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**Save the Children Bangladesh
Quantitative Evaluation Results:
Nobo Jibon Multi-Year Assistance Program**



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TANGO
INTERNATIONAL
TECHNICAL ASSISTANCE TO NGOS

 **DATA MANAGEMENT AID**

Final Report

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Nobo Jibon

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Acronyms

ADPC	Asian Disaster Preparedness Center
ANC	Antenatal care
BCC	Behavior Change Communication
CC	Community clinic
CPP	Cyclone Preparedness Program
DHS	Demographic and Health Survey
EP	Extreme poor
EPI	Expanded Program on Immunization
FFP	(Office for) Food for Peace
FFW	Food for Work
FGD	Focus Group Discussion
GMP	Growth monitoring and promotion
GOB	Government of Bangladesh
HDDS	Household Dietary Diversity Score
HPP	Homestead production poor
HH	Households
IPTT	Indicator Performance Tracking Table
IR	Intermediary result
IYCF	Infant and Young Child Feeding
KAP	Knowledge, attitudes and practices
LOA	Life of Award
MAHFP	Months of Adequate Household Food Provisioning
M&E	Monitoring and evaluation
MCHN	Maternal and Child Health and Nutrition
MTR	Mid-Term Review
MYAP	Multi-Year Assistance Program
NGO	Non-governmental organization
NJ	Nobo Jibon
PLW	Pregnant and lactating women
PP	Productive poor
PPS	Probability proportional to size
QPE	Quantitative Performance Evaluation
SC	Save the Children
SO	Strategic Objective
SOW	Scope of Work
TBA	Traditional birth attendant
U2	Under two years of age
U5	Under five years of age
UDMC	Union Disaster Management Committee
UH & FWC	Union Health and Family Welfare Center
USAID	United States Agency for International Development
VDC	Village Development Committee
VDMC	Village Disaster Management Committee
VHC	Village Health Committee

VSLA
WASH
WHO

Village Savings and Loan Association
Water, Sanitation, and Hygiene
World Health Organization

Executive Summary

Since June 2010, Save the Children has been implementing the United States Agency for International Development (USAID)-supported Title II PL480 Multi-Year Assistance Program (MYAP) in Bangladesh, “Nobo Jibon.” The program is designed “to reduce food insecurity and vulnerability for 191,000 direct beneficiary households...in ten upazilas of Barisal Division over five years.” Initially, there were 9 upazilas; however, there was an administrative restructuring over the course of the program and 1 upazila was divided into 2 separate upazilas, resulting in a total coverage of 10 upazilas by program end. It has three strategic objectives (SOs) in the areas of maternal and child health and nutrition (SO1), market-based production and income generation (SO2), and disaster risk reduction (SO3), as well as a cross-cutting gender component. The GOB fund also provided critical support to Nobo Jibon and was invaluable to the program. This report documents the findings of the program’s final quantitative performance evaluation (QPE), conducted November 2014 – January 2015 by TANGO International, Inc.

The purpose of the final QPE is to measure changes in project impact and outcome indicators over the life of the Nobo Jibon project, in order to assess the extent to which project objectives have been achieved, measure the overall impacts on populations in the project areas, assess the assumed causal pathways linking project activities to outcomes and impacts, and determine how interventions contributed to achieving project goals. Another key function of the final QPE is to provide current status for key indicators included in Nobo Jibon’s Indicator Performance Tracking Table (IPTT).

Context

The food security situation in Bangladesh was volatile at the point of program inception in 2010. Despite real wage growth in the previous five years leading to program initiation, a high rate of households, 31.5 percent, were still in poverty. High food commodity prices, rising since 2007, exacerbated an already poor food security situation. Food insecurity at a national level was extremely high as measured by the Household Food Security Access Scale – at the beginning of 2011; the reported value was 69, a value more than double (2013: 33) what was reported nearly two years later at the end of 2013.¹

Child feeding practices, maternal health, and child nutrition were persistent problems on a national level at program commencement. An alarming number of children, 41 percent as measured by the 2011 DHS survey, were stunted, 16 percent wasted, and 36 percent underweight. Only 21 percent of children age 6-23 months were fed appropriately based on

¹ *State of Food Security and Nutrition in Bangladesh: 2013*. Food Security and Nutrition Surveillance Project (FSNSP), 2014. Helen Keller International and James P. Grant School of Public Health.

infant and young child feeding practices, over half of children 6-59 months were reported as anemic, and 42 percent of ever-married women age 15-49 were anemic as well.²

Methodology

The Nobo Jibon QPE utilized an ‘adequacy design’, or non-experimental design for simple pre-post comparison of results. The evaluation survey was population-based with the sample drawn randomly from the sample frame of all households residing within the action areas of Nobo Jibon. The sample size was determined to provide statistically representative results for indicators at the level of household and children under five years of age. A two-stage sample selection process was used to select households to be interviewed. In the first stage, a total of 62 clusters (villages) were selected in each of the three program districts. In the second stage, 30 households were interviewed in each of the selected villages. The households were selected from a census listing of all households in the selected villages. During analysis the sample was weighted to account for the fact that within the three districts, the proportion of sampled households to district population was different

In addition to the quantitative household survey, a small qualitative study was also conducted. The purpose of this qualitative study was to provide complementary information from project participants about their perceptions of how they benefited from project interventions as well as their assessments of the strengths and weaknesses of project implementation strategies. Focus groups, 24 in total, were conducted from a sample of purposefully selected villages that included community groups and committees supported by Nobo Jibon SO1 and SO2 activities, as well as, villages considered at high-risk to disaster.

Findings

Comparison of baseline with endline values demonstrates that the Nobo Jibon project met or surpassed targets for all SO1 and SO2 impact indicators measuring household nutrition and food security status. Details of project indicators at baseline and endline as well as target values are provided in Annex 2. In particular, the endline values for all anthropometric indicators, Household Food Insecurity Access Scale (HFIAS), Coping Strategy Index (CSI), Household Dietary Diversity Score (HDDS), and Months of Adequate Household Food Provisioning (MAHFP) met the target values for these indicators. The results for the SO3 impact indicators are favorable, as well; the percent of households with plans to protect lives and assets increased nearly 40 percent from baseline to endline. Several other SO3 impact indicators, increased significantly, as well, including: percent of households that received warning within 12 hours of

² *Bangladesh Demographic and Health Survey (DHS): 2011*. National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International, 2013.

the last disaster, percent of households that received disaster preparedness training, and the percent of households that sought shelter following the last disaster..

SO1 Maternal Child Health and Nutrition (MCHN)

Goal indicators and impact indicators³ for SO1, particularly anthropometric indicators, improved dramatically from baseline to endline. The prevalence of overall stunting for children aged 6-59 months declined 19 percent - from 44 percent at baseline to 35 percent at endline. This significantly exceeded the program target of 40 percent. This result is comparable to national statistics – stunting fell nationally from 45 percent in 2010 to 35 percent in 2013.⁴

Declines in the prevalence of underweight children (aged 0-59 months) and overall wasting (aged 6-59 months) were even more favorable over the life of program, 31 percent and 32 percent respectively. The endline results for underweight children 0-59 months (27 percent) and wasting of children 6-59 months (11 percent) also surpassed program targets of 36 percent and 14 percent, respectively. Reductions in underweight children and wasting compared quite favorably to national trends – underweight children remained flat at 32 percent from 2010 to 2013. National rates of child wasting rose from 10 percent in 2010 to 12 percent in 2013.⁵

Food security for the Nobo Jibon sample population improved markedly and beat targets over the life of the program, as measured by the HFIAS and CSI indices. The HFIAS index declined 32 percent and the CSI index declined 38 percent for all households sampled from baseline to endline. The HFIAS index at endline for all households sampled was 19 percent compared to a program target of 26 percent, while the CSI index at endline was 8 percent compared to a target of 12 percent.

These improvements were supported by high rates of adoption of recommended practices for child feeding and care, diet and treatments for pregnant and lactating women. Infants and toddlers (aged 6-23 months) receiving a minimally acceptable diet increased from a baseline value of 6 percent to 23 percent of households surveyed at endline, although did not meet the program target of 25 percent. The prevalence of children (aged 12-23 months) receiving deworming treatment increased dramatically as well, 74 percent over the life of the program, and in this case was in line with the program target (33 percent endline; 30 percent target).

Infant and mother health was supported by strong improvements in nutritional behaviors of pregnant and lactating mothers (PLW). PLW reporting consuming foods rich in iron and vitamin A increased 184 percent and 166 percent, respectively. At endline, 91 percent of mothers

³ See the IPTT table in Annex 2 for indicator types.

⁴ FSNSP, 2014.

⁵ FSNSP, 2014.

reported consuming iron rich food (60 percent target) and 60 percent reported consuming foods rich in Vitamin A (60 percent target).

It is important to note that these changes in practices were observed for both respondents that participated in SO1 interventions and those that did not report participating directly in these interventions. These results suggest that Nobo Jibon has helped to contribute to a change in child care and nutrition practices, and household hygiene practices that has been also supported by the government and other organizations that have reached households not participating directly with Nobo Jibon, or that Nobo Jibon interventions have indirectly reached individuals in project areas that have not been participants in project activities.

SO2 Market-based Production and Income Generation

Goal and impact level indicators for SO2 have also improved substantially from baseline to endline. The HDDS increased 21 percent, to 5.7 at endline for all households surveyed exceeding the program target (target of 5.5). MAHFP increased from 9 months to 10 months over the life of the program, but fell short of the program target of 11 months. Livelihoods improved as measured by agricultural product sales. The average value of agricultural product sales (in Taka, real values adjusted for inflation), including livestock and crops, increased 11 percent to 11,646.

Outcome indicators of adoption of recommended practices show large percentage increases from baseline to endline, but the overall levels are quite low even at baseline. For example, the percent of households adopting at least three improved production practices increased by over 40 percent from baseline, but the endline value is still less than seven percent of all surveyed households. The percent of households that have adopted improved marketing practices shows the same pattern of large percentage increase from a very low initial value, but a low actual value, less than two percent of all households, at endline. Optimistically, the large percentage increases in adoption of improved farming techniques and business practices are higher for SO2 participants compared to non-participants, implying that SO2 programming is affecting positive change in farmer behavior. These results suggest that there is interest on the part of farmers to adopt these practices, but there is probably continued need for promoting the messages to large numbers of farmers into the future.

SO3 Disaster Risk Reduction

Information about changes in disaster preparedness shows positive results. The percent of households reporting that they have plans to protect lives and assets in the event of a disaster increased from baseline to endline, 19 percent for households surveyed. Despite the impressive growth, the proportion of households with disaster preparedness plans (64 percent) fell short of the program target of 75 percent. The percentage of households reporting that they are able to resume livelihoods within two weeks after a disaster increased somewhat, eight percent over the life of the program, to 80 percent of all households at endline, also falling short of the program

target of 90 percent. For both these indicators, higher percentages of households that participated in SO3 activities reported positive responses than those that did not participate in SO3.

Vulnerable groups

One important thrust of the programming strategy of Nobo Jibon has been to reduce the exclusion of women and other vulnerable groups (especially children) from economic and social opportunities and to enhance the economic empowerment of women. According to information collected from women who had access to income, their economic empowerment, as measured by decision-making authority over income and economic activities, has increased from baseline to endline, although this change cannot necessarily be attributed with participation in project activities.⁶ The qualitative research suggests that the project interventions with youth seem to have a positive influence on the empowerment of girls and women. Potential implications from this research are that i) programming strategies directed toward youth may enhance the empowerment of women, and ii) indicators of empowerment should be measured on youth.

Conclusions and Recommendations

While many of the SO1 impact indicators, along with the childhood stunting goal indicator, improved dramatically over the life of the program, further analysis of achievement disaggregated by project participation showed that there was no significant differences in these measures between project participants and non-participants. A possible cause of these observed results is rooted in the range of government programs projects supported by non-governmental organizations that have been providing similar support and services to the rural poor in Bangladesh over many years. This is not to say that Nobo Jibon SO1 programming was not useful or effective, as it certainly was invaluable to the villages, households, mothers, and children that received program support. However, attribution of positive program effects is difficult when there are multiple programs, services, and messaging being delivered in the same geographic areas.

One area where there was improvement that might be attributed to program participation was in farmer adoption of appropriate agricultural practices. While the percentage improvement in farmers adopting these improved practices was large (9.5 percent of SO2 participating farmers adopting vs. 5.9 percent of non-SO2 participating farmers adopting at endline), there are still an overwhelming proportion of farming households that could benefit from SO2-type programming support – even after strong growth, at endline only 6.9 percent of farmers had adopted 3 or more appropriate agricultural practices.

⁶ Following FFP guidance for performance monitoring evaluation design, the sample was not drawn such that statistically representative conclusions can be drawn between participant and non-participant households. See 2.3 Study Limitations.

Given the strong ongoing investment in health and nutrition programming by government and other private sector resources, taken together with strong gains in health and nutrition observed in the program area over the course of this evaluation, now might be an opportune time to perform a review of the mother, child, health, and nutrition (MCHN) programming being offered to find areas where there is overlap with complementary offerings by other organizations and/or the government of Bangladesh (GOB) and consolidate these services to eliminate any possible redundancies. Following this review, any resources liberated could be diverted towards the programming directed toward enhancing livelihoods that Nobo Jibon has demonstrated to be successful at effectuating positive change in farming practices.

In the future, project M&E plans should include an integrated final project evaluation design that includes both qualitative and quantitative components. Ideally, monitoring and evaluation design of the next round of programming (or a separate impact evaluation) would incorporate testable hypotheses and a representative comparison group to evaluate the effectiveness of project activities for beneficiaries vs. non-beneficiaries.

Save the Children Bangladesh Quantitative Evaluation Results: Nobo Jibon Multi-Year Assistance Program

1. Introduction

Program background

Save the Children began implementing “Nobo Jibon” in Bangladesh in May 2010. The program is a USAID-supported \$55.73 Million Title II PL480 Multi-Year Assistance Program (MYAP). TANGO International, Inc., a consulting firm based in Tucson, Arizona, USA, has been contracted to conduct the endline Quantitative Performance Evaluation (QPE) of the program. The main objective of the QPE is to review a) the achievements of the project relative to its prescribed targets, b) gauge whether the assumed relationship between project activities and outcomes and impact on communities is valid, and c) assess progress toward the overall goal of positive impact on food security of target communities.

The overarching goal of the Nobo Jibon (NJ) program was to reduce food insecurity and vulnerability for 191,000 direct beneficiary households, or nearly one million people, in ten⁷ upazilas of Barisal Division over five years. Three strategic objectives (SOs) of the program aligned with USAID’s priorities for Bangladesh and with the Government of Bangladesh’s national health and food security policies. The Strategic Objectives of Nobo Jibon program include:

- **SO1: Maternal Child Health and Nutrition (MCHN)** - Improved health and nutritional status of children under the age of 5 years (U5) and Pregnant and Lactating Women (PLW).
- **SO2: Market-based Production and Income Generation** - Poor and extremely poor households have increased production and income.
- **SO3: Disaster Risk Reduction (DRR)** - Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters.

To maximize the impact of household food security, Nobo Jibon was designed such that a large proportion of households⁸ would participate in all three SOs.

⁷ See QPE Scope of Work (SOW)

⁸ 72,000 households were targeted to participate in all 3 SOs (See QPE SOW).

Figure 1: Nobo Jibon Operational Area



Endline Evaluation Objectives

The endline study aims, through quantitative and qualitative surveys of a representative sample of households in the program impact area to review the project achievements relative to its targets and progress towards the overall goal. The purpose of the endline QPE is to assess the performance of key indicators against the baseline values to measure strategic objectives and intermediate results of Nobo Jibon. Specific objectives include:

- To assess whether progress against agreed indicators/targets have met end of project benchmarks as documented in the indicator tracking table
- To evaluate the theory of change through establishing plausible links between inputs, outputs, outcomes and impacts on target population
- To determine whether critical strategies are missing that were needed to achieve Nobo Jibon’s goal;

- To assess the overall impact of the project on target population;
To identify where interventions, in isolation or in combination, were insufficient to meet program goals and, in cases where goals were not met, assess whether that was due to faulty logical reasoning/hypothesized causal pathways, to implementation shortcomings, or to other factors

Endline information will be used to suggest design adjustments to improve the quality of future programming. Findings will also be used to identify where interventions were insufficient to meet program goals and, where goals were not met, assess whether that was due to faulty logical reasoning/ hypothesized causal pathways, to implementation shortcomings, or to other factors.

2. Evaluation Methodology

2.1 Methods for Endline QPE

A. Study Design

The QPE is principally a quantitative survey, supplemented by a limited qualitative study used to triangulate the results stemming from the quantitative household data. The population-based survey serving as the main component of the QPE is modeled after the corresponding baseline survey, thus allowing for the comparability of statistically representative results across survey rounds⁹.

The population-based survey used for the QPE, per FFP guidance, was structured after the corresponding baseline survey and includes structured questions related to relevant themes for all three strategic objectives. The data collected is used to estimate point prevalence and measure progress for key agriculture, nutrition, and gender-related indicators, including those contained in the program Indicator Progress Tracking Table (IPTT). Under the design of a population based survey, data were collected from both beneficiary and non-beneficiary households. Additional analysis has been included: comparisons of beneficiary households vs. non-beneficiary households, as well as, causal analysis exploring the relationships among project outcomes and higher level impacts. While the overall QPE is not designed to provide a clear counterfactual that can provide a direct measurement of project effects, the supplementary analysis is provided to provide preliminary indications about project effects that can be pursued more fully follow-on qualitative study and recommendations for further research that can inform the next round of program design.

Overall, the surveys are consistent with the Office for Food for Peace (FFP) guidance for the design of program monitoring evaluations. As noted above, the surveys and analysis were kept

⁹ Nobo Jibon QPE Statement of Work (SOW)

as consistent as possible to allow for comparable results between the baseline and endline surveys.

B. Sample Design

The sample size was estimated based on the outcome indicator *stunting among children 6-59 months*. The indicator value and the design effect are obtained from the NJ baseline dataset. The FANTA Sampling Guidelines¹⁰ were used to calculate a sample size capable of detecting a 10 percent reduction in the child stunting indicator over the five-year intervention. The minimum sample size required per survey round was computed as follows:

$$n = [(Z_{\alpha} + Z_{\beta})^2 * \{P_1(1-P_1) + P_2(1-P_2)\}/(P_2-P_1)^2] * D * N_f$$

where:

n = required minimum sample size per survey round or comparison group (strata)

P₁ = stunting rate at baseline, 43.9% = **0.439**

P₂ = the *expected* level of stunting at endline for the program area such that the quantity (P₂ - P₁) is the size of the magnitude of change it is desired to be able to detect, NJ life of award (LOA) target, 39.5% = **0.395**

Z_α = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of magnitude (P₂-P₁) would not have occurred by chance (α - the level of statistical significance for one-tailed test), 95% = **1.645**

Z_β = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of magnitude (P₂-P₁) if one actually occurred (β - statistical power), 80% = **0.840**.

D = Actual NJ baseline design effect for stunting = **1.308**

N_f = Non-response factor (assuming a 10%¹¹ non-response rate) = 1.10

Based on these parameter values, the estimated sample size (n) was 2,034. Thus, the minimum required sample size per survey round for the entire program area is 2,034 children under five years of age (U5). Considering that not all households have U5 children, the sample size was adjusted according to the Addendum to Fanta Sampling Guide to ensure that a sufficient number of U5 children were measured¹². Assuming that the proportion of households with U5 children is 50 percent and that the average number of U5s in the population is 11.5 percent and the average

¹⁰ Sampling Guideline, FANTA III, Robert Magnani, 1999

¹¹ NJ baseline findings show less than 5% non-response rate, however given the change from using the random walk method, which produces lower non-response, to census lists the estimate was adjusted to the higher 10% non-response rate.

¹² Stukel, Diana & Deitchler, Megan. Addendum to FANTA Sampling Guide by Robert Magnani (1999): Correction to Section 3.3.1 Determining the Number of Households that need to be Contacted. March 2012.

households size is 4.4¹³, the total number of households required to be interviewed to reach 2,034 U5s is 4,886 households.¹⁴ This sample size is adequate to detect a 10% reduction in the stunting rate of children U5 at the program level (LOA target in IPTT).

In order to have comparable results with the baseline, the sample design of the baseline round was followed for the endline. The baseline sample size calculation was computed based on the following criteria:

1. The sample was powered to detect a 15 percent difference in stunting across comparison groups
2. The target number of households calculation was computed using an inflation factor based on the proportion of households with under 5s (45 percent) and the average number of under 5s per household (1.5)
3. The sample was stratified by district (3).
4. The design effect used for the baseline was from the endline survey of the previous MYAP (Jibon o Jibika)

The minimum required sample size computed for the baseline was 5,082 households, larger than the minimum sample size to detect a 10 percent change in the prevalence of stunting at the project level, as described above.

The computation of the minimum sample size for the endline was adjusted, based on the actual stunting rate and the actual design effect of the stunting rate from the baseline survey round. In addition, because the sampling of households was from census listing files rather than a random walk, the non-response rate was increased to 10 percent. The sample size was computed from the same formula:

$$n = [(Z_{\alpha} + Z_{\beta})^2 * \{P_1(1-P_1) + P_2(1-P_2)\} / (P_2 - P_1)^2] * D * N_f$$

where:

n = required minimum sample size per survey round or comparison group (strata)

P_1 = stunting rate at baseline, 43.9% = **0.439**

P_2 = the *expected* level of stunting at endline for the program area such that the quantity ($P_2 - P_1$) is the size of the magnitude of change it is desired to be able to detect, NJ life of award (LOA) target, 37.3% = **0.373**

Z_{α} = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of magnitude ($P_2 - P_1$) would not have occurred by chance (α - the level of statistical significance for one-tailed test), 95% = **1.645**

¹³ From DHS 2011.

¹⁴ All U5s in a selected household were measured for anthropometric indicators. The estimate for the proportion of children U5 per household is consistent with the baseline sample and data from the most recent Demographic and Health Survey (DHS).

Z_{β} = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of magnitude ($P_2 - P_1$) if one actually occurred (β - statistical power), 80% = **0.840**.

D = Actual NJ baseline design effect for stunting = **1.308**

N_f = Non-response factor (assuming a 10% non-response rate) = 1.10

Based on these parameter values, the estimated sample size (n) per comparison group is 984 U5 children. Considering that not all households have U5 children, the sample size was adjusted to ensure that a sufficient number of U5 children were measured. Assuming that the proportion of households with U5 children is 50 percent and that the average number of U5s per household is 0.5, the total number of households required to be interviewed to reach 984 U5s is 1,968 per stratum (district), or a total sample of 5,904 households in the three strata. For survey logistics reasons, the number of households to be surveyed per district was increased to 1,984. Table 3 shows the details about the sample size and again, is sufficient to detect a 10 percent reduction in stunting for the entire program area.

Table 1: Sample size by district

Program districts (strata)	Sample Size	Number of clusters	Number of sample households (HH)/cluster
Barisal	1,984	62	32
Barguna	1,984	62	32
Patuakhali	1,984	62	32
Total	5,952	186	--

Selection of clusters¹⁵

A two-stage sample selection process was used to select households to be interviewed. In the first stage, 62 clusters were selected in each of the three program districts. In the second stage, 32 households were selected randomly from the sampling frame to be interviewed in each of the selected clusters, to give a total of 1,984 households interviewed in each district. The sampling frame was constructed by conducting a census in all sample clusters. The selection of clusters was selected using probability-proportional-to-size (PPS). This ensures that all households within the districts have an equal chance of being selected.¹⁶ The listing of clusters was arranged by union and *upazila* in the PPS selection process, to ensure wide geographic coverage of the district in the cluster selection process.

Sampling frame

A complete sampling frame for all households in the selected clusters is required and was constructed by conducting a census¹⁷. The census enumerators made hand sketches of the

¹⁵ Cluster is defined as the NJ program villages.

¹⁶ In larger clusters, the chance that any single household will be selected is smaller, but this is offset because larger clusters have a greater chance of being selected in the PPS procedure.

¹⁷ In order to comply with recent FFP guidelines, a listing using the census method will be applied, although the random-walk method was used as part of the NJ baseline survey.

clusters to obtain the patterns of household distribution in rural settlements. Clusters are quite compact geographically, with houses clustered along rural roads and pathways. These characteristics made it possible for survey teams to quickly identify the boundaries of clusters and locate roads, paths, and pockets of settlements within the clusters. Another characteristic of most clusters in the program area is that they have a linear geographic layout, often following the line of roads, rivers, or canals. Each household's location in a given cluster was plotted on the hand-sketched map and assigned a household identification number.¹⁸ Smart phones were used to collect the information, which facilitates the quick generation of a full list of households in the census.

Nobo Jibon field staff conducted the census survey and household mapping after receiving training from DMA. To ensure quality and neutrality, as a first-level check, M&E Technical Officers for the ten upazilas randomly checked the authenticity of the census list. As a second-level check, SCI-M&E staff double-checked the list and took corrective measures if required. SCI applied appropriate protocols to ensure that the listings and maps were accurate. Lastly, as a third-level check, DMA deployed a team to randomly check the SCI-supplied list and propose necessary corrections when required. SCI coordinated with the DMA team for final quality control.

Selection of households

Households were selected randomly using the census of beneficiary and non-beneficiary households. Households were sampled without replacement, as the minimum required sample calculated already included an adjustment for estimated non-response. The randomly selected households in a cluster were circled on the hand-sketched maps. The data collection teams moved from house to house, each team aiming to complete 30 household surveys per day.

Selection of respondents

The household head and spouse/adult household members were the main respondents for this survey. Most of the SO1 questions are related to health and hygiene, infant and young child feeding (IYCF) and child care practices; thus, mothers or caregivers of children U5 covered the majority of the questions for SO1. However, pregnant women were also interviewed if available. If multiple mothers were present in the household, the mother of the youngest child was interviewed, consistent with the protocol in the baseline survey. The household head or male respondent was also involved in the interview process, to provide basic information at the household level. The household member directly involved in SO2 activities was interviewed to collect farming and marketing-related information.

C. Questionnaire

¹⁸ GPS coordinates will also be collected for every household in the cluster.

The quantitative endline survey used the same NJ questionnaire as the baseline, though it was revised to comply with recent FFP/FANTA guidance and NJ program data requirements (Annex-5). The English questionnaire was translated to Bangla and both versions were available on the mobile devices used for quantitative data collection. The modules included in the QPE survey are as follows:

1. Household Member (roster)
2. Household Background Information
3. Agriculture
4. Natural Disaster Preparedness
5. Food Security
6. Safe Water, Sanitation, and Hygiene Practices
7. Mothers/Caregivers of Children Under 5 Years
8. Individual Child Related Questions
9. Child Rights and Protection Questions
10. Child Anthropometry

D. Field Procedures

Timeline

The ex-post review was conducted in the period October 2012 – January 2013, including preparation, field work, analysis, and reporting. Field research was carried out in Barisal Division in two phases: a household survey was conducted by Save the Children (SC) in October 2012 and qualitative fieldwork was conducted by the mid-term review (MTR) team from 14 November to 9 December 2012.

Training, Piloting and Pre-testing

A six-day training, including one day for field testing and adjustment of tools, was conducted in Patuakhali. The training was a combined session that included field supervisors, enumerators, as well as, anthropometric enumerators. The following topics and activities were covered:

- Brief program overview and the objectives of the surveys
- Survey methodology – team composition, sampling, household selection process
- Detailed discussion of the questionnaire form (question-by-question)
- Practice administering the questionnaire using tablets (via role play/mock interviews)
- Role play to show the technique of asking some sensitive questions
- 1-day anthropometric training session, including a standardization exercise

The training also included a 1-day field-test exercise (including both the full household survey and anthropometric measurements), where enumerators went to a nearby program area mouza (village) not selected in the sample and practiced implementation of the survey in a field-setting. The purpose of the field-test was to test the soundness of the questionnaire and to identify potential problem areas, such as skip patterns, translation issues, sequence of questions, question coding, instructions to enumerators, and identifying difficult or sensitive questions. Upon completion of the field-test, a debriefing session was held with enumerators and supervisors to address any issues which arose.

Two training manuals were developed to support enumerators and supervisors in the field.

- Supervisor Manual: The enumerator manual covered; roles and responsibilities, general interview guidance, privacy, ethics, interview techniques, tablet guidance, sampling protocol, quality control, editing of surveys,
- Enumerator Manual: The supervisor manual covered; roles and responsibilities, sampling protocol, quality control, spot checks, logistical support, survey editing, and technical (uploading of data) support and troubleshooting.

Supervisors were instructed to review specific questions, and series of questions, prior to uploading data to the server. In addition, supervisors completed a purposeful spot check each day – verifying enumerators were collecting accurate data. In addition to the supervisor quality control mechanisms, data was uploaded to TANGO frequently, often daily, throughout the course of data collection. TANGO reviewed the data and provided the field coordinators with feedback on data quality, survey progress, and highlighted specific issues to be discussed with identified enumerators.

Fieldwork

Android tablets (Google Nexus Tablets) were used for quantitative data collection, using ODK (Open Data Kit) software. The use of mobile devices and an electronic questionnaire allow for the integration of data validation rules and consistency checks as part of data collection. It also reduces data entry burden and supports data accuracy, as data is entered at the interviewer level. Every record was stored and uploaded to a cloud server utilizing the built-in internet connectivity of the devices. This allowed the data analysis team to review data consistency every day and ensure the data were ready for analysis as soon as one day after field data collection was completed.

The team leaders were responsible for re-interviewing up to two households per day using tablets. Team leaders also verified that non-response households were unavailable or truly opted out. The database software allows for the cross-referencing of re-interview records with the original records collected by the enumerators. At the end of each day, district coordinators reviewed the full electronic dataset collected. He/she ran data frequencies and cross-tabulations to verify data consistency at the interviewer level by comparing the re-interview data with the corresponding interview data. The district coordinator discussed discrepancies with the

concerned enumerator and the respective team leader to determine the reason for the discrepancies. The team leader followed up with appropriate measures to correct any deficiencies discovered. SCI representatives also traveled to the field to observe data collection by occasionally sitting in on interviews, reviewing the questionnaires, and speaking with enumerators and supervisors. One TANGO staff member involved in the entire process spent time in the field during the first week of data collection to monitor whether the data collection teams were collecting information appropriately. He provided immediate feedback and technical support as needed. This TANGO staff member also continued to monitor data consistency throughout the ongoing data collection process.

Data Entry and Processing

The ODK dataset (CSV format) was converted into an SPSS (Version 20) database for data management and analysis. Validated data were transferred to the main SPSS database daily. TANGO applied a comprehensive data analysis and tabulation plan according to the IPTT and baseline report prior to the data analysis stage.

The ODK CAPI software included automated validation and consistency checks as part of the electronic survey. Examples include: responses for assets, income, and expenditures were constrained such that values were kept within reasonable ranges; children's weight and height measurements were constrained to remain within minimums and maximums established as part of WHO guidelines; where applicable for multiple response questions, "Don't Know" was not allowed as a response when other affirmative responses were selected; among many other automated constraints. The automated consistency checks programmed directly into the survey limited data entry errors associated with invalid and consistent data, as well as, outliers.

SPSS statistical software was used to analyze the dataset, and World Health Organization (WHO) Anthro software was used for anthropometric data analysis. Syntax files were created to compute indicator and sub-indicator values. The analysis includes mostly descriptive statistics with some statistical hypothesis testing. Due to stratification, normalized sampling weights were used to adjust indicator value estimates. Also, complex analysis was performed to estimate standard error and confidence interval through the adjustment of the design effect.

Missing data points were excluded from the denominator and the numerator for calculation of all indicators and descriptive statistics. Responses of "Don't Know" were recoded to "null" values and included in the denominator. As an example, a question may contain response codes of "Yes", "No", and "Don't Know". All three responses are counted in the denominator, but only "Yes" may be counted in the numerator (unless the number of "Don't Know" cases was sufficiently high to report).

E. Data Analysis

Sampling Weights

The Nobo Jibon endline survey sample was drawn with two-stage, stratified cluster sampling based off a sample frame generated by a separate household listing exercise. Clusters were equally allocated among districts. At the first stage, a sample cluster was selected independently with probability proportional to the cluster's population in each stratum. The strata were the three districts encompassing the program area – Barisal, Barguna, and Patuakhali. The unequal probabilities of selection across strata caused by the equal number of clusters in each stratum were adjusted relative to the population of each stratum. Design weights were calculated based on the separate sampling probabilities for each sampling stage and for each cluster. The design weights are the reciprocal of each unit's probability of selection into the sample:

$$w_{i,design} = \frac{1}{p_i},$$

where p_i is the probability of selection, and where i denotes strata $i=1,2,3$.

The sampling weight was calculated with the design weight corrected for non-response for each of the selected clusters.

The household respondent weights are constructed by first calculating the design weight (w) and response rate (rr) for households in each stratum as follows.

$$w_{i,hh,design} = \frac{\text{Proportion of households in stratum } i}{\text{Proportion of planned sample of households in stratum } i}$$

Response rates were calculated at cluster level as ratios of the number of interviewed households over the number of eligible households.

$$rr_{i,hh} = \frac{\text{\# of households completed questionnaires in stratum } i}{\text{\# of respondents sampled in stratum } i}$$

The non-response adjusted sampling weight is the design weight divided by the response rate:

$$\text{Household sampling weight} = w_{i,hh,rr} = \frac{w_{i,hh,design}}{rr_{i,hh}}.$$

A separate sampling weight was further adjusted and applied to reflect households that have more than one mother or caregiver of children under 5. In households that included more than one mother/caregiver, only one mother/caregiver was interviewed, therefore a correction was applied to the sampling weight to reflect the differing probability of any given mother/caregiver being interviewed.

$$prob_{i,hh,m} = \frac{1}{\text{\# of mothers or caregivers in respondent household sampled in stratum } i}$$

The sampling weight applied to mother/caregiver respondents was calculated by dividing the household design weight by the mother/caregiver response rate.

$$\text{Mother sampling weight} = w_{i,hh,rr,m} = \frac{w_{i,hh,rr}}{\text{prob}_{i,hh,m}}$$

Indicator Definitions and Tabulations

Table 2 presents program indicators for which baseline information was collected.

Table 2: Indicator definitions and calculation methods

Indicator	Type of respondents	Main Disaggregation	Method
Impact indicators			
% children between 6 and 59 months stunted (height-for-age)	Children 6-59 months	Boy, Girl, <-2SD, <-3SD	Calculate height-for-age z-score (<-2SD and <-3SD) using new WHO/CDC standard over total number of children 6-59 months
Average HH Food Insecurity Access Scale score	HH Head/ Female HH member	No disaggregation	Calculate using FANTA guideline for “Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide”
Average HH Coping Strategy Index (CSI)	HH Head/ Female HH member	No disaggregation	The coping CSI measures household vulnerability to food insecurity in times of stress. The CSI is calibrated so that the maximum possible value is 100. A zero value indicates high food security (no coping strategies were used), and a value of 100 indicates extreme food insecurity. Calculate using guidelines in “ Measuring food insecurity: Can an indicator based on localized coping behaviors be used to compare across contexts?” by Maxwell, Daniel, Richard Caldwell and Mark Langworthy, Food Policy, Volume 33, Issue 6, December 2008.
SO1 MCHN: Improved health and nutritional status of children U5 and pregnant and lactating women (PLW)			
Percentage of underweight (WAZ<-2) children aged 0-59 months	Children 0-59 months	Boy, Girl, <-2SD, <-3SD	Calculate weight-for-age z-score (<-2SD and <-3SD) using new WHO/CDC standard over total number of children 0-59 months
Percentage of wasted (WHZ<-2) children aged 6-59 months	Children 6-59 months	Boy, Girl, <-2SD, <-3SD	Calculate weight-for-Height z-score (<-2SD and <-3SD) using new WHO/CDC standard over total number of children 6-59 months

Table 2: Indicator definitions and calculation methods

Indicator	Type of respondents	Main Disaggregation	Method
% children 0-6 months exclusively breastfed	Mother/ caregiver of children <2 years	No disaggregation	Exclusive breastfeeding refers to children up to six months of age who are given nothing but breast milk in the 24 hours preceding the interview divided by the number of children 0-6 months
% of children 6-23 months of age who receive a minimum acceptable diet	Mother/ caregiver of children <2 years	No disaggregation	This is a composite indicator of IYCF practices. The indicator gives an overall measure of the degree to which women have complied with the recommendation that infants age 6-23 months receive appropriate and adequate complementary foods in addition to breastmilk. IYCF feeding practices will be disaggregated by age group to estimate age-specific feeding practices. Calculation: no. of children 6-23 months who received solid, semi-solid or soft foods in addition to breastmilk during the previous day divided by total no. of children 6-23 months. Calculate per WHO 2008 IYCF guideline.
% of caregivers demonstrating proper personal hygiene behaviors	Mother/ caregiver of children <5 years	No disaggregation	<p>“Proper personal hygiene behavior” refers to includes two dimensions: critical times and technique:</p> <p>Critical times for handwashing: After defecation. After cleaning babies’ bottoms. Before food preparation. Before eating. Before feeding children.</p> <p>Handwashing technique: Uses water. Uses soap or ash. Washes both hands. Rubs hands together at least three times. Dries hands hygienically – by air-drying or using a clean cloth.</p> <p>According to FANTA guidelines, mothers/caregivers practice eight or more of the 10 practices listed are considered as practicing appropriate handwashing.</p>
% of beneficiary caregivers demonstrating food hygiene behaviors	Mother/ caregiver of children <5 years	No disaggregation	“Food hygiene behavior” is achieved if the beneficiary caregivers practice all of the following: 1) Wash hands before food preparation 2) wash hands before feeding child 3) keep food covered.
% of PLW who consume food rich in iron	PLW	No disaggregation	Defined as pregnant and lactating women’s consumption of local iron-rich food within the last 24 hours. The locally identified iron-rich food/food groups are dark green leafy vegetables, fish, poultry, meat/offal/organs, and pulse/peanuts/beans/ ground-nuts.

