Plan:** Must include the anticipated methodology, gender analytical frameworks to be used, sampling plan, timeline of fieldwork and drafts of questionnaires and tools. The work plan will be submitted electronically to AIP's Chief of Party and Washington D.C. based Program

Officer prior to approval for fieldwork. The work plan will be finalized in coordination with AIP and the consultant, and should be limited to five pages, not including attachments.

2. **Gender Assessment Study Report:** Must be written in English using Microsoft Word. The report is not to exceed 30 pages, not including annexes. The report should include:
 - a. a description of the methodology and gender analytical frameworks used, including actual sample sizes
 - b. a list of demographic breakdown of interviewees and focus group participants (sex, age group, geographic location, other as relevant)
 - c. Findings and recommendations for future grants programs, future interventions in Bangladesh
 - d. Annexes containing final work plan, bibliography referencing all documents and reviewed data
 - e. Copies of actual tools and guidelines used including surveys, interviews and focus group guidelines



CONCERNS RAISED

DIGITAL SECURITY ACT 2016 DRAFT

Infographic: Shaer Reaz

Vague definitions

Definitions of technical terms in Section 2 and of offences under Section 13 are broad and sweeping. The language is confusing and not understandable by most people.

Unnecessary new law

The offenses are not new, Section 3 states that the law is supplementary to existing laws. The issues are already covered under the ICT Act, Penal Code etc.

Digital Security Agency

Section 5 proposes creation of a Digital Security Agency, which is unnecessary as the BTTC is the main regulatory body of the ICT.

Excess power to DG, DSA

The act gives the director general of the proposed Digital Security Agency interlocutory powers to take punitive measures, bypassing court procedures.

Endangers freedom of expression

Danger of curbing freedom of expression through excuses of national security, bilateral relations, immorality, defamation, propaganda etc.

Disproportionate penalties

From 1 to 14 years of jail sentence due to offenses without taking intent into consideration. Crimes are not clearly defined, and gives scope for random harassment.

No human rights safeguards

Contradictory to Article 19 of the Universal Declaration of Human Rights and Article 19 of International Covenant on Civil and Political Rights which Bangladesh is signatory to.

 18 million

approximate number of active users on Facebook. They face possible legal action under...



Digital Security Act

draft which has 45 sections including provisions for trying users of digital devices for...



posting

propaganda against the Liberation War, religious defamation, pornography, etc., facing a maximum of...



lifetime imprisonment

depending on the charges brought against the individual, without considering the intent of the "crime".

DIGITAL SECURITY ACT, 2016

How does it affect freedom of expression and the right to dissent?



ILLUSTRATION: AMIYA HALDER

The draft Digital Security Act 2016, intended to address the need for cyber-crime legislation, according to the authorities, was approved on August 22, 2016, by the Cabinet. But members of civil society, media and activists have already expressed their concerns over the draft law impinging upon people's freedom of expression. "Subject to any reasonable restrictions", our constitution guarantees as a fundamental right, "the right of every citizen to freedom of speech and expression". The draft Digital Security Act, 2016, may unreasonably deny this right and restrict critical thinking, the questioning of the status quo, and take away from individuals one of their most powerful weapons — the right to speak freely without fear.

The Daily Star talked to Jyotirmoy Barua, a Supreme Court lawyer, Syeed Ahamed a researcher, and Baki Billah, a blogger and online activist on the implications this law may have on our fundamental rights.

THE INTERVIEWS WERE TAKEN BY MOYUKH MAHTAB, ERESH OMAR JAMAL AND SHAMSUDDOZA SAJEN

for publicity. On the other hand, media organisations need to treat issues like this with more attention, so that their work does not end up doing more harm than good.

Gender equality remains elusive

Patriarchal mindset in society must change

FOR a second consecutive year, Bangladesh has ranked ahead of all other South Asian countries in gender equality. While that might be something to celebrate, what is concerning is that it has also slipped by eight notches down to 72nd from 64th among 144 countries. But that should not be too big a surprise, as despite the ranking, the regular stories we hear of violence against women, and the daily experiences of us all should have already made it clear that while we constantly speak of equality, female security, which is integral to gender equality, is still gravely missing in our country.

Given also that the other South Asian countries are not doing well themselves, there is no point in comparing our performance with others as that would fail to paint the real picture of women's status and their condition in our country. The only purpose that it could serve is to show that all the countries of this region have performed poorly when it comes to gender equality and have much more to do in that regard.

In the case of Bangladesh although there are strict laws in place to punish the perpetrators of such grievous crimes, justice still remains elusive in the majority of cases of violence against women, especially when the crime is committed by those affiliated with influential quarters.

If we truly want to give women an equal footing, allowing the culprits of such crimes to escape justice must be brought to an end. The patriarchal mindset that exists in society must also be changed if we are to achieve true gender equality.

PHOTO: ORCHID CHAKMA



A Wind of Change

It is quite surprising to see that female workers in Dhaka have been employed to sell bus tickets, which is usually considered a man's job as this particular job requires a lot of interactions with people from all walks of life. It is quite positive that we are trying to break the stereotypes created by our own male dominated society. However, we should also be careful so that these pioneering women who have showed their mettle to take this challenge do not become victims of stalking, harassment and discrimination. The article titled "A Wind of Change" published in *Star Weekend* on October 21, 2016 has already pointed out some important issues such as scarcity of necessary facilities such as food and sanitation for these workers. The concerned authority should take immediate steps to solve these issues.

Tapan Karmaker
Banani, Dhaka

PHOTO: PRABIR DAS

Law that cries out for change

FROM PAGE 1

personal law that deals with the familial issues of the minority community in Bangladesh does not permit wives to break away from marriage, it added.

Marriage is a religious duty for one's eternal life and so there is no question of its dissolution however strained the relationship might be, according to the country's Hindu law that dates back to the British period.

Unlike in India and Nepal where the Hindus comprise the majority, the only law applicable to aggrieved Hindu married women in Bangladesh is Hindu Married Women's Right to Separate Residence and Maintenance Act 1946. That means a woman can appeal to court for her separate maintenance by the husband but will not be granted exemption from marital obligation on any grounds and legal permission to remarry.