Table 2: Indicator definitions and calculation methods

Indicator	Type of respondents	Main Disaggregation	Method
% of PLW who consume food rich in Vitamin A	PLW	No disaggregation	Defined as pregnant and lactating women's consumption of local Vitamin-A- rich food within last 24 hours. The locally identified Vitamin-A-rich food/food groups are milk/dairy products, oil/fats/butter, mango/papaya/orange/jack-fruit, DGLV, carrots/pumpkins, egg.
% of PLW who consume food rich in Calcium	PLW	No disaggregation	Defined as pregnant and lactating women's consumption of local calcium- rich food within last 24 hours. The locally identified calcium rich food/food groups are milk/dairy products.
% of PLW taking iron or iron folate supplements in the last 7 day	PLW	No disaggregation	Defined as pregnant or lactating women who took an iron folate tablet/ supplement within the last seven days.
% of children 12-23 months who received Vitamin-A supplementation in the past 6 months	Mother/ caregiver of children 12-23 months	No disaggregation	Children 6-59 months of age are supposed to receive a Vitamin-A capsule every six months from a regular Expanded Program of Immunization (EPI) session or Vitamin-A-plus campaign as supplementation. Accounting for the initial six months, the program will track Vitamin-A supplementation for children 12-23 months.
% of mothers of children aged 6-23 months who received high-dose Vitamin A supplement within 8 weeks postpartum (6 weeks if not exclusively breastfeeding) in last pregnancy	Mother of children 6-23 months	No disaggregation	Every mother should receive one dose of Vitamin A within six weeks of delivery (postpartum). The mother of the child 6-23 months who received Vitamin-A supplementation within six weeks of delivery in her last pregnancy will be counted for this indicator.
% of mothers attended Antenatal Care (ANC) session at least 4 times during last pregnancy	PLW	No disaggregation	If a pregnant woman attends ANC sessions at least four times during pregnancy she will receive all program messages related to pregnancy and newborn/infant care. The monthly attendance of pregnant women at ANC sessions is important to ensure full ANC services. Calculation: No. of pregnant women who have attended ANC sessions at least four times, over total # PLW (over the defined period).
% of beneficiary children 12-24 months receiving de-worming medication in previous 6 months	Mother/caregiver of children 12-23 months	No disaggregation	Children 12-59 months of age are supposed to receive deworming tablet every 6 months from regular EPI session or Vita-A plus campaign as medication. Children 6-23 months are the direct beneficiaries. So the program will track deworming tablet receiving status of children 12-23 months through regular monitoring. ¹⁹
% of beneficiary women whose husband attends ANC/PNC with her	PLW	No disaggregation	This indicator will measure the extent of male involvement in maternal health care.
SO2 Market-based Production and Income Generation: Poor and extremely poor households have increased production and income			

¹⁹ The original indicator statement is “12-24” but it should be 12-23: in the baseline, data were collected for children 12-23 months, and the program continued to track for that age range.

Table 2: Indicator definitions and calculation methods

Indicator	Type of respondents	Main Disaggregation	Method
Average HH dietary diversity score (HDDS)	Female HH member (who cooks food)	No disaggregation	<p>Dietary diversity score (DDS) does not measure dietary quality or calorie intake; it is a proxy for the socioeconomic status of the HH. HHs that consume more diversified food/food groups are considered to have a better economic status in terms of food security. Household dietary diversity is defined as the number of unique foods consumed by household members over a given period. The following 12 food groups are used to calculate the HDDS:</p> <ol style="list-style-type: none"> 1. cereals 2. roots and tubers 3. pulses/legumes 4. milk and milk products 5. eggs 6. 6.meat and offal 7. fish and seafood 8. oil/fats 9. sugar/honey 10. fruits 11. vegetables 12. others (spices, sodas, etc.) <p>This indicator is calculated using 24-hours recall: the respondent is asked “Yesterday, did you or anyone in your household consume (list of food groups). The sum of the “Yes” (Yes=1, No=0) responses is the score per household; an average score is calculated for the sample.</p>
Average number of months of adequate household food provisioning (MAHFP)	HH Head/ Adult Female HH member	No disaggregation	<p>The average number of months beneficiaries are able to meet their basic food needs. The indicator focuses on the desired outcome of improved food access. Food access depends on the ability of households to obtain food from their own production, stocks, purchases, gathering, or food transfers from relatives, members of the community, the government, or donors. A household’s access to food also depends on the resources available to individual household members and the steps they must take to obtain those resources, particularly exchange of other goods and services. The survey question for this indicator is, "Which were the months (in the past 12 months) in which you did not have enough food to meet your family’s needs?".</p>
% of HHs reporting increase in production of one or more products	Farming HH member	No disaggregation	<p>"Production" is defined as the food produced from the vegetable garden. "Increase" is defined as at least a 20% increase from the baseline.</p>
Average annual income from sale of agricultural products	HH Head/ farming HH member	No disaggregation	<p>"Income" is defined as net income from agricultural products. This information will be collected semi-annually; and averaged annually.</p>

Table 2: Indicator definitions and calculation methods

Indicator	Type of respondents	Main Disaggregation	Method
% of beneficiaries (farmers) using 3 or more sustainable/improved production practices.	HH Head/ farming HH member	No disaggregation	The project will promote the following seven sustainable/ improved production practices: (use of) animal manure; compost; crop rotation; biological/organic pest control; mechanical pest control; integrated pest management; and treadle pump/drip irrigation/mobile pump. Those beneficiaries who practice at least 3 out of the 7 improved practices will be counted for this indicator.
% of targeted Productive Poor (PP) HHs adopting improved marketing practices	HH Head/ farming HH member	No disaggregation	“Improved marketing practices” are defined based on three criteria: (presence of) business plan (crop season, improved variety and market demand); bulking products (bulking and selling collectively through group); and high-value marketplace. The farmer HHs who practice these three things will be considered as "adopting" improved marketing practices.
SO3 DRR: Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters			
% of HHs with a feasible plan to protect human life and productive assets during disaster	HH Head/Adult HH member	No disaggregation	A HH is considered to have a “feasible plan” when HH members have a plan for evacuating vulnerable HH members, visit the shelter center in normal times, identify a safe shelter center, have a plan for dry food, and have a plan to protect livestock and other valuable assets.
% of HHs able to resume livelihood activities within two weeks following a natural disaster.	HH Head/Adult HH member	No disaggregation	This indicator will be reported if any disaster takes place after the baseline survey. "Resume livelihood activities" is defined as when HH members start their normal livelihood activities – earning income, farming, doing agricultural activities, doing household chores, etc.
% of HHs that received location-specific cyclone warning signal with adequate lead time	HH Head/Adult HH member	No disaggregation	The definition of “adequate lead time” varies depending on signal level. The current government signal system is based on two ports: Mongla and Chittagong. Nobo Jibon is working with Asian Disaster Preparedness Center (ADPC) to develop a localized (union-level) early warning system. The project collects signal -specific early warning information will be collected during annual monitoring.

Reporting of Results

The analysis presented in this report includes two types of cross-tabulations for all project indicators: by district and by household food security category (terciles of low, medium, and high food security). All indicators are broken down by these categories, either in tables within the report narrative or in Annex 6. In addition to these breakdowns, some key indicators are also broken down by sex of household head, and by categories of household participation in project interventions.

Throughout this report, baseline values of selected program indicators shown in Table 1 are computed as the mean values of the overall sample. Mean values and 95% confidence intervals of all IPTT indicator variables at the total sample level are provided in Annex 2.

Data presented throughout the report is coded to indicate significant differences. The significance, which statistical tests produced, is referred to as the p-value (probability value). The p-value can be interpreted as the probability of a difference occurring by chance alone. If all other biases are eliminated or accounted for, then one can assume that when this p-value is small, the differences are due to a factor other than chance.

*	p < 0.1
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**Mean value is different between groups at the .10 significance level.*

All monetary indicators are converted from nominal values to inflation-adjusted values based on 2010 price index level, in order to permit direct comparability between baseline and endline values. The adjustment is based on the Bangladesh Consumer Price Index (CPI) reported by the World Bank.

2.2 Methods for Qualitative Study

A. Study Design and Objectives

In order to obtain other qualitative information about beneficiary perceptions of program activities, change in practices, stakeholder coordination and linkages to services, three qualitative evaluators spent four days in the districts to conduct beneficiary focus groups. The team used the qualitative information to inform the interpretation of program impact and outcome data obtained from the quantitative data collection process.

B. Study Sample

The qualitative study sample was drawn from the villages selected for the quantitative portion of the evaluation. All three districts encompassing the program area, Barguna (1 village), Barisal (1 village), and Patukhali (2 villages), were included in the sample. Villages were purposively selected to include those that are considered at high risk to disaster (e.g. that received SO3 training), as well as, those that included community groups and committees targeted by Nobo Jibon SO1 and SO2 activities, as outlined below.

The qualitative team conducted 24 focus groups, as follows:

- MCHN – PLW (8-12) (two groups)
- MCHN – Adolescents (two groups)

- MCHN – Village Health Committee (VHC; two groups)
- MCHN – Fathers (two groups)
- Livelihoods – Extreme Poor (two groups)
- Livelihoods – Productive Poor (three groups)
- Livelihoods – Women (two groups)
- Disaster Management – Men (two groups)
- Disaster Management – Village Disaster Management Committee (VDMC; two groups)
- Disaster Management – Women (two groups)
- Disaster Management – Youth Volunteers (two groups)
- Disaster Management – Union DMC (one group)

Some focus groups were separated by sex and some were mixed. In total, the groups included 153 women, 68 men, 18 girls and 15 boys. Annex 1 contains focus group details.

C. Instruments

The qualitative team used topical outlines to guide the focus group discussions. For each strategic objective, the teams explored the following general topics:

- Participation (frequency of participation, m/f ratio, adolescents: how selected)
- Topics learned and relative importance
- Changes in practices (noting gender differences)
- Reasons for not changing practices (noting gender differences)
- Suggestions/recommendations (e.g., ways to enhance inclusiveness)
- Sustainability

Village committees were asked about the following topics:

- Structure of committee
- Responsibilities and activities
- Interactions with community
- Types of support received by NJ
- Participation of women in the committees
- Sustainability of the committees

D. Data Collection

The qualitative component of the evaluation was conducted by one international consultant and two local consultants with relevant specializations in food and livelihood security, health and nutrition, disaster risk reduction and adaptation, program management, commodity management,

and gender and governance. The international consultant is from the United States and worked in tandem with one of the two local consultants when translation was required.

The team collected qualitative data from upazilas in each district as follows:

- Barguna: Amtali upazila (one union)
- Patuakhali: Dashmina and Galachipa upazilas (four unions)
- Barisal: Barisal Sadar upazila (one union)

In total, the qualitative team visited six villages in the areas listed above. They applied the instruments described in the previous section.

F. Estimation of Household Food Security Categories

The evaluation team used factor analysis to construct a proxy indicator of household food security based on a composite of a number of measured household characteristics of household economic status and food security indicators. Factor analysis enables identification of unique factors that summarize several dimensions of the food security status of households. Results (provided in Annex 4) from the factor analysis were used to identify and compare three distinct levels of food security status among sample households. The computed values of the principal component (component 1) were first ranked and then divided into terciles (three groups with an equal number of cases). These categories represent three levels of food security status among sample households.

The elements included in the factor analysis were:

- Household size
- Per capita expenditures
- Per capita asset index
- Share of household expenditures spent on food
- Household Dietary Diversity Score (HDDS)
- Months of adequate household food provisions (MAHFP)
- Household Food Insecurity Access Scale (HFIAS) score
- Coping Strategies Index (CSI)

These elements were pre-identified as household and livelihood characteristics that exogenously explain and are correlated with household food security. Annex 4 includes results from and a detailed explanation of how the factor analysis was used to construct the food security index.

Table 3 presents data on these indicators of vulnerability, disaggregated according to food security status. By identifying the index scores of households in different food security

categories, the Nobo Jibon endline QPE provides a useful tool for measuring the impact of Nobo Jibon on highly food insecure and less food insecure households in the program area.

Table 3: Food security variables at endline, by food security

	Food Security Category			Total Sample	
	Lowest	Middle	Highest		
Variables included in food security categorization	Mean value				
Household size*	4.5	4.7	5.3	4.8	
Per capita expenditures (TK/month)**	1,425	1,460	2,308	1,728	
Per capita asset index*	43.5	63.3	100.7	69	
Food share (%) of total expenditures *	59.5	57.3	45.8	54.2	
Household Dietary Diversity Score (HDDS)*	4.7	5.4	7	5.7	
Months of Adequate Household Food Provisions (MAHFP)*	8.4	10.9	11.9	10.4	
Household Food Insecurity Access Scale (HFIAS)*	47.2	10.2	0.8	19.4	
Coping Strategy Index**	20.9	3.7	0.4	69.1	
Food Security Index (Mean)	-1.0	-0.3	1.2	0.0	
Food Security Index (Standard Deviation)	0.3	0.3	0.7	1.0	
	N	1,778	1,779	1,779	5,336

Note: All food security categories are statistically significantly different from one another at the 10% (*). High is statistically significantly different from low and middle at the 10% (**)

Across the entire sample, household size, per capita expenditures, per capita asset index, dietary diversity, and months of adequate household food provisions increase as food security status increased. Per capita expenditures ranged from a high of Tk 3,323 among the most food secure households to a low of 2,025 among the least food secure households. Households in the low food security category also spend the most on food as a share of total expenditures (60 percent) compared to households in the medium (57 percent) and high (46 percent) categories. Notable differences between categories were seen in HFIAS and CSI: the lowest food security households scored 47.2 on the HFIAS and 43.6 on the CSI, compared to 0.8 on the HFIAS and 100.4 on the CSI for the most food secure households.

It should be noted that not every household is included in the food security terciles. In cases where households did not provide a response necessary to calculate one of the underlying variables included in the factor analysis described above, those households were excluded from the factor analysis (“missing values”). Therefore, the total sample size will differ when disaggregating by food security category, as compared to other disaggregations presented in this report such as district and/or sex of head of household. For this same reason, the baseline values

presented in this report for indicators disaggregated by food security category may differ slightly from those included in the IPTT table (Annex 2), due to missing cases in the food security index.

2.3 Study Limitations and Issues Encountered

One potential limitation of the evaluation was the difference in evaluation design with respect to sampling between baseline and endline. At baseline, detailed household listings were unavailable; therefore, second-stage selection of households was conducted using the random walk method. At endline, a household listing exercise was conducted prior to the commencement of field work and households for the second-stage of sampling were chosen from among the household lists.

When possible, sample selection from household listings is preferable. There are drawbacks to using a random walk for household sample selection, as opposed to household listings, the biggest being the potential for selection bias.

Table 4 above includes general household characteristics that are expected to remain relatively constant over time, for both the baseline and endline samples. These characteristics include asset ownership, prevalence of farming as an income earning activity, and prevalence of other-income earning activities, such as wage labor, and rickshaw driving that might be indicative of lack of access to farming activities. Across the sample, several characteristics change significantly. More than two-thirds of households (68 percent) owned cultivable land, compared to 60 percent at baseline. Average farmland area increased 67 percent from 52 decimals at baseline to 87 decimals. In addition, the proportion of households with access to water bodies grew 26 percent to 81 percent of all households.

Table 4: Selected household characteristics, baseline and endline survey rounds

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% HH that own cultivable land	59.2	67.8	14.5 *	5,024	5,345
Average farmland area (decimals)	52.0	86.9	67.1 *	5,026	5,346
% HH with access to water bodies	64.1	80.5	25.6 *	5,022	5,345
Average # cows	0.9	1.1	22.2 *	5,026	5,346
Average # goats	0.3	0.3	0.0	5,026	5,346
% HH primary occupation: day labor	20.7	18.8	-9.2 *	5,025	5,337
% HH primary occupation: rickshaw puller/boatman	5.9	5.2	-11.9	5,025	5,337

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

If the random walk sample selection technique produced a biased sample, one might expect to see several of the household characteristics to be different for the sample at endline compared to baseline. This was, in fact, true. The percentage of households with access to farmland and the average size of agricultural land owned are considerably higher at endline relative to baseline. This is also true with respect to ownership of large livestock (cows/buffaloes), while ownership of smaller livestock (goats/sheep) was relatively unchanged. The percentage of households whose primary income was derived from wage labor or rickshaw driving declined slightly from baseline to endline. This is contrary to what one would expect to see if the baseline sample was biased towards wealthier households. However, it could just suggest that the baseline sample was biased towards poorer households. Another explanation for the differences observed in these household characteristics is that there was a generalized, upward trend in these variables between the two survey rounds, either the result of project activities or external factors. Unfortunately, without additional information to determine if the observed changes are due to selection bias or underlying structural changes of household conditions.

Another limitation of the QPE conducted for the Nobo Jibon project is that the study includes only a very small and limited qualitative component. This is because FFP made the decision to undertake a comprehensive qualitative evaluation of all three Title II projects in Bangladesh, and asked the awardees to conduct quantitative evaluations only, to measure changes in project indicators. In the Scope of Work, Save the Children requested a small qualitative component, to serve as a means of triangulation and verification of the quantitative results. Because of the limited scope of the qualitative component, only a small number of interviews could be conducted with focus groups of project participants and with key informants. The limited scope of the qualitative component did not permit wider ranging interviews with other project stakeholders to get information about project implementation. As a result, the qualitative component of this QPE is very narrowly directed toward collecting information from a small number of project beneficiaries about their perceptions of project interventions.

Regarding the minimum required sample size calculation and corresponding statistical power associated with the evaluation, the initial intention during the evaluation design phase was to allow for statistically valid comparisons for outcome indicators between the 3 districts (Barguna, Barisal, and Patuakhali). The comparisons per district were requested by Nobo Jibon and based on detecting a 15 percent difference in stunting in children under 5. At the time of baseline, this sample size was more than sufficient to capture a sufficient number of children under 5 to detect a 10 percent reduction in stunting for the whole program area, per FFP requirements and consistent with the program target.

There was no attempt, at endline, to adjust the sample size in an attempt to power the evaluation such that statistically valid comparisons could be made for child stunting between districts. This simply was not feasible from a budgetary perspective. The decision was made to maintain consistency from the baseline with respect to the sample size calculation at endline, as this

minimum required sample was assumed to be more than sufficient to detect a 10 percent reduction in stunting for the whole program area. This in fact, was the case. Granted, it should be noted that any district comparisons made in this report will not be statistically valid for the anthropometric indicators.

Finally, it should be noted that in following FFP guidance for performance monitoring evaluation design (as opposed to for an IE), a statistically representative comparison (or control) group was not built into the evaluation design. However, the population based survey design did include a large proportion of households from program villages that did not participate directly in Nobo Jibon activities, from which a limited amount of analysis is included in this report, comparing non-participant households to participant households for certain key indicators. While the analysis is constructive, it is only meant to provide subjective context, in an attempt to ascertain if there is any (non-statistically representative) indication that program activities might be influencing the program results reported in this document. Any comparisons made in this report between non-participant and participant households that suggest that program outcomes might be attributable to program activities could be explored further in a future IE, or as part of a more robust evaluation design in the subsequent, follow-on program.

3. Endline Evaluation Findings

Household Food Security and Vulnerability Status

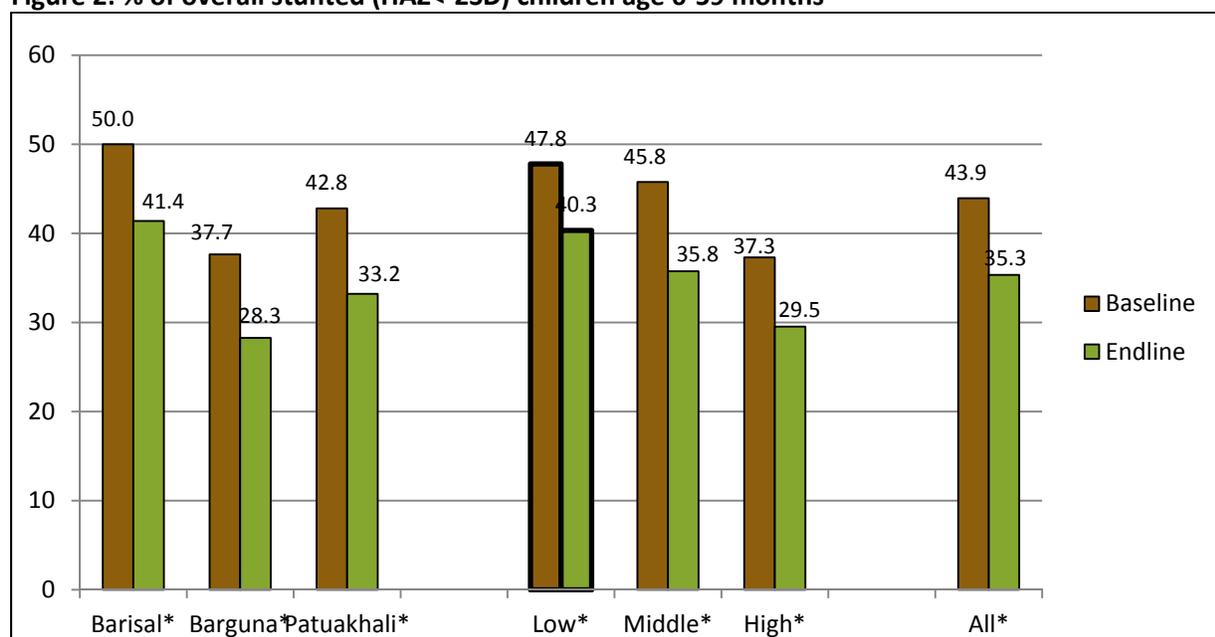
The overarching goal of Nobo Jibon is to reduce food insecurity and vulnerability in ten upazilas of the Barisal Division over five years. Critical to realizing this goal are improvements and increases in three areas: stunting in children 6-59 months, household food access, and household resilience, as measured by the CSI. Both baseline and endline surveys used anthropometric measures to assess the nutritional status of U5 children from sample households. This section reports the changes in those measures over the life of the program.

Stunting rates improved in all districts over the program period. At baseline, all districts had high rates of overall stunting in children age 6-59: 38 percent in Barguna, 43 percent in Patuakhali, and as high as 50 percent in Barisal (Figure 2). Over the program period, overall stunting decreased from 44 percent to 35 percent across all sample households – a 20 percent overall reduction. This surpassed the program target of 40 percent and is comparable to national statistics – stunting fell nationally from 45 percent in 2010 to 35 percent in 2013.²⁰²¹

²⁰ FSNSP, 2014.

²¹ Confidence intervals for child stunting and all other program indicators are listed in Annex 2, as part of the IPTT table. If an indicator at endline measured across its entire confidence interval exceeds the program target, then for the purposes of this report, the indicator at endline is said to “exceed” the program target. If the program target falls within the confidence interval at endline, the indicator is said to have “met” the program target.

Figure 2: % of overall stunted (HAZ<-2SD) children age 6-59 months



Note: Stars indicate that difference between endline and baseline value is statistically significant at the 10% level.

The improvement was slightly more marked in Barguna and Patuakhali, which both saw overall stunting decrease by 25 percent and 22 percent, respectively (Table 5). Severe stunting rates, which ranged from a low of 10 percent in Barguna to a high of 18 percent in Barisal at baseline, also saw substantial improvement at endline, with a 22 percent reduction in the overall sample, and greater improvements in Barisal (29 percent reduction) and Barguna (28 percent reduction; Table 5). Parallel to the baseline ranking, at endline Barisal remains the district with the highest rates of stunting (41 percent overall, 13 percent severe), and Barguna the lowest, with 28 percent stunted and 7 percent severely stunted (Table 5). For the overall sample, the severe stunting rate of 10 percent met the program target of 11 percent.

Table 5: Program goal indicators, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of overall stunted (HAZ<-2SD) children age 6-59 months					

Table 5: Program goal indicators, by district

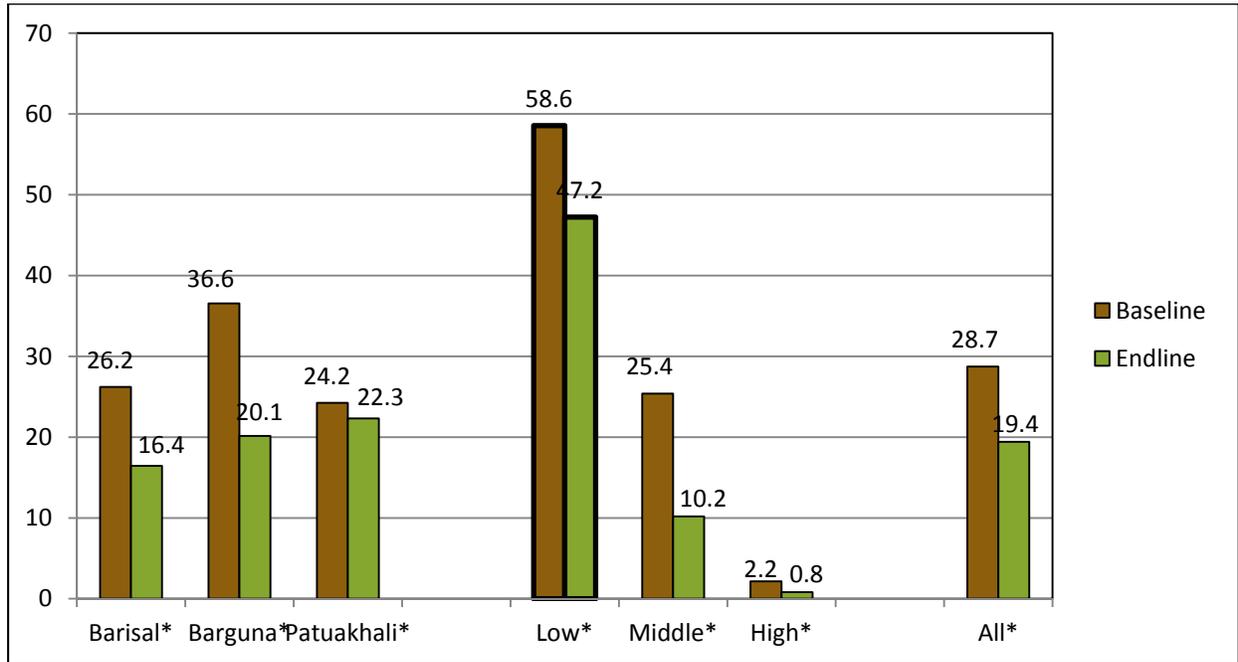
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
All households	43.9	35.3	-19.6	*	2,296	1,853
District						
Barisal	50.0	41.4	-17.2	*	802	769
Barguna	37.7	28.3	-24.9	*	614	476
Patuakhali	42.8	33.2	-22.4	*	879	608
% of severely stunted (HAZ<-3SD) children age 6-59 months						
All households	12.9	10.0	-22.2	*	2,296	1,853
District						
Barisal	17.7	12.6	-28.6	*	802	769
Barguna	9.8	7.1	-27.6	*	614	476
Patuakhali	10.7	9.1	-15.1	*	879	608
Household Food Insecurity Access Scale (HFIAS), mean value (0-100)						
All households	28.7	19.4	-32.4	*	5,009	5,346
District						
Barisal	26.2	16.4	-37.3	*	1,636	2,031
Barguna	36.6	20.1	-44.9	*	1,563	1,614
Patuakhali	24.2	22.3	-7.9	*	1,810	1,701
Coping Strategy Index (CSI), mean value (0-100)						
All households	13.5	8.4	-37.8	*	4,969	5,346
District						
Barisal	12.0	6.3	-47.5	*	1,623	2,031
Barguna	17.8	8.9	-50.1	*	1,561	1,614
Patuakhali	10.9	10.3	-5.6		1,785	1,701

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

The Household Food Insecurity Access Scale (HFIAS) is reported on a scale of 0 to 100; higher scores indicate higher food insecurity, so a reduction in score is the desired outcome (see Annex 3 for details on the computation). The HFIAS value for the overall sample decreased by more than 30 percent, from 28.7 to 19.4 (

Figure 3). The HFIAS index at endline for all households sampled was 19 percent compared to a program target of 26 percent (Table 5). However, the magnitude of the endline-baseline difference varied substantially across regions, from a low 8 percent reduction in Patuakhali to markedly higher reductions in Barguna and Barisal (45 percent and 38 percent, respectively).

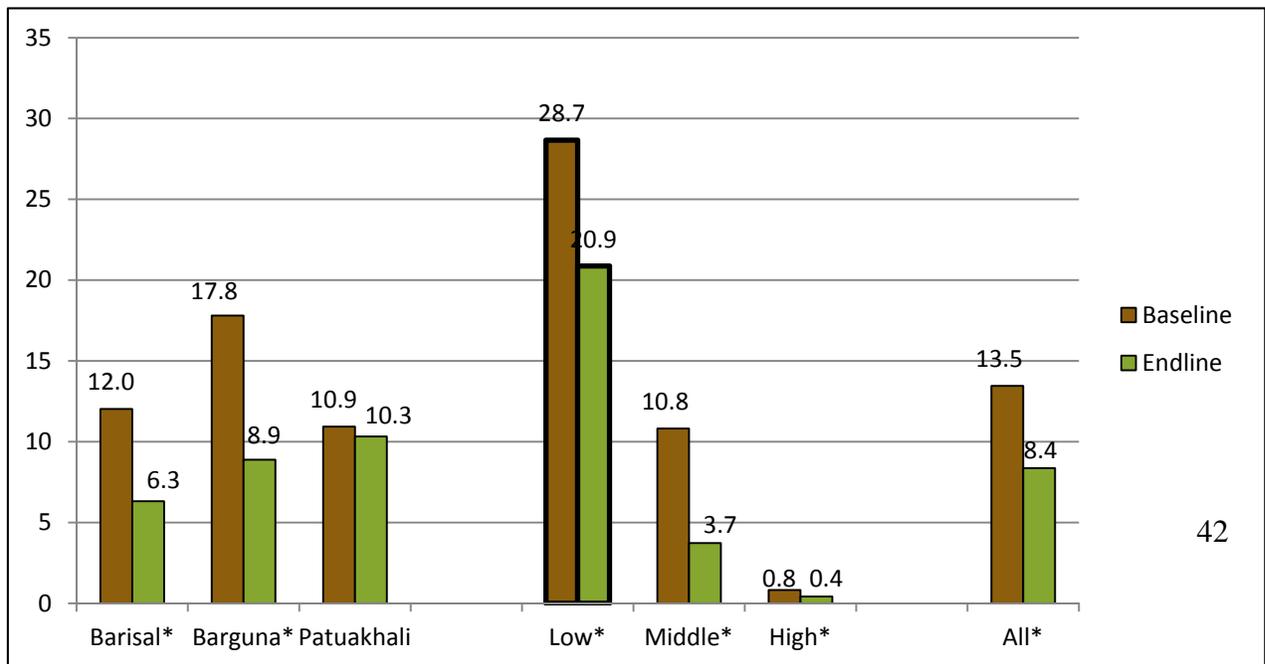
Figure 3: Household Food Insecurity Access Scale (HFIAS), mean value (0-100)



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

The Coping Strategies Index CSI scores were also scaled from 0-100, with a lower score indicating higher food security, hence lower scores are desirable. The pattern seen for CSI values mirrored that of the HFIAS: greater reductions in Barguna and Barisal (50 percent and 48 percent, respectively), and a small and statistically insignificant reduction in Patuakhali (Table 5). The CSI index for the overall sample at endline (8.4 percent) surpassed the program target of 12 percent (Figure 4).

Figure 4: Coping Strategy Index (CSI), mean value (0-100)



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Another way to analyze achievement of program goals is by food security category (Table 6). Reductions in overall and severe stunting in children age 6-59 months were higher for medium and high food security categories. Medium food security households experienced the largest decrease in severe stunting from 14 percent to 10 percent, a 33 percent decrease. The only statistically significant decrease for stunting in the low food security category was for overall stunting, a 16 percent reduction, compared to more than 20 percent for the other two categories.

This finding is logically consistent with the differences across food security categories for the scaled HFIAS and CSI scores. Both medium and high food security categories saw large improvements in HFIAS (60 percent and 62 percent decreases, respectively); the low food security category also saw an improvement but not as marked (a 19 percent change from baseline to endline). The changes in CSI across food security categories paint a similar picture, as households at all levels had significantly lower CSI scores, meaning they were turning to fewer coping strategies at endline than at baseline. The magnitude of change was substantial: from a 28 percent decrease in households with the lowest food security, to a 66 percent decrease for the medium group.

Table 6: Program goal indicators, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall stunted (HAZ<-2SD) children age 6-59 months						
All households	43.6	35.4	-18.9	*	2,213	1,848
Food security category						
Low	47.8	40.3	-15.6	*	705	665
Medium	45.8	35.8	-21.9	*	782	582
High	37.3	29.5	-20.9	*	726	601
% of severely stunted (HAZ<-3SD) children age 6-59 months						
All households	12.6	10.0	-20.6	*	2,213	1,848
Food security category						
Low	14.3	12.7	-11.5		705	665
Medium	14.4	9.6	-32.9	*	782	582
High	9.0	7.4	-17.8	*	726	601
Household Food Insecurity Access Scale (HFIAS), mean value (0-100)						
All households	28.7	19.4	-32.4	*	4,944	5,336
Food security category						
Low	58.6	47.2	-19.3	*	1,648	1,778
Medium	25.4	10.2	-59.9	*	1,648	1,779
High	2.2	0.8	-62.0	*	1,647	1,779
Coping Strategy Index (CSI), mean value (0-100)						

Table 6: Program goal indicators, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
All households	13.4	8.4	-37.6	*	5,026	5,339
Food security category						
Low	28.7	20.9	-27.2	*	1,648	1,779
Medium	10.8	3.7	-65.5	*	1,648	1,779
High	0.8	0.4	-48.7	*	1,647	1,777

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Analyzing the changes in HFIAS and CSI by gender (Table 7), we see that male-headed households have larger improvements than female-headed ones: the mean HFIAS decreased by 33 percent in male-headed households versus 23 percent in female-headed households; similarly, the mean CSI decreased by 39 percent (male-headed households) and 31 percent (female-headed households).

Table 7: Program goal indicators, by sex of head of household

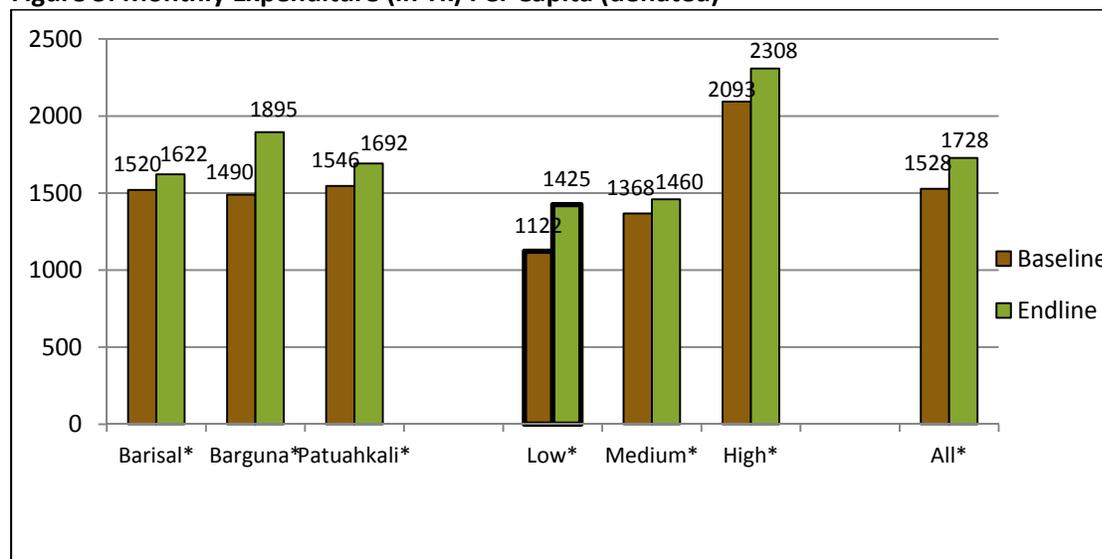
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Household Food Insecurity Access Scale (HFIAS), mean value (0-100)						
All households	28.7	19.4	-32.4	*	5,009	5,339
Sex head of household						
Male	28.3	18.9	-33.2	*	4,705	5,001
Female	34.7	26.8	-22.9	*	304	339
Coping Strategy Index (CSI), mean value (0-100)						
All households	13.5	8.4	-37.8	*	4,969	5,339
Sex head of household						
Male	13.3	8.2	-38.4	*	4,666	5,001
Female	15.9	10.9	-31.4	*	303	339

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Household Income and Expenditures

This section reports data on household income and expenditures. Income and expenditure indicators disaggregated by district are presented below in Table 8. Additional tables presenting the indicators disaggregated by food security category (Table 72), and sex of household head (Table 73), and converted to U.S. dollars (Table 74) are made available in annex 6.

Figure 5: Monthly Expenditure (in Tk) Per Capita (deflated)



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Overall and adjusted for inflation,²² the average monthly income per capita of sampled households increased by about 350 Tk (28 percent) over the life of the program (Table 8).²³ The greatest relative gain across districts was in Barisal (1236 Tk to 2418 Tk, a 36 percent increase). Barguna and Patuakhali, meanwhile, improved per capita monthly income by 22 percent and 25 percent, respectively. Monthly expenditures per capita increased by about 200 Tk per month in the overall sample (Figure 5), however the increase was substantially greater in Barguna (27 percent) compared to Patuakhali (nine percent) and Barisal (seven percent). Barguna also exhibited the largest expenditures increase in absolute terms – about three times that of the other two districts.

²² A deflation factor was applied to the income and expense data based on inflation rates for 2009-2013 posted in the World Bank DataBank. The ideal span would be 2010-2014, however the rates for 2014 have not been posted as of this writing.

²³ Income per capita is calculated based on the response to questions asking the annual value of income earned across a range of categories (17). The values across the categories are summed and divided by 12 to arrive at a monthly figure. This calculation is then divided by total household size to convert into a per capita value. Per capita expenditures are calculated similarly, summed across responses to questions regarding 9 categories of household expenses. Both of these calculations are consistent with how the indicators were calculated at baseline.

Table 8: Household income and expenditures (in Tk), by district

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)	Number of observations		
					Baseline	Endline	
Monthly Income Per Capita²⁴							
All households	1274	2344	1628	27.8	*	5,026	5,338
District							
Barisal	1236	2418	1679	35.9	*	1,649	2,019
Barguna	1247	2195	1524	22.3	*	1,565	1,610
Patuakhali	1332	2396	1664	24.9	*	1,812	1,709
Monthly Expenditures Per Capita							
All households	1520	2486	1727	13.6	*	5,026	5,338
District							
Barisal	1520	2336	1622	6.7	*	1,649	2,019
Barguna	1490	2729	1895	27.2	*	1,565	1,610
Patuakhali	1546	2436	1692	9.4	*	1,812	1,709
Food Share (%) of Total Expenditures							
All households	62.3	54.2		-13.0	*	5,014	5,342
District							
Barisal	63.6	58.6		-7.9	*	1,647	2,019
Barguna	62.4	50.2		-19.5	*	1,562	1,611
Patuakhali	60.9	52.6		-13.5	*	1,805	1,712
Asset Index²⁵							
All households	249.9	315.1		26.1	*	5,026	5,345
District							
Barisal	307.3	368.0		19.7	*	1,649	2,019
Barguna	218.9	289.6		32.3	*	1,565	1,614
Patuakhali	224.4	276.9		23.4	*	1,812	1,712
Asset Index Per Capita							
All households	51.8	69.0		33.2	*	5,026	5,338
District							
Barisal	60.2	74.9		24.4	*	1,649	2,019
Barguna	48.7	69.8		43.4	*	1,565	1,610
Patuakhali	46.8	61.3		30.9	*	1,812	1,709

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

²⁴ All indicators reported in per capita terms, have been divided through by the number of reported persons in the household.

²⁵ A description of how the asset index is calculated is available in Annex 3.

The data suggest that households across the sample directed their increased income in a manner consistent with program goals: at endline, food as a percentage of overall spending was lower for all districts by 13 percent on average. At baseline, at least 61 percent of expenditures in any district was for food; at endline this fell to as low as 50 percent, in Barguna. At the same time, Barguna had the greatest improvement in the per capita asset index: 43 percent versus 31 percent in Patuakhali and 24 percent in Barisal. These findings suggest that even though the increase in income in Barguna was the lowest of the three districts in terms of both absolute change and percentage change, compared to the other districts, in Barguna the increase had a stronger impact on households' ability to direct a larger proportion of expenditures to investments in household assets.

Similar gains were observed in all areas when disaggregated by food security group (Table 72). Increases in monthly income per capita ranged from 24 percent among the most food secure to 34 percent among medium food secure households. Monthly expenditures per capita were more varied: the least food secure households increased spending 27 percent, compared to increases of 10 percent among the most food secure and seven percent among medium food secure households. Notably, the households in the medium food security group were the only ones with monthly expenditures per capita that were lower than monthly income per capita.²⁶ The least food secure households saw the largest decrease in food share as a percentage of total expenditures (16 percent) but contributed the largest share of expenditures to food (60 percent) compared to the most food secure households, which spent the least (46 percent). Likewise, the households in the low food security category saw the largest gains in asset index per capita (51 percent increase). This group, however, remained considerably lower in index value per capita than the most food secure households (43.5 index value per capita compared to 100.7 index value per capita, respectively). See Annex 3 for a description of the asset index computation.

Considering the indicators by sex of household (Table 73), male-headed households generally saw more significant gains than female-headed-households. Monthly income per capita increased in male-headed households 29 percent, compared to 15 percent in female-headed households, though the latter reported higher income per capita (1746 Tk compared to 1620 Tk for male-headed). Female-headed households saw monthly expenditures per capita increase 30 percent, while male-headed households' expenditures grew 13 percent. Food share as percentage of total expenditures decreased 13 percent across all households – a desirable outcome –and the figure holds when analyzed by sex of household head (13 percent for both types). While the data show a 57 percent increase in asset index per capita in female-headed households (versus 32 percent for male-headed ones), this figure was not statistically significant.

²⁶ Monthly expenditures per capita is used a proxy for income.

SO1 – Maternal and Child Health and Nutrition (MCHN)

The MCHN component aims to contribute to improvements in antenatal care (ANC), infant feeding practices, and child healthcare related to immunization and treatment of diarrhea. This section reports the endline findings and compares them with the endline data, and analyzes the extent of changes in knowledge and practices in these health-seeking behaviors.

Anthropometric Indicators

The anthropometric data provide an indication of the combined impacts of SO1 and SO2 nutritional interventions and program activities. The baseline and endline surveys measured children under two years (U2) and under five years (U5) to assess the three standard indices of physical growth: weight for age (WAZ, or underweight), weight for height (WHZ, or wasting), and height for age (HAZ, or stunting). Stunting is a program goal-level indicator and is further disaggregated by age category for further discussion in this section (see Household Food Security and Vulnerability Status). Stunting, underweight and wasting are described below:

Height for age (stunting): This index identifies whether a child has low height for her/his age. It is an important indicator of chronic malnutrition, and is a useful indicator in assessing changes in the magnitude of malnutrition over time.

Weight for age (underweight): This index identifies whether a child is underweight for her/his age. It reflects both chronic and acute malnutrition, and is a useful indicator in assessing changes in the magnitude of malnutrition over time. However, it is not useful in distinguishing between stunting and wasting. (A child can be underweight for his/her age because he/she is stunted or wasted, or both stunted and wasted.)

Weight for height (wasting): This index identifies whether a child has low weight for her/his height, and thereby helps identify children suffering from current or acute malnutrition or wasting. Weight for height is appropriate for examining short-term effects such as those from seasonal changes in food supply or short-term nutritional stresses brought about by illness.

Table 9 reports, by food security category, the percentage of children in the 6-59 month, 6-23 month, 24-59 month age groups that are *overall* stunting (below -2 standard deviations from the median height for age per 2006 World Health Organization growth standards). In parallel fashion, Table 10 reports data for the same age groups by food security category, for those children with *severe* stunting (below -3 standard deviations from the median height for age) and *severe* wasting (below -3 standard deviations from the median weight for height).

The prevalence of overall stunting, for all children measured in the sample, decreased by 19 percent (Table 9). Improvements in overall child stunting, for the whole sample, are spread fairly uniformly in percentage terms across all of the food security categories, with children in the lowest food security category improving by 16 percent baseline to endline, children from the highest food security category improving 21 percent, and children in the middle food security category improving 22 percent.

There were particularly notable declines in overall stunting achieved for children aged 6-23 months in the low and medium food security categories. Overall stunting declined 19 percent and 35 percent over the baseline for children from these two categories, respectively. The distribution of overall child stunting across food security category improved substantially for the 6-23 month age cohort, as the difference in stunting between the high and low food security category at baseline was 13 percentage points (38 percent vs. 25 percent) and decreased to 8 percentage points (31 percent vs. 23 percent). The particularly strong improvements seen in this age cohort could be a reflection of program effectiveness, as these children and their mothers might have had more time to benefit from SO1 programming, compared to older children represented in the data. For instance a mother with a child under 2 measured in the endline survey may have participated in SO1 programming from the time of her child’s conception, or perhaps before if she had another child under 5 in the household. Children measured closer to age 59 months might not have had the opportunity to benefit from the full range of SO1 programming, as the cumulative and irreversible effects of long-term malnutrition may have already affected them by the time them and their mother’s commenced program participation. The effectiveness of behavior change programming is likely more effective near the end of program, as compared to the initiation, as the program is scaling up.

Table 9: Overall stunting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall stunting (HAZ<-2SD) children age 6-59 months						
All households	43.6	35.4	-18.9	*	2213	1848
Food security category						
Low	47.8	40.3	-15.6	*	705	665
Medium	45.8	35.8	-21.9	*	782	582
High	37.3	29.5	-20.9	*	726	601
% of overall stunting (HAZ<-2SD) children age 6-23 months						
All households	33.0	25.7	-22.2	*	763	601
Food security category						

Table 9: Overall stunting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Low	37.9	30.8	-18.6	*	257	193
Medium	36.4	23.8	-34.7	*	248	193
High	24.9	22.7	-8.9	*	259	215
% of overall stunting (HAZ<-2SD) children age 24-59 months						
All households	49.2	40.1	-18.6	*	1,450	1,247
Food security category						
Low	53.4	44.2	-17.2	*	448	471
Medium	50.1	41.7	-16.8	*	535	389
High	44.2	33.3	-24.6	*	467	387

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Results disaggregated by child sex for child stunting, as well as, all of the other anthropometric indicators are available in Annex 6. Overall, there were no statistically significant differences for children under 5 between boys and girls for the anthropometric indicators, except for severe stunting – girls 6-59 months have a severe stunting prevalence of 9 percent while boys 6-59 months have a stunting prevalence of 11 percent. This difference was driven by a strong reduction (31 percent) in severe stunting for girls, from 13 percent at baseline to 9 percent (Table 48).

The prevalence of severe stunting declined 20 percent for the entire sample, children aged 6-59 (Table 10). Particularly strong gains were realized in the medium food security category which experienced a 33 percent decline. When looking at severe stunting across different age categories, contrary to the findings for overall stunting, all of the improvement in severe stunting prevalence rates appears to be coming from children age 24-59 months, as compared to children 6-23 months. For children measured 24-59 months, severe stunting declined 24 percent, while there was no statistically significant change in child stunting rates for children 6-23 months.

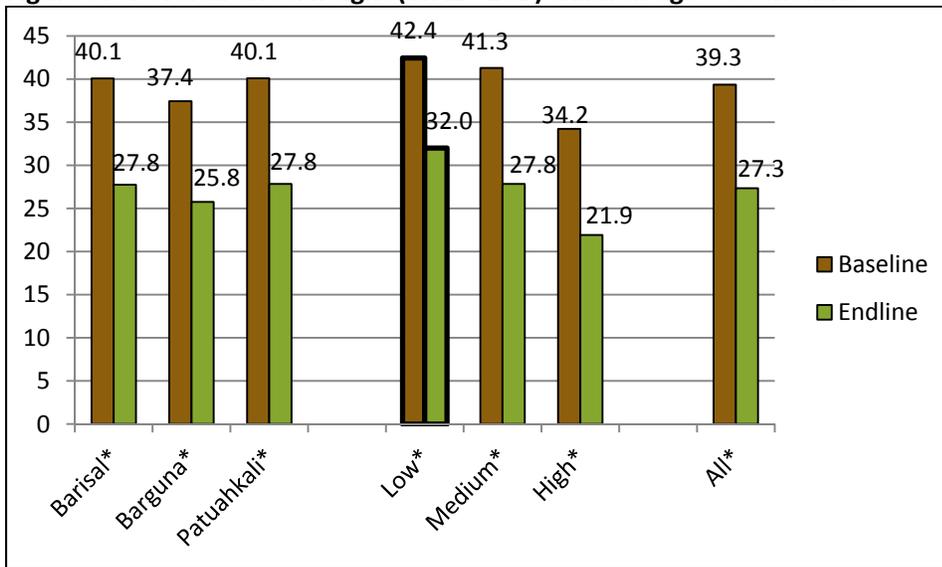
Table 10: Severe stunting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of severe stunting (HAZ<-3SD) children age 6-59 months					
All households	12.6	10.0	-20.6 *	2,213	1,848
Food security category					
Low	14.3	12.7	-11.5	705	665
Medium	14.4	9.6	-32.9 *	782	582
High	9.0	7.4	-17.8	726	601
% of severe stunting (HAZ<-3SD) children age 6-23 months					
All households	9.0	7.8	-13.1	763	601
Food security category					
Low	11.8	12.0	1.3	257	193
Medium	9.3	6.5	-30.6	248	193
High	6.0	5.3	-11.2	259	215
% of severe stunting (HAZ<-3SD) children age 24-59 months					
All households	14.5	11.1	-23.7 *	1,450	1,247
Food security category					
Low	15.8	13.0	-17.8	448	471
Medium	16.7	11.2	-32.9 *	535	389
High	10.8	8.6	-20.0	467	387

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Table 11 reports, by food security category, the percentage of underweight children (below -2 standard deviations from the median weight for age per 2006 World Health Organization growth standards) across the 0-59 month, 0-23 month, and 24-59 month age groups. Similarly, Table 12 reports *severe* underweight (below -3 standard deviations from the median weight for age) for the same disaggregations of age group and food security category.

Figure 6: % overall underweight (WAZ<-2SD) children age 0-59 months



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

The overall prevalence of underweight children in the total sample decreased from 39 percent to 27 percent (39 percent) over program life (Table 11: Overall underweight, by age and food security category). This compares favorably to national statistics, in which the prevalence of underweight children was unchanged at 32 percent from 2010 – 2013.²⁷ The endline prevalence of overall underweight for children 0-59 months (27 percent) also compares favorably to the program target of 36 percent (

Figure 6).

²⁷ FSNSP, 2013.

The range in percent overall underweight varied somewhat across food security categories. Children in the high food security category experienced the most improvement, with overall overweight prevalence declining 36 percent for this category. Similar to improvements seen in overall stunting rates, the cohort of children age 0-23 months appear to be driving much of the improvement for children in the overall sample. Improvements (declines in underweight prevalence) for children in this age category ranged from 36 percent for children in low food security households to 46 percent for children in high food security households.

Table 11: Overall underweight, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall underweight (WAZ<-2SD) children age 0-59 months						
All households	39.4	27.4	-30.5	*	2,223	2,055
Food security category						
Low	42.4	32.0	-24.6	*	707	722
Medium	41.3	27.8	-32.6	*	790	652
High	34.2	21.9	-36.0	*	727	680
% of overall underweight (WAZ<-2SD) children age 0-23 months						
All households	32.2	19.5	-39.4	*	770	807
Food security category						
Low	38.1	24.3	-36.1	*	258	251
Medium	31.8	20.5	-35.5	*	253	262
High	26.7	14.5	-45.8	*	260	294
% of overall underweight (WAZ<-2SD) children age 24-59 months						
All households	43.2	32.4	-24.9	*	1,453	1,248
Food security category						
Low	45.0	36.1	-19.7	*	449	471
Medium	45.8	32.8	-28.4	*	537	390
High	38.4	27.6	-28.2	*	467	387

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Moving to the “severe” level of this malnutrition indicator (Table 12), reductions in severe underweight prevalence were even more dramatic than for the overall prevalence of this indicator. Severe underweight prevalence fell 47 percent for the whole sample of 0-59 month children. Children in households across all categories of food security experienced significant declines, ranging from -32 percent for children in low food security households to -63 percent for children in medium food security households.

Table 12: Severe underweight, by age and food security category

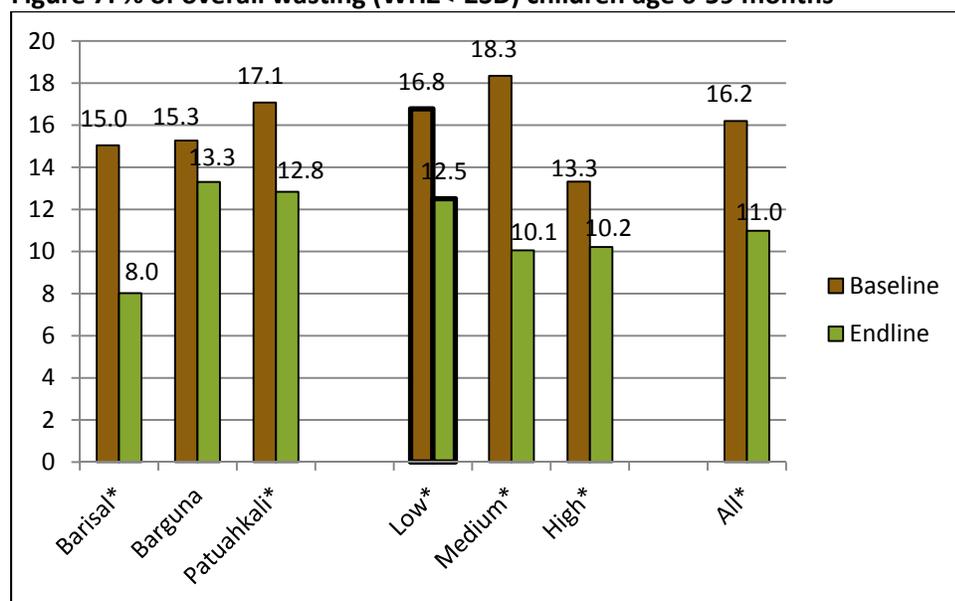
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of severe underweight (WAZ<-3SD) children age 0-59 months						
All households	9.8	5.2	-47.2	*	2,223	2,055
Food security category						
Low	10.8	7.3	-32.5	*	707	722
Medium	11.7	4.3	-63.1	*	790	652
High	6.8	3.7	-45.5	*	727	680
% of severe underweight (WAZ<-3SD) children age 0-23 months						
All households	7.6	4.5	-39.9	*	770	807
Food security category						
Low	8.9	8.1	-8.8		258	251
Medium	8.5	4.3	-49.2	*	253	262
High	5.3	1.7	-68.3	*	260	294
% of severe underweight (WAZ<-3SD) children age 24-59 months						
All households	11.0	5.6	-49.5	*	1,453	1,248
Food security category						
Low	11.9	6.9	-42.4	*	449	471
Medium	13.2	4.3	-67.3	*	537	390
High	7.7	5.3	-31.4		467	387

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Reductions in overall wasting prevalence (Table 13) were pronounced, declining 32 percent for all children measured (6-59 months). Reductions in overall wasting also compare favorably to national statistics. At the national level, wasting prevalence increased from 10 percent to 12 percent from 2010-2011, and then remained flat at 12 percent from 2011-2013. At endline, reductions in overall child wasting (11 percent) exceeded the program target of 14 percent (

Figure 7). The reduction was driven by children 24-59 months, for which wasting declined 42 percent over the life of the program. There were no statistically significant declines in wasting detected for measured children aged 6-23 months.

Figure 7: % of overall wasting (WHZ<-2SD) children age 6-59 months



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 13: Overall wasting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall wasting (WHZ<-2SD) children age 6-59 months						
All households	16.2	11.0	-32.2	*	2,213	1,846
Food security category						
Low	16.8	12.5	-25.4	*	705	663
Medium	18.3	10.1	-45.1	*	784	583

Table 13: Overall wasting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
High	13.3	10.2	-23.3	*	724	600
% of overall wasting (WHZ<-2SD) children age 6-23 months						
All households	15.4	13.8	-10.3		760	599
Food security category						
Low	18.2	15.4	-15.3		256	192
Medium	16.5	14.2	-13.6		248	193
High	11.4	11.9	4.2		257	214
% of overall wasting (WHZ<-2SD) children age 24-59 months						
All households	16.6	9.7	-42.0	*	1,453	1,247
Food security category						
Low	16.0	11.3	-29.1	*	449	470
Medium	19.2	8.0	-58.4	*	537	390
High	14.4	9.3	-35.4	*	467	387

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

With respect to severe wasting, there were no differences detected in the sample from baseline to endline except for in the medium food security category, for which severe wasting declined 67 percent (Table 14). While few differences were detected baseline to endline for this indicator, optimistically, levels of severe wasting are very low for the sample population, a little more than 1 percent for children aged 6-59 months. Notably, severe wasting was eliminated for children measured from households in the medium food security category for children aged 24-59 months.

Table 14: Severe wasting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of severe wasting (WHZ<-3SD) children age 6-59 months						
All households	2.1	1.4	-32.4		2,213	1,846

Table 14: Severe wasting, by age and food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Food security category					
Low	2.2	1.5	-30.7	705	663
Medium	2.7	0.9	-67.4 *	784	583
High	1.4	1.9	31	724	600
% of severe wasting (WHZ<-3SD) children age 6-23 months					
All households	3.1	3.0	-3.9	760	599
Food security category					
Low	3.2	3.1	-2.8	256	192
Medium	4.5	2.7	-41.4	248	193
High	1.6	3.2	96.3	257	214
% of severe wasting (WHZ<-3SD) children age 24-59 months					
All households	1.6	0.7	-58.2	1,453	1,247
Food security category					
Low	1.5	0.8	-46.8	449	470
Medium	1.9	0.0	-100 *	537	390
High	1.3	1.1	-13.7	467	387

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Childhood Illness, Child Feeding Practices and Antenatal Care

This section describes results of several indicators related to child and maternal health. A brief discussion on child illness measures is presented first, followed by several measures of child feeding and health of PLW.

Table 15: Incidence of child diarrhea, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of children under 5 with diarrhea in last 15 days					
All households	10.5	7.3	-30.8 *	2,312	2,186
Food security category					

Table 15: Incidence of child diarrhea, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Low	12.7	8.6	-32.1 *	717	743
Medium	12.0	6.2	-48.3 *	822	694
High	7.0	7.0	0.3	772	749
% of afflicted children who sought treatment					
All households	72.9	73.0	0.1	244	160
Food security category					
Low	74.0	71.6	-3.2	91	64
Medium	70.3	72.5	3.2	99	43
High	76.0	75.1	-1.2	54	52

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 16: Source of treatment for child diarrhea, by food security category

Indicator	Source of treatment (endline, %)			
	Low	Middle	High	Total
Pharmacy	46.6	44.8	32.5	41.4
Village doctor	22.4	49.0	22.8	29.6
MBBS doctor	10.1	2.9	26.6	13.7
Upazila health complex	6.2	2.9	5.6	5.1
Community clinic (CC)	6.7	3.4	4.5	5.1
Homopathic doctor	4.0	0.0	6.7	3.8
Clinic/hospital	1.8	0.0	8.4	3.5
Hospital/medical college	4.5	6.1	0.0	3.4
FWC	0.0	3.5	2.6	1.8
N	46	31	39	116

Diarrhea incidence decreased in U5s (-31 percent, Table 15), particularly in low and medium food security households (-32 percent & -48 percent, respectively). There were no significant changes in the proportion of households seeking treatment for diarrhea between baseline and endline, although in general most households did in fact seek treatment, nearly 75 percent. Pharmacy (41 percent), village doctor (30 percent), and MBBS doctor (14 percent) were the most frequent sources of treatment (Table 16). This same pattern of for treatment source is typical across all types of childhood illness reported in the survey

Table 17: Children with fever during the last two weeks, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of children under 5 with fever in last 15 days						
All households	54.8	48.8	-10.9	*	2,313	2,187
Food security category						
Low	58.9	53.8	-8.6	*	717	743
Medium	56.6	45.9	-18.8	*	823	694
High	49.2	46.6	-5.3		772	750
% of afflicted children who sought treatment						
All households	65.0	75.7	16.5	*	1,467	1,068
Food security category						
Low	60.8	68.5	12.7	*	485	400
Medium	65.5	79.7	21.7	*	533	319
High	68.9	80.2	16.4		449	349

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 18: Source of treatment for fever, by food security category

Indicator	Source of treatment (endline, %)			
	Low	Middle	High	Total
Pharmacy	41.4	40.0	38.4	39.9
Village doctor	32.6	27.3	25.3	28.4
MBBS doctor	6.2	8.3	16.4	10.4
Upazila health complex	6.4	6.5	6.5	6.5
Community clinic (CC)	4.8	4.9	4.8	4.8
Clinic/hospital	2.7	4.6	6.9	4.8
Homeopathic doctor	3.7	4.2	4.8	4.2
FWC	2.6	4.5	3.0	3.3
Other	1.1	2.7	1.0	1.6
Hospital/medical college	1.6	1.2	0.7	1.2
VHC (village health committee)	0.4	0.5	0.4	0.4
Satellite/EPI outreach centre	0.3	0.9	0.0	0.4
NGO static clinic	0.3	0.4	0.0	0.2
FWV	0.4	0.0	0.0	0.1

Table 18: Source of treatment for fever, by food security category

Source of treatment (endline, %)				
Indicator	Low	Middle	High	Total
MCWC	0.0	0.4	0.0	0.1
NGO hospital	0.0	0.4	0.0	0.1
TBA trained	0.0	0.0	0.4	0.1
FWA	0.0	0.4	0.0	0.1
N	274	254	280	808

Likewise, households in the low and medium food security categories saw decreases in children with fever in the two weeks preceding the survey (Table 17). The percentage of children who sought treatment improved significantly for fever, increasing 17 percent over the life of the program. Treatment source for fever (Table 18) is similar to that for diarrhea, with pharmacy as the most prevalent (40 percent), followed by village doctor (28 percent) and MBBS doctor (10 percent).

Table 19: Incidence of child cough/cold, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of children under 5 with cough/cold in last 15 days					
All households	54.8	56.3	2.7	2,313	2,187
Food security category					
Low	58.9	60.9	3.4	717	743
Medium	56.6	51.8	-8.4 *	823	694
High	49.2	56.0	13.7 *	772	750
% of afflicted children who sought treatment					
All households	65.9	69.4	5.3 *	1,272	1,232
Food security category					
Low	61.4	63.4	3.3	423	453
Medium	66.2	72.5	9.5 *	468	360
High	70.6	73.3	3.8	381	420

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 20: Source of treatment for child cough/cold, by food security category

Source of treatment (endline, %)				
Indicator	Low	Middle	High	Total
Pharmacy	42.2	43.2	39.3	41.5
Village doctor	31.0	26.3	25.4	27.5
MBBS doctor	5.7	8.0	15.4	9.9
Upazila health complex	6.1	7.5	7.4	7.0
Community clinic (CC)	5.6	6.0	4.0	5.1
Clinic/hospital	3.0	3.9	7.1	4.7
Homeopathic doctor	4.3	3.1	4.7	4.1
FWC	2.9	5.1	3.0	3.6
Hospital/medical college	2.1	0.4	1.0	1.2
Other	1.4	1.1	0.3	0.9
TBA trained	0.0	0.9	0.6	0.5
Satellite/EPI outreach centre	0.0	0.9	0.4	0.4
NGO hospital	0.0	0.4	0.4	0.3
MCWC	0.3	0.4	0.0	0.2
FWV	0.7	0.0	0.0	0.2
Neighbor	0.0	0.0	0.7	0.2
VHC (village health committee)	0.3	0.0	0.0	0.1
FWA	0.0	0.4	0.0	0.1
NGO static clinic	0.3	0.0	0.0	0.1
N	46	31	39	116

Cough/cold among U5 children is more mixed, with a significant increase among the most food secure households (14 percent, Table 19) and decrease among medium food secure households (-8 percent). However, for the overall sample there was no change in prevalence of cough/cold. Treatment source for cough cold (

Table 20) mirrored that of diarrhea and fever, with pharmacy (42 percent), village doctor (28 percent), and MBBS doctor (10 percent) cited as the most frequent sources.

Table 21 displays information on exclusive breastfeeding of children under six months. There was no statistically significant change in exclusive breastfeeding for the total sample population from baseline to endline. Medium food security households showed increases in breastfeeding practices from baseline to endline, with a 38 percent increase in exclusive breastfeeding under six months. At endline, households in the medium category were also the most likely of all food security categories to exclusively breastfeed (52 percent). Meanwhile, the least food secure households were least likely (39 percent) to breastfeed children exclusively.

Table 21: Breastfeeding practices, by food security category²⁸

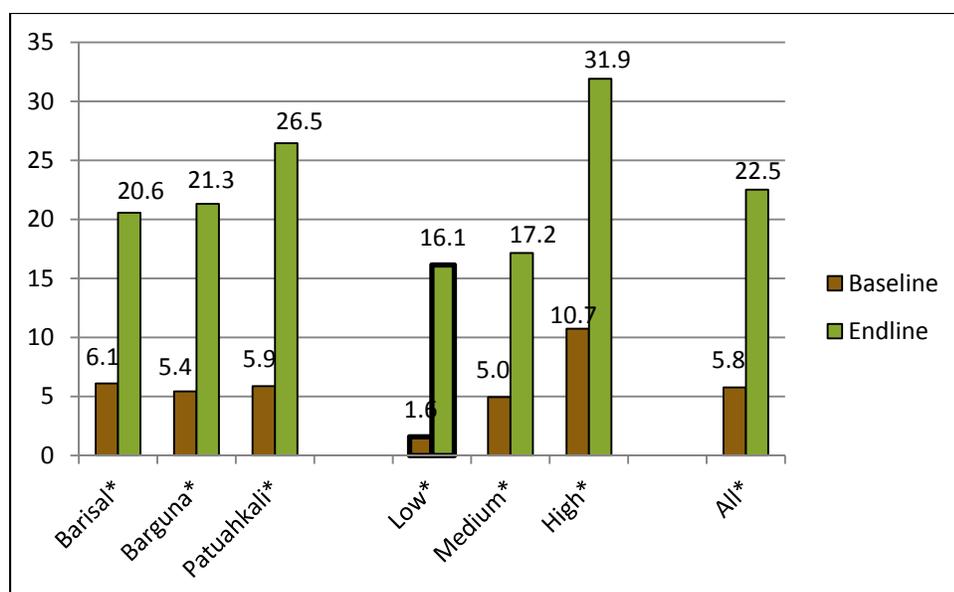
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Children under 6 month exclusively breastfed					
All households	38.6	44.9	16.5	276	320
Food security category					
Low	40.4	39.1	-3.2	75	104
Medium	37.7	52.0	37.6 *	104	94
High	38.0	44.5	17.1	97	122

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Data on three measures of child feeding and care giving practices are shown in Table 22. First, infants and toddlers six-to-23-months-old who receive a minimally acceptable diet (apart from breast milk); second, infants and toddlers older than six months who received iron rich/ iron fortified foods during the previous day; and third, households consuming adequately iodized salt. Significant increases were seen among all households overall in every category.

Figure 8: Infants/toddlers 6-23 months who receive a minimally acceptable diet

²⁸ At the time of design of the project, the indicator for EBF was defined by FFP to be for children 0-6 months. This definition was subsequently changed to be for children under 6 months (0-5 months).



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Households at every food security level showed large increases in the percentage of children who received a minimally acceptable diet (Table 22). The percentage of children receiving a minimally acceptable diet in least food secure household grew from two percent to 16 percent, a 920 percent increase, while the percentage of medium and high food security households tripled or more to 17 percent and 32 percent, respectively (Table 22). Two-thirds of all households had infants older than six months who received iron rich/iron fortified foods in the previous day. Households in both the low and medium categories saw increases of about one-third (31 percent and 39 percent, respectively).

Table 22: Child feeding and care giving practices, by food security category

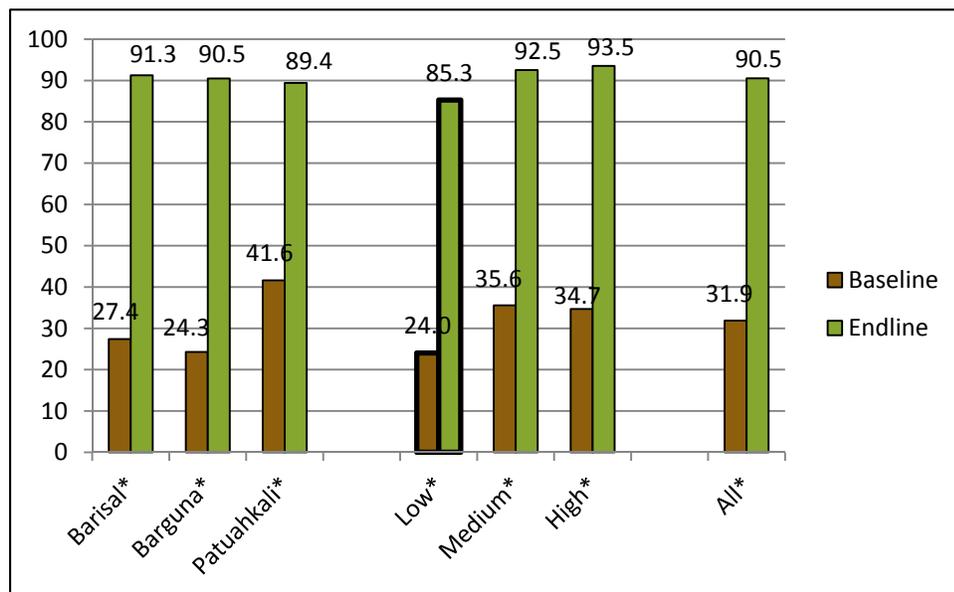
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	*	Number of observations	
					Baseline	Endline
Infants/toddlers 6-23 months who receive a minimally acceptable diet (apart from breast milk)						
All households	5.8	22.5	290.1	*	784	687
Food security category						
Low	1.6	16.1	920.2	*	261	209
Medium	5.0	17.2	246.4	*	261	214
High	10.7	31.9	197.2	*	263	264
Infants/toddlers older than 6 months who received iron rich/iron fortified foods during the previous day						
All households	52.1	64.6	24.1	*	784	677
Food security category						
Low	44.8	58.9	31.4	*	261	207

Medium	48.9	67.9	38.8 *	261	212
High	62.5	66.6	6.6	263	258

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 23 shows several indicators used to measure nutrient consumption of pregnant and lactating women (PLW). All households and all food security categories experienced substantial increases in consumption of food rich in iron, consumption of food rich in vitamin A, and use of iron or iron folate supplements in the last seven days.

Figure 9: %age of PLW that consume food rich in iron



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

The most marked changes came in the consumption of foods rich in iron and consumption of foods rich in vitamin A. In the former category, the overall increase of 184 percent reflects a change from 32 percent at baseline to 91 percent at endline (Table 23). The least food secure households were the least likely to consume iron-rich foods (85 percent). In the latter category, substantial increases include the overall change from 22 percent of households to 60 percent (166

percent increase). Again, low food security households showed the largest change increasing by 227 percent to almost half of households. At endline, 91 percent of PLW surveyed reported consuming food rich in iron (Figure 9), substantially exceeding the program target of 60 percent.

Vitamin A supplementation among mothers of U2s increased overall by 45 percent (Table 23). The most food secure households experienced a 55 percent increase, compared to 47 percent for the medium food security households, and 29 percent for the least food secure households. Significant increases in use of iron or iron folate supplements is also shown in Table 23, though the overall prevalence was just 12 percent of households.

Table 23: Nutrient consumption among PLW, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Percentage of PLW who:						
Consume food rich in iron						
All households	31.9	90.5	183.9	*	420	517
Food security category						
Low	24.0	85.3	254.8	*	124	168
Medium	35.6	92.5	160.1	*	162	165
High	34.7	93.5	169.8	*	134	184
Consume food rich in vitamin A						
All households	22.4	59.6	165.7	*	420	517
Food security category						
Low	14.9	48.9	227.4	*	124	168
Medium	22.0	55.8	153.2	*	162	165
High	29.8	72.8	144.0	*	134	184
Consume food rich in calcium						
All households	12.3	12.4	1.1		420	517
Food security category						
Low	8.5	6.1	-27.8		124	168
Medium	10.2	5.9	-42.8		162	165
High	18.3	24.1	31.7		134	184
Have taken iron or iron folate supplements in the last 7 days						
All households	2.2	11.8	448.6	*	420	517
Food security category						
Low	0.8	8.6	1041.5	*	124	168
Medium	1.8	10.7	497.0	*	162	165
High	3.9	15.7	305.0	*	134	184
% of mothers of children aged 6-23 months who received high-dose Vitamin A supplement within 8 weeks postpartum (6 weeks if not exclusively breastfeeding) in last pregnancy						
All households	26.3	38.2	45.4	*	696	710

Table 23: Nutrient consumption among PLW, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Food security category					
Low	26.5	34.2	29.1 *	236	225
Medium	23.7	34.8	47.0 *	229	220
High	28.7	44.5	55.0 *	230	265

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Recognizing the importance of adequate antenatal care (ANC) to health and well-being of both infants and mothers, Nobo Jibon sought to support greater access to appropriate medical care among PLW. Table 24 shows the percent of pregnant women or mothers of children under two-years-old who attended at least four antenatal care sessions. Overall, one-third of respondents reported attending ANC sessions at endline, a 176 percent increase from baseline. Each food security category exhibited similar results, with slightly more households in the high category attending (35 percent) than households in the medium and low categories (33 percent and 30 percent, respectively). Compared to baseline, this represents double the percentage of households among the most food secure households and more than triple that among the other two categories.