To this, Mita, a resident of Nakharpore in the capital, says, "It's ridiculous that I cannot divorce my husband even after he got engaged in an extramarital affair and abused me mentally and physically."

Though her status is unchangeable, her husband, who has been living with his second wife for one and a half years now in the capital, is allowed by the existing law of Bangladesh to marry as many times as his heart desires without facing any legal action.

India, however, has revised its old law and rules into the Hindu Marriage Act, 1955, which sees marriage as a civil contract rather than eternal bonding and so allows both the parties to break the agreement on specific grounds.

Nepal grants women additional grounds than men – if she is raped and if the husband is impotent – for divorce, according to websites of Nepalese law firms that deal with divorce cases.

LEGAL BARRIER TO WOMEN'S REMARRIAGE

Meanwhile, Mita, without children, seems to live a life of an unmarried and self-dependent woman, except for the fact that her national ID card still mentions the name of her husband.

Once she tried to get a new ID card with the husband's name replaced by her father's, but the authorities informed her that to do so she needed to submit a divorce paper.

Her ordeal began in 2008, seven

years after her marriage, when she started to suspect that her husband was having an illicit relationship. But every time she demanded a direct answer from him, the man used to label her as a psycho, who, "without any evidence, was doubting his loyalty and in turn making it difficult for him to focus on work".

As time passed by, verbal abuse turned physical.

"I spent many nights crying and groaning in pain from the physical torture by my husband and thinking how I could unmask him before my in-laws, parents and brother," Mita said.

From the beginning of 2009, her husband, who was employed outside Dhaka at the time, stopped sending her money. He was, however, coming to Dhaka once or twice a month.

Whenever he was home, he was busy talking on phone all through the night and sleeping throughout the morning.

"From the phone conversations, I could guess it was her," said Mita, referring to the woman her husband had been going out with.

"Now there was no more hiding. But what else I could do other than watch," she sighed.

Then one day when he was away, she got her hands on a CD that had photos of the other woman and her husband and video footage of their moments of intimacy.

That is when she decided to part from her husband.

Jhumur Rani Deb, an employee of Bangladesh Krishi Bank in Ajmeriganj of Habiganj, however, has not yet made up her mind as to how she will untie herself from the broken marriage.

Her husband has been maintaining a separate world of him in Dhaka from just two years after their marriage in 2006. Their eight-year-old son hardly knows his father and refuses to talk to him on phone even on the rare occasions when he calls, Jhumur says.

On October 16, she spent all day at the Sonali Bank branch in the capital, where her husband works, to talk about the issues between them, but he quickly cracked out asking her to wait with her son.

Jhumur says she wants the money and ornaments back, which her family gave her husband, and end the relationship through divorce.

"Every time I demand those back, he asks me to present proof. We [Hindus] don't keep records of things given during and after marriage]..."

Against the backdrop of repression of Hindu women's absence of a marriage law in Bangladesh, human rights activists – Manusher Jonno Foundation (MJF), Ain o Salish Kendra Bangladesh Mahila Parishad Bangladesh Shiksha – carried out wide campaigns to raise awareness the need for a comprehensive law that would provide for some registration of Hindu marriage, divorce rights to both men and women.

They also proposed a draft 2011, in response to which the government passed in parliament Marriage Registration Act, 2012 in its kind, said Banamita Mita for the MJF.

But the law does not bind couples to register their marriage, alone keeping a provision of 6

Campaigns for compulsory marriage registration and divorce faced strong opposition from initial Hindu men and eventually said MJF Executive Director S Anam.

They say such legal provisions encourage divorce among couples, she added.

Last year, Bangladesh Women's Rights Foundation's chief executive Alma Khan and aggrieved August 26, filed a writ petition with the Court for enforcement of her mental rights.

The court instructed the de facto Agnita's husband, not to impose legal obligation on her until the court on the writ is held, Alma Khan said.

The constitutional provision guaranteeing everyone's equal right to life irrespective of religion, cast, gender etc, contradicts the Hindu personal law that denies right to divorce, out forbidding men from taking polygamy.

HINDU LEADERS THROTTLE MOVES TO REFORM

Asked what the hindrance to reform Meghna Guhathakurta, executive director of the Research Initiative Bangladesh (RIB), said Hindu men consider any initiative for change family law as a threat to the



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VOL. XXVI No. 277

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Law that cries Out for change

Hindus have no right to divorce; men can remarry, but not the women

"The socio-political structure in Bangladesh puts us in a defensive position against any reform.

ADVOCATE TAPOSH PAL, GENERAL SECRETARY, DHAKESHWARI NATIONAL TEMPLE

"It's ridiculous that I cannot divorce my husband even after he got engaged in an extramarital affair and abused me mentally and physically."

MITA RANI

BISHAKHA DEVNATH

She has severed all ties with her husband and lived separately for more than four years now. But legally her marriage is not over yet.

Aged 35, Mita Rani has been trying to come to terms with this reality after she discovered to her shock, at the end of a two-year legal battle, that the country's law does not recognise Hindu women's right to divorce.

The court, where she appealed for dissolution of her marriage, in its judgment said it considered the complainant ineligible for divorce since both she and her defendant husband belonged to Hinduism. The Hindu

SEE PAGE 2 COL 1

Police contrac



The report said Bangladesh electricity more difficult freeze on new electricity co

PREMIER BANK

Diversify agriculture to ensure food security: WFP

FROM PAGE B1

Alongside, people's access to food has also improved and Bangladesh has achieved a great deal by way of improving the state of nutrition.

A recent cross-country study has concluded that from 1997 to 2007 Bangladesh achieved one of the fastest prolonged reductions in child undernutrition in recorded history. The rate of stunting among children under five, which reflects the state of chronic undernutrition, has decreased from 55 percent in 1996-97 to 36 percent in 2014.

An alarmingly large number of people still remain food insecure and hungry: one-quarter of the population was food insecure in 2014, which amounts to 40 million people.

Among them, some 11 million people were found to suffer from acute hunger. Even larger numbers remain vulnerable to food insecurity in the face of periodic shocks.

A further concern arises from recent slowdown in agricultural growth: in the past five years, agriculture has only grown at half the rate of the preceding five years.