Table 24: Attendance at antenatal care sessions, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of pregnant women or mothers of children under 2 attending at least 4 ANC sessions					
All households	11.9	32.9	175.8 *	1,125	1,093
Food security category					
Low	8.5	30.1	256.4 *	365	336
Medium	9.8	32.8	233.5 *	397	349
High	17.7	35.3	99.0 *	362	409

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Vitamin A supplementation and deworming services are also part of Nobo Jibon's plan to improve diet and reduce illness. While the increase in the percentage of children who received Vitamin A supplementation among all households was minimal (Table 25), both low food security and medium food security households experience significant changes. Notably, these changes were significant in different directions: the least food secure households experience a 22 percent *decrease* in Vitamin A supplementation, and households in the medium category saw a 36 percent increase. All households saw positive increases in the percent of children 12-23

months-old who received deworming within the last six months. Across the entire sample, one-third of children in the age group received deworming, a 74 percent increase. The most food secure households increased the most (97 percent) compared to the other food security categories, and those households were most likely to have dewormed children (41 percent).

Table 25: Percentage of children 12-23 months who received Vitamin A supplementation, deworming treatment within last 6 months, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of children that received Vitamin-A supplementation					
All households	43.4	45.4	4.6	513	415
Food security category					
Low	47.3	37.0	-21.8 *	168	127
Medium	37.7	51.4	36.1 *	162	133
High	44.8	47.1	5.2	183	155
% of children 12-23 months who received deworming w/in last 6 months					
All households	18.9	32.8	73.8 *	513	419
Food security category					
Low	16.7	24.0	44.1	166	127
Medium	18.8	31.3	66.5 *	162	133
High	20.9	41.0	96.6 *	186	159

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Water, Sanitation and Hygiene (WASH)

The following tables provide information on WASH indicators including hygiene, latrines, and quality of drinking water.

Table 26: Caregiver hygiene practices, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of caregivers demonstrating proper personal hygiene behaviors					
All households	31.3	38.1	21.8 *	2,341	2,140
Food security category					
Low	21.9	27.6	25.9 *	729	727
Medium	32.6	36.9	13.1 *	831	685
High	38.5	49.7	29.0 *	782	729
% of caregivers demonstrating proper food hygiene behaviors					
All households	20.4	26.6	30.4 *	2,341	2,054
Food security category					

Table 26: Caregiver hygiene practices, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Low	16.4	18.8	14.2	729	686
Medium	20.3	24.3	20.0 *	831	657
High	24.1	36.1	49.8 *	782	711

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

The caregiver hygiene practices measured and shown in Table 26 include personal hygiene behaviors, food hygiene behaviors, water hygiene behaviors, and environmental hygiene behaviors. Across all these practices, surveyed households showed statistically significant increases from baseline to endline. Caregivers in low food security households were least likely to use each practice, though the percentage increased significantly for all behaviors except food hygiene. Likewise, caregivers in high food security households were most likely to demonstrate practices in all but one of the behaviors.

Personal hygiene behaviors increased significantly (Table 26), but by the least overall of the four measured behaviors (22 percent). The largest increase in this area was among high food security households, from 39 percent to 50 percent, a 29 percent increase. Low food security households followed, with a 26 percent increase in households demonstrating the behavior. Food hygiene behaviors increased more than 30 percent among all surveyed households. Again, high food security households showed the largest increase from 24 percent to 36 percent, a 50 percent increase. Relative to baseline, a greater percentage of medium food security and low food security households also adopted the behavior (20 percent increase and 14 percent increase, respectively), though the latter improvement was not statistically significant.

Qualitative Information (SOI)

Pregnant and lactating women (PLW), husbands of PLW, and adolescents all reported positive experiences from Nobo Jibon activities. Through the program, PLW met monthly to learn and discuss several topics related to pregnancy, childbirth, and child feeding, as well as hygiene and immunization. Husbands were invited to attend these courtyard meetings, but they were not obligated; generally, every husband attended at least part of one session, though few husbands were regular attendees. Both men and women found the meetings valuable, reporting understanding of several topics related to maternal and child health. Growth monitoring and promotion (GMP), in particular, was well received. The training and counseling sessions led to changes in the approach of husband, including greater awareness of their role as father and responsibility to support their wife. Husbands also reported greater awareness of the importance of hygiene and sanitation around the home.

The greatest barriers to behavior change among PLW included the distance and cost of clinic visits and also occasional lack of family support. Husbands reported poverty and economic insolvency as obstacles to changing practices, despite valuing the training sessions and trying to support their wives. Men and women recommended continuing counseling sessions and food rations. Involvement of the village development committees (VDC) and VHC is also important. According to PLW, sustainability depends on motivating involvement in VDCs and/or VHCs without food rations as an incentive. Another factor influencing the sustainability of improved health and hygiene practices, according to PLW, include whether a linkage can be built between VHCs and public programs, namely the National Nutrition Network. The continuation of GMP sessions, which are an important means of educating and involving husbands in the promotion of proper health and hygiene behaviors in the household, was also cited as an important form of sustaining improvements achieved by SO1 programming.

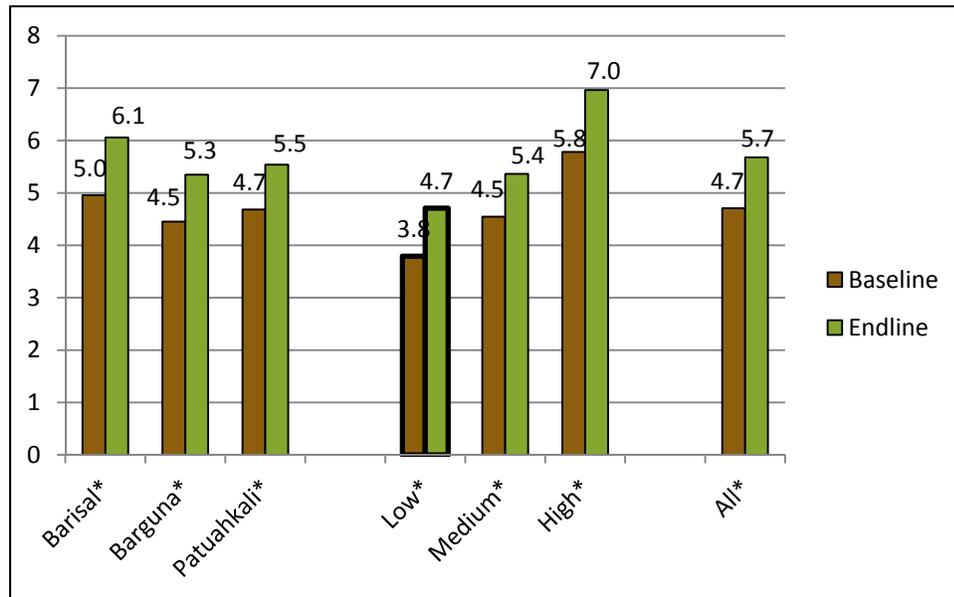
Promotion of MCHN and gender learning also included adolescents who ranged in age from 13 years old to post-secondary school age. Groups met outside of regular school hours and discussed a wide range of topics including community and the environment, personal hygiene, water and sanitation, health and nutrition, and gender inequality. This final category included issues such as educational inequality, dowry, early marriage, violence against women, and mobility outside the home. Both boys and girls believed that the information discussed was important but primarily of value to girls, as “direct beneficiaries of change.” All group members mentioned improved awareness of social gender-related issues and greater confidence in addressing such topics in the community. Lack of cooperation from parents and community leaders, especially regarding gender issues, was the biggest obstacle to change among youth. The focus group discussion (FGD) participants expressed that teachers often supported the student’s participation in the groups, however parents not so much, some fearing that it would take away time from studies. Adolescents recommended continuing group activities, suggesting that it would be worthwhile to educate adults with respect to the value of the adolescent groups, so that the groups could gain wider acceptance in the community, as well as, establish more formal linkages to the VDC, VHC, and VDMC.

SO2 – Market-based Production and Income Generation

SO2 seeks to enhance household productivity and income in order to improve food access for poor households. Performance measures include those defined for each Intermediate Result and comprehensive indicators to estimate market-based production and income generation: number of income sources per household, annual income from the sale of agricultural products, Household Dietary Diversity Score (HDDS), and months of adequate household food provisions (MAHFP). The next two tables report data disaggregated first by food security category (Table 27), then by sex of household head (Table 28).

Notable gains were seen over program life in the value of agricultural sales, especially for low and middle food security terciles, where sales value increased, in real terms, by almost 1/3 (from average 3942 Tk to 5089 Tk in the lowest tercile and from 7410 Tk to 9871 Tk in the middle tercile).²⁹ While male-headed households reported significant gains (10,808 Tk to 12,139 Tk), agricultural product sales in female-headed households were relatively unchanged (the -9.8% difference between baseline and endline is not statistically significant). As in the baseline, the agricultural sales income of the tercile of households in the highest food security category was substantially higher than that of households in the lowest category: at baseline, average agricultural income of the low food security tercile was just 19 percent of that of the high food security tercile (3952 Tk compared to 20216 Tk), and at endline, this gap had narrowed only slightly, to 25 percent (5089 Tk compared to 20098 Tk).

Figure 10: Household Dietary Diversity Score (HDDS)



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

²⁹ Consistent with reporting in the baseline, value of agricultural sale products here includes sales of both crops and livestock. The indicator reported in the IPTT includes only sales of crops.

Dietary diversity, as measured by the HDDS, saw positive change, its average value increasing by one unit or nearly one (on a scale of 0-12) over program life (Table 27). The minor exception is in the high food security category, where the average HDDS performed even better, increasing from 5.8 to 7.0. As expected, the baseline and endline data both show that the more food-insecure the household, the lower the HDDS. The average overall HDDS is 5.7 (

Figure 10). As in the baseline, there was little difference in average HDDS of men (5.7) and women (5.4) at endline. Over program life, the average number of months of food provisioning increased by about one month for households with low and middle food security, and stayed about the same for those with higher food security. While HDDS at endline (5.7) exceeded the program target (5.5), MAHFP (10.4 months) did not (11 months).

Table 27: Economic and food access indicators, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Average value of agricultural product sales (Taka)						
All households	10521	11646	10.7	*	4,944	5,333
Food security category						
Low	3942	5089	29.1	*	1,648	1,785
Medium	7410	9871	33.2	*	1,648	1,787
High	20216	20098	-0.6		1,647	1,760
Household Dietary Diversity Score (HDDS)						
All households	4.7	5.7	20.7	*	4,944	5,336
Food security category						
Low	3.8	4.7	24.2	*	1,648	1,778
Medium	4.5	5.4	18.0	*	1,648	1,779
High	5.8	7.0	20.4	*	1,647	1,779
Months of Adequate Household Food Provisions (MAHFP)						
All households	9.4	10.4	10.2	*	4,944	5,336
Food security category						
Low	7.1	8.4	17.9	*	1,648	1,778
Medium	9.6	10.9	13.8	*	1,648	1,779

Table 27: Economic and food access indicators, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
High	11.6	11.9	2.5 *	1,647	1,779

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*). The value of agricultural product sales are reported as deflated, real values.

Table 28: Economic and food access indicators, by sex of head of household

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Average value of agricultural product sales (Taka)					
All households	10448	11642	11.4 *	5,026	5,334
Sex head of household					
Male	10808	12139	12.3 *	4,722	4,993
Female	4850	4377	-9.8	304	342
Household Dietary Diversity Score (HDDS)					
All households	4.7	5.7	20.8 *	5,026	5,339
Sex head of household					
Male	4.7	5.7	20.7 *	4,722	5,001
Female	4.4	5.4	22.7 *	304	339
Months of Adequate Household Food Provisions (MAHFP)					
All households	9.4	10.4	10.2 *	5,026	5,339
Sex head of household					
Male	9.5	10.4	10.2 *	4,722	5,001
Female	8.6	9.5	10.3 *	304	339

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*). The value of agricultural product sales are reported as deflated, real values.

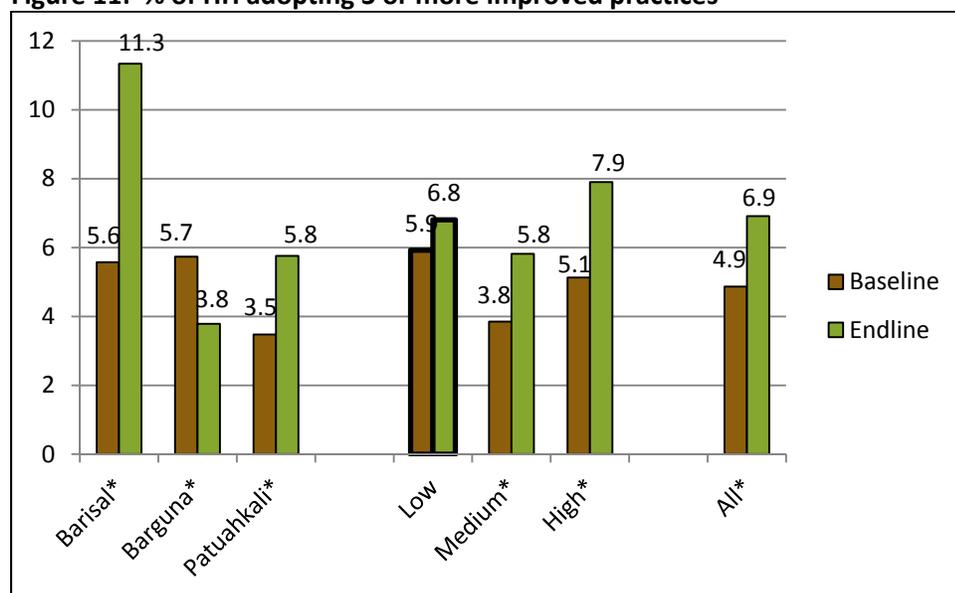
Agricultural Production and Marketing Practices

The endline QPE included a range of questions related to knowledge of agricultural production and marketing practices, access to quality inputs, capital, and markets; access to natural resources and/or productive assets; and – as a proxy indicator of improved household productivity and income – questions about dietary diversity. Results are presented in this section.

The evaluation sought information about use of improved agricultural techniques. Similar to baseline measurements, few households use three or more improved agricultural practices (Table

29). While the overall increase among sampled households was significant (42 percent), this reflects seven percent of all households, with little variation between food security categories (Figure 11).

Figure 11: % of HH adopting 3 or more improved practices



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 30 shows that, by far, traditional agricultural techniques such as fertilizer and chemical pest control were the most common (81 percent and 68 percent, respectively). Changes in these techniques, while significant, were small. Changes in usage of other techniques varied in magnitude and direction. Composting and animal manure were both used by about one-third of households (33 percent and 30 percent, respectively), though composting decreased 11 percent while animal manure increase four percent. Biological pest control and crop rotation were used by 11 percent and 10 percent of households, respectively, and both saw marked increases (70 percent and 160 percent, respectively).

Table 29: Use of improved agricultural techniques, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% HH adopting 3 or more improved practices					
All households	4.9	6.9	42.2 *	2,011	3,065
Food security category					
Low	5.9	6.8	14.9	394	806

Medium	3.8	5.8	51.1	*	661	1,027
High	5.1	7.9	54.0	*	956	1,232

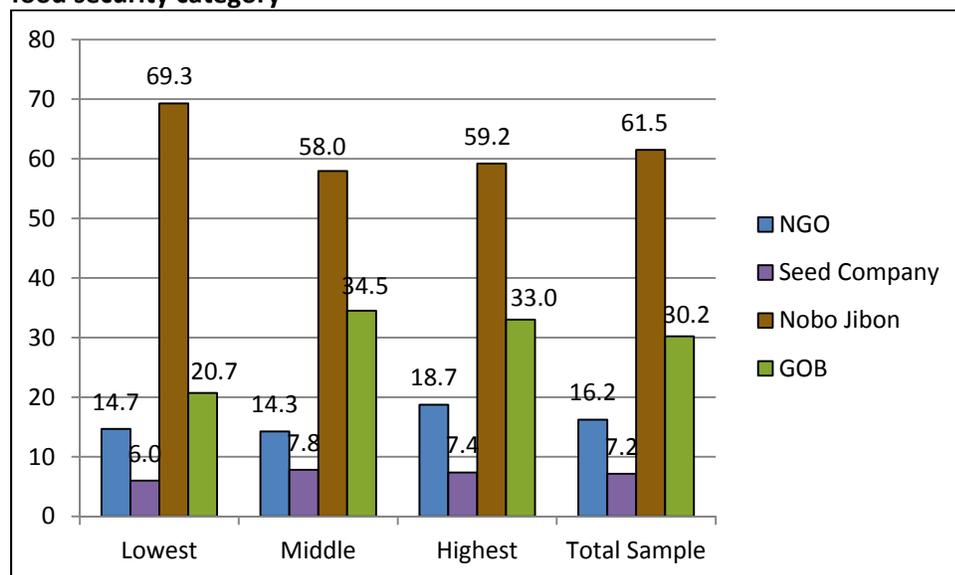
Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 30: Type of improved agricultural technique used

% household reporting using technique (endline)					
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		
Fertilizer	83.2	81.2	-2.4	*	
Chemical pest control	65.1	67.8	4.1	*	
Compost	36.5	32.5	-11.0	*	
Animal manure	28.5	29.6	3.9	*	
Biological pest control	6.2	10.5	68.8	*	
Crop rotation	3.9	10.3	161.4	*	
Integrated pest management	12.4	10.1	-18.8	*	
Mechanical pest control	1.9	3.5	86.1	*	
Improved irrigation	3.0	2.5	-17.3		
N	2011	3065			

Among all sample households, thirteen percent reported they have received any agricultural training (Figure 12). Less than one-quarter of households (22 percent) engaged in agricultural production in previous year received training. Of those households, the most common source of training by far was Nobo Jibon (62 percent). This is also true among each food security group, with greater popularity among the least food secure group (69 percent) than the medium and high groups (58 percent and 59 percent, respectively). Government training was next most popular overall, though medium (35 percent) and high (33 percent) food security households took advantage of this source more than low food security households (21 percent). After government training (30 percent), NGOs (16 percent) and seed companies (7 percent) were the next most popular sources of training overall and among each food security group.

Figure 12: Source of agricultural training reported by households at endline, by food security category



N= household reporting receipt of agricultural training (lowest = 176, middle = 210, highest = 182).

Households were far more likely to sell agricultural produce to a local market (79 percent) than any other option (Table 31), equal to baseline measurements. More than one-quarter of households also sold to traders (28 percent) or to neighbors or relatives (27 percent). Sales to either an itinerant buyer or to NGOs, cooperatives or sales companies accounted for less than three percent of households.

Table 31: Types of buyers for agricultural product

% household reporting using buyers (endline)				
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	
Local market	78.6	78.6	0.0	
Traders	23.9	28.3	18.5	*
Neighbors/relatives	18.2	27.2	49.6	*
Local broker	8.3	8.3	-0.1	
Itinerant buyer	1.5	2.5	67.9	*
Other (NGO, collection point, sales company)	0.5	2.2	307.7	*
N	1177	1819		

Calculated as a percentage of households reporting agricultural sales, both Nobo Jibon beneficiaries and non-beneficiaries

Table 32 shows changes in marketing practice by food security category. Significant gains were reported in households adopting improved marketing practices, though these are both still remarkably small proportions of the population, with just two percent of all households reporting either measure. Most notably, both low and medium food security households reported some involvement in this activity, after exhibiting no involvement at baseline.

Table 32: Use of marketing practices, by food security category³⁰

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% HH adopting improved marketing practices						
All households	0.4	1.9	324.7	*	1,177	1,821
Food security category						
Low	0.0	2.1	N/A		196	386
Medium	0.0	2.3	N/A		352	593
High	0.8	1.5	77.3	*	629	843

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

³⁰ This indicator definition was revised after the baseline survey. It is calculated and reported here based on the old definition to maintain consistency with the baseline survey. The results change only marginally when calculating as a beneficiary-based measure and do not change the interpretation of results.

Table 33 shows the source of agricultural inputs for program households. Local markets (88 percent) and neighbors or relatives (10 percent) were the most popular sources, in both baseline and endline rounds. Reliance on local markets increased from 79 percent to 88 percent, while sourcing inputs from neighbors or relatives decreased by 40 percent, from 17 percent to 10 percent. Use of GOB sources has declined from 8 percent at baseline to 5 percent at endline. Other sources, including NGOs, cooperatives and farmer groups, itinerant merchants, companies, itinerant merchants, and VDC were not widely accessed either at baseline or endline.

Table 33: Source of agricultural inputs

% household reporting purchase or receipt of inputs (endline)				
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	
Local market	79.4	88.0	10.8	*
Neighbor/relatives/individuals	17.3	10.4	-39.6	*
Trained input retailers	7.1	8.4	18.4	
Nobo Jibon	0.0	5.7	100.0	*
GOB	7.9	4.7	-39.9	*
NGOs	2.4	2.1	-15.2	
Itinerant merchants	0.5	1.8	274.1	*
Other	4.8	0.7	-85.7	*
Companies	0.2	0.6	135.6	
Village development committees	0.2	0.5	108.6	
Cooperative/farmer group	1.8	0.3	-82.9	*
N	1613	2507		

Table 34 provides general information about household engagement in agricultural activities. While more than two-thirds of households have agricultural land, access varies widely across food security categories. All groups saw a significant increase from baseline, but the most food secure households were most likely to have land (80 percent) compared to the households in the middle and low food secure categories (68 percent and 56 percent, respectively).

A similar trend follows for average land area (Table 34). The least food secure households reported 69.8 decimals of land (a 59 percent increase), while the medium and high food security households had 89 decimals and 129 decimals, respectively. These trends also continue with average value of agricultural product sales. Overall, the average value rose 60 percent. Low and medium food security households experienced the largest improvements (86 percent and 92 percent, respectively). At 29,000 taka (43 percent increase), the most food secure households' average sales was double that of medium food security households and nearly four times greater than the least food secure households.

Use of khas land and water bodies for agricultural production dropped significantly overall (25 percent) and among each food security group (Table 34). High food secure households were least likely to use khas land and water bodies (38 percent) and also reported the largest decrease of any group (34 percent). Use among medium food secure households also decreased nearly one-third (31 percent). The least food secure households reported the greatest percentage of households using khas land and water bodies (55 percent), despite also experience a nine percent decrease.

Table 34: Summary statistics for agriculture, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% HH with agricultural land						
All households	59.3	68.0	14.5	*	4,943	5,336
Food security category						
Low	47.7	55.7	16.8	*	1,648	1,778
Medium	55.6	68.1	22.6	*	1,647	1,779
High	74.8	80.1	7.0	*	1,647	1,779
Average land area (decimals)						
All households	88.1	99.5	12.9	*	2,930	3,610
Food security category						
Low	43.9	69.8	59.0	*	783	982
Medium	70.2	88.9	26.6	*	915	1,208
High	129.6	129.1	-0.4		1,232	1,419
Average value of agricultural product sales (Tk)						
All households	10,521	11,646	10.7	*	4,944	16,770
Food security category						
Low	3,942	5,089	29.1	*	1,648	1,785
Medium	7,410	9,871	33.2	*	1,648	1,787
High	20,216	20,098	-0.6		1,647	1,760
% of households using khas land/water bodies for production of crops, livestock, and fish						
All households	61.8	46.7	-24.5	*	4,944	5,336
Food security category						
Low	59.7	54.5	-8.7	*	1,648	1,778
Medium	68.6	47.6	-30.5	*	1,648	1,779
High	57.3	38.0	-33.7	*	1,647	1,779

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*).
Agricultural product sales are reported as deflated, real values.

As can be seen in Table 35, fishing is the most common form of community property use in the program area. Across all households in the program area, 46 percent of households surveyed at endline use water bodies for fishing. This is down from 61 percent of households at baseline and is the principal driver of the reduction in the indicator in **Table 34** measuring the proportion of households using khas land/water bodies for production of crops, livestock, and fish. It should be noted that the endline survey included a response category “do not use” that was not included for this particular question (“What are water bodies used for?”) in the baseline survey. At endline, 43 percent of respondents indicated they do not use their water bodies, a response that was unavailable for those surveyed at baseline.

Table 35: Khas land/water body use, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of households using khas land/water bodies for gardening						
All households	0.9	1.9	118.6	*	4,944	5,336
Food security category						
Low	0.4	3.1	630.7	*	1,648	1,778
Medium	1.2	1.4	15.7		1,648	1,779
High	1	1.2	24.1		1,647	1,779
% of households using khas land/water bodies for ag production						
All households	1.8	2.2	23.3		4,944	5,336
Food security category						
Low	0.9	2.3	163.6	*	1,648	1,778
Medium	2.3	1.6	-31.4		1,648	1,779
High	2.2	2.7	25.6		1,647	1,779
% of households using khas land/water bodies for fishing						
All households	61.2	45.8	-25.1	*	4,944	5,336
Food security category						
Low	59.3	53.6	-9.6	*	1,648	1,778
Medium	67.7	46.7	-31	*	1,648	1,779
High	56.5	36.9	-34.7	*	1,647	1,779

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Household agricultural production is shown in Table 36, disaggregated by food security category. Significant increases were observed overall and in each individual category shown, among all three food security groups.

Nearly 90 percent of all households (89 percent) engaged in some form of production (crops, livestock or fish), an increase of 17 percent from baseline (Table 36). The largest increase was among the least food secure households (25 percent), with 86 percent reporting production. In addition, 44 percent of households reported an increase in production, up from 39 percent at baseline. This included more than half (53 percent) of the most food secure households, 43 percent of medium food security households, and 35 percent of the least food secure households that experienced increases in production.

Similar to baseline, livestock production was the most common area, with 83 percent of households engaging, an increase of more than one-third (34 percent), and little variation among food security groups. The next most common form of production was crops (57 percent). Of those households engaging in livestock production, those that reported increases fell to 22 percent from 27 percent at baseline. However, this statistic may be misleading, since it is reported as a percentage of households engaged in livestock production, rather than all sampled households. Due to the large increase in households engaging in livestock production (83 percent vs. 62 percent at baseline, Table 36), the absolute number of households reporting increases in livestock production certainly grew even if the proportion of those engaged in livestock production declined marginally.

The distribution of household production of crops across food security category improved dramatically, due to an impressive growth rate in the proportion of low food security households engaging in agricultural production from baseline to endline (Table 36). At baseline, less than a quarter (24 percent) of low food security households were engaged in agriculture, compared to 58 percent of high food security households – a difference of 34 percentage points. By endline, nearly half (45 percent) of the least food secure households produced crops, as this group experienced the largest growth of any group (increase of almost 90 percent). Meanwhile, crops were produced by 69 percent of high food security households at endline. However, the growth in households engaged in agricultural production in this highest food security category was the lowest at 19 percent. The resulting inequality in agricultural production between high food security households and low food security households lessened from 34 percent at baseline to 24 percent (69 percent – 45 percent) at endline

Fish production was the least popular form of agriculture (30 percent), but still increased 34 percent (Table 36). All groups saw significant increases in fish production, with a notable 84 percent increase among the least food secure households. Further, nearly one-quarter of all households (23 percent) reported an increase in fish production, compared to 15 percent at baseline, a 48 percent increase.

Table 36: Household production, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% HH with agricultural production last year						
All households	40.7	57.4	41.2	*	4,944	5,336
Food security category						
Low	23.9	45.3	89.6	*	1,648	1,778
Medium	40.1	57.7	44.0	*	1,648	1,779
High	58.0	69.3	19.3	*	1,647	1,779
% reporting increased agricultural production						
All households	40.0	47.9	19.7	*	2,011	3,065
Food security category						
Low	36.5	40.4	10.6	*	394	806
Medium	38.1	46.6	22.5	*	661	1,027
High	42.8	53.9	25.9	*	956	1,232
% HH with livestock						
All households	61.7	82.5	33.8	*	4,944	5,336
Food security category						
Low	60.7	80.7	32.9	*	1,648	1,778
Medium	60.1	82.7	37.6	*	1,648	1,779
High	64.1	84.1	31.2	*	1,647	1,779
% reporting increased livestock production						
All households	27.1	21.8	-19.5	*	3,048	4,403
Food security category						
Low	23.1	19.3	-16.6	*	1,001	1,435
Medium	28.8	21.5	-25.4	*	991	1,472
High	29.4	24.7	-16.1	*	1,056	1,496
% HH with fish production						
All households	22.8	30.4	33.5	*	4,944	5,336
Food security category						
Low	10.6	19.5	84.4	*	1,648	1,778
Medium	20.1	28.1	40.1	*	1,648	1,779
High	37.8	43.6	15.6	*	1,647	1,779
% reporting increased fish production						
All households	15.3	22.6	47.7	*	1,127	1,624
Food security category						
Low	17.1	18.8	9.9	*	174	347
Medium	14.1	21.3	51.4	*	331	500
High	15.5	25.2	62.7	*	622	776
% HH engaged in at least one category (crops, livestock, fish)						
All households	75.9	88.6	16.7	*	4,944	5,336

Table 36: Household production, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Food security category						
Low	68.6	85.8	25.0	*	1,648	1,778
Medium	74.5	88.8	19.2	*	1,648	1,779
High	84.6	91.2	7.9	*	1,647	1,779
% reporting increased production in any category						
All households	39.1	43.6	11.4	*	3,752	4,728
Food security category						
Low	31.0	34.8	12.3	*	1,131	1,525
Medium	39.1	42.7	9.1	*	1,228	1,580
High	45.6	52.7	15.4	*	1,393	1,623

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Qualitative Information (SO2)

Program population was divided into three groups for this objective: 1) extreme poor (EP), who had limited experience in agriculture and access to resources and were all women; 2) homestead production poor (HPP), comprised of all women; and 3) productive poor (PP), the majority of who were men, around 60%, and also larger-scale farmers than those in the other groups.

The two groups made up of women, HPP and EP, reported improvements in household food consumption as well as some aspects of women’s empowerment. In the HPP group, households consumed greater amounts of fish and vegetables, while EP households regularly consumed two or three meals every day. Increased income among both groups led to better household financial security and in women’s decision-making power regarding the additional funds. EP groups, in particular mentioned using the income for children’s education expenses. Further, EP beneficiaries greater support from their husbands and other men, while HPP noticed increased interest and participation of men and children in homestead gardening. Access to capital and cash for expansion was the largest obstacles for these groups, and both HPP and EP group discussed the need for financial assistance to invest and expand operations. An additional recommendation was to expand training opportunities and activities and the include training for men. Participants suggested that inclusion of male family members would also improve project sustainability.

Most PP participants were male and all were established farmers who met household consumption needs. This group focused on improving value chain linkages and improving their farm business. The PP beneficiaries discussed changing their mindset regarding to understand modern and appropriate techniques. The female participants in the group noted their increased

role in production and marketing of fish and vegetables. While this group reported gaining skills and knowledge, they still felt a need for support and guidance from the program and were hesitant to use resources for adopting new technologies. As with the other groups, PP members recommended further training, as well as program support for adopting technologies and practices. Regarding sustainability, the PP group said that continuing the program for two or three more years would greater improve their ability to expand and diversify to a point where they would not require external assistance.

SO3 – Disaster Risk Reduction

Through SO3, Nobo Jibon sought to provide greater protection for children and their families through contingency planning and improved emergency response. Both baseline and endline surveys included questions related to behaviors during past disasters, natural disaster preparedness, and ability to resume livelihood activities in the wake of recent disasters. Table 37 presents the results.

Notably, Table 37 shows that, among all surveyed households and across each district, a significantly greater number of households had a plan to protect members, livestock, or assets in the event of a disaster compared to baseline (40 percent increase). Nearly three-quarters of households report having disaster plans in Barguna and Patuakhali (74 percent and 77 percent, respectively). Growth in households reporting disaster plans was greatest in Barisal district, increasing from 26 percent at baseline to 46 percent at endline.

Table 37: Household preparedness and impact of recent disaster, percentage by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Households with a plan to protect members, livestock, or assets in the event of a disaster						
All households	45.8	64.1	39.8	*	5,026	5,346
District						
Barisal	26.3	45.5	72.9	*	1,649	2,019
Barguna	56.1	74.1	32.1	*	1,565	1,615
Patuakhali	54.8	76.6	39.8	*	1,812	1,712
Households with loss of life during last disaster						
All households	0.6	0.5	-15.8		5,026	5,160
District						
Barisal	0.4	0.2	-43.5		1,649	1,860

Table 37: Household preparedness and impact of recent disaster, percentage by district

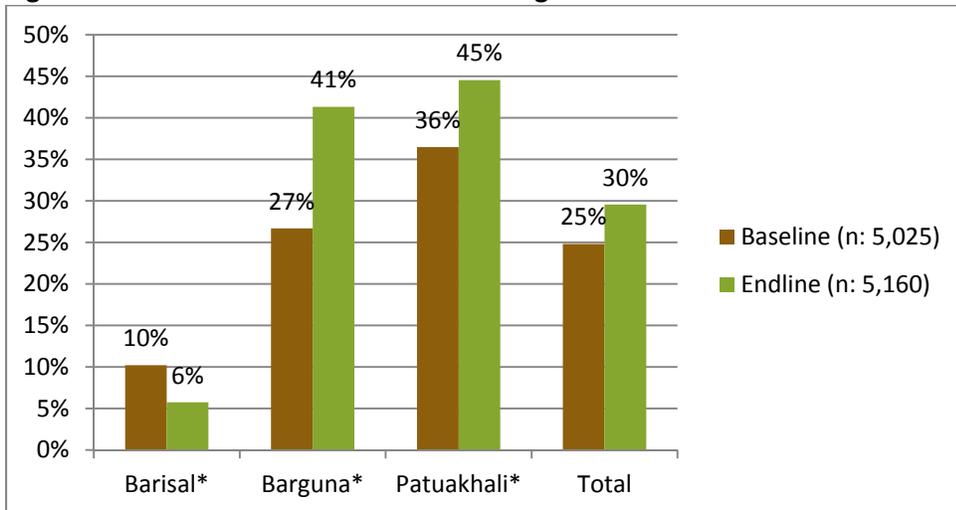
Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Barguna	1.3	1	-23.4	1,565	1,607
Patuakhali	0.3	0.5	54.4	1,812	1,693
Minimal asset loss in last disaster					
All households	3.8	3.8	0.0	5,026	4,415
District					
Barisal	4.9	7.2	46.5 *	1,649	1,370
Barguna	0.5	2.3	333.3 *	1,565	1,460
Patuakhali	5.6	2.2	-60.4 *	1,812	1,584
Able to resume livelihood activities within 2 weeks following a natural disaster					
All households	73.8	80	8.4 *	5,026	5,160
District					
Barisal	75.2	81.5	8.4 *	1,649	1,860
Barguna	72.5	84.5	16.5 *	1,565	1,607
Patuakhali	73.8	74.2	0.6	1,812	1,693

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Few households reported minimal asset loss in the last disaster (four percent), though every district experienced significant, albeit mixed, changes. The endline totals reflect significant increases in Barisal and Barguna and a significant decrease in Patuakhali. Households in Barisal were most likely to experience minimal loss (seven percent), while just two percent of households in the other districts reported this. No significant change was seen in the percentage of households with loss of life during the last disaster. More notably, four out of five households (80 percent) were able to resume livelihood activities within two weeks following a natural disaster, up from 74 percent at baseline. Both Barisal and Barguna districts reported significant gains in this area (eight percent and 17 percent, respectively).

Nearly half of all households (48 percent) received warning within 12 hours of the last disaster up from 37 percent at baseline (Figure 13). Barguna district experienced the largest increase from 38 percent of households to 62 percent. A significant increase was also observed in Patuakhali, while 27 percent of Barisal households received warning, down from 30 percent.

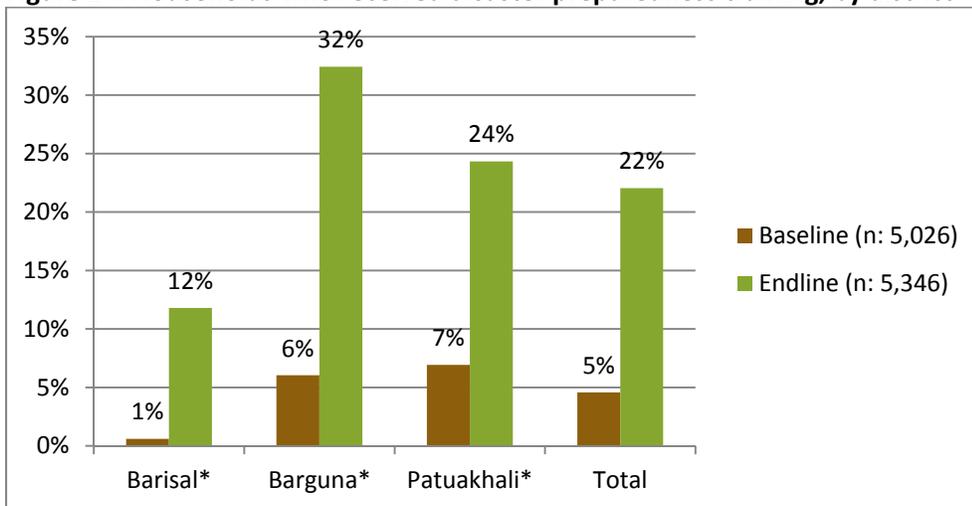
Figure 13: Households who received warning within 12 hours of the last disaster



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

The proportion of households that received training in disaster preparedness increased markedly, overall, as shown in Figure 14. At endline, 22 percent of households had received training compared to five percent at baseline. Similarly large gains were seen in each district. The largest increase in trained households was in Barguna district, where 32 percent reported training (six percent at baseline). Likewise, Patuakhali improved from seven percent to 24 percent, and Barisal increased from one percent to 12 percent.

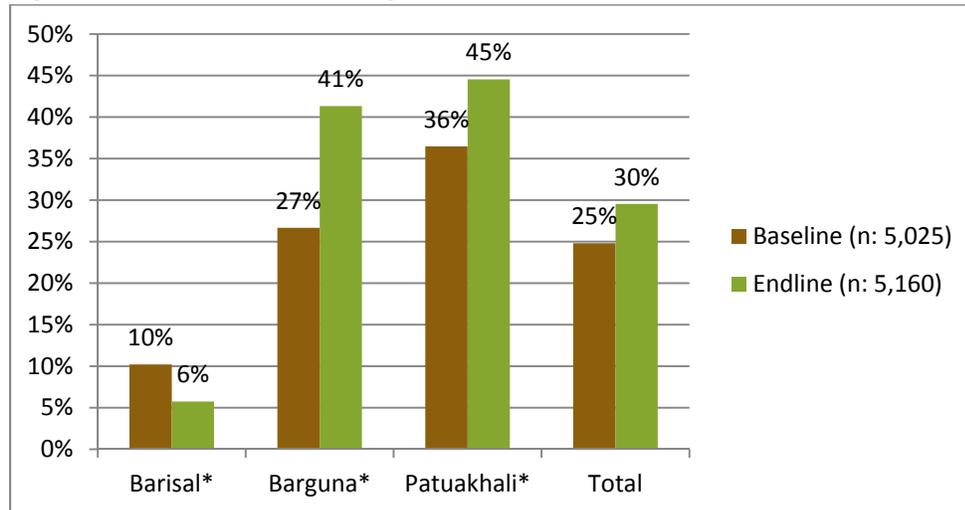
Figure 14: Households who received disaster preparedness training, by district



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Disaster response also improved among all households, rising from 25 percent to 30 percent (Figure 15). This improvement is reflected in both Barguna and Patuakhali districts, which reported 41 percent and 45 percent of households, respectively, that sought shelter (27 percent and 36 percent, respectively, at baseline). Barisal, in contrast reported a small but significant decrease from 10 percent to six percent of households.

Figure 15: Households that sought shelter within 12 hours of the last disaster



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Qualitative Information (SO3)

Activities in this SO were split between youth volunteers and adults. After receiving DRR training, 25-member youth committees with equal numbers of boys and girls organized courtyard sessions and trainings for community members. Youth volunteers reported using their knowledge, without incentive, to actively engage the community in skill-building around all aspects of disaster management. This group offered two recommendations: first, stronger linkages to the union disaster management committee (UDMC) and, second, additional training and equipment, including a first aid kit.

Separate groups were formed for men and women, who received a DRR orientation and participated in courtyard sessions held by the youth. Adults stated that the topics covered in the trainings were useful and every household has a written contingency plan. Participants were better prepared for a disaster and followed the information in their plans. Some families preferred to stay with friends or neighbors rather than at a cyclone shelter, either because not enough shelters were available or because they feared gender or socio-cultural discrimination. Adults recommended building more shelters and improving infrastructure, as well as continued public and private support and improved gender equity and women's empowerment.

Project Participation

In order to assess the extent to which project interventions contributed to changes in outcome and impact indicators, comparisons of these higher level indicators are made across households that reported participating in different combinations of project interventions, focusing on participation in SO1 and SO2 interventions. The evaluation was not designed to provide statistically representative comparisons between participating and non-participating households or to be able to measure the extent to which observed differences between participants and non-participants are attributable to project interventions.

The following analysis takes advantage of the fact that information was collected from both participants and non-participants, to measure differences in outcomes at endline between households that directly received Nobo Jibon services and those that did not. Any differences found should not be interpreted as being indisputably attributable to program impact; however, (positive) differences should be considered along with other information in this report as providing supporting evidence that Nobo Jibon is achieving program objectives.

Results from the endline QPE also provide information about the extent to which project interventions were targeted toward more food insecure households. Examination of participation in the project interventions by food security category (Table 38) shows that the most food-insecure households participated marginally more in all types of project interventions (SO1, SO2 and SO3) than households in the higher food security categories. However, there is not much difference in participation in either SO1 or SO3 across the food security categories. This suggests that there is no strong targeting toward food-insecure households for these intervention areas, as we are not seeing any differences in participation in these program areas between highly food insecure households and low food insecure households. This result is consistent with the overall programming strategies for these two SOs; SO1 support is available to all pregnant women and mothers of young children regardless of their food security status, while interventions under SO3 are intended to benefit all households within a supported community.

The results of participation by food security status under SO2 provide some evidence of targeting, as a higher proportion of households in the lowest food security category participated in SO2 activities than those in higher categories. Again, this is consistent with the project strategy, in which these interventions are generally targeted toward more food-insecure populations. However, the project also directed some types of support to (more food-secure) larger farmers, as a means to enhance marketing opportunities and demand for agricultural labor for all households within communities.

Table 38: Households participation in SO1, SO2 & SO3; by food security category

Food Security Category	% HH participating					
	SO1		SO2		SO3	
1 Lowest	50.8		27.1		63.3	
2 Middle	47.2	*	23.5	*	57.8	*
3 Highest	47.8		21.7	*	57.8	*
Total sample	48.6		24.1		59.7	

Note: Stars (*) for program participation across food security categories indicate difference is statistically significant at the p<.10 level when compared to low food security at endline.

The following tables provide information on overall and severe child malnutrition, HFIAS, CSI, HDDS, and MAHFP disaggregated by program participation. When disaggregated by program participation, program goal indicators show limited significance (Table 39). The table compares household that received no program assistance to households that received SO1 programming only, SO2 programming only, or a combination of SO1 and SO2 programming.

From baseline to endline, all households showed improvement in overall stunting among children 6-59 months (20 percent decrease, Table 39). However, there were no statistically significant differences in overall stunting rates between the different program participation categories at endline.

Table 39: Key program goal indicators, by program participation

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall stunted (HAZ<-2SD) children age 6-59 months						
All households	43.9	35.3	-19.6	+	2,296	1,853
Program participation						
Did not participate SO1 or SO2		30.5	-30.5			308
Participated SO1 only		35.5	-19.1			1,037
Participated SO2 only		36.0	-18.0			28
Participated SO1 & SO2		38.0	-13.4			480
Household Food Insecurity Access Scale (HFIAS)						
All households	28.7	19.4	-32.4	+	5,009	5,346
Program participation						
Did not participate SO1 or SO2		17.9	-37.6			2,377
Participated SO1 only		18.8	-34.7			1,677
Participated SO2 only		27.5	-4.3	*		351

Table 39: Key program goal indicators, by program participation

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Participated SO1 & SO2		21.4	-25.5	*		941
Coping Strategy Index						
All households	13.5	8.4	-37.8	+	4,969	5,346
Program participation						
Did not participate SO1 or SO2		7.4	-44.7			2,377
Participated SO1 only		8.1	-39.7			1,677
Participated SO2 only		12.7	-5.8	*		351
Participated SO1 & SO2		9.6	-28.9	*		941

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not receive SO1 or SO2" at endline.

Likewise, improvements were reported among all households in food insecurity and coping strategies (Table 39). Overall, households scored lower on the HFIAS (19.4) than at baseline (28.7), a 32 percent decrease. Similarly, across the sample a 38 percent drop was seen in the CSI from 13.5 to 8.4. There were no statistically significant differences between households that participated in SO1 and those households that did not participate in either SO1 or SO2 in the average value of the HFIAS or CSI indices.

HFIAS at endline (Table 39) was worse for households that received either only SO2 (27.5) or both SO1 and SO2 (21.4) than for those households that did not participate in SO1 or SO2 (17.9). Likewise, for the CSI index at endline, households that received SO2 in any form (SO2 only: 12.7; SO1 and SO2: 9.6) had worse levels of the CSI index than non-participant households (no SO1 or SO2: 7.4). These results may be reflective of the targeting, discussed above, with respect to SO2 programming. Households receiving SO2 programming are likely to be worse off than household not receiving SO2 programming across a range of measures (see Table 3 and **Table 38**). Because this is true, the results between households that received SO2 and those that did not receive any programming are not exactly comparable.

Table 40 shows SO2 impact indicators (HDDS and MAHFP) by program participation. Both of these measures improved across all sample households, with very little variation among program participation categories. As is the case with the program goal indicators, there was no statistically significant difference at endline between households that received SO1 (HDDS: 5.7, MAHFP: 10.4) and those that did not participate in SO1 or SO2 (HDDS: 5.7, MAHFP: 10.5) in these indicators. SO2 only households performed marginally worse (HDDS: 5.4, MAHFP: 9.9) and MAHFP than households that did not receive SO1 or SO2. Again, the relatively poorer

performance of SO2 only households is likely more a reflection of program targeting than of program (in)effectiveness.

Table 40: SO2 impact indicators, by program participation

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Household Dietary Diversity Score (HDDS)						
All households	4.7	5.7	20.8	+	5,026	5,346
Program participation						
Did not receive SO1 or SO2		5.7	20.9			2,377
Received SO1 only		5.7	21.9			1,677
Received SO2 only		5.4	15.5	*		351
Received SO1 & SO2		5.7	20.6			941
Months of Adequate Household Food Provisions (MAHFP)						
All households	9.4	10.4	10.2	+	5,026	5,346
Program participation						
Did not receive SO1 or SO2		10.5	11.4			2,377
Received SO1 only		10.4	10.5			1,677
Received SO2 only		9.9	5.1	*		351
Received SO1 & SO2		10.2	8.5	*		941

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not receive SO1 or SO2" at endline.

Data on three childhood feeding practices disaggregated by participation in SO1 are shown in

Table 41. Among all surveyed households, significant gains are seen in U2 children who receive a minimally acceptable diet (290 percent increase). However, there is no significant difference at endline in the proportion of households with minimally acceptable diet between those households that received SO1 (23 percent) and those that did not receive SO1 (20 percent).

There is no significant change reported in the proportion of U5 children exclusively breastfed for all households sampled from baseline to endline (

Table 41). Likewise, there is no difference in rates of exclusive breastfeeding between households that received SO1 (44 percent) and those that did not receive SO1 (46 percent).

Table 41: Childhood feeding practices, by program participation in SO1

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Infants/toddlers 6-23 months who receive a minimally acceptable diet (apart from breast milk)					
All households	5.8	22.6	289.7 +	793	688
Program participation					
Participated SO1		23.3			551
Did not participate SO1		19.5			137
Children under 6 month exclusively breastfed					
All households	38.4	44.9	16.9	282	320
Program participation					
Participated SO1		44.4			227
Did not participate SO1		46.3			93

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not receive SO1 or SO2" at endline.

When comparing across program participation for SO2 activities for improved agricultural techniques, the data in Table 42 shows significant differences between participants and non-participants across both measures. The percent of households adopting improved marketing practices were higher for SO2 participants at 2.5 percent compared to non-participants at 1.6 percent. For the percent of household adopting three or more improved agricultural practices, participant households reported a 9.5 percent adoption rate compared to a 5.9 percent adoption rate for non-participants.

Table 42: Use of improved agricultural techniques, by program participation in SO2

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% HH adopting improved marketing practices					
All households	0.4	1.9	324.7 +	1,184	1,825
Program participation					
Participated SO2		2.5	*		509
Did not participate SO2		1.6			1,317
% HH adopting 3 or more improved agricultural practices					

All households	4.9	6.9	42.2	+	2,025	3,071
Program participation						
Participated SO2		9.5		*		811
Did not participate SO2		5.9				2,260

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not participate SO2" at endline.

Adoption of agricultural practices shown in Table 43 reveal that the adoption of animal manure, crop rotation, and fertilizer was higher for project participants than non-participant households. Participants, at endline were 22.4 percent more likely to use animal manure, 50.0 percent more likely to use crop rotation, and 3.9 percent more likely to use fertilizers. The data also show that a smaller proportion of participants have access to improved irrigation techniques compared with non-participants. at nearly half the rate (48 percent) of non-participants. It should be emphasized that the overall level of improved irrigation use is extremely low for all households in the sample (1.5 percent and 2.9 percent for participants and non-participants, respectively).

Table 43: Use of improved agricultural techniques, by technique and program participation (endline)

Indicator	Endline	Percent difference (Participant-Non-participant)	Number of observations
% HH adopting improved agricultural techniques (endline)			
Animal manure			
Participated SO2	33.9	22.4 *	811
Did not participate SO2	27.7		2,260
Compost			
Participated SO2	34.5	8.8	811
Did not participate SO2	31.7		2,260
Crop rotation			
Participated SO2	13.8	50.0 *	811
Did not participate SO2	9.2		2,260
Fertilizer			
Participated SO2	83.6	3.9 *	811
Did not participate SO2	80.5		2,260
Biological pest control			
Participated SO2	10.0	-2.9	811
Did not participate SO2	10.3		2,260
Mechanical pest control			
Participated SO2	3.2	-11.1	811

Table 43: Use of improved agricultural techniques, by technique and program participation (endline)

Indicator	Endline	Percent difference (Participant-Non-participant)		Number of observations	
				Baseline	Endline
Did not participate SO2	3.6				2,260
Chemical pest control					
Participated SO2	69.8		4.0		811
Did not participate SO2	67.1				2,260
Integrated pest management					
Participated SO2	11.6		18.4		811
Did not participate SO2	9.8				2,260
Improved irrigation					
Participated SO2	1.5		-48.3 *		811
Did not participate SO2	2.9				2,260

Note: Stars (*) for program participation indicate difference is statistically significant compared to "did not participate SO2" at endline.

Two indicators for disaster preparedness and response are shown in Table 44. Overall, the proportion of households with a disaster plan increased from 46 percent to 64 percent, a 40 percent increase. Households that participated in SO3 are much more likely to have a disaster plan (70 percent) compared to those that did not participate in SO3 (56 percent). Four-fifths of households (80 percent) were able to resume livelihoods activities within two weeks of a natural disaster, an eight percent increase. Those households that did *not* participate in SO3 improved more than those that did (82 percent versus 79 percent, respectively). However, the magnitude of the difference is small.

Table 44: Household preparedness and impact of recent disaster, by program participation

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
%HH with a plan to protect members, livestock, or assets in the event of a disaster						
All households	45.8	64.1	39.8	+	5,026	5,346
Program participation						
Participated SO3		69.6		*		3,203
Did not participate SO3		55.6				2,143
% HH able to resume livelihood activities within 2 weeks following a natural disaster						
All households	73.8	80.0	8.4	+	5,026	5,160
Program participation						

Table 44: Household preparedness and impact of recent disaster, by program participation

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Participated SO3		78.9	*		3,093
Did not participate SO3		81.8			2,067

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not participate SO3" at endline.

Vulnerable Groups

Women's Decision Making and Empowerment

Nobo Jibon was designed to address two main causes of food insecurity in the program area: i) erratic and low-paying income earning opportunities, especially for asset-poor households, and ii) social exclusion and low status of women and children. Nobo Jibon thus aimed to strengthen the enabling environment for income generation and improved household economies, and to promote women's engagement in household decisions.

To assess progress in these indicators, both surveys asked women who earned cash by working on a regular basis outside the home about the source of their income. Additionally, female adult respondents who worked on a regular basis were asked to rate their level of participation in five common household decisions. Women were considered to have a voice in a decision if they could make it alone or jointly with their husband.

Table 45 reports on the types of income-earning activities women engage in and on the types of household decisions they report making, disaggregated by food security category. Data were collected only for the households with women who report earning income. Raising poultry is by far the most common enterprise, with four-fifths (80 percent) of all households with income-earning women engaged in poultry activities. Participation in all other activity types was very limited – under 10 percent for all activities listed on the survey. The one exception to this is the lowest food security tercile, where about 15 percent worked for daily wages.

In terms of decision-making, at baseline, a solid majority of income-earning women – both sample-wide and within each food security category – reported being able to make decisions either alone or with her husband, for all decision types listed on the survey. This tendency was even stronger at endline, with three-quarters or more of income-earning women reporting decision-making authority for all decision types. The most marked change in this respect was for decisions on children's health expenditures, which increased from 77 percent of the overall

sample to 87 percent, with larger increases for the low and medium food security groups. The evaluation data and methodology do not allow us to definitively attribute these changes to program efforts.

The women's economic empowerment score is the sum of scores for the five individual decisions (e.g. family visit decision making, children's health expenditure decision making, etc.). If the response for one of the five individual decision making questions indicated that a woman made a decision alone, or jointly with her husband, the score value for that particular component is one. If the response indicated that the decision was made by her husband, somebody else, or her husband and somebody else, the score value is zero. The summation of these 5 scores is the women's empowerment score, with a maximum of 5 and a minimum of 0. The women's economic empowerment score increased slightly, but significantly, from baseline to endline, from 3.7 to 4.2, out of a maximum score of 5.0.

Table 45: Women's income earning activities and decision making, by food security category

Indicator	Low	Middle	High	Total
N	1778	1779	1779	5336
Percent of all HH with a woman who earns income	38.8	30.9	29.9	33.2
% women's participation in income-earning activities (endline)				
N	690	549	532	1771
Poultry	74.7	85.9	80.6	80.0
Daily wage earner	14.5	5.1	2.1	7.8
Agri/Farmer	6.7	7.4	6.0	6.7
Handicrafts/Handloom	8.2	4.3	4.8	6.0
Other	6.9	3.9	3.8	5.0
Services	1.0	2.4	7.7	3.5
Work in other household	6.9	1.3	0.0	3.1
Business	1.4	1.7	1.5	1.5
Private tutor	1.0	1.0	1.9	1.3
% women making household decisions (endline)				
N	690	549	532	1771
Family visits	77.3	73.5	79.7	76.8
Expenditures on children's health	88.3	84.2	86.6	86.5
How to spend women's income	80.9	78.9	88.2	82.5
Major household purchases	78.1	71.7	78.7	73.7
Purchases of daily household needs	80.5	76.4	82.9	76.3
Women's economic empowerment (mean, endline)				
Women's economic empowerment score	4.2	4.0	4.3	4.2

Women were further analyzed by their level of empowerment (Table 46). Women who scored 5.0 across the sum score for individual decision-making were considered *more empowered*, whereas women with scores less than 5.0 were considered *less empowered*. That is to say, those women that fall into the more empowered category, with a score of 5.0, are fully empowered with respect to decision making in all 5 categories of household welfare measured. Conversely, those that are less empowered indicated that in at least one of the categories of household decision making measured, that particular female respondent was not empowered to make a decision in at least one of the respective categories. It was found that women were significantly more empowered at endline (67.5 percent) than women at the baseline (56.3 percent).

Although the trend of empowerment has gone up, it is not clear if this was related to participation in program activities especially when compared across program participation in SO1 and SO2 interventions (Table 46). Women eligible to participate in SO1 courtyard sessions (PLW and mothers with children under two years) were significantly less so empowered at endline (65 percent) than those women who did not participate in these interventions (70 percent). From focus group discussions, issues related to women empowerment were not emphasized by respondents as a key topics covered in these sessions; rather there was more focus on pregnancy and child care practices. Women’s empowerment issues under SO1 were more so highlighted with the program’s adolescent groups; topics included gender inequality, early marriage, mobility, and violence against women. Since adolescents were not included in the evaluation design, data was not available to gauge their level of empowerment stemming from program participation in SO1 interventions. For SO2, despite having more empowerment and income generation-focused interventions, participants showed no significant difference when compared to non-participants.

Table 46: Women’s decision making and empowerment, by participation

Indicators	Baseline	Endline	Percent difference	p-value
Women's decision making score (mean, baseline, endline)				
N	1519	1774		
Women's decision making score a/	3.7	4.2	11.3	+
Women's empowerment (endline)				
% women <i>more empowered</i>	56.3	67.5	19.9	+
% women <i>more empowered</i> , by participation in SO1 interventions b/				
Participant	-	64.9	-7.5	*
Non-participant	-	70.2		
% women <i>more empowered</i> , by participation in SO2 interventions b/				

Indicators	Baseline	Endline	Percent difference	p-value
Participant	-	67.9	0.7	
Non-participant	-	67.4		

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not receive SO1 or SO2" at endline.

a/ Percent difference and p-value are based on the mean difference between the endline and baseline measurements.

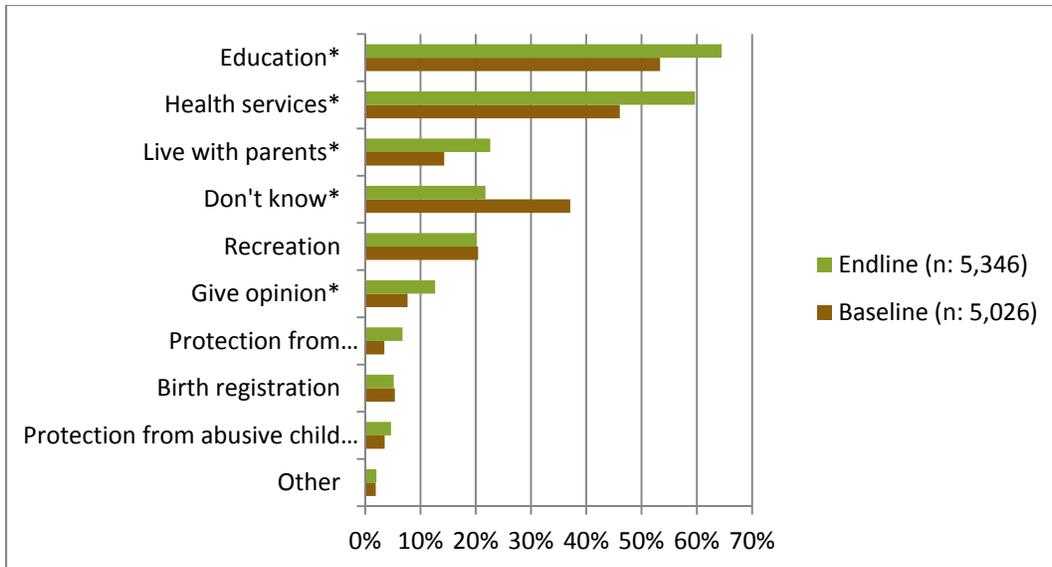
b/ Percent difference and p-value are based on the difference between non-participants and participants in program specific interventions

Child Rights and Protection

Village Development Committees (VDC) are a central aspect of Nobo Jibon. They aid in consciousness-raising about legal rights, campaign and network to protect human rights, and mitigate domestic conflicts. One of the aspects through which the effect of VDC's role was measured is household awareness and beliefs about child protection issues. Figure 16 displays the results.

Figure 16 shows increases in parents' understanding of child rights. More than half of households reported an awareness of children's rights to education and health services. Significant increases were also seen in acknowledgement of rights to live with parents and to give an opinion, though less than one-quarter of households reported this. In addition, the percentage of parents who did not know any rights of children decreased from more than one-third to less than one-quarter.

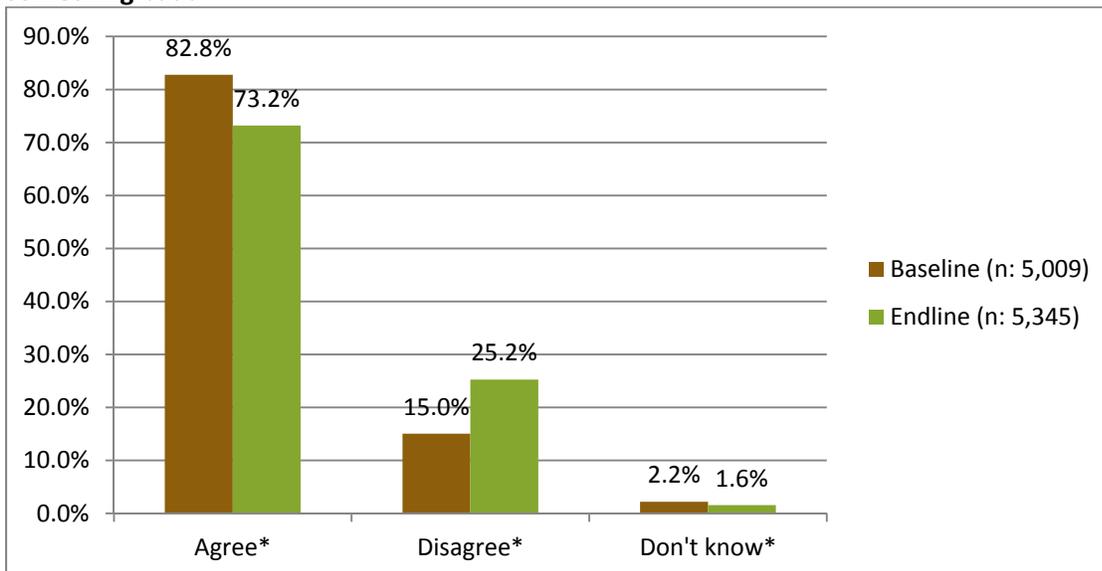
Figure 16: Reported rights of children acknowledged by parents



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Figure 17 presents interesting findings with respect to the question of whether parents believe that hitting children when they have done something bad is wrong. At endline, fewer parents agree that this is wrong (73 percent compared to 83 percent at baseline), and more parents disagree with the idea (25 percent versus 15 percent). Both differences were significant, suggesting that more parents believe it is OK to hit a child when they have done something bad.

Figure 17: Percentage of responses to the question: "Is it wrong to hit children whenever they do something bad?"

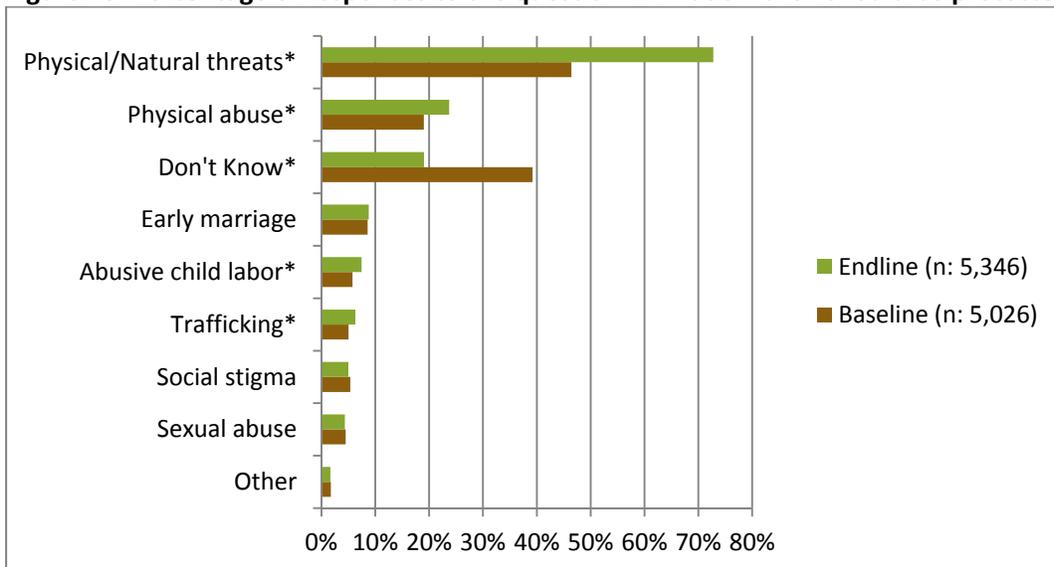


Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Figure 18 shows several conditions and whether parents believe children should be protected from these. Nearly three-quarters of parents understood that children have the right to be

protected from physical natural threats at endline, compared to less than half of parents at baseline. Acknowledgement of protection from physical abuse also increase slightly, though remained at less than one-quarter of parents. Less than 20 percent of parents reported that they did not know any condition from which children need protection, down from almost 40 percent at baseline. Other areas where little or no change was reported include early marriage, abusive child labor, trafficking, social stigma, and sexual abuse.

Figure 18: Percentage of responses to the question: "What children should be protected from?"



Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

4. Conclusions

The purpose of the final QPE is to measure changes in project impact and outcome indicators over the life of the Nobo Jibon project, in order to assess the extent to which project objectives have been achieved, measure the overall impacts on populations in the project areas, assess the assumed causal pathways linking project activities to outcomes and impacts, and determine how interventions contributed to achieving project goals.

Comparison of baseline with endline values demonstrates that the Nobo Jibon project surpassed targets for all SO1 and SO2 impact indicators measuring household nutrition and food security status. In particular, the endline values for all anthropometric indicators, HFIAS, CSI, HDDS, MAHFP exceeded the target values for these indicators. The results for the SO3 impact indicators are favorable, as well; the percent of households with disaster preparedness plans, households trained in disaster preparedness, the percent of households that sought shelter in a timely manner, and those that received warning within with adequate lead time all increased from baseline to endline. However, none of these SO3 impact indicators met their targets.

In addition, substantial improvements in project outcome indicators were recorded, with improvements in indicators measuring knowledge and adoption of recommended practices increased, although generally the targeted values were not achieved for many of the outcome indicators. The percent of households reporting adoption of recommended IYCF practices and other child care practices, child caregiver practices, diets and treatments of PLWs all increased from baseline to endline survey rounds. These changes in practices are consistent with the dramatic improvements in the SO1 and SO2 outcome indicators and suggest that the assumed causal relationships between outcome and impact indicators built into the design of the Nobo Jibon project are valid. The results also suggest that the targets set for the outcome indicators were perhaps overly ambitious, since the impact level goals were achieved even though the target values of the outcome indicators generally were not met.

Looking at differences in outcomes in relation to participation in project activities, the extent to which changes in outcomes can be attributed directly to project interventions is generally not clear cut, and changes vary across the three SOs. In SO1, while there is generally a large increase in adoption of recommended practices from baseline to endline, there is little difference in adoption between households that participated in SO1 activities and those that did not participate at endline. These results point to a general adoption of improved behaviors, that may be a result of efforts of interventions of government programs or those of other organizations, or that the messages promoted by Nobo Jibon were effectively transmitted to individuals in the project area who did not participate directly in project interventions.

In the case of SO2, the relationship between participation and adoption of practices is a bit stronger. A higher proportion of SO2 participants adopted improved agricultural production and

marketing practices. However, the overall proportion of sampled households that adopted these improved practices was quite small, even in the endline round.

Results from the endline QPE also provide information about the extent to which project interventions were targeted toward more food insecure households. Examination of participation in the project interventions by food security category shows that the most food-insecure households participated more in all types of project interventions (SO1, SO2 and SO3) than households in the higher food security categories. The relative proportions of project participation across the food security categories, however, are not very pronounced for either SO1 or SO2, suggesting that there is no strong targeting toward food-insecure households for these intervention areas. This result is consistent with the overall programming strategies for these two SOs; SO1 support is available to all pregnant women and mothers of young children regardless of their food security status, while interventions under SO3 are intended to benefit all households within a supported community.

The results of participation by food security status under SO2 provide some evidence of targeting, as a higher proportion of households in the lowest food security category participated in SO2 activities than those in higher categories. Again, this is consistent with the project strategy, in which these interventions are generally targeted toward more food-insecure populations. However, the project also directed some types of support to (more food-secure) larger farmers, as a means to enhance marketing opportunities and demand for agricultural labor for all households within communities.

One important thrust of the programming strategy of Nobo Jibon has been to reduce the exclusion of women and other vulnerable groups (especially children) from economic and social opportunities and to enhance the economic empowerment of women. According to information collected from women who had access to income, their economic empowerment, as measured by decision-making authority over income and economic activities, has increased from baseline to endline. However, it is important to note that this increase has occurred to a very similar extent in households that have not participated in project activities as compared with project participant households.

One important finding from the qualitative research is that the project interventions with youth seem to have a strong and long-term impact on empowering girls and women. Important implications from this finding are that i) programming strategies directed toward youth may have strong impacts on enhancing empowerment of women, and ii) indicators of empowerment should be measured on youth.

5. Recommendations

Given the strong ongoing investment in health and nutrition programming by government and other non-government sources, taken together with strong gains in health and nutrition observed in the program area over the course of the current round of MYAPS in Bangladesh, it is now appropriate to review the level of support provided for mother and child health, and nutrition (MCHN) programming by FFP resources, to minimize overlap with complementary offerings by other organizations and the government of Bangladesh (GOB) and consolidate these services to eliminate any possible redundancies. In particular, the results from this QPE of Nobo Jibon suggest that future FFP programming resources and efforts in Bangladesh could be usefully diverted towards programming to support enhancing livelihoods, where the impacts on project participants have been great, but the reach of program interventions has been limited in terms of the number of participants.

Another recommendation refers to future project monitoring and evaluation design. One very notable limitation of the Nobo Jibon final project QPE was that the scope of work was essentially restricted to a quantitative household survey, following a performance monitoring design based on a population-based sample design. With a clear appreciation of this limitation in the scope of the QPE, Save the Children included a small qualitative component in the scope of work for the final evaluation. However, the scale of this exercise was very restricted, and in particular was limited to only collecting information from project beneficiaries. There was no scope within the terms of reference for interviews with project staff, other implementing organizations or other stakeholders to get any qualitative detail about project implementation, or assessments about the strengths and weaknesses of project design and implementation with respect to achieving impacts with beneficiaries. The combination of the performance monitoring design, with the separation of the quantitative final QPE from the overall qualitative evaluation of FFP projects in Bangladesh made interpretation of the quantitative results very difficult. In the future, project M&E plans should include an integrated final project evaluation design that includes both qualitative and quantitative components. Furthermore, FFP should ensure that plans and resources for more carefully designed impact evaluations are included within project or country-level plans, so that studies to measure the contribution of project activities to measured outcomes and impacts can be undertaken.

Annex 2: Mean Values and Confidence Intervals for Indicator Performance Tracking Table (IPTT) Indicators

Indicator	Indicator Type	Baseline ³	Endline	95% C.I. (Endline)	LOA Target
Goal: Reduced food insecurity and vulnerability for 191,000 households (direct beneficiaries) in ten Upazilas of Barisal Division in southern Bangladesh over five years					
Percentage of stunted (HAZ<-2) children aged 6-59 months ¹	<- 2SD	43.90%	35.30%	33.3 - 38.2%	39.50%
	<- 3SD	12.90%	10.00%	8.3-11.7%	11.00%
Average HH Food Insecurity Access Scale score	Impact	28.70%	19.40%	18.3 - 20.5%	25.80%
Average HH coping strategy index	Impact	13.50%	8.40%	7.8 - 8.9%	12.20%
SO1 MCHN: Improved health and nutritional status of children U5 and PLW					
Percentage of underweight (WAZ<-2) children aged 0-59 months ¹	<- 2SD	39.40%	27.30%	25.4 - 29.9%	35.50%

	<- 3SD		9.90%	5.20%	4.0 - 5.8%	8.40%
Percentage of underweight (WAZ<-2) children aged 0-23 months ¹	<- 2SD	Outcome	31.90%	19.50%	15.9 - 21.7%	28.80%
	<- 3SD		7.60%	4.50%	2.9 - 5.7%	6.90%
Percentage of wasted (WHZ<-2) children aged 6-59 months ¹	<- 2SD	Impact	15.90%	11.00%	9.2 - 12.4%	14.30%
	<- 3SD		2.00%	1.40%	1.5-2.6%	1.70%
Percentage of wasted (WHZ<-2) children aged 6-23 months ¹	<- 2SD	Outcome	15.10%	13.80%	10.0-16.2%	13.60%
	<- 3SD		3.00%	3.00%	1.5-4.2%	2.30%
IR 1.1.: PLW and care-givers of children U5 practice improved MCHN and environmental health behaviors						
% of infants 0-5 months of age who are fed exclusively with breast milk ²		Outcome	38.40%	44.90%	39.0 - 50.9%	65.00%

% of children 6-23 months of age who receive a minimum acceptable diet (apart from breastmilk) ²	Outcome	5.80%	22.50%	19.1 - 26.1%	25.00%
% of caregivers demonstrating proper personal hygiene behaviors	Outcome	30.90%	38.10%	34.9 - 41.0%	50.00%
% of beneficiary caregivers demonstrating food hygiene behaviors	Outcome	20.20%	26.60%	23.9 - 29.2%	50.00%
% of PLW who consume food rich in iron	Outcome	31.50%	90.50%	87.9 - 93.2%	60.00%
% of PLW who consume food rich in Vitamin A	Outcome	22.30%	59.60%	55.2 - 64.0%	60.00%
% of PLW who consume food rich in Calcium	Outcome	12.20%	12.40%	8.8 - 16.0%	40.00%
% of PLW taking iron or iron folate supplements in the last 7 days	Outcome	2.10%	11.80%	8.5 - 15.1%	50.00%
IR 1.2.: Households have improved access to integrated health, family planning and nutrition services					
% of children 12-23 months who received Vitamin-A supplementation in the past 6 months	Outcome	42.30%	45.40%	37.4 - 47.3%	85.00%

% of mothers of children aged 6-23 months who received high-dose Vitamin A supplement within 8 weeks postpartum (6 weeks if not exclusively breastfeeding) in last pregnancy	Outcome	21.00%	38.20%	33.9 – 42.4%	50.00%
% of mothers attended ANC session at least 4 times during last pregnancy	Outcome	11.80%	32.90%	29.3% - 36.5%	50.00%
% of beneficiary children 12-24 months receiving antehelminth (deworming) medication in previous 6 months	Outcome	18.80%	32.80%	28.0 – 37.6%	30.00%
IR 1.3. : Equity increased within households and communities					
% of beneficiary women whose husband attends ANC/PNC with her ⁵	Outcome	48.60%	40.40%	36.4 - 44.4%	50.00%
SO2 Market-based Production and Income Generation: Poor and extremely poor households have increased production and income					
Average HH dietary diversity score (HDDS)	Impact	4.7	5.7	5.6 - 5.7	5.5
Average HH dietary diversity score (HDDS)	Outcome	4.7	5.7	5.6 - 5.7	5.5

Average number of months of adequate household food provisioning (MAHFP)	Impact	9.4	10.4	10.3 -10.5	11
% of HHs reporting increase in production of one or more products	Outcome	38.80%	43.60%	41.5% - 45.7%	50.00%
Average annual income from sale of agricultural products	Outcome	5,823	10,628	9,832 - 13,632	12,950
IR 2.1.: Poor households apply improved knowledge and skills for production and marketing					
%of beneficiaries (farmers) using 3 or more sustainable/improved production practices.	Outcome	4.80%	9.50%	7.5 – 12.0%	20.00%
% of targeted HHs adopting improved marketing practices	Outcome	0.00%	2.50%	1.0% - 4.6%	70.00%
SO3 DRR: Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters					
% of HHs with a feasible plan to protect human life and productive assets during disaster	Impact	45.90%	64.10%	61.9% - 66.0%	75.00%

% of HHs able to resume livelihood activities within 2 weeks following a natural disaster.	Impact	73.80%	80.00%	78.2% - 81.9%	90.00%
IR 3.1.: Communities manage functional emergency preparedness and response plans					
% of targeted HH members trained on disaster preparedness	Output	4.60%	22.00%	19.8 - 24.3%	50.00%
IR 3.4.: Communities receive and respond to early warning for floods and cyclones					
% of HHs that sought shelter in a timely manner during last disaster.	Outcome	24.80%	29.60%	27.2% - 32.0%	50.00%
% of HHs that received location specific cyclone warning signal with adequate lead time	Output	0.00%	47.90%	45.7% - 50.0%	75.00%

Annex 3: Procedures for Computing Household Economic and Food Security Status Indicators

1. Asset Index

This index is computed by multiplying the number of each type of household asset by the index value for that particular asset type. Index values of household assets used for construction of the asset index are presented in Table A 1. A higher value of the asset index indicates that households have been able to accumulate assets over time. Households are able to accumulate assets if income is greater than the necessary expenditures to meet household subsistence requirements. Assets also provide households with a cushion to adjust to shortfalls in incomes, or sudden increases in necessary expenditures. Thus, households with a higher asset index are less vulnerable than households with lower asset index values.