There are still important shortfalls in the production of certain non-cereal crops as well as some non-crop foods relative to demand.

preeminent place in the diet, with its contribution to total energy supply standing at 77 percent in 2009-11, from 79.6 percent in 1995-96.

Stunting still afflicts more than one-third of children and acute malnutrition has remained worryingly stubborn over a long period.

At the current rate of progress, Bangladesh will fail to meet several of its own targets, the report said. For example, stunting will need to decline by 5.3 percent per year, from about 2.5 percent in recent past, if the government's target for 2021 is to be achieved.

According to the 2014 Global Nutrition Report, Bangladesh is not on course for meeting any of the 2025 targets agreed upon at the World Health Assembly in 2012.

Besides, the increasing pace of urbanisation and the ongoing process of climate change have some worrying implications for the future trend of food security and nutrition.

It has been estimated that, as a result of climate change, crop production might be reduced by 30 percent by the end of the century. In addition, rising carbon dioxide emission is going to make Bangladesh's staple food crops less

The report called for empowering women, as researches show when women are empowered farming households are more likely to opt for greater diversity of production. Farmers who produce diversified products will also consume a diversified diet instead of selling the micronutrient-rich products for the sake of higher income.

Social protection and safety net programmes are potentially an important vehicle for promoting food security and nutrition.

One aspect that deserves special attention is the persistently high prevalence of low birth weight since it is well-established that low birth weight babies tend to be more susceptible to stunting in later life.

The persistently high rate of teenage pregnancy is also a matter of concern as child bearing by the 15 to 19-year-old women has fallen only marginally in the past two decades - from 33 percent in 1993-94 to 30.8 percent in 2014, said the report. The report said since food security and nutrition are inter-linked, the respective governance should also ideally occur through an integrated framework.

It called for strong and effective coordination among government interventions in order to avoid

is important to deal with food security and nutrition, the report said.

"By explicitly recognising people's right to food and adequate nutrition, the government accepts that citizens can hold their government accountable and culpable in the event of avoidable failures." Speaking at the event, Finance Minister AMA Muhith agreed that the country will have to do a lot to ensure food security.

Muhith said he is particularly bothered by the teenage marriage. "This is causing us pains and the burden has to be borne by the future generations. We have to do something about it." The minister said he would make budgetary allocation in the next fiscal year so society and village-based movement could be launched against teenage marriage.

Muhith also said agriculture has to be diversified and special attention has to be given to the first 1,000 days of a child.

James Harvey, chief of staff of the WFP, said countries as well as development partners have to do things differently to achieve the sustainable development goals.

Md Shah Kamal, secretary of the disaster management ministry,

Ownership SIMs may

FROM PAGE B1

As per rules, if any SIM remains three consecutive months, it is inactive. After 15 months, the operator issue a warning to the SIM owner. After one month response time to activate

If the owner fails to respond, the operator can re-sell the number at a lower price. "It looks like a strategic move by the regulator to contain the operator's number series.

If there is a genuine need, we will issue new numbers," said a senior official at BTRC. "Reducing the ownership of unused SIMs is a better option, as only three number series left."

There is a chance that the op

OPENS TODAY

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LIGHTING



Sensational murders rapes to see quick trial

Assures Law Minister Anisul Huq

STAFF CORRESPONDENT

Law Minister Anisul Huq yesterday assured quick trial of all sensational murder and rape cases including that of the rape of a five-year-old girl in Dinajpur.

The prosecution will be instructed to place arguments in courts, praying for the highest punishment for offenders so that nobody dares commit the crimes in the future, he told reporters outside the capital's Judicial Administration Training Institute where he inaugurated a training course for joint district judges and judicial officers of the equivalent rank.

He said the government would take steps to prepare paper books (containing abstracts of pleadings) of the sensational murder cases for their quick disposal. The government will equip Bangladesh Government Press in

such a manner that it could print the books swiftly, he added. A paper book contains all the documents of evidence, judgment, and other relevant issues of a court concerning a case.

Replying to a question, Anisul said the ministry would reply very soon to a letter to the Supreme Court that asked the government to relocate the International Criminal Tribunal from the old High Court building by October 31.

Addressing the opening session of the training course, the minister urged the court judges to discharge their judicial duties with honesty, sincerity and competence to get people justice within a short time and at a minimum cost.

JATI Director General Justice Khondokar Musa Khaled and Law Secretary Ahsanul Zahirul Haque Dulal also spoke.

opportunity

Applications for the below position:
(Female) post-1: Candidates of Hon's/ s experience. Attending calls look after with proper manner as per requirement. See overall administrative functions. Offered to the deserving candidate. Evidence within 10 November 2016, to n Technocrafts Ltd., City Center Dhaka -1000.

ATOMSTROYEXPORT

or Proposal

gorod Engineering Company
t open tender in non-electronic form
performance of works on repair of the
sports ground and site

OFFICE SPACE TO-LET

Approximately 8500 Sft. (gross) space on the mezzanine floor at 'Finance Square' (Hotel L Meridien Building), Plot No. 79/A, Nikun (North) Commercial Area, Dhaka is ready for rent. Bank/Insurance/Financial Institution/Multi National Companies will be preferred. Those who are interested may contact the following person

Md. Hafizur Rahman
Manager

A police wrecker takes away rickshaws which were on the streets unauthorised, near Gabtoli inter-district bus terminal in the capital yesterday. The slow moving rickshaws are one of the major causes of the traffic jam in Dhaka city but are widely used for convenience.



PHOTO: PALAS

ing a press briefing after the maiden meeting of the party secretaries at AL president Sheikh Hasina's Dhanmondi office.

During the party council, the councillors demanded inclusion of Joy in the

SEE PAGE 4 COL 3

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eka-Mukteshwari river in

SEE PAGE 10 COL 1

92pc of girls drop out of school after marriage: Study

STAFF CORRESPONDENT

Around 69 percent of adolescent girls between the age of 13 and 15 years get married, and 92 percent of them drop out of schools, according to a new study.

Moreover, 89 percent of them get pregnant at least once before they become 19, without having any knowledge of the reproductive healthcare system.