Asset	Index value
Almirah	50
Table/chair/bench	10
Watch/clock	30
Cot/bed	20
Working radio	30
Working TV	100
Bicycle	100
Motorcycle	800
Phone	50
Rickshaw/van	300

2. Household Dietary Diversity Score (HDDS)

This indicator is computed by summing the number of different food categories reported eaten by the household in day prior to the interview. This indicator was measured as recommended by FANTA, using the following 12 food groups: cereals, tubers, legumes, dairy, meat, fish, oils, sugar, fruits, eggs, vegetables, and others. The HDDS provides a measure of a particular household's food access. A higher HDDS represents a more diverse diet, which is empirically highly correlated with a household's income level and access to food.³¹

3. Months of Adequate Household Food Provisioning (MAHFP)

³¹ Swindale, Anne, and Paula Bilinsky. *Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2)*. Washington, D.C.: Food and Nutrition Technical Assistance Project, Academy for Educational Development, 2006.

This indicator reflects a household's ability to obtain food from their own production, stocks, purchases, gathering, or through food transfers from relatives, members of the community, the government or donors. As a household manages its resources over the course of a year, the ability to meet its food needs may vary due to any number of factors such as inadequate crop production by the household due to poor soils or lack of labor, loss or decrease in income sources such as employment, social obligations or natural disaster. Measuring the MAHFP has the advantage of capturing the combined effects of a range of interventions and strategies, such as improved agricultural production, storage and interventions that increase the household's purchasing power.³²

4. Household Food Insecurity Access Scale (HFIAS)

This indicator has been developed by FANTA, and is based on household access to food and responses to shortages in access to food over a 30-day recall period. This indicator is based on the household's: i) perceptions of uncertainty over food access in the past 30 days; ii) perceptions of insufficiency in quantity and quality of food over the past 30 days; iii) reported reductions in food intake; and iv) reported consequences of reductions in food intake. A higher value of this index indicates a higher degree of food insecurity. In tabulating the HFIAS score, a HFIAS score variable is calculated for each household by summing the codes for each frequency-of-occurrence question. The maximum score for a household is 27 (the household response to all nine frequency-of-occurrence questions was "often", coded with response code of 3); the minimum score is 0 (the household responded "no" to all occurrence questions, frequency-of-occurrence questions were skipped by the interviewer, and subsequently coded as 0 by the data analyst.) The higher the score, the more food insecurity (access) the household experienced. The lower the score, the less food insecurity (access) a household experienced.

5. Coping Strategy Index (CSI)

The coping strategy index is computed on the basis of a series of questions asked to respondents about how frequently they utilize a list of 12 possible strategies.³³ The twelve strategies are the following:

- 1) Limit portion size at meal times
- 2) Reduce number of meals eaten per day?
- 3) Borrow food or rely on help from friends or relatives?
- 4) Rely on less expensive or less preferred foods?

³² Bilinsky, Paula, Anne Swindale. 2007. *Months of Adequate Household Food Provisioning (MAHFP) for Measurement of Household Food Access: Indicator Guide*. FANTA. June 2007.

³³ Maxwell, Daniel, Richard Caldwell and Mark Langworthy. "Measuring food insecurity: Can an indicator based on localized coping behaviors be used to compare across contexts?" *Food Policy*, Volume 33, Issue 6, December 2008

- 5) Purchase/borrow food on credit?
- 6) Gather unusual types or amounts of wild food / hunt?
- 7) Have household members eat at relatives or neighbors?
- 8) Reduce adult consumption so children can eat?
- 9) Rely on casual labor for food?
- 10) Abnormal migration for work
- 11) Skip entire day without eating
- 12) Consume seed stock to be saved for next season

The frequency of adoption of each category is coded according to the following categories:

- 0 = never
- 1 = seldom
- 2 = sometimes
- 3 = often
- 4 = daily

The coded frequency response for each strategy is then weighted by the severity weight of each strategy. Average severity weights across several coping strategies conducted in countries around the world³⁴ are then applied to each coping strategy, using the following formula:

$$CSI = \sum(\text{frequency category}_i * \text{severity weight}_i) \text{ } i=1 \text{ to } 12$$

The severity weights are as follows:

Strategy	Severity weight
Limit portion size at meal times	2.3
Reduce number of meals eaten per day?	2.7
Borrow food or rely on help from friends or relatives?	2.5
Rely on less expensive or less preferred foods?	1.8
Purchase/borrow food on credit?	2.9
Gather unusual types or amounts of wild food / hunt?	2.9
Have household members eat at relatives or neighbors?	3.3
Reduce adult consumption so children can eat?	2.6
Rely on casual labor for food?	3.4
Abnormal migration for work	3.4
Skip entire day without eating	4.6
Consume seed stock to be saved for next season	3.6

6. Personal hygiene behavior

Personal hygiene practices are based on the following appropriate hand washing behaviors

Appropriate times to wash hands:

1. Before food preparation
2. Before eating
3. Before feeding children
4. After defecation
5. After cleaning babies bottoms

Appropriate washing practices

6. Use water
7. Use soap or ash
8. Wash both hands
9. Rubs hands at least 3 times
10. Dries hands by air or with clean cloth

“Proper personal hygiene behavior” is defined as following at least 8 out of these 10 practices (80%). Note that this is consistent with the definition used in the Jibon o Jibika baseline and end-line surveys.

7. Food hygiene behaviors

“Proper food hygiene behaviors” is defined as applying all three of the following practices: washing hands before food preparation, and washing hands before eating, washing hands before feeding children .

8. Water hygiene behaviors

“Proper water hygiene behaviors ” is defined as all applying all three of the following three practices: water stored at home, drinking water stored in separate containers, and water is kept covered.

9. Environmental hygiene behaviors

“Proper environmental hygiene behaviors” is defined as applying at least five of the six following practices:

- Use hygienic latrine (ring slab/offset latrine with water seal, covered open pit latrine, or septic latrine)
- Latrine is functioning
- Latrine shows signs of use
- Latrine (pan and slab) is clean
- Area surrounding latrine is clean
- Infants’ feces disposed of in latrines

10. Minimally acceptable diet

A ‘minimum acceptable diet apart from breastmilk’ is calculated as follows:

Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day

and

Non-breastfed children 6–23 months of age who received at least one milk feeding and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day.

This calculation differs slightly from that described in the World Health Organization’s guidelines for assessing and measuring infant and young child feeding practices (2008), which states non-breastfed children 6–23 months of age should receive at least *two* milk feedings and have at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day.

Minimum dietary diversity is defined as receiving four or more of the following foods:

Rice, bread, porridge, other foods made from grain
Tubers: white potatoes, white yams, other foods from roots
Foods from beans, nuts, lentils
Milk or milk products
Liver, kidney, heart, fish, dried fish, seafood, any meat (chicken, beef, goat, duck, etc.)
Eggs
Pumpkin, carrots, orange sweet potatoes, dark green leafy vegetables, Ripe mangoes, ripe papayas, ripe jackfruits
Any other fruits or vegetables

11. Economic empowerment index

The scores for economic empowerment are calculated by taking the mean sum of scores for individual decisions. If the response indicated that a woman made a decision alone, or jointly with her husband, the score value is one. If the response indicated that the decision was made by her husband, somebody else, or her husband and somebody else, the score value is zero. The maximum score is five.

Annex 4: Results of Factor Analysis on Food Security Variables

SPSS Factor Analysis Output:

Factor Analysis

The communalities table below shows how much of the variance in the individual elements that are accounted for in the factors extracted. For instance, a high proportion of the variance of HFIAS_ and CSI indices (88.8 and 83.3 percent, respectively) are accounted for in the factors extracted in the analysis. Overall, all of the variables are well represented in the extracted factors, which ultimately will be used as the food security index.

	Initial	Extraction
HHsize	1.000	.720
assetindex_pc	1.000	.371
exp_month_pc	1.000	.698
food_share	1.000	.664
HDDS	1.000	.396
MAHFP	1.000	.617
HFIAS_index	1.000	.888
csi_index	1.000	.833

Extraction Method: Principal Component Analysis.

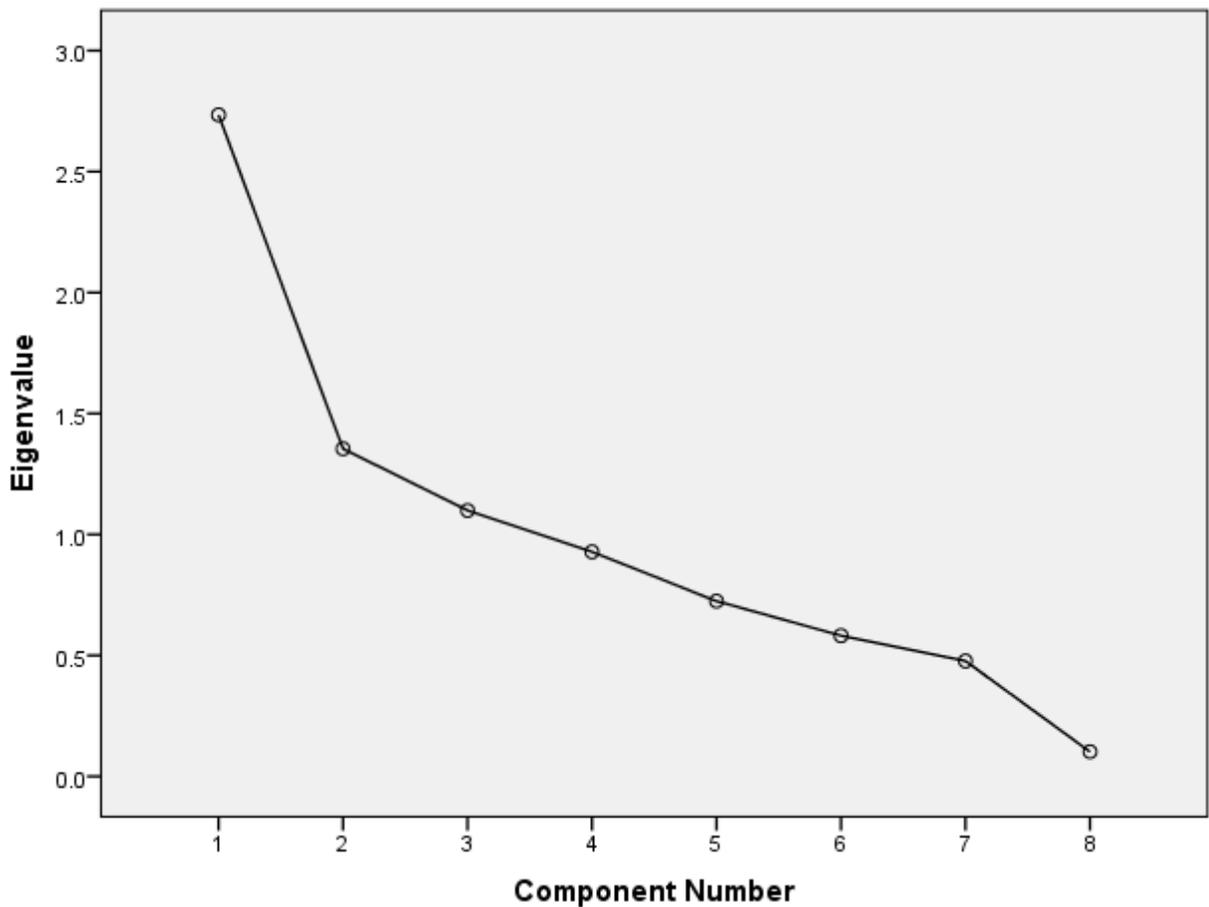
Considering together the table and figure below that provide the total variance explained by the extracted factors and the scree plot that plots the eigenvalues of the extracted factors, one can see that the first factor accounts for a plurality of the cumulative variance and that after the first factor the additional variance and corresponding eigenvalues diminish rapidly. Using this information, only the first factor has been used for the food security index.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.734	34.179	34.179	2.734	34.179	34.179
2	1.354	16.925	51.105	1.354	16.925	51.105
3	1.099	13.738	64.843	1.099	13.738	64.843
4	.928	11.602	76.445			
5	.724	9.054	85.499			
6	.582	7.270	92.769			
7	.477	5.958	98.728			
8	.102	1.272	100.000			

Extraction Method: Principal Component Analysis.

Scree Plot



The component matrix below shows the loadings, or correlations, associated for each of the factors extracted. For the first factor, which is the only one used as part of the food security

index, the HFIAS index and CSI index have extremely strong positive correlations (.91 and .88, respectively) with the index and explain a good portion of the variation of the index. MAHFP and HDDS also contribute strongly to the index with correlations of -.77 and -.56, respectively (the correlations are negative because HDDS and MAHFP are scaled such that food security increases as these indicators increase, which is opposite scaling of the HFIAS and CSI index that decrease as food security improves).

Component Matrix^a

	Component		
	1	2	3
HHsize	-.186	-.184	.807
assetindex_pc	-.204	.287	-.497
exp_month_pc	-.251	.797	-.010
food_share	.302	-.695	-.298
HDDS	-.560	.099	.270
MAHFP	-.765	-.163	-.072
HFIAS_index	.911	.206	.124
csi_index	.880	.201	.136

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Annex 5: Nobo Jibon Baseline Survey Household Questionnaire

Nobo Jibon
Baseline Survey Questionnaire
(Quantitative Survey of Households)

Questionnaire for Randomly Selected Households

TANGO International
and
Save the Children-USA

1. Household Members (household head or spouse)

Please tell the name of persons who usually live in your household (A household is a person or group of persons that usually lives and eat together and family members who lives outside visit the HH at least in every six months), starting with the head of the household.

Table1: Household Members

Line	Is (NAME) male or female?	How old is? (NAME) IF AGE LESS THAN 1 YEAR WRITE '00'	If aged 10 years or more: Educational Status	If aged 10 years or more: Professions
101	102	103	104	105
01	M 1 F 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
02	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
03	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
04	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
05	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
06	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
07	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
08	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
09	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
10	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
11	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
12	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
13	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
14	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
15	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
16	1 2	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

(Interviewer: Please note the **line number** of children <5)

Are there any more household members (Yes/no)

If yes, how many more members? _____-

CODE LIST: Profession and Education

Profession

01 = Do not work
02 = Household work
03 = Service
04 = Business
05 = Agriculture/ Farming
06 = Poultry
07 = Fish farming
08 = Daily wage earner
09 = Teacher

10 = Private Tutor
11 = Rickshaw/Van/Boat man/Driver
12 = Carpenter
13 = Weaver
14 = Cattle rearing
15 = Fisherman
16 = Tailor
17 = Others (Specify)

Education

01 = Illiterate
02= Can sign
03= Primary
04= Under SSC
05= SSC/Dhakhil
06= HSC/Alim
07= Bahelor/Fazil
08= Masters/Kamil
09= Others

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	Pensions (all types) Begging Rental income Professional (doctor, lawyer) Help from relative Money lending Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.)	
206	What is your HHs monthly expenditure? (Approximately)	House rent... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Food <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Utilities (electricity, gas, water, telephone) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Education ... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Transport.... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Medical <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Loan repayment <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.) Others..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (Tk.)	
207	Does your household have access to khash land	Yes 1 No 2	→209
208	What is Khash land used for ?	Living house Garden Cultivable land Forest Rent out Other	
209	Does your household have access to water bodies	Yes 1 No 2	→301
210	What are water bodies used for?	Fish Rent out Other	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		other 10	
307	Did your household sell any agricultural crops in the last year?	Yes 1 No 2	2→ 313
308	If yes, what was value of sales?	<input type="text"/> (Tk.)	
309	How has the value of agricultural sales of your household changed in the last 3 years?	Increased 1 Stayed the same 2 Decreased 3 Don't know 4	1→310 2→312 3→311 4→312
310	Reasons for increased sales (Multiple response)	Less consumption by household..... 1 Greater area farmed 2 Improved irrigation..... 3 Better seed varieties..... 4 Higher market prices 5 Better market access 6 Sale through farmers group . 7 Improved/lower cost transportation..... 8 Improved knowledge and skills..... 9 Improved pest management.... 10	Skip →312
311	Reasons for decreased sales (Multiple response)	More consumption by household..... 1 Decreased area farmed 2 Flood..... 3 Drought..... 4 Lower market prices 5 Less access in the market 6 Unavailability/high cost transport..... 7 Lack of irrigation..... 8 Lack/high price of quality seed 9 Pests..... 10 other..... 11	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
312	<p>To whom did you sell agricultural products in the last year? (Multiple response)</p>	<p>Neighbor/relatives/individuals 1 Local market..... 2 Trader 3 Itinerant buyers 4 Cooperative/farmer group 5 Local Broker 6 NGOs 7 Company..... 8 Collection point 9 Other 10</p>	
313	<p>Which of the following agricultural practices do you apply on your farm/garden? (Multiple response)</p>	<p>Animal manure 1 Compost..... 2 Crop rotation..... 3 Chemical fertilizer 4 Biological/organic pest control..... 5 Mechanical pest control..... 6 Chemical pest control 7 Integrated pest management 8 Treadle pump/drip irrig/mobile pump..... 9</p>	
314	<p>Have you received agricultural inputs from any of the following? Multiple response</p>	<p>Local Market 1 Itinerant Merchants..... 2 NGOs 3 GOB..... 4 Companies 5 Cooperative/farmer group 6 Village Development Committee 7 Neighbor/relatives/individuals 8 Trained input retailers..... 9 Other 10 None 11</p>	
315	<p>Have you received any training or technical support related to agriculture/gardening from any of the following?</p>	<p>GoB office (BADC, BARI).. 1 NGO 2 Seed company..... 3 Others (specify) 4</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	(Multiple response)	No training..... 5	
316	Did you have any livestock production in the last year?	Yes..... 1 No 2	2→321
317	How many of each of the following types of animals do you currently have? 1. Cows/buffalos 2. Goats/sheep 3. Chickens/ducks 4. Geese 5. Pigeon	Number □□□ □□□ □□□ □□□ □□□	
318	How did livestock production change last year compared to the year before?	Increased 1 Stayed the same 2 Decreased 3 Mixed..... 4 Don't know 5	1→319 2→321 3→320 4→321 5→321
319	Reasons for increase	Acquired more animals 1 Improved breeds 2 Better feed 3 Less disease 4 Response to better price..... 5 Improved knowledge 6 Support from NGOs 7 Vaccination..... 8 Other 9	Skip →321
320	Reasons for decrease	Death/disease of animals 1 Animal stolen/lost..... 2 Loss of land 3 Response to lower prices..... 4 Disaster 5 Lack/high cost of feeds..... 6 Lack of vaccine..... 7 Other 8	
321	Did you have any Fish production in the last year?	Yes..... 1 No 2	2→401
322	How did Fish production change last year compared to the year before?	Increased 1 Stayed the same 2 Decreased 3	1→323 2→401 3→324

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		Mixed..... 4	4→401
		Don't know 5	5→401
323	Reasons for increase	Better varieties of fingerlings 1 Lower cost fingerlings..... 2 Improved knowledge 3 Response to higher price 4 Improved access to market ... 5 Support from NGOs 6 Improved access/lower cost of feed 7 Increased access to water bodies..... 8 Less disease 9 More fingerlings 10 other..... 11	Skip →401
324	Reasons for decrease	Less Access/Higher cost fingerlings..... 1 Response to lower price..... 2 Less access/higher cost of feed 3 Less access to water bodies .. 4 More disease 5 Natural disaster 6 Lower quality fingerlings 7 Other 8	

4. Natural Disaster Preparedness (household head

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	What was the most recent type of natural disaster experienced in this area?	Cyclone 1 Flood 2 Earthquake 3 River erosion 4 Other (specify) 5 No disaster 5	5 → 416
402	How long after the disaster did return to your home and start normal life?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> days	
403	Did anyone in your HH die in last disaster (SIDR)?	Yes 1 No 2	
404	Did you lose any of the following? [Multiple response]	House Livestock Documents Productive assets Household items Cash/jewelries	
405	Did you receive any early warning signal/message before the last natural disaster (you had in your area)?	Yes 1 No 2	2 → 408
406	How long before the disaster did you receive the warning signal message?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> hours	
407	Who gave the early/signal message? [Multiple response]	CPP volunteers 1 Radio 2 Television 3 Union parishad 4 NGOs 5 Mosque miking 6 Neighbor/relatives 7 Other (Specify) 8	
408	Did you move to another place to take shelter before the last natural disaster?	Yes 1 No 2	1 → 410
409	If no, why not?	No shelter No space available in the shelter Shelter not functional Did not receive messages No transport	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		Did not want To protect home/assets Live in protected house Others	
410	Where did you move to take shelter before the last natural disaster? (Bold type indicates disaster-proof shelters)	‘Pacca’ House (cement) 1 ‘Kacha’ house 2 Cyclone or flood shelter 3 Union parishad building..... 4 School/institution building..... 5 Boat 6 Highways/ Embankment 7 Raised hillock..... 8 Mosque/Temple/Church 9 Other (SPECIFY)..... 10	
411	How long before the disaster did you move to the shelter? (if during the disaster, enter 0 hours)	<input type="text"/> <input type="text"/> <input type="text"/> hours	
412	How far and long did it take you to go to the shelter centre for disaster?	How far km <input type="text"/> <input type="text"/> Long Hrs. <input type="text"/> <input type="text"/> Mins. <input type="text"/> <input type="text"/>	
413	After the last natural disaster, did you receive any assistance?	Yes 1 No..... 2	2→416
414	What did you receive? (Multiple response)	Food 1 Water..... 2 Clothing..... 3 Housing 4 Money 5 Medicine 6 HH utensils..... 7 Others 8	
415	When did you receive food and water?	Just after the cyclone..... 1 After 1 days..... 2 After 2 days..... 3 After 3 days..... 4 More than 3 days..... 5	
416	Are you aware of any members of the community trained to help you during disaster?	Yes 1 No..... 2	2→418
417	Who are they?	CPP volunteers..... 1 Union parishad	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	(Multiple response)	chairman/member 2 NGOs 3 Teacher..... 4 Students..... 5 Village leaders 6 Village Development Committee..... 7 Union volunteers 8 Other (specify) 9	
418	Have you or any member of your HH received any disaster preparedness training?	Yes 1 No..... 2	2→420
419	Who provided the training?	CPP volunteers..... 1 Union parishad chairman/member 2 NGOs 3 Teacher..... 4 Students..... 5 Village leaders 6 Village Development Committee..... 7 Other (specify) 8	
420	What do you plan to with your household members in the event of a disaster (cyclone/flood)?	Don't know 1 Evacuation of vulnerable HH members..... 2 Visit shelter centers in normal time 3 Identify safe shelter center 4 Plan for dry food 5 other 6 No plan 7	
421	What do you plan to do with your livestock if a disaster strikes?	Don't know 1 Identify safe shelter for livestock 2 Arrange feed for disaster..... 3 Assign a person responsible... 4 other 5 No plan..... 6	
422	How do you plan to protect your HH valuables/assets in case of disaster?	Don't know 1 Arrangements to store assets	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		safely 2 Assign a person responsible... 3 other 4 No plan..... 5	

5. Food Security (wife, caregiver)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
501	<p>I would like to ask you about the types of foods that you or anyone else in your household ate yesterday during the day and at night:</p> <p>Any:</p> <ol style="list-style-type: none"> 1. Cereals (rice, noodles, bread) 2. Roots/Tubers (cassava, potatoes, sweet potatoes, plantains) 3. Legumes/Pulses (beans, peas, groundnuts, cashews) 4. Dairy products (milk, yogurt, cheese) 5. Meat (beef, offal, Poultry, mutton) 6. Fish/seafood 7. Oils, fats, butter, Ghee 8. Sugar/honey 9. Fruits 10. Eggs 11. Vegetables 12. Others 	<p>Cereals..... <input type="checkbox"/></p> <p>Roots/Tubers <input type="checkbox"/></p> <p>Legumes/Pulses <input type="checkbox"/></p> <p>Dairy products <input type="checkbox"/></p> <p>Meat/poultry/offal <input type="checkbox"/></p> <p>Fish/Sea food <input type="checkbox"/></p> <p>Oils/fat <input type="checkbox"/></p> <p>Sugar/honey..... <input type="checkbox"/></p> <p>Fruits <input type="checkbox"/></p> <p>Eggs..... <input type="checkbox"/></p> <p>Vegetables <input type="checkbox"/></p> <p>Others <input type="checkbox"/></p>
502	<p>What type of salt does your HH consume regularly?</p>	<p>Packet salt (observe) 1</p> <p>Loose 2</p>
503	<p>In the past 12 months, were there months in which you did not have enough food to meet your family's needs?</p>	<p>Yes..... 1</p> <p>No 2</p>
504	<p>If yes, which were the months (in the past 12 months) in which you did not have enough food to meet your family's needs?</p> <p>[Multiple response]</p>	<p>January 1</p> <p>February 2</p> <p>March 3</p> <p>April 4</p> <p>May 5</p> <p>June 6</p> <p>July 7</p> <p>August 8</p> <p>September..... 9</p> <p>October 10</p> <p>November 11</p> <p>December 12</p>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
505	In the past four weeks did you worry that your household would not have enough food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks)..... 2 Often (> 10 times in past 4 weeks)..... 3 Never 4
506	In the past 4 weeks were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks)..... 2 Often (> 10 times in past 4 weeks)..... 3 Never 4
507	In the past 4 weeks did you or any household member have to eat a limited variety of foods due to a lack of resources?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks)..... 2 Often (> 10 times in past 4 weeks)..... 3 Never 4
508	In the past 4 weeks did you or any household member have to eat some foods that you really did not want to eat because of lack of resources to obtain other kinds of food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks)..... 2 Often (> 10 times in past 4 weeks)..... 3 Never 4
509	In the past 4 weeks did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks)..... 2 Often (> 10 times in past 4 weeks)..... 3 Never 4
510	In the past 4 weeks did you or any household member have to eat fewer meals in a day because there was not enough food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks)..... 2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	
		Often (> 10 times in past 4 weeks).....3 Never4	
511	In the past 4 weeks, was there ever no food of any kind to eat because of lack of resources to get food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks).....2 Often (> 10 times in past 4 weeks).....3 Never 4	
512	In the past 4 weeks did you or any household member go to sleep hungry because there was not enough food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks).....2 Often (> 10 times in past 4 weeks).....3 Never 4	
513	In the past 4 weeks did you or any household member go a whole day and night without eating anything because there was not enough food?	Rarely (once or twice in past 4 weeks)..... 1 Sometimes (3-10 times in past 4 weeks).....2 Often (> 10 times in past 4 weeks).....3 Never 4	
514	<p>In the past 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to (circle responses according to the scale below):</p> <p>1 = Never 2 = Seldom (less than one day a week) 3 = Sometime (1-2 days a week) 4 = Often (3 or more days a week) 5 = Daily</p> <p>Limit portion size at meal times Reduce number of meals eaten per day? Borrow food or rely on help from friends or</p>	<p>1 2 3 4</p> <p>5</p> <p>1 2 3 4</p> <p>5</p> <p>1 2 3 4</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			
	relatives?	5			
	Rely on less expensive or less preferred foods?	1	2	3	4
	Purchase/borrow food on credit?	5			
	Gather unusual types or amounts of wild food / hunt?	1	2	3	4
	Have household members eat at relatives or neighbors?	1	2	3	4
	Reduce adult consumption so children can eat?	1	2	3	4
	Rely on casual labor for food?	5			
	Abnormal migration for work	1	2	3	4
	Skip entire day without eating	5			
	Consume seed stock to be saved for next season	1	2	3	4
		5			
		1	2	3	4
		5			
		1	2	3	4
		5			
		1	2	3	4
		5			

6. Safe Water, Sanitation, and Hygiene practices [Ask caregiver of children]

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	What are the main sources of water for drinking for your household?	Deep tube well 1 Shallow tube well 8 Pond sand filter 2 Rainwater harvesting system 3 Rainwater 4 Pond 5 River/canal 6 Traditional well 7 Others (Specify) 9	1,8→602 2-7,9 →604
602	Has the tube well you use been tested to see if its water has arsenic? [avoid of water source not tubewell, skip to water storage	Tested 1 Not tested 2 Don't know 3	2,3→604
603	Is the tube well marked red or green? (Observe)	Green 1 Red 2 Not marked 3	
604	Do you store water in your home?	Yes 1 No 2	2→607
605	Do you collect and store drinking water in separate container?	Yes 1 No 2	2→607
606	Is the water kept covered? (observe)	Yes 1 No 2	
607	What type of latrine does your household use? (Bold type indicates hygienic types)	Ring-slab/offset latrine (water seal) 1 Pit latrine (covered) 2 Ring-slab/offset latrine (water seal broken) 3 Pit latrine (uncovered) 4 Septic latrine 5 Hanging/open latrine 6 No toilet facility 7	6,7→615
608	Is it your own latrine? Interviewer: Observe the latrine	Yes 1 No 2	
609	Do you use this latrine?	Yes 1 No 2	
610	When family members are at home, where do	Male: Female:	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
	your family members > age 5 go to defecate?	Latrine..... 1	Latrine 1	
		Outside..... 2	Outside 2	
611	Where do you dispose of your children's feces?	Latrine..... 1		
		Outside..... 2		
		Not applicable 3		
612	<p>Interviewer: Observe the following instruction</p> <p>2.1.2 Is the latrine functioning?</p> <p>2.1.2 Does the latrine show the sign of use?</p> <p>2.1.2 Is the latrine (pan & slab) itself clean?</p> <p>2.1.2 Is the surrounding area of the latrine clean?</p>			
		Latrine functioning 1 ... 2		
		Shows the sign of use 1 ... 2		
		Latrine itself clean 1 ... 2		
		Surrounding area is clean 1 ... 2		
613	<p>When do you wash your hands?</p> <p><i>(Multiple response possible. DO NOT read the choices but probe and mark all that)</i></p>	<p>Yes No</p> <p>Before food preparation.. 1 2</p> <p>Before eating..... 1 2</p> <p>Before feeding children .. 1</p> <p>..... 2</p> <p>After defecation..... 1</p> <p>..... 2</p> <p>After cleaning babies bottoms 1</p> <p>..... 2</p> <p>Others..... 1</p> <p>..... 2</p> <p>(specify)</p>		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
614	<p>Can you show me how you wash your hands?</p> <p>(Go to hand washing site and observe hand washing technique that is demonstrated)</p> <p>(Multiple responses)</p>	<p>Yes No</p> <p>Uses water..... 1 2</p> <p>Soap/cleaning agent 1 2</p> <p>Ash..... 1 2</p> <p>Washes both hands 1 2</p> <p>Rubs hands at least 3 times</p> <p>Dries hands by air 1 2</p> <p>Dries hands with a clean cloth 1 2</p> <p>Others (specify) 1 2</p> <p>Refused to demonstrate .. 1 2</p>	

7. Mothers/caregivers of children under 5 years:

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Do you have any children under 24 months or are you currently pregnant?	<p>Yes 1</p> <p>No..... 2</p>	
702	How old are you? (mother/care-giver of U5 in HH)	Age (in completed years) <input type="text"/> <input type="text"/>	
703	Did you ever attend school/madrassa?	<p>Yes 1</p> <p>No..... 2</p>	2→706
704	Was it a primary school, madrasa, secondary school or higher that you attended last?	<p>Primary 1</p> <p>Madrasa 2</p> <p>Secondary School..... 3</p> <p>College/University 4</p> <p>Others 5</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		(Specify)	
705	What was the highest class you passed?	Class	
706	Are you now married, widowed, divorced, or separated?	Never married 1 Currently married 2 Widowed 3 Divorced 4 Separated 5 Deserted 6	
707	Aside from doing normal household work, do you do any other work on a regular basis for which you are paid in cash or in kind or in both?	Yes 1 No 2	2→710
708	What do you do for your earning? (Multiple response)	Handicrafts/Handloom .. 1 Agri/Farmer 2 Work in other household 3 Services 4 Business 5 Poultry 6 Daily wage earner 7 Private tutor 8 Others (Specify) 9 No income earnings 10	
709	How much do you generally earn a month from the activities you do?	Monthly earning <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (Tk.)	
710	Who usually makes decisions about how to spend the cash income you earn?	Husband 1 Wife 2 Husband and wife jointly 3 Somebody else 4 Husband and somebody else jointly 5	
711	Who usually	Husband 1	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	makes decisions about making major household purchases?	Wife.....2 Husband and wife jointly3 Somebody else4 Husband and somebody else jointly 5	
712	Who usually makes decisions about purchases for daily household needs?	Husband1 Wife.....2 Husband and wife jointly3 Somebody else4 Husband and somebody else jointly 5	
713	Who usually makes decisions about visits to your family or relatives?	Husband1 Wife.....2 Husband and wife jointly3 Somebody else4 Husband and somebody else jointly 5	
714	Who usually makes decisions about your children's health care?	Husband1 Wife.....2 Husband and wife jointly3 Somebody else4 Husband and somebody else jointly 5	
715	Are you currently pregnant? (Avoid if 701=2, skip to 800)	Currently pregnant1 Not currently pregnant2 Don't know3	2,3→712
716	How many months have you been pregnant for?	Month(s)..... <input type="text"/> <input type="text"/>	
717	Did you have any antenatal check-ups during your (current/ last) pregnancy?	Yes1 No.....2	2→717
718	How many check-ups did you have during your (current/last) pregnancy?	Number of visits..... <input type="text"/> <input type="text"/>	
719	Do you have an	Yes, Seen.....1	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	antenatal card for your (current/last) pregnancy? IF Yes: May I see it please?	Yes, Not Seen.....2 No Card3	
720	Interviewer: Verify Number of Antenatal Visits Is the number of documented visits in the card different than the stated number of visits in Q204	Same as stated1 Different than stated.....2 Note number of documented visits..... <input type="text"/> <input type="text"/>	
721	Where did you receive ANC services?	Hospital/Medical college1 Upazila Health Complex2 Satellite/EPI outreach centre 3 MCWC4 FWC5 FWV6 FWA7 NGO Static clinic8 NGO Satellite clinic9 NGO Field worker10 NGO Hospital11 VHC (village health committee CHV12 Clinic/Hospital13 MBBS Doctor14 Village doctor15 Homeopathic doctor16 Pharmacy17 Other Sector: Friend/Relative18 Neighbor19 Others (Specify)20	
722	Did your husband	Yes1	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	accompany you on any of your visits	No.....2	
723	Did you receive Vita-A after delivery of the child? (Interviewer: shows her the Vit-A capsule)	Yes1 No.....2	2→719
724	After how many days of the delivery you received Vit-A? <input type="checkbox"/> <input type="checkbox"/> Days	
725	Do you have a child of age <6 months?	Yes1 No.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
727	Have you taken Iron/Iron folate in the last 7 days? (Interviewer: show her the iron/iron folate tablet or capsule)	Yes1 No.....2	