The study was funded by the Dutch government under the project Initiatives for Married Adolescent Girls' Empowerment (IMAGE).

Five local and international organisations, led by Terre des Hommes Netherlands, surveyed 4,497 married



PHOTO: STAR

Participants at a discussion at The Daily Star Centre yesterday.

girls of three unions of Gaibandha, Nilaphamari, and Kurigram, in February-March 2016. The findings were shared at a discussion at The Daily Star Centre yesterday.

"We found some girls (1 percent of the child marriage victims) who were

married before 12. It's very shocking," said Farhana Akter, research and knowledge management specialist of IMAGE.

"Most of the child marriage victims drop out of schools and only 17 percent of them use sanitary napkin, which is essential for menstrual hygiene management," she said.

Morium Nesa, national coordinator protection of Terre des Hommes, said people treated these girls who got married before 18 as adults while they were still children. The girls are sometimes denied the rights they are supposed to get as children, she added.

Describing child marriage as a sexual

SEE PAGE 4 COL 3

Kunio murder case shifted to special court in Rangpur

OUR CORRESPONDENT, Dinajpur

Japanese national Kunio Hoshi murder case was transferred to Special Judge Court from District Judge Court in Rangpur yesterday.

The order came after hearing of the case on October 20, court sources said.

Earlier on October 13, the case was shifted to the District Judge Court from an Additional Senior Judicial Court, said public prosecutor Abdul Maleque.

Armed assailants on a motorcycle shot Kunio Hoshi, 66, dead in Aluwari village in Kaunia upazila on October 3 last year.

by the scientist. Maternity as a key remedy to
Health Organization's global VAD database, one
children in Bangladesh is vitamin A-deficient.
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SEE PAGE 2 COL 1



Insensitivity taints good gesture

Dinajpur rape victim's family details posted on Facebook to highlight DC's financial help; second culprit still on the run

STAR REPORT

With the five-year-old Dinajpur rape victim writhing in pain at a city hospital, some people's insensitivity to the issue and their callousness in revealing the identity of the victim and her family members have drawn flak from many.

While the girl, brutally tortured and raped nine days ago, is under treatment at Dhaka Medical College Hospital, a freelance photojournalist posted on his Facebook page a photograph of Dinajpur Deputy Commissioner giving financial help to the victim's grandfather.

Several local newspapers and online portals carried the photograph, mentioning the names of the victim and her family members.


This irked many people, who expressed displeasure on social media network and other platforms.

Meanwhile, Saiful Islam, 42, one of the two alleged rapists, was placed on a seven-day police remand, while law enforcers are still looking for the other alleged rapist.

Talking to The Daily Star, Marufa Begum, secretary of Dinajpur unit of Bangladesh Mahila Parishad, said the girl and her family members are now socially humiliated by the publication of the photograph on Thursday.

She criticised the Dinajpur newspapers for publishing the photograph, which showed DC Mir Khairul Alam handing over a cheque of Tk 10,000 to the grandfather of the rape victim.

SEE PAGE 17 COL 1



Khadiza shifted to cabin, now able to eat food on her own

STAFF CORRESPONDENT

Physicians yesterday shifted Khadiza to a cabin from the High Dependency Unit of Square Hospital as her condition began improving.

Rejaus Sattar, a neurosurgeon of the hospital, told The Daily Star that doctors would now observe her condition for a couple of weeks and plan her next treatment.

Her father Mashuk Miah said he fed her breakfast in the cabin and she was able to take solid food on her own.

A 23-year-old student of Sylhet Government Women's College Khadiza Begum Nargis was brutally hacked by Badrul Alam, a Bangladesh Chhatra League leader of Shahjalal

SEE PAGE 17 COL 3

STAFF CORRESPONDENT

Like other ministers, parliamentarians, the campaign according to the

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Adamdighi, Altafnagar, Shukhanpukur, at Sabgram para and Sonatola stations. gers of a

of t' Woman murdered, husband arrested

A CORRESPONDENT, Faridpur

A woman was found murdered in Modhukhali upazila of the district yesterday.

Police arrested her husband Nitya Mandol, 28, a salesman of a pharmacy in the area, from Faridpur town in this connection.

Nitya lived with her wife Modhumala Bala, 22, and their two-year-old son at Joader market in the upazila.

On information, police recovered the body from the house and sent it to Faridpur Medical Collage Hospital morgue for autopsy, said Md Ruhul Amin, office-in-charge of Modhukhali Police Station, adding that scratch marks were seen around her throat.

The victim's mother Suchitra Bala said Nitya often tortured her daughter over family feuds.

The arrestee might have strangled Modhumala, the OC said, adding that a murder case was filed, accusing Nitya.



An unspeakable crime

We demand exemplary punishment

It is impossible to describe in words the revulsion we feel to write about the unspeakable abuse of the five-year-old girl allegedly by Saiful Islam, 42, of Jamirhat village in Dinajpur town on Monday night. Have we become a society that knows not how to protect its children from such horrific crimes which have seen an alarming rise lately?

We want the highest punishment of the pedophile under law without procrastination. But there are deeper questions that need to be addressed. Should our responsibility as a society end with calling for justice or even delivering it? What is going to happen to the future of this child? Can the government and the society guarantee that she will have a normal life? What kind of social programmes does the country have in place for reforming criminals like Saiful? Can the government certify that he will not act again once he is out? And what about all the other children who are sexually abused but silently bear the torture?

We would like to take the law minister at face value when he assures the public of quick disposal of all murder and rape cases including this one. We hope that he keeps his word so that no child has to go through this in a country governed by laws. Failure to do so will erode the credibility of the legal system which is supposed to provide justice to the oppressed.

It is time the government stopped treating it as a mere law enforcement issue. We must acknowledge the reality of child abuse in our society and put an end to it. Social scientists should find out why such crimes against children are on the rise.

A society that cannot protect children is no society at all.

One in four suffer

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LETTERS TO THE EDITOR

letters@thedailystar.net

Little girl fights for life

Three people were arrested at Lalbagh on charge of raping a girl. We find this kind of horrible news almost daily these days. People demand strict punishment of the culprits, but in very few cases do we come to know about any measures taken after a long time, if any. The victims of physical, sexual and acid attacks are usually women and children belonging to a certain strata of the society and they are

mostly helpless.

The time has come to define what we mean by exemplary punishment. In Indonesia they are about to introduce a law to castrate perpetrators of such offenses. Bangladesh must take measures to specify penalties against these hideous crimes and act against the criminals immediately.

Shamsuzzoha

On email

Brutality again

The names of Tonu, Khadiza are still fresh as is the brutality committed against them. And yet proclivities to perpetrate such savagery against women and children are under control. Punishment for such crimes is rarely enforced. Perpetrators have a powerful affiliation which prevents their conviction.

TO THE EDITOR

@thedailystar.net

Brutality against women and children needs action

The names of Tonu, Risha and Khadiza are still fresh in our minds, as is the brutality committed against them. And yet proclivity to perpetrate such savagery, especially against women and children, is not under control. Punishment of these crimes is rarely enforced. Some perpetrators have affluent or powerful affiliations, which further prevents their conviction. These

cases have set up an example of negligence towards horrible acts, and given rise to a situation of panic.

The government must establish the strictest possible punishment against crimes harming people's lives.

Anindo Gomez

*Computer Science Department,
Dhaka University*

mum temperature was 21 degrees C and
the maximum 32 degrees C on Tuesday

Doctors said the flow of patients suffering
from typhoid, diarrhoea, pneumo-

Man to die for killing wife

OUR CORRESPONDENT,
Natore

A court here yesterday
sentenced a man to death
for killing his wife in 2012.

The convict is Hasan Ali,
35, son of Anwar Hossain of
Pakuria village in Singra
upazila.

Public Prosecutor
Sirazul Islam said Hasan
strangled his wife Asma
Begum following a family
feud in 2012.

Later, a case was filed
with Singra Police Station
in this connection.

7 jailed for

catching hiles

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the White House -- by a massive eight point margin, 48 to
SEE PAGE 2 COL 1

US Democratic presidential nominee Hillary Clinton speaks during a ca
Florida is one of the key battleground states her opponent Republican

Violence against women, children shoots up

Data from one stop crisis centres shows rape, other forms of violence increased by 10% in July-September; lengthy legal process, impunity blamed for the rise

SHAHEEN MOLLAH and AKRAM HOSEN

The country in the last three months has experienced a wave of sexual abuse, rape and other forms of violence against women and children, which rights activists blame on impunity, perception about women and ubiquity

of uncensored web content. Among four children admitted to the One Stop Crisis Centre (OCC) at Dhaka Medical College Hospital last week, one is only two and a half years old, said doctors at the centre. She had been molested by a college student who lives in a building across hers. The

others were four, seven and thirteen years. "Had the government ensured punishment of perpetrators through speedy trial in at least the sensational cases, the cases of rape and violence would have been reduced," said Salma

SEE PAGE 2 COL 1

Aid for

More t danger

AFP, Capital

More than a m in grave danger for the worst", after Iraqi fore city Just over tw retake the last the Islamic Sta have fought t

Acid thrown on sleeping woman

Husband arrested

OUR CORRESPONDENT,
Benapole

A woman sustained burn injuries as her husband threw acid on her face over a family feud in Sharsha upazila of Jessore yesterday.

The injured is Sabina Khatun, 28, wife of Dipu Hossain Ripon, 42, of Dhannokhola village.

Officer-in-Charge (OC) of Sharsha Police Station Maniruzzaman said Sabina has been staying at her father's residence at Amdala Gatipara village since the separation.

Ripon threw acid on her face while she was sleeping at her father's house, leaving her seriously injured. She was admitted to Jessore Sadar Hospital.

Ripon was arrested from Gatipara village, the OC said.



GRABBERS FEARS
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Youths take oath to

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ATTEMPT TO RAPE MINOR

50-yr-old caught red-handed

OUR CORRESPONDENT, Thakurgaon

A 50-year-old man was caught red-handed while attempting to violate a minor girl at Paikpara village in Sadar upazila of the district on Tuesday.

Villagers caught the perpetrator, Abul Kashem, son of late Asgar Ali of the village, and handed him over to the police the same afternoon.

Quoting locals, police said the seven-year-old victim was playing beside their house around 3:00pm.

At one stage, her neighbour Kashem took the girl to a nearby paddy field and tried to violate her, said Sub-inspector Rashedul Islam of Sadar Police Station.

Hearing her cries for help, villagers rushed to the spot and rescued the girl. They caught Kashem while he was trying to flee the scene and handed him over to the police, the SI added.

The victim underwent a medical test at Thakurgaon Sadar Hospital the same night.

Yesterday morning, victim's father filed a case with Sadar Police Station accusing Abdul Kashem.

Judge Saiful Islam of Thakurgaon Chief Judicial Magistrate's Court sent the accused to jail after police produced him before the court the same afternoon.

BY PANCHAYET DECISION!

amgani families

and teachers join a human chain, organised by the mass comm
mpus yesterday, demanding speedy trial for all the murders and
nafiu Islam, Prof S Taher Ahmed, Akhtar Jahan Joly, and student

6 held for 'abducting girls for ransom'

A CORRESPONDENT, N'ganj

Police arrested six people in different areas of Narayanganj city on Tuesday night for allegedly abducting girls for ransom.

They are Sharif, 26, and his brother Arif, 28, of Golachipa, Sunny, 20, of Beparipara, Sajib, 22, of Munshiganj, Sumon Chakrabarty, 20, of Sonargaon, and Robin, 20, of Chitashal.

Officer-in-Charge of Sadar Model Police Station Asaduzzaman said the arrestees are involved in snatching and extortion.

They also abduct girls by luring them into traps for ransom, he added.

Strict use of tobacco act

FROM PAGE 3

associate editor Abdul Quayum, the discussion marks World COPD Day, on November 16.

Dhaka North City Corporation Mayor Anisul Haque, Beacon Pharmaceuticals Ltd Managing Director Mohammad Ebadul Karim, Bangladesh Lung Foundation President Prof Rashidul Hasan, and Prof Ruhul Amin of Dhaka Shishu Hospital also spoke.