8. Individual Child Related Questions

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
800	Do you have any children under 5?	Yes1 No2	2→901
801	Name of the youngest child		
802	Sex of the youngest child	<input type="checkbox"/> Male=1, Female=2	
803	Age of the youngest child	<input type="checkbox"/> <input type="checkbox"/> Months	
804	Did you ever breastfeed (NAME)? <i>[avoid if U5 child code >1 and age >6 months, skip to 815]</i>	Yes1 No2	2→812
805	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS.	HOURS..... 1 <input type="checkbox"/> <input type="checkbox"/>	
806	Did you give (NAME) the colostrum (the first milk which is yellow sticky fluid secreted the few days after delivery)?	Yes1 No2 Don't know3	
807	Did you give anything to (NAME) before the first breast milk?	Yes1 No2 Don't know3	
808	Did you give anything to (NAME) after starting breastfeeding? (Within 24 hours after starting breastfeeding) (Up to 3 responses allowed)	No1 Milk (goat/cow/powder)2 Baby formula3 Water/sugar water/honey4 medicine5	
809	Was (NAME) breastfed yesterday during the day or night?	Yes1 No2 Don't know3	
810	Did (NAME) have any of the following liquids yesterday during the day or night?	Plain water1 Sugar water1	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP															
	(Up to 5 responses allowed)	Infant formula..... 1 Tinned, powdered, fresh animal milk..... 1 Juice, juice drink, green coconut 1 yogurt..... 1 ORS 1																
811	At any time yesterday or last night, was (NAME) given any liquid or solid food with breastfeeding?	Yes 1 No 2																
812	How many times yesterday or last night, was (NAME) given any of the following: (up to 10 responses allowed) <ol style="list-style-type: none"> 1. rice, bread, porridge, other foods made from grain 2. Pumpkin, carrots, orange sweet potatoes 3. White potatoes, white yams, other foods from roots 4. Dark green leafy vegetables 5. Ripe mangoes, ripe papayas, ripe jackfruits 6. any other fruits or vegetables 7. liver/kidney/heart 8. any meat (chicken, beef, goat, duck, etc.) 9. Eggs 10. Fish, dried fish, seafood 11. foods from beans, nuts, lentils 12. milk or milk products 13. oils, fats, butter, ghee 14. sugary foods such as chocolates, candies, pastries, cakes, biscuits 15. other 16. nothing 	Number of Times <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: center;"><input type="checkbox"/></td></tr> </table>	<input type="checkbox"/>															
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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
813	Yesterday during the day or night, how many times did (NAME) eat solid, semi-solid, or soft foods (foods other than liquids) at home or outside the home? (don't know =99)	<input type="checkbox"/> <input type="checkbox"/>	
814	Yesterday during the day or night did (NAME) drink anything from a bottle with a nipple?	Yes 1 No 2 Don't know 3	
815	Yesterday during the day or night did (NAME) consume any food to which you added a nutrient powder (sprinkles/Monimix)?	Yes 1 No 2 Don't know 3	
816	Did (NAME) receive a BCG vaccination against tuberculosis, that is, an injection in the left shoulder that caused a scar?	YES..... 1 NO 2 DON'T KNOW 3	
817	Did (NAME) receive a polio vaccine that is, drops in the mouth?	YES..... 1 NO 2 DON'T KNOW 8	2,3→819
818	How many times did (NAME) receive polio vaccine: From clinic? From NID?	TIMES FROM CLINIC <input type="checkbox"/> TIMES FROM NID..... <input type="checkbox"/>	
819	Did (NAME) receive a DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops?	YES..... 1 NO 2 DON'T KNOW 8	2,3→821
820	How many times?	NUMBER OF TIMES <input type="checkbox"/>	
821	An injection to prevent measles after 9 months of age?	YES..... 1 NO 2 DON'T KNOW 8 Not Applicable..... 8	
822	Has (NAME) received a vitamin A capsule like this in the last 6 months? <i>[avoid if age not 12-23 months, skip to diarrhea]</i> Interviewer: Show Vitamin A Capsule	Yes 1 No 2 Don't know 3	
823	Has (NAME) received antehelminth	Yes 1	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	(Deworming) within the last 6 months? <i>[avoid if age not 12-23 months, skip to xxx]</i>	No 2 Don't know3	
824	Has (NAME) suffered from fever in the last 15 days?	Yes 1 No 2	2 →821
825	Did you seek advice/treatment for the fever of (NAME)?	Yes 1 No 2	2 → 821
826	Where did you first seek treatment/advice for the fever of (NAME)?	Hospital/Medical college 1 Upazila Health Complex 2 Satellite/EPI outreach centre 3 MCWC 4 FWC 5 FWV 6 FWA 7 Static clinic 8 Satellite clinic 9 Field worker 10 Hospital..... 11 CHV 12 Clinic/Hospital..... 13 MBBS Doctor 14 Village doctor 15 Homeopathic doctor 16 Pharmacy 17 Friend/Relative 18 Neighbor 19 Others (Specify) 20	
827	Has (NAME) suffered from cough/cold in the last 15 days?	Yes 1 No 2	2 →824
828	Did you seek advice/treatment for the cough/cold of (NAME)?	Yes 1 No 2	2→824
829	Where did you first seek treatment/advice for the cough/cold of (NAME)?	Public Sector: Hospital/Medical college 1 Upazila Health Complex 2 Satellite/EPI outreach centre 3 MCWC 4 FWC 5 FWV 6 FWA 7	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		NGO Sector: Static clinic 8 Satellite clinic 9 Field worker 10 Hospital..... 11 CHV 12 Private medical sector: Clinic/Hospital..... 13 MBBS Doctor 14 Village doctor 15 Homeopathic doctor 16 Pharmacy 17 Other Sector: Friend/Relative 18 Neighbor 19 Others (Specify) 20	
830	Has (NAME) had diarrhea (having loose stool more than 2 times a day) in the last 2 weeks?	Yes 1 No 2 Don't know 3	2,3 →END
831	Was (NAME) given the same amount to drink as before the diarrhea, or more, or less?	Same 1 More 2 Less..... 3 Don't know 4	
832	Was (NAME) given the same amount of food to eat as before the diarrhea, or more, or less?	Same 1 More 2 Less..... 3 Don't know 4	
833	Did you continue to breastfeed (NAME) during diarrhea? (avoid if 810 is no, skip to next question)	Continued 1 Did not continue 2	
834	Did you seek advice or treatment for the diarrhea of (NAME) from any source?	Yes 1 No 2	2→830
835	Where did you first seek treatment/advice for the diarrhea of (NAME)?	Public Sector: Hospital/Medical college 1 Upazila Health Complex 2 Satellite/EPI outreach centre 3 MCWC 4 FWC 5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		FWV 6 FWA 7 NGO Sector: Static clinic 8 Satellite clinic 9 Field worker 10 Hospital..... 11 CHV 12 Private medical sector: Clinic/Hospital..... 13 MBBS Doctor 14 Village doctor 15 Homeopathic doctor 16 Pharmacy 17 Other Sector: Friend/Relative 18 Neighbor 19 Others (Specify) 20	
836	Did you give any of the following liquids/drinks to (NAME) for diarrhea in the last 15 days? (Multiple response)	Fluid form ORS pkt 1 Homemade sugar-water solution 2 salt-water solution (laban gur) 3 Zink syrup..... 4 Zink tablet Fluid from special saline (rice) 6 Nothing 7	

9. Child rights and protection Questions

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Do you know what are the rights of children in Bangladesh?	non-discrimination (ethnic groups, disabled) 1 to live with parents 2 to give opinion 3 to education 4 to health services 5 to birth registration..... 6	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		to recreation..... 7 to protection from abusive child labor 8 to protection from physical/social abuse..... 9 other 10 don't know	
902	Do you agree or disagree with the following statement: It is wrong to hit children whenever they do something bad	agree 1 disagree 2 don't know 3	
903	What are the things that you believe children should be protected from?	Physical abuse 1 Social stigma 2 Trafficking 3 Abusive child labor 4 Early marriage..... 5 Sexual abuse..... 6 Physical/natural threats 7 Other..... 8 Don't know 9	

9. Anthropometric Measurement: (separate form)

SAMPLE IDENTIFICATION		
1001	DISTRICT	<input type="checkbox"/>
1004	MOUZA VILLAGE	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1005	TEAM CODE	<input type="checkbox"/> <input type="checkbox"/>
1006	ANTHRO INTERVIEWER CODE	<input type="checkbox"/>
1007	HOUSEHOLD INTERVIEWER CODE	<input type="checkbox"/>
1008	HH CODE (FROM HH INTERVIEW	<input type="checkbox"/> <input type="checkbox"/>
1009	Interview date(month)	<input type="checkbox"/> October=1, November=2
1010	Interview date(day of month)	<input type="checkbox"/> <input type="checkbox"/>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1011	Child Code (1=Youngest, 2=next to youngest, 3=next oldest)	<input type="checkbox"/>	
1012	Child sex	male 1 female 2	
1013	Child birth date (YEAR)	2005 1 2006 2 2007 3 2008 4 2009 5 2010 6 Don't know 7	
1014	Child birth date (MONTH)	Jan=1; Feb=2; Mar=3; Apr=4; May=5; Jun=6; Jul=7; Aug=8; Sep=9; Oct=10; Nov=11; Dec=12	
1015	Child birth date (DAY)	<input type="checkbox"/> <input type="checkbox"/>	
1016	Child age in months (less than 1 month = 0)	<input type="checkbox"/> <input type="checkbox"/>	
1017	Child weight	<input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/> <input type="checkbox"/> kg	
1018	Child length/height	<input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/> <input type="checkbox"/> CM	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1019	Was length/height of child measured lying down or standing up?	LYING..... 1 STANDING..... 2	
1020	Result	CHILD MEASURED..... 1 CHILD SICK..... 2 CHILD NOT PRESENT 3 CHILD REFUSED 4 MOTHER REFUSED 5 OTHER..... 6	
1021	Any more children U5?	Yes..... 1 No 2	

Annex 6: Additional Quantitative Data

SO1 Tables

Table 47. Overall and severe stunting, by age and district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of overall stunting (HAZ<-2SD) children age 0-59 months					
All households	43.9	31.8	-27.7 *	2,296	2,060
District					
Barisal	50.0	37.3	-25.4 *	802	854
Barguna	37.7	25.9	-31.3 *	614	520
Patuakhali	42.8	29.5	-31.2 *	879	685
% of severe stunting (HAZ<-3SD) children age 0-59 months					
All households	12.9	9.0	-29.9 *	2,296	2,060
District					
Barisal	17.7	11.3	-35.8 *	802	854
Barguna	9.8	6.5	-33.8 *	614	520
Patuakhali	10.7	8.1	-24.3 *	879	685
% of overall stunting (HAZ<-2SD) children age 0-23 months					
All households	33.2	19.1	-42.5 *	783	809
District					
Barisal	35.3	22.6	-36.1 *	269	340
Barguna	27.9	14.9	-46.5 *	222	198
Patuakhali	35.3	17.7	-49.7 *	292	270
% of severe stunting (HAZ<-3SD) children age 0-23 months					
All households	9.0	5.8	-35.7 *	783	809
District					
Barisal	8.5	8.3	-1.7	269	340
Barguna	11.0	4.6	-58.2 *	222	198
Patuakhali	8.1	3.6	-55.9 *	292	270
% of overall stunting (HAZ<-2SD) children age 24-59 months					
All households	49.5	40.0	-19.2 *	1,513	1,251
District					
Barisal	57.4	47.0	-18.1 *	533	514
Barguna	43.2	32.6	-24.5 *	392	322
Patuakhali	46.5	37.1	-20.3 *	588	415
% of severe stunting (HAZ<-3SD) children age 24-59 months					
All households	14.9	11.1	-25.5 *	1,513	1,251
District					
Barisal	22.3	13.4	-40.1 *	533	514
Barguna	9.1	7.6	-15.9	392	322
Patuakhali	12.0	11.0	-8.5	588	415

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Table 48: : Overall and severe stunting, by age and child sex

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall stunting (HAZ<-2SD) children age 6-59 months						
All households	43.9	35.3	-19.6	*	2,296	1,853
Child sex						
Male	43.5	35.2	-19.1	*	1,136	944
Female	44.4	35.5	-20.1	*	1,160	909
% of overall stunting (HAZ<-2SD) children age 6-23 months						
All households	33.2	25.6	-22.8	*	783	602
Child sex						
Male	32.7	27.9	-14.8		374	316
Female	33.6	23.1	-31.2	*	409	286
% of overall stunting (HAZ<-2SD) children age 24-59 months						
All households	49.5	40.0	-19.2	*	1,513	1,251
Child sex						
Male	48.8	38.9	-20.3	*	762	628
Female	50.2	41.1	-18.1	*	751	623
% of severe stunting (HAZ<-2SD) children age 6-59 months						
All households	12.9	10.0	-22.2	*	2,296	1,853
Child sex						
Male	13.2	11.3	-14.2		1,136	944
Female	12.6	8.7	-30.9	*	1,160	909
% of severe stunting (HAZ<-2SD) children age 6-23 months						
All households	9.0	7.8	-13.5		783	602
Child sex						
Male	10.2	10.4	2.0		374	316
Female	8.0	4.9	-38.0		409	286
% of severe stunting (HAZ<-2SD) children age 24-59 months						
All households	14.9	11.1	-25.4	*	1,513	1,251
Child sex						
Male	14.7	11.8	-19.7		762	628
Female	15.1	10.4	-31.1	*	751	623

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*).

Table 49. Overall and severe underweight, by age and district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall underweight (WAZ<-2SD) children age 0-59 months						
All households	39.4	27.3	-30.7	*	2,306	2,060
District						
Barisal	40.1	27.8	-30.7	*	808	854
Barguna	37.4	25.8	-31.2	*	615	521
Patuakhali	40.1	27.8	-30.6	*	883	685
% of severe underweight (WAZ<-3SD) children age 0-59 months						
All households	9.9	5.2	-47.7	*	2,306	2,060
District						
Barisal	11.4	5.4	-52.3	*	808	854
Barguna	7.9	5.0	-36.9	*	615	521
Patuakhali	9.8	4.9	-49.8	*	883	685
% of overall underweight (WAZ<-2SD) children age 0-23 months						
All households	31.9	19.5	-38.9	*	790	808
District						
Barisal	30.7	21.1	-31.1	*	274	340
Barguna	29.0	16.3	-43.8	*	223	198
Patuakhali	35.2	19.7	-43.9	*	293	269
% of severe underweight (WAZ<-3SD) children age 0-23 months						
All households	7.6	4.5	-40.6		790	808
District						
Barisal	6.5	5.2	-19.7		274	340
Barguna	5.0	4.8	-5.4		223	198
Patuakhali	10.6	3.5	-67.1	*	293	269
% of overall underweight (WAZ<-2SD) children age 24-59 months						
All households	43.3	32.3	-25.4	*	1,516	1,252
District						
Barisal	44.9	32.1	-28.4	*	534	514
Barguna	42.2	31.6	-25.2	*	392	323
Patuakhali	42.6	33.1	-22.2	*	590	415
% of severe underweight (WAZ<-3SD) children age 24-59 months						
All households	11.1	5.6	-49.7	*	1,516	1,252
District						
Barisal	13.9	5.6	-59.9	*	534	514
Barguna	9.6	5.1	-46.3	*	392	323
Patuakhali	9.5	5.9	-37.8	*	590	415

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Table 50: : Overall and severe underweight, by age and child sex

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall underweight (WAZ<-2SD) children age 0-59 months						
All households	39.4	27.3	-30.7	*	2,306	2,060
Child sex						
Male	37.1	26.7	-28.0	*	1,142	1,046
Female	41.6	27.9	-33.0	*	1,164	1,014
% of overall underweight (WAZ<-2SD) children age 0-23 months						
All households	31.9	19.5	-38.9	*	790	808
Child sex						
Male	30.0	20.5	-31.7	*	378	417
Female	33.6	18.4	-45.3	*	412	391
% of overall underweight (WAZ<-2SD) children age 24-59 months						
All households	43.2	32.3	-25.2	*	1,513	1,251
Child sex						
Male	40.6	30.8	-24.0	*	762	628
Female	46.0	33.9	-26.4	*	751	623
% of severe underweight (WAZ<-3SD) children age 0-59 months						
All households	9.9	5.2	-47.7	*	2,306	2,060
Child sex						
Male	8.7	4.7	-45.9	*	1142	1046
Female	11.0	5.6	-48.9	*	1164	1014
% of severe underweight (WAZ<-3SD) children age 0-23 months						
All households	7.6	4.5	-40.5	*	790	808
Child sex						
Male	6.8	4.5	-33.1		378	417
Female	8.4	4.5	-45.9	*	412	391
% of severe underweight (WAZ<-3SD) children age 24-59 months						
All households	11.0	5.6	-49.7	*	1,516	1,252
Child sex						
Male	9.7	4.8	-50.1	*	764	629
Female	12.4	6.3	-49.4	*	752	623

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*).

Table 51. Overall and severe wasting, by age and district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall wasting (WHZ<-2SD) children age 6-59 months						
All households	15.9	11.0	-31.0	*	2,296	1,851
District						
Barisal	15.0	8.0	-46.6	*	803	768
Barguna	15.3	13.3	-12.9		613	477
Patuakhali	17.1	12.0	-29.7	*	879	606
% of severe wasting (WHZ<-3SD) children age 6-59 months						
All households	2.0	1.4	-30.5		2,296	1,851
District						
Barisal	1.5	1.2	-17.6		803	768
Barguna	2.0	1.3	-33.3		613	477
Patuakhali	2.6	1.7	-32.4		879	606
% of overall wasting (WHZ<-2SD) children age 6-23 months						
All households	15.1	13.8	-8.8		780	600
District						
Barisal	13.6	11.1	-18.2		269	254
Barguna	14.8	16.7	12.7		221	154
Patuakhali	16.7	14.9	-10.7		290	192
% of severe wasting (WHZ<-3SD) children age 6-23 months						
All households	3.0	3.0	-1.3		780	600
District						
Barisal	1.1	2.7	143.6		269	254
Barguna	2.5	2.9	14.2		221	154
Patuakhali	5.2	3.5	-33.1		290	192
% of overall wasting (WHZ<-2SD) children age 24-59 months						
All households	16.3	9.6	-40.9	*	1,516	1,251
District						
Barisal	15.8	6.5	-58.8	*	534	514
Barguna	15.5	11.7	-24.7		392	323
Patuakhali	17.3	11.9	-31.2	*	590	414
% of severe wasting (WHZ<-3SD) children age 24-59 months						
All households	1.5	0.7	-56.6	*	1,516	1,251
District						
Barisal	1.7	0.5	-70.7	*	534	514
Barguna	1.7	0.6	-65.9		392	323
Patuakhali	1.3	0.9	-26.8		590	414

Note: Stars for "all households" indicate endline-baseline difference is statistically significant at the 10% (*).

Table 52: : Overall and severe wasting, by age and child sex

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of overall wasting (WHZ<-2SD) children age 6-59 months					
All households	15.9	11.0	-31.0 *	2,296	1,851
Child sex					
Male	16.7	10.2	-39.2 *	1,135	943
Female	15.0	11.8	-21.8 *	1,161	908
% of overall wasting (WHZ<-2SD) children age 6-23 months					
All households	15.1	13.8	-8.8	780	600
Child sex					
Male	15.4	12.2	-20.9	371	314
Female	14.8	15.5	4.7	409	286
% of overall wasting (WHZ<-2SD) children age 24-59 months					
All households	16.3	9.6	-41.0 *	1,516	1,251
Child sex					
Male	17.4	9.2	-47.2 *	764	629
Female	15.2	10.0	-33.7 *	752	622
% of severe wasting (WHZ<-3SD) children age 6-59 months					
All households	2.0	1.4	-30.4	2,296	1,851
Child sex					
Male	2.5	1.5	-39.0	1,135	943
Female	1.6	1.3	-17.6	1,161	908
% of severe wasting (WHZ<-3SD) children age 6-23 months					
All households	3.0	3.0	-1.2	780	600
Child sex					
Male	2.8	3.5	26.4	371	314
Female	3.3	2.4	-25.4	409	286
% of severe wasting (WHZ<-3SD) children age 24-59 months					
All households	1.5	0.7	-56.7	1,513	1,250
Child sex					
Male	2.3	0.5	-77.8 *	762	628
Female	0.7	0.8	16.7	751	622

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*).

Table 53: Overall and severe child malnutrition indicators, by program participation

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% of overall underweight (WAZ<-2SD) children age 0-59 months						
All households	39.4	27.3	-30.7	+	2,306	2,060
Program participation						
Did not participate SO1 or SO2		22.9	-42.0			364
Participated SO1 only		27.3	-30.6			1,146
Participated SO2 only		31.4	-20.4			32
Participated SO1 & SO2		30.0	-23.8			518
% of severely underweight (WAZ<-3SD) children age 0-59 months						
All households	9.9	5.2	-47.7	+	2,306	2,060
Program participation						
Did not participate SO1 or SO2		3.7	-62.6			364
Participated SO1 only		5.8	-40.8			1,146
Participated SO2 only		13.8	39.6	*		32
Participated SO1 & SO2		4.2	-57.9			518
% of overall wasted (WHZ<-2SD) children age 6-59 months						
All households	15.9	11.0	-31.0	+	2,296	1,851
Program participation						
Did not participate SO1 or SO2		10.6	-33.4			307
Participated SO1 only		11.7	-26.5			1,036
Participated SO2 only		7.6	-52.1			28
Participated SO1 & SO2		9.9	-37.9			480
% of severely wasted (WHZ<-3SD) children age 6-59 months						
All households	2.0	1.4	-30.4		2,296	1,851
Program participation						
Did not participate SO1 or SO2		0.6	-69.9			307
Participated SO1 only		1.9	-8.0			1,036
Participated SO2 only		4.7	130.6			28
Participated SO1 & SO2		0.8	-62.8			480

Note: Plus sign (+) for "all households" indicate endline-baseline difference is statistically significant at the 10%. Stars (*) for program participation indicate difference is statistically significant compared to "did not receive SO1 or SO2" at endline.

Table 54: Breastfeeding practices, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Children under 6 month exclusively breastfed (%)					
All households	38.4	44.9	16.9	282	320
District					
Barisal	29.1	39.3	35.2 *	133	151
Barguna	51.7	43.0	-16.8	54	75
Patuakhali	43.8	55.5	26.7	95	94
Children under 7 month exclusively breastfed (%)					
All households	34.2	42.5	24.3 *	323	348
District					
Barisal	26.7	38.0	42.2 *	145	163
Barguna	47.0	40.6	-13.5	62	84
Patuakhali	36.7	51.3	39.9	117	101
Infants and toddlers who were put to the breast within one hour of birth (%)					
All households	28.9	41.1	42.1 *	1,142	968
District					
Barisal	23.3	35.7	53.5 *	417	435
Barguna	26.5	52.3	97.6 *	297	241
Patuakhali	36.1	39.7	10.1	428	292

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 55: Incidence of and source of treatment for child diarrhea, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of children under 5 with diarrhea in last 15 days					
All households	10.4	7.5	-27.9 *	2,379	2,124
District					
Barisal	12.3	9.9	-19.8	821	870
Barguna	8.4	7.9	-6.5	634	566
Patuakhali	10.1	4.2	-58.1 *	925	688
% of afflicted children who sought treatment					
All households	73.4	73.0	-0.5	248	160
District					
Barisal	76.5	71.1	-7.1	101	86
Barguna	63.2	69.9	10.7	53	45
Patuakhali	75.9	83.5	10.1	93	29

Table 55: Incidence of and source of treatment for child diarrhea, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 56: Children with fever during the last two weeks, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of children under 5 with fever in last 15 days					
All households	54.9	48.8	-11.2 *	2,348	2,190
District					
Barisal	56.4	49.3	-12.7 *	816	907
Barguna	51.8	50.6	-2.3	627	580
Patuakhali	55.8	46.6	-16.3 *	904	703
% of afflicted children who sought treatment					
All households	64.9	75.7	16.7 *	1,493	1,068
District					
Barisal	70.4	73.7	4.6	549	447
Barguna	63.0	74.2	17.6 *	362	293
Patuakhali	60.8	79.8	31.3 *	582	328

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 57: Incidence of and source of treatment for child cough/cold, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of children under 5 with cough/cold in last 15 days					
All households	54.9	56.3	2.5	2,348	2,190
District					
Barisal	56.4	58.6	3.9	816	907
Barguna	51.8	54.9	6.1	627	580
Patuakhali	55.8	54.4	-2.4	904	703
% of afflicted children who sought treatment					
All households	65.9	69.5	5.4 *	1,294	1,233
District					
Barisal	70.9	68.1	-3.9	463	532

Table 57: Incidence of and source of treatment for child cough/cold, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Barguna	63.8	68.0	6.5	326	319
Patuakhali	62.6	72.6	16.0 *	505	382

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 58: Child feeding and care giving practices, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Infants/toddlers 6-23 months who receive a minimally acceptable diet (apart from breast milk)					
All households	5.8	22.6	287.5 *	793	688
District					
Barisal	6.1	20.6	236.9 *	260	301
Barguna	5.4	21.3	291.9 *	224	174
Patuakhali	5.9	26.5	349.8 *	310	214
Infants/toddlers older than 6 months who received iron rich/iron fortified foods during the previous day					
All households	51.6	64.7	25.3 *	793	677
District					
Barisal	43.1	54.7	26.8 *	260	296
Barguna	57.7	73.3	26.9 *	224	171
Patuakhali	54.3	71.8	32.2 *	310	210
Households consuming adequately iodized salt (20-40ppm)					
All households	76.5	84.6	10.6 *	5,026	5,346
District					
Barisal	67.4	81.9	21.6 *	1,649	2,031
Barguna	81.3	85.7	5.3 *	1,565	1,614
Patuakhali	80.6	86.6	7.5 *	1,812	1,701

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 59: Nutrient consumption among PLW, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Percentage of PLW who:					

Table 59: Nutrient consumption among PLW, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Consume food rich in iron						
All households	31.5	90.5	187.1	*	431	517
District						
Barisal	27.4	91.3	232.8	*	184	239
Barguna	24.3	90.5	272.3	*	100	122
Patuakhali	41.6	89.4	114.9	*	147	155
Consume food rich in vitamin A						
All households	22.3	59.6	167.0	*	431	517
District						
Barisal	17.2	56.2	226.8	*	184	239
Barguna	28.0	70.7	152.0	*	100	122
Patuakhali	24.8	56.0	125.8	*	147	155
Consume food rich in calcium						
All households	12.3	12.4	1.1		420	517
District						
Barisal	8.5	6.1	-27.8		124	168
Barguna	10.2	5.9	-42.8		162	165
Patuakhali	18.3	24.1	31.7		134	184
Have taken iron or iron folate supplements in the last 7 days						
All households	12.2	12.4	1.9	*	431	517
District						
Barisal	10.2	13.5	32.1	*	184	239
Barguna	18.7	11.3	-39.6	*	100	122
Patuakhali	10.2	11.6	13.9	*	147	155
% of mothers of children aged 6-23 months who received high-dose Vitamin A supplement within 8 weeks postpartum (6 weeks if not exclusively breastfeeding) in last pregnancy						
All households	25.9	38.1	46.9	*	705	712
District						
Barisal	16.4	37.6	129.7	*	218	306
Barguna	31.2	47.1	50.7	*	207	191
Patuakhali	29.5	30.9	4.8		280	215

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 60: Attendance of antenatal care sessions, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of pregnant women or mothers of children under 2 attending at least 4 ANC sessions					
All households	11.8	32.9	178.1 *	1,145	1,095
District					
Barisal	11.8	29.5	150.9 *	396	477
Barguna	10.1	41.8	315.3 *	316	282
Patuakhali	13.2	30.1	129.2 *	432	336

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 61: Caregiver hygiene practices, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of caregivers demonstrating proper personal hygiene behaviors					
All households	30.9	38.1	23.2 *	2,378	2,144
District					
Barisal	27.7	39.1	41.4 *	820	887
Barguna	31.6	37.2	17.7 *	637	567
Patuakhali	33.3	37.4	12.3 *	921	691
% of caregivers demonstrating proper food hygiene behaviors					
All households	20.2	26.5	31.1 *	2,378	2,058
District					
Barisal	19.4	28.3	45.3 *	820	848
Barguna	20.1	24.9	23.6 *	637	542
Patuakhali	21.0	25.6	22.0 *	921	667
% of caregivers demonstrating proper water hygiene behaviors					
All households	43.4	91.4	110.3 *	2,378	2,156
District					
Barisal	47.9	86.8	81.0 *	820	893
Barguna	52.4	95.5	82.4 *	637	571
Patuakhali	33.3	93.9	182.0 *	921	692
% of caregivers demonstrating proper environmental hygiene behaviors					
All households	15.4	29.6	91.4 *	2,378	2,191
District					
Barisal	16.8	27.8	65.5 *	820	907
Barguna	16.0	34.8	117.3 *	637	581
Patuakhali	13.9	27.5	98.5 *	921	703

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 62: Percentage of children 12-23 months who received Vitamin-A supplementation, deworming treatment w/in last 6 months, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations		
				Baseline	Endline	
% of children that received Vitamin-A supplementation						
All households	43.5	45.4	4.3	516	415	
District						
Barisal	44.9	48.4	7.9	165	178	
Barguna	49.7	57.3	15.4	149	102	
Patuakhali	37.8	32.4	-14.3	202	136	
% of children 12-23 months who received deworming w/in last 6 months						
All households	19.0	32.8	72.9	*	516	419
District						
Barisal	17.9	35.4	98.3	*	166	182
Barguna	17.2	32.1	86.4	*	147	101
Patuakhali	21.2	29.8	41.0	*	203	136

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 63: Main source of drinking water, by district

(endline, % of households)				
Indicator	Barisal	Barguna	Patuakhali	Total
Deep tube well	90.5	75.9	96.2	87.9
Shallow tube well	8.5	8.8	3.4	7.0
Pond	0.1	7.4	0.1	2.3
Pond sand filter	0.0	5.9	0.1	1.8
River/canal	1.0	0.1	0.2	0.5
Rainwater	0.0	0.9	0.0	0.3
Rainwater harvesting system	0.0	0.7	0.0	0.2
Other	0.0	0.3	0.1	0.1
N	2031	1614	1701	5346

Table 64: Main source of drinking water, by food security category

(endline, % of households)				
Indicator	Low	Middle	High	Total
Deep tube well	87.7	86.7	89.4	87.9
Shallow tube well	6.6	7.4	6.8	6.9
Pond	2.3	2.7	1.9	2.3
Pond sand filter	2.0	1.9	1.4	1.8
River/canal	0.7	0.5	0.1	0.4
Rainwater	0.3	0.3	0.2	0.3
Rainwater harvesting system	0.2	0.3	0.2	0.2
Other	0.2	0.2	0.0	0.1
N	1787	1788	1760	5345

Table 65: Safety of tube well, by district

Indicator	Barisal	Barguna	Patuakhali	Total
Mean of HH who use well as primary source of drinking water				
Tube well tested for arsenic	61.1	47.1	41.9	50.9
Not tested	13.7	20.9	26.3	19.8
Don't know	25.2	32.0	31.9	29.2
N	2010	1369	1694	5073
Status of testing: Mean of HH where well was tested				
Green	42.5	30.5	55.8	43.2
Red	0.9	1.9	1.8	1.4
Not marked	56.6	67.6	42.4	55.4
N	1228	645	709	2583

Table 66: Safety of tube well, by food security category

Indicator	Low	Medium	High	Total
Mean of HH who use well as primary source of drinking water				
Tube well tested for arsenic	43.6	50.6	58.6	50.9
Not tested	23.0	18.8	17.5	19.7
Don't know	33.4	30.6	23.9	29.3
N	1685	1683	1693	5071
Status of testing: Mean of HH where well was tested				
Green	45.5	44.6	40.7	43.4

Indicator	Low	Medium	High	Total
Red	2.1	1.6	0.9	1.4
Not marked	52.4	53.8	58.4	55.1
N	735	851	992	2582

Table 67: Water storage practices, by district

(endline, % of households)				
Indicator	Barisal	Barguna	Patuakhali	Total
Store water in home	98.6	98.1	98.7	98.5
Drinking water is stored and collected in separate containers	90.4	95.1	94.5	93.1
Water is covered	86.6	93.5	93.1	90.7
N	2031	1614	1701	5346

Table 68: Water storage practices, by food security

(endline, % of households)				
Indicator	Low	Middle	High	Total
Store water in home	98.6	98.3	98.5	98.5
Drinking water is stored and collected in separate containers	92.7	92.9	93.8	93.1
Water is covered	88.7	91.0	92.6	90.7
N	1778	1779	1779	5346

Table 69: Type of latrine, by district

(endline, % of households)				
Indicator	Barisal	Barguna	Patuakhali	Total
Ring-slab/offset latrine (water seal broken)	45.7	44.8	42.9	44.5
Ring-slab/offset latrine (water seal)	31.7	30.4	31.4	31.2
Hanging/open latrine	2.8	9.0	10.3	7.0
Pit latrine (covered)	6.9	7.0	5.9	6.6
Pit latrine (uncovered)	6.7	6.0	5.9	6.2
Septic latrine	5.7	2.1	2.4	3.6
No toilet facility	0.6	0.8	1.2	0.8
N	2031	1614	1701	5346

Table 70: Type of latrine, by food security

(endline, % of households)				
Indicator	Low	Middle	High	Total
Ring-slab/offset latrine (water seal broken)	43.2	49.2	41.3	44.5
Ring-slab/offset latrine (water seal)	24.1	28.4	41.2	31.2
Hanging/open latrine	12.6	5.6	2.9	7.0
Pit latrine (covered)	7.4	8.2	4.2	6.6
Pit latrine (uncovered)	10.1	5.5	3.1	6.2
Septic latrine	0.7	2.6	7.3	3.6
No toilet facility	2.0	0.6	0.0	0.8
N	1778	1779	1779	5346

SO2 Tables

Table 71: Economic and food access indicators, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
Number of income sources						
All households	2.2	2.6	17.3	*	5,026	5,346
District						
Barisal	2.1	2.5	16.8	*	1,649	2,019
Barguna	2.2	2.5	15.0	*	1,565	1,615
Patuakhali	2.3	2.8	20.9	*	1,812	1,712
Average value of agricultural product sales (Taka)						
All households	10448	11652	11.5	*	5,026	5,341
District						
Barisal	8287	8692	4.9		1,649	2,017
Barguna	10668	11134	4.4		1,565	1,612
Patuakhali	12225	15628	27.8	*	1,812	1,712
Household Dietary Diversity Score (HDDS)						
All households	4.7	5.7	20.8	*	5,026	5,346
District						
Barisal	5.0	6.1	22.2	*	1,649	2,031
Barguna	4.5	5.3	20.1	*	1,565	1,614
Patuakhali	4.7	5.5	18.3	*	1,812	1,701
Months of Adequate Household Food Provisions (MAHFP)						
All households	9.4	10.4	10.2	*	5,026	5,346
District						
Barisal	9.8	10.4	6.0	*	1,649	2,031
Barguna	8.5	10.3	21.5	*	1,565	1,614
Patuakhali	9.9	10.4	5.6	*	1,812	1,701

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*). Sales values are reported as real, deflated values.