Dhaka to demand easy

Woman killed for land in Jhalakathi

*Dulu's body was thrown into
canal to ensure death*

OUR CORRESPONDENT, Jhalakathi

A woman was hacked to death at Pashchim Kanudaskathi village in Rajapur of the district on Wednesday, said Officer-in-Charge (investigation) of Rajapur Police Station Md Harun ur Rashid.

The deceased was identified as Dulu Begum, 45, wife of late Abdur Rahim of the village.

Dulu's sister-in-law Sufia Begum and Sufia's daughter Lakhi Akhtar hacked Dulu severely during an altercation over a trifling matter, police said.

"It was pre-planned killing for driving away my sister and her family from the house to grab her land. They had threatened her several times to leave the house," said Lizu Akhtar, younger sister of Dulu.

Dulu's body was put in a sack and thrown into a canal to ensure her death and hide the evidence of the murder, police said, adding that local people informed Lizu and the police as soon as they saw the body.

The body was taken to Barisal Sher-e-Bangla Medical College Hospital where she was declared dead.

It was sent to Jhalakathi Sadar Hospital morgue for autopsy yesterday

Meanwhile, police arrested Sufia Begum and her daughter Lakhi Akhtar in connection with the murder.



Traffic turns virtually standstill on Topkhana Road in the capital yesterday. This has become due to various programmes of different organisations in front of Jatiya Press Club. The photo Bangladesh Secretariat around 12:30pm.

School staff 'rapes girl in her Rajshahi house'

STAFF CORRESPONDENT, *Rajshahi*

An assistant librarian of a high school in Rajshahi's Godagari upazila was arrested on Wednesday night for allegedly raping a class VII student.

Shahidul Islam, 38, refuted the allegation before a magistrate yesterday and was sent to jail. The father-of-three of Sultanganj Jahanabad village was suspended after the victim's mother filed a case against him.

Hundreds of villagers, guardians and students formed a human chain on the school premises demanding justice.

In a statement to a court, the victim's mother said Shahidul raped her after scaling a boundary wall to enter her house that night while parents were away.

Locals arrived hearing her screams caught and kept Shahidul tied to a tree until police arrived. The victim underwent a medical examination at Rajshahi Medical College Hospital, which confirmed the rape.

Shahidul had recently taken her photo at the school and threatened to post it on Facebook if she did not have sex with him. Sub-inspector Abdul Latif quoted the victim as saying. Latif said Shahidul had initially denied but confessed to police.

Modi lauds Dhaka's disaster management

DIPLOMATIC CORRESPONDENT

Indian Prime Minister Narendra Modi yesterday hailed Bangladesh's community-based cyclone preparedness programme as "a global best practice".



Narendra Modi

"... after the 1991 cyclone, the government of Bangladesh launched a large community-based cyclone preparedness programme. It led to a significant reduction in loss of lives from cyclones. It is now recognised as a global best practice," he said in his inaugural speech at the Asian Ministerial Conference on Disaster Risk Reduction at Vigyan Bhawan in New Delhi.

Ministers, officials and environmental activists from over 60 countries participate in the three-day conference where Disaster Management and Relief Minister Mofazzal Hossain Chowdhury Maya is leading the Bangladesh delegation.

Maya said Bangladesh constructed 3851 cyclone and 142 flood shelters to save vulnerable people from cyclones and floods, adding, it has over 55,000 trained volunteers under "Cyclone Preparedness Programme" and 32,000 volunteers for urban disaster risk management.

Delhi urges Dhaka for minorities' safety

Negligence, callousness and a lack of far-sightedness of the local administration and the police made it possible for religious zealots to attack Hindu homes and temples in Brahmanbaria's Nasirnagar on Sunday. The probe committee of the National Human Rights Commission has found

"Giving permission for the rally, inadequate security arrangements and a lack of foresight paved the way for the attack," the committee said in its report yesterday.

Asked, Home Minister Asaduzzaman Khan Kamal, however, contradicted the committee's findings.

"Of course, we have controlled [the incident] properly and taken prompt action."

MORE ON PAGE 3

SEE PAGE 3 COL 1

Hindu women during a human chain formed near Shahbagh in social organisation, organised the programme protesting the attack on the country.

Back to studies with promise of freedom

APURBA LAJANIGIR

The boom in the export oriented Bangladeshi garments has caused more women to enter the workforce than ever before. A lot of these women include Higher Secondary Graduates who came into this profession either to fight poverty or due to family tragedies. To enable these women reach their full potential and utilize the untapped treasure of human resources, Asian University for Women (AWW) introduced their newest initiative - "Pathway for Promise".

The programme aims to provide first education among Bangladeshi RMG workers. Their promise is to empower

women by giving them expertise and knowledge to expand as people and leaders but also to increase opportunities.

The initiative is the brainchild of Kamal A founder of AWW whose main aim was to liberate the world that the millions of women currently working in garment factories represent an untapped pool of potential.

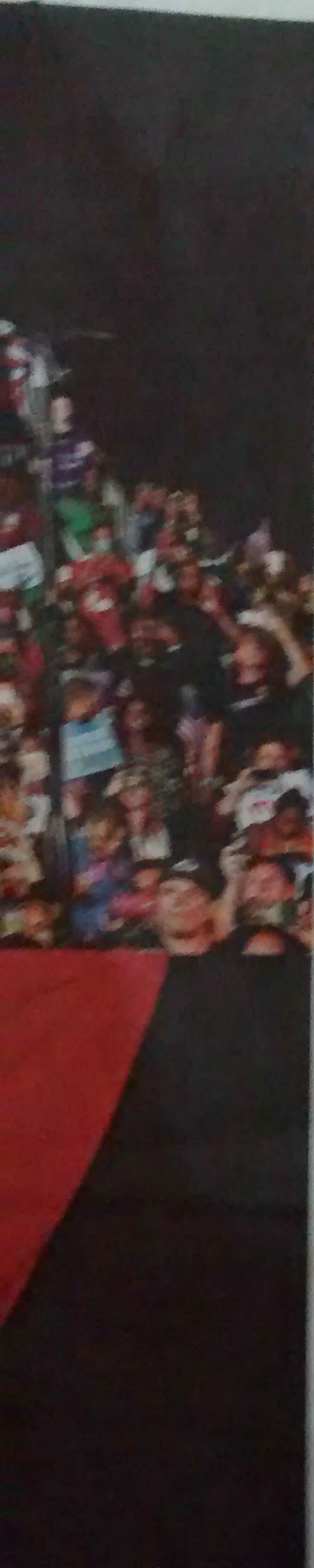
The programme started from January 2016 and currently has

SEE PAGE 17 COL 1

STAFF



RMG workers, who have been enrolled in a programme - "Pathway for Promise" - introduced b



RANGPUR 'GANG-RAPE'

One of five accused arrested

OUR CORRESPONDENT,
Dinajpur

Two students of a private nursing training institute in Rangpur city were allegedly gang-raped six days ago.

One of the victims filed a rape case with Rangpur Sadar Police Station against five people, including their one classmate, on Tuesday night, five days after the incident.

The accused are Alamgir Kabir, 22, of Nilphamari's Jaldhaka, Shakil Ahmed, 23, Mohammad Polash, 25, Shah Alam, 28, and Mohammad Manik, 28, of Rangpur City Corporation.

Of them, police arrested Alamgir Kabir, a third-year student of Northern Nursing Institute and a classmate of the victims, soon after the case was lodged.

Police said Alamgir already confessed his involvement to the crime.

Police produced Alamgir before Senior Judicial Magistrate's Court of Shafiul

SEE PAGE 10 COL 5

ident.

PHOTO:
APP

2 'abductors'

NHRC boss: Women are politically inactive in reality

■ Afrose Jahan Chaity

The National Human Rights Commission (NHRC) Chairman Kazi Reazul Hoque questioned the role of politically empowered women in Bangladesh yesterday at a seminar titled "Sustainable Development Goals: Gender Equality" jointly organised by NHRC and The United Nations Development Programme (UNDP) in Dhaka.

Kazi Reazul said: "Many women are now members of the local government councils that play important roles for rural and urban development. However, on a basic level, they are excluded and not utilising their power. It appears that men are making the important decisions."

Using the example of the Swedish

top-ranked in gender equality in South Asia, not in the case of economic participation and opportunity, but political empowerment gender gap, where Bangladesh ranked 7 globally.

The report recorded a widening of the gap on women's labour force participation and estimated earned income and ranked 135 in the case of economic participation and opportunity.

The 'Report on Violence against Women Survey 2015' by the Bangladesh Bureau of Statistics has found that 50 percent of the women were physically tortured while 27 percent said they had been sexually abused.

Compared with the figures from 2011, key note presenter Akhter Hossain, member of NHRC said, 'Physical torture has gone up. On the other hand, according to Bang-

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Compared with the figures from 2011, key note presenter Akhter Hossain, member of NHRC said, "Physical torture has gone up. On the other hand, according to Bangladesh Police website, a total of 17,752 cases were filed in 2010 and 21,220 in 2015 for violence against women and children."

Sudipto Mukerjee, country director of UNDP Bangladesh and Mizanur Rahman, additional secretary of Ministry of Women and Children Affairs Bangladesh were present at the event. ●

to gender equality and have much more to
and
of Bangladesh although there are strict laws
punish the perpetrators of such grievous
still remains elusive in the majority of cases
against women, especially when the crime is
those affiliated with influential quarters.
want to give women an equal footing,
culprits of such crimes to escape justice must
an end. The patriarchal mindset that exists
it also be changed if we are to achieve true
y.

LETTERS TO THE EDITOR

letters@thedailystar.net

the trees

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Haider

ment's help for female

S
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dd that 45% of female migrant
loited both physically and
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workers went mostly to Saudi

WOMEN, PEACE AND SECURITY

Meaningful participation still the missing ingredient in peacebuilding



NAHLA VALJI

AS the United Nations Security Council holds the annual Open Debate on Women, Peace and Security to discuss protection of women and girls in conflict and women's leadership in preventing, resolving, and recovering from conflicts, the war in Syria enters its sixth year, contributing to a global refugee crisis. Iraqi forces enter Mosul amidst a dire humanitarian situation, and peace remains uncertain in countries such as South Sudan and Colombia. The global political landscape is volatile, challenging and increasingly complex. The number of people in need of international assistance has tripled over the past decade and 80 per cent of them are affected by armed conflict. In 2015 alone, the global cost of violence and conflict was estimated at more than USD 13.6 trillion. Violent extremism and terrorism is on the rise, and the fragile gains on women's rights are under attack.

It is within this context, that the United Nations undertook three separate reviews on peace and security last year—on peace operations, the UN's peacebuilding architecture and on fifteen years of women, peace and security. I had the privilege of heading the review on women, peace and security, which concluded with the "Global Study on the Implementation of United Nations Security Council resolution 1325 (2000)", authored by Radhika Coomaraswamy. The study drew upon global consultations and new research and emerged with one key finding—women's meaningful participation is the most important and overlooked ingredient for sustainable peace.

The study showed, backed by data, how women's participation would increase the reach of

to act upon these recommendations, we could realistically remedy the gender imbalances currently undermining our peace and security response.

One of the recommendations of the global study, calling for the creation of a new mechanism in the UN Security Council—the Informal Expert Group on Women, Peace and Security (IEG)—has been fulfilled. The IEG began its work in February, shortly after the launch of the study, co-chaired by the United Kingdom and Spain and with UN Women as its Secretariat. In just eight months, through this forum, the Security Council has heard directly from the UN's senior leadership on the ground and received quality gender and conflict analysis that would be otherwise absent

anti-women's rights language in order to lay the foundations for radicalisation. It heard that in Iraq, there was not a single woman in the four command cells administering the return of population to liberated areas; and in Central African Republic, since the end of the transition, women's representation in national institutions has dropped again, down to single digits in the parliament.

This information is already being used to strengthen UN programming on the ground and by civil society representatives advocating for peace. The IEG, like many other policy processes, will not lead to overnight changes in the lives of women in conflict affected countries, but we fully expect it to improve the



PHOTO: UN WOMEN

where the four national leaders were assassinated on November 3, 1975.

S Pregnant woman beaten over land

OUR CORRESPONDENT, *Thakurgaon*

An eight-month pregnant housewife was allegedly beaten by her neighbours on Thursday over land dispute in Thakurgaon.

Critically injured, Quraisa Akhter, 20, wife of Yasin Ali of Prodhanpara, is now under treatment at Thakurgaon Sadar Hospital.

A case was filed yesterday accusing Rahima Begum, her sons--Rahim, Rahman, and Al-Amin. The victim family alleged the four had been trying to grab their homestead land for a long time. On Thursday morning while Quraisa was alone at her house, they engaged in a quarrel with her, said police quoting her. At one stage, they beat Quraisa with sticks leaving her seriously injured.

Hearing her screams, locals rushed her to the hospital, while the attackers fled, said police. Dr Nahida Akhter, medical officer of the hospital, said, "Quraisa was also hit in her abdomen," she said, "We will do an ultrasonogram to know the baby's condition."

PHOTO: STAR

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Where leaders are created

- [*Shame and honour: The violence of gendered norms under conditions of global crisis*](#)

Original Research Article

- *Pages 305-315*

- Shelley Feldman **Synopsis**

Santi Rozario (1992)) creatively and subtly explores shame and honour to understand village life in Doria, Bangladesh. Moving beyond descriptive accounts and causal explanations, she examines the values that guide village norms and the political economy that constitutes their implementation. In this paper, I contribute to the effort to understand gendered interpretations of normative practice by highlighting the institutional and regulatory regimes that constitute and legitimate forms of rule that appeal to idioms of shame and honour, fear, and humiliation. Engaging a moral regulation analytic of overlapping civil, religious and customary norms and expectations, I suggest that sanctions for noncompliance can reveal women's agentic capacities in decisions about suicide.



- [*'Defending Islam and women's honour against NGOs' in Bangladesh*](#)

Original Research Article

- *Pages 316-324*
- Ainoon Naher

- [Article preview](#)
- [Purchase PDF - \\$35.95](#)
- [Abstract](#)

Synopsis

Women's participation in development activities emerged as a central focus of attacks on NGOs by some Islamist groups in Bangladesh in the early part of the 1990s because of two factors—one, the increasing prominence of religious discourse in sociopolitical life in Bangladesh, and two, attempts by different groups and institutions to gain or retain patriarchal control over women. The religious groups that opposed NGO activities in general and women's participation in NGO programs in particular, claimed to be defending Islam and women's honour. However, deeply rooted patriarchal values and notions held by all classes of men made it easy for the 'Islamist' opponents of NGOs to bring the issue of women's participation in development activities in the forefront. Alongside, the changing power relations in rural society as well as increasing prominence of Islamic discourse in national political life were also important factors. However, the women themselves did not simply respond to events as passive victims. Rather, within limits, they questioned the motives of those concerned about their 'honour', and in some cases, actively resisted the pressure mounted by the anti-NGO forces.

https://en.wikipedia.org/wiki/Feminism_in_India

In 2014, an Indian family court in [Mumbai](#) ruled that a husband objecting to his wife wearing a [kurta](#) and [jeans](#) and forcing her to wear a [sari](#) amounts to cruelty inflicted by the husband and can be a ground to seek divorce.^[29] The wife was thus granted a divorce on the ground of cruelty as defined under section 27(1)(d) of Special Marriage Act, 1954.^[29]

This article is about the garment. For other uses, see [Sari \(disambiguation\)](#).

Woman and girl dressed in traditional Maharashtra sari

A **sari**, **saree**, or **shari**^[note 1] is a female garment from the [Indian subcontinent](#)^[1] that consists of a drape varying from five to nine [yards](#) (4.5 metres to 8 metres) in length^[2] and two to four feet (60 cm to 1.20 m) in breadth^[3] that is typically wrapped around the waist, with one end draped over the shoulder, baring the midriff.^{[4][5][6]} There are various styles of sari draping, the most common being the Nivi style, which originated in [Andhra Pradesh](#).

The sari is usually worn over a [petticoat](#) (called 'parkar' (पार्कर) in [Marathi](#) *lahaṅgā* or *lehenga* in the north; *pavadai* (பாவடை) in [Tamil](#), *pavada* (or occasionally *langa*) in [Malayalam](#), [Kannada](#) and [Telugu](#), *chaniyo*, *parkar*, *ghaghra*, or *ghagaro* in the west; and *shaya* in eastern India), with a fitted upper garment commonly called a [blouse](#) (*ravike* in [South India](#) and *choli* elsewhere). The blouse has short sleeves and is usually cropped at the midriff. The sari is associated with grace and is widely regarded as a symbol of grace in cultures of the Indian subcontinent.

Migration to the bars of Bombay: Women, village religion and sustainability

- [Thérèse Blanchet](#)

Abstract

This article deals with the migration of Bangladeshi village women to the bars of Bombay. For about twelve years (1992 to 2003), ladies' bars provided a lucrative source of income for young women from villages of Jessore and Satkhira. With the money they earned, families were enriched and village economies were invigorated. From being burdens to their families because of the dowry required for their marriage, daughters became assets; wives provided for their husbands, daughters-in-law sustained parents-in-law and sisters established their siblings. No one could deny the widespread benefits of women's migration to Bombay. But how could their activity be reconciled with village norms requiring women to restrain their movements, show modesty and remain under the authority of guardians? How could women's migration be accommodated with village religion and principles of life held to be fundamental to an Islamic way of life and to the good order of society? How could women's earnings be enjoyed without reprobation or disturbances?

Woman killed for dowry

OUR CORRESPONDENT, *Benapole*

A woman was beaten to death allegedly by her husband for dowry at Hasadanga village in Monirampur upazila of Jessore yesterday.

Victim's uncle, Bellal Hossain, claimed that Hafijur Rahman beat up Momotaj Begum, 20, as she refused to bring Tk 1 lakh from her father. Hafijur along with his family fled the scene soon after Momotaj's death.

Being informed by locals, police recovered the body from their house and sent it to Jessore Medical College Hospital morgue for autopsy.

The body bore many injury marks, said police.

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