Table 72: Household income and expenditures (in Tk), by food security category

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)		Number of observations	
						Baseline	Endline
Monthly Income Per Capita							
All households	1277	2345	1629	27.5	*	4,944	5,335
Food security category							

Table 72: Household income and expenditures (in Tk), by food security category

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)	Number of observations	
					Baseline	Endline
Low	897	1658	1152	28.4 *	1,648	1,787
Medium	1111	2137	1484	33.5 *	1,648	1,788
High	1824	3254	2260	23.9 *	1,647	1,760
Monthly Expenditures Per Capita						
All households	1528	2488	1728	13.1 *	4,944	5,335
Food security category						
Low	1122	2052	1425	27.0 *	1,648	1,787
Medium	1368	2102	1460	6.7 *	1,648	1,788
High	2093	3323	2308	10.2 *	1,647	1,760
Food Share (%) of Total Expenditures						
All households	62.2	54.2		-12.9 *	4,944	5,335
Food security category						
Low	70.5	59.4		-15.7 *	1,648	1,787
Medium	63.0	57.3		-9.1 *	1,648	1,788
High	53.2	45.7		-13.9 *	1,647	1,760
Asset Index						
All households	250.7	315.3		25.7 *	4,944	5,335
Food security category						
Low	130.0	191.8		47.6 *	1,648	1,787
Medium	209.3	276.2		32.0 *	1,648	1,788
High	413.0	480.3		16.3 *	1,647	1,760
Asset Index Per Capita						
All households	52.0	69.0		32.8 *	4,944	5,335
Food security category						
Low	28.9	43.5		50.7 *	1,648	1,787
Medium	44.4	63.3		42.7 *	1,648	1,788
High	82.7	100.7		21.7 *	1,647	1,760

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 73: Household income and expenditures (in Tk), by sex of head of household

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)	Number of observations	
					Baseline	Endline
Monthly Income Per Capita						
All households	1274	2344	1628	27.8 *	5,026	5,338
Sex head of household						

Table 73: Household income and expenditures (in Tk), by sex of head of household

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)	Number of observations		
					Baseline	Endline	
Male	1258	2332	1620	28.7	*	4,722	4,997
Female	1515	2514	1746	15.3	*	304	342
Monthly Expenditures Per Capita							
All households	1520	2486	1727	13.6	*	5,026	5,338
Sex head of household							
Male	1527	2475	1719	12.6	*	4,722	4,997
Female	1413	2645	1837	30.0	*	304	342
Food Share (%) of Total Expenditures							
All households	62.3	54.2		-13.0	*	5,014	5,335
Sex head of household							
Male	61.9	53.9		-13.0	*	4,711	4,994
Female	67.3	58.6		-13.0	*	303	341
Asset Index							
All households	249.9	315.2		26.1	*	5,026	5,338
Sex head of household							
Male	254.1	321.3		26.4	*	4,722	4,997
Female	183.9	226.2		23.0		304	342
Asset Index Per Capita							
All households	51.8	69.0		33.2	*	5,026	5,338
Sex head of household							
Male	51.9	68.3		31.7	*	4,722	4,997
Female	50.2	79.0		57.3		304	342

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 74: Household income and expenditures (in US\$), by district, food security, sex of head of household

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)	Number of observations		
					Baseline	Endline	
Monthly Income Per Capita							
All households	19	34	24	27.8	*	5,026	5,338
District							
Barisal	18	35	24	35.9	*	1,649	2,019
Barguna	18	32	22	22.3	*	1,565	1,610
Patuakhali	19	35	24	24.9	*	1,812	1,709

Table 74: Household income and expenditures (in US\$), by district, food security, sex of head of household

Indicator	Baseline	Endline	Endline (deflated)	Percent difference (Endline - Baseline)	*	Number of observations	
						Baseline	Endline
Monthly Expenditures Per Capita							
All households	22	36	25	13.6	*	5,026	5,338
District							
Barisal	22	34	24	6.7	*	1,649	2,019
Barguna	22	40	28	27.2	*	1,565	1,610
Patuakhali	22	35	25	9.4	*	1,812	1,709
Monthly Income Per Capita							
All households	19	34	24	27.5	*	4,944	5,335
Food security category							
Low	13	24	17	28.4	*	1,648	1,787
Medium	16	31	22	33.5	*	1,648	1,788
High	27	47	33	23.9	*	1,647	1,760
Monthly Expenditures Per Capita							
All households	22	36	25	13.1	*	4,944	5,335
Food security category							
Low	16	30	21	27.0	*	1,648	1,787
Medium	20	31	21	6.7	*	1,648	1,788
High	30	48	34	10.2	*	1,647	1,760
Monthly Income Per Capita							
All households	19	34	24	27.8	*	5,026	5,338
Sex head of household							
Male	18	34	24	28.7	*	4,722	4,997
Female	22	37	25	15.3	*	304	342
Monthly Expenditures Per Capita							
All households	22	36	25	13.6	*	5,026	5,338
Sex head of household							
Male	22	36	25	12.6	*	4,722	4,997
Female	21	38	27	30.0	*	304	342

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*). Jan. 1, 2010 exchange rate of 68.80 used (source: www.xe.com).

Table 75: Use of improved agricultural techniques, by food security category

% household reporting using technique (endline)				
Indicator	Low	Middle	High	Total

Fertilizer	77.7	81.3	83.6	81.2
Chemical pest control	61.9	68.1	71.5	67.8
Compost	29.7	32.6	34.3	32.5
Animal manure	30.1	27.3	31.2	29.6
Biological pest control	13.2	10.2	8.9	10.5
Crop rotation	9.0	10.0	11.5	10.3
Integrated pest management	7.7	10.8	11.1	10.1
Mechanical pest control	3.4	2.9	4.0	3.5
Improved irrigation	5.5	1.8	1.2	2.5
N	806	1027	1232	3065

Table 76: Use of improved agricultural techniques, by district

% household reporting using technique (endline)				
Indicator	Barisal	Barguna	Patuakhali	Total
Fertilizer	77.0	82.3	84.3	81.3
Chemical pest control	68.1	67.5	67.8	67.8
Compost	36.4	35.9	25.5	32.5
Animal manure	29.3	29.2	29.4	29.3
Crop rotation	11.1	7.3	12.8	10.4
Integrated pest management	14.0	8.7	8.4	10.3
Biological pest control	14.0	6.8	10.2	10.2
Mechanical pest control	5.3	1.9	3.3	3.5
Improved irrigation	3.8	1.1	2.8	2.5
N	965	1046	1060	3071

Table 77: Households receiving agricultural training, by district

% households that received training (endline)				
Indicator	Barisal	Barguna	Patuakhali	Total
Nobo Jibon	70.4	51.8	65.5	61.5
GOB	24.7	31.5	32.7	30.2
NGO	7.9	23.6	14.2	16.2
Seed company	6.6	8.6	6.0	7.2
Other	1.4	1.4	0.9	1.2
N	169	255	241	665

Table 78: Types of buyers for agricultural product, by food security

% household reporting using buyers (endline)				
Indicator	Low	Middle	High	Total

Local market	81.5	80.2	76.1	78.5
Traders	16.7	23.3	32.3	26.4
Neighbors/relatives	32.4	21.0	22.5	23.9
Local broker	4.4	7.2	10.3	8.2
NGO	3.0	3.4	2.3	2.8
Itinerant buyer	2.0	1.6	2.6	2.1
Other (collection point, cooperative, sales company)	2.9	3.2	2.4	2.7
N	587	950	1475	3012

Table 79: Types of buyers for agricultural product, by district

% household reporting using buyers (endline)				
Indicator	Barisal	Barguna	Patuakhali	Total
Local market	75.8	84.2	75.9	78.6
Traders	28.6	25.2	26.3	26.5
Neighbors/relatives	20.7	24.8	24.8	23.8
Local broker	3.3	7.0	12.5	8.3
Itinerant buyer	3.0	3.0	0.9	2.1
Collection point	0.1	0.7	2.4	1.3
Other (NGO, cooperative, sales company)	0.0	0.1	0.2	0.1
N	781	997	1231	3010

Table 80: Use of marketing practices, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% HH adopting improved marketing practices					
All households	0.1	0.6	517.7 *	5,026	5,346
District					
Barisal	0.1	0.0	N/A	1,649	2,019
Barguna	0.1	0.4	567.2 *	1,565	1,615
Patuakhali	0.2	1.6	799.4 *	1,812	1,712

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 81: Use and source of agricultural inputs, by food security category

% household reporting purchase or receipt of inputs (endline)				
Indicator	Low	Middle	High	Total

Companies	82.3	84.5	87.3	85.1
Neighbor/relative/individual	66.2	71.1	74.6	71.2
NGOs	28.1	32.6	37.0	33.2
Local Markets	30.4	26.8	32.6	30.1
GOB	9.9	10.6	12.9	11.3
Coops/farmer groups	13.4	10.7	9.7	11.0
Trained input retailer	7.5	10.9	11.4	10.2
Itinerant merchant	7.9	9.9	10.1	9.5
VDC	2.9	2.1	4.1	3.1
Other	2.7	2.3	1.6	2.1
N	653	842	1009	2504

Table 82: Use and source of agricultural inputs, by district

% household reporting purchase or receipt of inputs (endline)				
Indicator	Barisal	Barguna	Patuakhali	Total
Companies	84.3	84.0	87.1	85.1
Neighbor/relative/individual	72.5	69.5	71.4	71.1
NGOs	37.5	35.6	27.3	33.3
Local Markets	28.4	30.8	30.2	29.8
GOB	11.5	8.8	13.7	11.4
Coops/farmer groups	14.8	7.2	10.7	10.8
Trained input retailer	14.4	7.9	9.2	10.4
Itinerant merchant	5.3	12.5	10.4	9.5
VDC	3.5	2.2	3.6	3.1
Other	2.5	3.1	0.8	2.2
N	788	847	876	2511

Table 83: Household production , by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)		Number of observations	
					Baseline	Endline
% HH with agricultural production last year						
All households	40.7	57.4	41.2	*	4,944	5,336
District						
Barisal	23.9	45.3	89.6	*	1,648	1,778
Barguna	40.1	57.7	44.0	*	1,648	1,779

Patuakhali	58.0	69.3	19.3	*	1,647	1,779
% reporting increased agricultural production						
All						
households	40.1	47.9	19.4	*	2,025	3,071
District						
Barisal	38.7	35.7	-7.7		569	965
Barguna	37.0	47.0	27.0	*	685	1,046
Patuakhali	43.9	59.9	36.3	*	771	1,060
% HH with livestock						
All						
households	61.5	82.4	33.9	*	5,026	5,346
District						
Barisal	46.7	74.3	59.2	*	1,649	2,019
Barguna	75.5	85.2	12.7	*	1,565	1,615
Patuakhali	62.9	89.2	41.8	*	1,812	1,712
% reporting increased livestock production						
All						
households	26.8	21.7	-18.9	*	3,092	4,403
District						
Barisal	27.8	15.9	-42.8	*	770	1,499
Barguna	25.8	22.0	-14.7	*	1,182	1,375
Patuakhali	27.1	27.2	0.2		1,140	1,528
% HH with fish production						
All						
households	22.7	30.3	33.2	*	5,026	5,346
District						
Barisal	19.1	13.4	-29.9	*	1,649	2,019
Barguna	20.5	40.8	98.9	*	1,565	1,615
Patuakhali	28.0	40.4	44.1	*	1,812	1,712
% reporting increased fish production						
All						
households	15.3	22.6	47.9	*	1,143	1,620
District						
Barisal	16.7	24.5	47.3	*	315	270
Barguna	13.7	23.5	71.6	*	321	659
Patuakhali	15.4	21.0	35.9	*	507	691
% HH engaged in at least one category (crops, livestock, fish)						
All						
households	75.8	88.5	16.9	*	5,026	5,346
District						
Barisal	65.0	82.1	26.3	*	1,649	2,019
Barguna	84.4	92.2	9.1	*	1,565	1,615
Patuakhali	78.0	92.7	18.8	*	1,812	1,712
% reporting increased production in any category						

All households	38.8	43.6	16.9	*	3,807	4,733
District						
Barisal	36.1	32.5	26.3	*	1,072	1,656
Barguna	37.3	45.3	9.1	*	1,322	1,489
Patuakhali	42.2	53.6	18.8	*	1,414	1,588

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 84: Access to agricultural land and water, by district

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations		
				Baseline	Endline	
% HH with agricultural land						
All households	59.2	68.0	14.8	*	5,024	5,346
District						
Barisal	52.9	62.3	17.8	*	1,648	2,031
Barguna	63.4	74.5	17.4	*	1,564	1,614
Patuakhali	61.2	68.5	12.0	*	1,812	1,701
Average land area (decimals)						
All households	88.0	99.5	13.0	*	2,970	3,616
District						
Barisal	82.2	85.6	4.2		871	1,260
Barguna	87.6	97.6	11.5	*	991	1,195
Patuakhali	93.1	116.5	25.2	*	1,109	1,161
% HH with access to khash land						
All households	10.1	11.1	9.8		4,944	5,335
District						
Barisal	11.1	16.3	46.4	*	1,648	1,787
Barguna	11.2	9.7	-13.5		1,648	1,788
Patuakhali	7.9	7.2	-9.6		1,647	1,760
% HH with access to water bodies						
All households	64.3	80.5	25.3	*	4,941	5,335
District						
Barisal	63.4	77.0	21.4	*	1,647	1,787
Barguna	69.8	81.9	17.3	*	1,647	1,788
Patuakhali	59.5	82.6	38.8	*	1,646	1,760

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 85: Economic and food access indicators, by food security category, by sex of head of household (US \$)

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations		
				Baseline	Endline	
Average value of agricultural product sales (US\$)						
All households	153	169	10.7	*	4,944	5,333
Food security category						
Low	57	74	29.1	*	1,648	1,785
Medium	108	143	33.2	*	1,648	1,787
High	294	292	-0.6		1,647	1,760
Average value of agricultural product sales (US\$)						
All households	152	169	11.4	*	5,026	5,334
Sex head of household						
Male	157	176	12.3	*	4,722	4,993
Female	70	64	-9.8		304	342

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

SO3 Tables

Table 86: Household preparedness and impact of recent disaster, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations		
				Baseline	Endline	
Households have a plan to protect HH members, livestock, or assets in the event of a disaster						
All households	46.1	37.0	-19.7	*	4,944	5,335
Food security category						
Low	43.1	33.5	-22.3	*	1,648	1,787
Medium	48.0	37.9	-21.0	*	1,648	1,788
High	47.0	39.6	-15.8	*	1,647	1,760
Minimal asset loss in the event of a disaster						
All households	3.8	3.8	-19.7	*	4,944	4,405
Food security category						
Low	3.4	2.4	-22.3	*	1,648	1,519
Medium	4.7	4.1	-21.0	*	1,648	1,449
High	3.1	5.0	-15.8	*	1,647	1,438
Able to resume livelihood activities within 2 weeks following a natural disaster						
All households	4.6	22.1	383.4	*	4,944	5,335
Food security category						
Low	2.8	20.8	653.6	*	1,648	1,787

Table 86: Household preparedness and impact of recent disaster, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Medium	3.4	23.9	610.8 *	1,648	1,788
High	7.6	21.6	184.3	1,647	1,760

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 87: Households who have received disaster preparedness training, by food security category

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
Households who have received disaster preparedness training					
All households	4.6	22.1	383.4 *	4,944	5,335
Food security category					
Low	2.8	20.8	653.6 *	1,648	1,787
Medium	3.4	23.9	610.8 *	1,648	1,788
High	7.6	21.6	184.3 *	1,647	1,760

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Table 88: Early warning for disasters, by food security

Indicator	Baseline	Endline	Percent difference (Endline - Baseline)	Number of observations	
				Baseline	Endline
% of households who sought shelter within 12 hours of last disaster					
All households	24.7	29.5	19.4 *	4,944	5,149
Food security category					
Low	27.2	39.1	44.1 *	1,648	1,725
Medium	27.0	28.6	6.3	1,648	1,720
High	20.1	20.7	3.3	1,647	1,704
% of households who received warning within 12 hours of the last disaster					
All households	37.1	47.8	29.0 *	4,944	5,149
Food security category					
Low	30.9	42.9	38.9 *	1,648	1,725
Medium	37.5	49.4	31.7 *	1,648	1,720
High	42.9	51.3	19.7 *	1,647	1,704

Note: Stars indicate endline-baseline difference is statistically significant at the 10% (*)

Annex 7: Terms of Reference, Baseline

SCHEDULE A

Terms of Reference

Design and Implementation of Baseline Study and Development of M&E Plan

Nobo Jibon Program - FY 2010-2015 Title II Multi-Year Assistance Program (MYAP)

- Name of Consultant :** TANGO International (Mark Wyman Langworthy)
- Approximate dates :** 16 August, 2010 to 15 January, 2011 (45 working days)
- Location :** Dhaka, Barisal and other areas to be determined
- Supervised by :** John Meyer, Chief of Party

INTRODUCTION: Save the Children USA (SC) is commissioning a baseline study of its Title II Multi-Year Assistance Program, called *Nobo Jibon*, that will be implemented in three districts of Barisal Division in Bangladesh in collaboration with six local partner NGOs and three international technical partners. These TORs provide background information and expectations for the design and oversight of a baseline study, planned as a critical part of the eventual evaluation of the program.

INTRODUCTION: Save the Children USA (SC) is commissioning a baseline study of its Title II Multi-Year Assistance Program, called *Nobo Jibon*, that will be implemented in three districts of Barisal Division in Bangladesh in collaboration with six local partner NGOs and three international technical partners. These TORs provide background information and expectations for the design and oversight of a baseline study, planned as a critical part of the eventual evaluation of the program.

PROGRAM BACKGROUND: The Nobo Jibon program has been designed to reduce food insecurity and vulnerability for 191,000 direct beneficiary households, or nearly 1 million people, in nine upazilas of Barisal Division over five years. The program comprises three strategic objectives (SOs) which are aligned with Bangladesh's national health and food security policies and USAID's priorities for Bangladesh. The SOs are:

- SO1 - Mother and Child Health and Nutrition (MCHN) - Improved health and nutritional status of targeted households, particularly children < five years of age
- SO2 - Market-based Production and Income Generation - Poor and extremely poor households have increased productivity and purchasing power to improve access to food
- SO3 - Disaster Risk Reduction -Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters.

Significant integration/overlap, i.e. households participating in all three SOs, will help assure greater impact than would be expected if interventions were dispersed. In total, Nobo Jibon will reach more than 1,300 villages and approximately 89% of the total 419,247 households in the nine target upazilas, which are:

Barisal District	Patuakhali District	Barguna District
Barisal Sadar	Dashmina	Amtali
Hizla	Galachipa	Barguna Sadar
Mahendiganj	Kalapara	Patharghata

SO1 seeks to change childcare behaviors, improve intra-household food allocation, and integrate MCHN services and messages with GoB and private institutions. Nobo Jibon will provide a food ration to households with vulnerable women or children, conditional upon participation in awareness and education sessions. Behavior change communication (BCC) messaging will improve nutrition awareness and behaviors, community-based care of childhood illnesses, and hygiene practices. SO1 beneficiaries would total approximately 187,000 households in 79 unions.

SO2 seeks increased productivity and income to improve access to food for such households. An income generation strategy will enhance agricultural and aquaculture productivity and profitability. Nobo Jibon will organize household groups, help build technical skills for increased horticultural, fish, poultry or non-farm production and improve links to markets. The program will promote access to *khas* resources and improve sustainable access to capital to meet input/service needs. This component will target 80,000 poor and extremely poor households in all Nobo Jibon communities. An additional 9,000 extremely poor households will be targeted for asset transfers, to catalyze new income generating activities. Additional economic benefits, such as increased access to quality inputs and services; increased market activity; improved market infrastructure; and improved technologies may indirectly benefit an additional 100,000 beneficiary households.

SO3 activities will directly or indirectly benefit all households (circa 373,470) within the core geographic area targeted by the program. All SO1 and SO2 beneficiaries will benefit from risk reduction, with 44 unions determined to be highly disaster prone targeted during a first phase. Food for work (FFW) and/or case for work will provide a safety net, while helping build DRR infrastructure. SC's involvement in multi-agency disaster preparedness networks will extend some benefits of the program (e.g. advances in early warning systems) beyond the nine targeted upazilas. Given known vulnerabilities in upazilas elsewhere in the division, SC proposes that its emergency contingency planning and response activities consider the entire Barisal Division as its target.

PURPOSE OF THE ASSIGNMENT: Consultant support is required for assisting in the development of an M&E plan leading to the overall design and management of a baseline survey, along with a thorough analysis of data and presentation of findings. The M&E plan to be finalized following the FANTA-2 M&E workshop in August 2010 will lead to an appropriate baseline survey design. The baseline study aims, through a quantitative survey of a representative sample of households in the program impact area, to establish pre-program benchmarks for key indicators, to help refine program targets and to help prioritize program activities. External consultant expertise is required

to assure appropriate sampling strategy and data collection methods and to objectively analyze, interpret and present data.

STATEMENT OF WORK: A sequence of activities is proposed for this assignment. The following provides detail on specific tasks for the consultant(s).

- A. Participate in a M&E workshop offered to newly-awarded Title II Multi-Year Assistance Programs (MYAPs):
 - The consultant needs to join in the M&E workshop organized by FANTA-2 in August 16-20, 2010 in Bangladesh to have a better understanding on FFP new strategies in M&E. This participation will be essential in designing an M&E plan in line with FFP guidelines and priorities.
- B. Assist in developing Nobo Jibon M&E Plan and staff capacity:
 - Work with the Nobo Jibon M&E Manager to develop a comprehensive M&E plan for Nobo Jibon to be submitted to USAID for approval before the baseline.
 - Work with the Nobo Jibon M&E Manager to design and deliver an M&E workshop for key Nobo Jibon staff (SC and partners) following content of FANTA workshop.
- C. Develop Baseline Sampling Methodology, Survey Instruments, and Survey Design Document
 - Review Nobo Jibon program document and IPTT indicators and discuss information needs with key stakeholders.
 - Prepare draft questionnaire, solicit feedback, finalize questionnaire
 - In consultation with stakeholders, devise a sampling strategy that results in the collection of data required for fulfilling survey objectives, while economizing on time and resources.
 - Submit for approval a concise but comprehensive design document describing all steps in survey methodology, including the analyses proposed
- D. Program Software and Personal Digital Assistants (PDAs)
 - Using software of consultant's choice, develop computer-based questionnaire template, assuring interface with PDAs, including application of Bengali fonts.
 - Put in place a system for data management, including uploading of data collected in appropriate form and format.
 - Train staff, as required, to manage the system
- F. Train Staff, including Field Supervisors, and Pre-test Instrument
 - Prepare and deliver six-day training including two days for field testing for a team of enumerators and field supervisors.
 - Lead a separate session with team leaders and quality control team to agree on systems for assuring the quality control of data collected.
 - Conduct and debrief a field pre-test of the survey instrument, making corrections to questions and methods as required
- G. Oversee Data Collection
 - Oversee first rounds of data collection and provide guidance and feedback to local team
 - Be available for remote problem solving in case of need.

H. Analyze Data and Present Results

- Thoroughly analyze the data collected.
- Disaggregate data and conduct comparative analysis as possible among geographic and/or demographic sub-groups.
- Present findings in tabular and graphic format with narrative descriptions and interpretations.

TEAM COMPOSITION: Local team members will be contracted outside of this contract to fulfill the requirements of the baseline study. A local team leader will help in designing methodology, tools and training data collectors. This local consultant will be recruited by Save the Children through a separate contract. Additional team members to be recruited locally by Save the Children will include a survey supervisor, field team leaders, quality controllers and enumerators. A sub-set of enumerators will be experienced in anthropometric measurement. Save the Children M&E staff will provide assistance to resolve technical issues related to survey design, tools development, recruitment of the data collection team, training and field implementation process.

APPROXIMATE TIMELINE AND LEVEL OF EFFORT:

Prepare for and attend the FANTA-2 M&E Workshop (06 days): The international consultant will join in the M&E workshop to newly-awarded Title II Multi-Year Assistance Programs (MYAPs) in Bangladesh.

M&E planning (06 days) Remote contributions (drafting, reviewing, editing) the Nobo Jibon M&E plan and baseline study design.

Conduct M&E Workshop for Nobo Jibon Staff (September 20-22: 03 days): Following content of the FANTA-2 M&E workshop the consultant will facilitate a M&E workshop for Nobo Jibon stakeholders.

Design Quantitative Population-based Survey (September 26 – 30: 05 days): The survey team leader will review background documentation and conduct interviews with SC, and other stakeholders to develop quantitative survey instruments, sampling plan, while outlining a plan and time line for team recruitment and training, data collection and analysis. A survey design document will be produced.

Form and Train Team of Enumerators (October 02 – October 07: 05 days): The survey team leader will prepare a team of enumerators and team-leaders adequate to collect the required data within the time allotted. S/he will design and deliver training, as needed. Pre-testing of data collection should be part of the training schedule.

Coordinate Quantitative Population-based Survey (October 09-17: 09 days): The survey team leader will be present at the beginning of data collection only, assuring that appropriate data

collection and management methods are used and that the local field supervisors are able to lead the process. Data entry and cleaning will be conducted as needed using selected analysis software.

Quantitative Data Analysis and Reporting: Data analysis and preliminary interpretation of the findings will be done by the survey team leader. S/he will prepare a survey report summarizing findings (approx 11 days for analysis, writing and review).

A total of up to 45 working days will be made available to consultant for full implementation of these TORs.

REPORTING AND DELIVERABLES:

There are three written deliverables for this assignment:

- A revised/edited Nobo Jibon M&E Plan by September 20, 2010.
- A baseline study design document and work plan, finalized by September 30.
- A draft quantitative survey summary report in English by December 15 with final version with dataset and syntax files by 10 January 2011.

Section 6. Statement of Work (SoW)

**Final
Statement of Work (SoW)
Quantitative Performance Evaluation (QPE) of the Nobo Jibon Program
USAID Supported Title-II Multi-Year Assistance Program (MYAP) Save
the Children International in Bangladesh**

1. INTRODUCTION

Save the Children International (SCI) in Bangladesh is commissioning a Quantitative Performance Evaluation of the United States Agency for International Development (USAID) supported Title II Multi Year Assistance Program (MYAP), called *Nobo Jibon*, being implemented in Bangladesh where four Implementing Partners (GUP, Speed Trust, SAP Bangladesh and CODEC) implementing the whole program in the field. Nobo Jibon has technical partnership with four other organizations (HKI, IDE, WORLDFISH & RIMES) for technical backstopping from the beginning. *This SoW describes the specific objectives, approach and expected deliverables for the Quantitative Performance Evaluation of Nobo Jibon.* The goal of this evaluation is to assess both the impact of program activities as measured by positive differences within indicators of interest at baseline and end-line and the extent to which the measured differences achieve the Life of Award targets and to draw reasonable inferences of successful association between the program strategies and the impacts on the behavior and well-being of the beneficiary population.

Program	Food for Peace (Title-II)
Project Title	Nobo Jibon
Awardee	Save the Children
Award#	AID- FFP-A-10-0-00011
Award duration	1-Jun'2010 to 31-May'2015
Funding Amount	\$ 55.73 M (USAID, GoB & SC)
Implementing Partners	Community Development Center (CODEC) Gonno Unnuyan Prochesta (GUP) South Asian Partnership (SAP) Bangladesh Speed Trust
Government Partner	Department of Relief and Rehabilitation (DMRD)
Technical Partners	Helen Keller International (HKI) International Development Enterprises (IDE) World Fish Centre Regional Integrated Multi-Hazard Early Warning System (RIMES)
AOR	Shahnaz Zakaria
CoP (in-charge)	Bakaul Islam Email: bakaul.islam@savethechildren.org Address: Road 43, House-CWN (A) 35, Gulshan-2, Dhaka 1212

1.1 Description of the Nobo Jibon Program

The Nobo Jibon program has been designed to *reduce food insecurity and vulnerability for 191,000¹ direct beneficiary households, or nearly 1 million people, in eleven² upazilas of Barisal Division over five years.* The program comprises three strategic objectives (SOs) which are aligned with Bangladesh's national health and food security policies and USAID's priorities for Bangladesh. The SOs are:

SO1 - Maternal Child Health and Nutrition (MCHN) - Improved health and nutritional status of Children under the age of five (U5) and Pregnant and Lactating Women (PLW) seeks to change childcare behaviors, improve intra-household food allocation, and integrate MCHN services and messages with GoB and private institutions. Nobo Jibon will provide a food ration to households with vulnerable women or children, conditional upon participation in awareness and education sessions. BCC messaging will improve nutrition awareness and behaviors, community-based care of childhood illnesses, and hygiene practices. Complementary water and sanitation interventions will support households of greatest need. SO1 beneficiaries would total approximately **225,000** households in **86** unions.

Figure-1: Program Operational Area

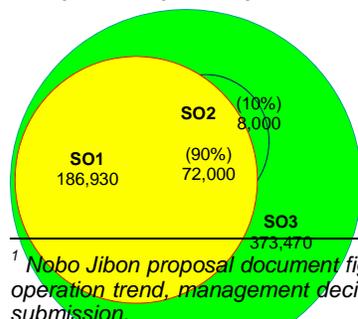


SO2 (Market-based Production and Income Generation): Poor and extremely poor households have increased production and income to improve access to food. SO2 seeks increased productivity and income to improve access to food for poor and extremely poor households. A comprehensive income generation strategy is applied to enhance agricultural, aquaculture, small scale livestock & non-farm productivity, profitability and competitiveness in the market. Livelihood component has organized household groups, build their technical skills for increased production and improved market linkages in the above subsectors.

The program promoted access to *khas*³ resources and piloted 320 Village Savings and Loan Associations (VSLA) as model for accessing finance. Activities were undertaken to make the livelihoods poor beneficiaries resilient to natural shocks. This component targeted 80,000 poor and extremely poor households in Nobo Jibon communities. Interventions with the input and output market actors and service providers, improved market infrastructure, and improved technologies may indirectly benefit an additional 100,000 beneficiary households.

SO3 - Disaster Risk Reduction - Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters. activities will directly or indirectly benefit a majority of households (approximately **444,241**) within the core geographic area targeted by the program. All SO1 and SO2 beneficiaries will benefit from risk reduction, with **53** unions determined to be highly disaster prone targeted during a first phase. Food-for-work will provide a safety net, while helping build DRR infrastructure and livelihood resilience. Structural intervention (new and rehabilitation of cyclone

Figure-2: Program Integration



¹ Nobo Jibon proposal document figure is 191,000 based on design level estimation; however, based on program operation trend, management decided to extend the figure to 225,000 and thus got approval through last PREP submission.

² During FY 2012 Galachipa was divided into two upazila's of Galachipa & Rangabali. Similarly, in Amtali) was divided into two upazila's of Amtali & Taltali. While the geographic coverage has not changed, the program now works in 11 upazilas of Barisal Division for the remaining period.

³ Khasland or state-owned land is the land which the government is entitled to both lease and give away to citizens of the country who do not own land.

shelters) reduced the vulnerability of affected community. SC's involvement in multi-agency disaster preparedness networks will extend some benefits of the program (e.g. advances in early warning systems) beyond the nine targeted upazilas. Given known vulnerabilities in upazilas elsewhere in the division, the Nobo Jibon will be responsible for emergency contingency planning and response activities throughout the Barisal Division.

Significant overlap, i.e. households participating in all three SOs, will help assure greatest impact (graphically depicted in Figure 1). In total, Nobo Jibon will reach more than 1,300 villages and approximately 89% of the total **444,241** households in the eleven target upazilas (see the map below). There will be significant overlap for greatest impact that will happen when households participate in all three SOs, as diagrammed in the left side.

M&E and Information Management

A comprehensive monitoring and evaluation (M&E) plan has been developed with detailed descriptions on baseline, annual, semi-annual, quarterly and monthly monitoring to track the program progress and outcomes over the period of time. The Nobo Jibon IPTT (initially approved by the AOTR in October 2010) is used by the program for annual reporting to USAID. The IPTT includes baseline figures, collected and compiled after the original IPTT was approved. The targets of the IPTT were revised based on the baseline figures and the experience of the team over Implementation Year. Annual monitoring has been done during September-October period since 2011 to meet the Annual Results Report (ARR) of USAID and other reporting purpose. Semi-Annual Monitoring (SAM) is designed to measure the longitudinal effect of the program intervention in production and income generation. Each year, two rounds (March & September) of this type of monitoring is done and have planned to complete six rounds starting from March'2012. The progress of the program activities is tracked monthly using the custom designed McAID system. All SO1, SO2 and FFW beneficiaries are registered through the McAID system, which tracks their activities as well. Tools and techniques have been developed to apply qualitative monitoring system to collect success stories quarterly and longitudinal case studies to track progress and describe impact at the beneficiary level. M&E staffs are maintaining the qualitative monitoring system regularly and have created a data bank for success stories and case studies to share with different stakeholders.

Table 1: SOs with corresponding interventions/outputs are summarized below:

<i>Strategic Objectives</i>	<i>Nobo Jibon Interventions and Outputs</i>
<i>SO1: Maternal Child Health and Nutrition:</i> <i>Improved health and nutritional status of Children under the age of five (U5) and</i>	<ul style="list-style-type: none"> <i>• Formed and trained 1156 Village Health Committees on community-based management and treatment of childhood illness and malnutrition</i> <i>• Provided training on Essential Nutrition Actions at community and government levels, Village doctor and TBA.</i> <i>• Community-based growth promotion (with MoHFW) for approximate</i>
<i>SO2: Market-based Production and Income Generation:</i> <i>Poor and extremely poor</i>	<ul style="list-style-type: none"> <i>• Training and demonstrations on contextually appropriate technologies and practices to 40,000 Homestead Productive Poor (HPP) (vegetables/fish) who are also accessing quality inputs and market information</i> <i>• Asset transferred to at least 16,535 out of 20000 registered Extreme Poor (EP) to catalyze income generation</i>

Strategic Objectives	Nobo Jibon Interventions and Outputs
	<i>administration and mobilization” of whom 77 have accessed to khash land</i>
<p>SO3: Disaster Risk Reduction: Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters.</p> <ul style="list-style-type: none"> • Target Households: 444,241 	<ul style="list-style-type: none"> • 739 high risk and Risk villages trained and equipped for Disaster Risk Reduction (DRR) (e.g. maps, plans, volunteers) • 7 new cyclone shelters constructed; 71 cyclone shelters rehabilitated • FFW/LRA undertaken in 550 communities resulting in nearly 1.835 million person days of employment • Pilot early warning to track depression and landfall for enhanced accuracy, improved lead time and community level application

2. QUANTITATIVE PERFORMANCE EVALUATION SCOPE OF WORK

The main objective of the Quantitative Performance Evaluation (QPE) is to review a) the achievements of the project relative to its prescribed targets and b) progress towards the overall goal of positive impact on food security of target communities.

2.1 Evaluation purpose

The purpose of the quantitative performance evaluation is to evaluate the performance of key indicators against the baseline values to measure strategic objectives and intermediate results of Nobo Jibon. Specific objectives include:

- Assessing whether progress against agreed indicators/targets have met end of project benchmarks as documented in the indicator tracking table;
- Evaluating the theory of change through establishing plausible links between inputs, outputs, outcomes and impacts on target population;
- Determine whether critical strategies are missing that were needed to achieve Nobo Jibon's goal;
- Assessing the overall impact of the project on target population;
- Identify where interventions, in isolation or in combination, were insufficient to meet program goals and, in cases where goals were not met, assess whether that was due to faulty logical reasoning/hypothesized causal pathways, to implementation shortcomings, or to other factors ; and,
- Suggest design adjustments to improve the quality of future programming.

2.2 Evaluation scope

In order to achieve these objectives the Consulting Team / Contractor will be expected to:

1. Design and implement a population-based quantitative survey that captures necessary information needed to achieve the evaluation objectives. This will require careful consideration and documentation of potential and selected sampling frames and justification of the selected approach.
2. The Consulting team/ Contractor must follow the appropriate Performance Indicator Reference Sheets developed by Food for Peace and Feed the Future, to finalize the survey instrument and methodology. In designing the instruments, the Contractor must consider including all disaggregate levels required by USAID/ FFP.
3. The survey instrument used in the baseline survey should be the starting point. If there is a need for rephrasing any question, the Contractor must add a question with revised statement instead of changing an existing one. Changing a question will void the comparability. In consultation with Nobo Jibon staff and the USAID/Bangladesh Mission, the Contractor may add questions to the survey instrument.
4. A Survey Plan must be prepared and get approved by USAID before the survey implementation. The design document should include sampling strategy and sample size estimation, sampling frame and household listing, data treatment and analysis plan, training of enumerators and supervisors, field testing of the instruments, and oversight and quality control mechanisms. The Contractor must specify the details of the sampling design in the survey design document in advance of field implementation. This document must include all of the following elements:

- i. The principal indicator and associated target group that will drive the sample size calculation for the entire survey.
 - ii. The Contractor should show the equation used for this calculation and the parameters used in the equation, including the design effect assumed for the principal indicator driving the sample size calculation. The calculation should take into account statistical power.
 - iii. The number of households to be sampled in order to achieve the desired sample size for the target group (assuming that households may contain more than one or no eligible members from the target group). The Contractor should give an indication of how the base sample size will be adjusted to account for the number of households that need to be visited. Design effect should be used from the baseline survey data.
 - iv. The number of households to be sampled to account for anticipated household non-response. The Contractor should indicate by how much the number of households to be sampled will be pre-inflated to account for household non-response.
 - v. Geographic or other criteria for stratification. The Contractor should specify all stratification criteria and the total number of strata for all criteria.
 - vi. The number of stages of sampling to be used.
 - vii. Explanation of how the number of clusters and of households per cluster in the sample will be determined.
 - viii. Explanation of how individual members in a sample household will be selected for interview (this is particularly important for anthropometric indicators, questions related to women at reproductive age, questions related to infant and young child feeding practices and farmers)
 - ix. Definition of the clusters. The Contractor should use tables to show the number of clusters that will be selected for each stratum.
 - x. Explanation on the source of information for the sampling frame, e.g. census lists or other national or internationally-sponsored surveys, such as the Demographic Health Surveys (DHS) or household listing. If secondary data are used, the Contractor should indicate how reliable and recent the frame information is.
 - xi. A Probability Proportionate to Size (PPS) sampling mechanism should be used to randomly select the clusters. The Contractor should use the number of households per cluster as the size measure and include a table of size measure and another showing the final list of selected clusters along with their probabilities of selection.
 - xii. Indication that the Contractor will use systematic sampling to select dwellings within clusters. This implies that for the sampled clusters, a list of all households, with household identification and location indicated, within these clusters must be obtained through either a preliminary pass on the cluster prior to interviewing or other existing sources.
5. Data Treatment and Analysis Plan: The Contractor must prepare a data treatment and analysis plan to address the following elements:
- i. Indication of how and when data will be entered into the database, as well as the software to be used for data entry. Double-data entry is required; If smart phone, PDA, or tablet is used to capture data, name of the application and the strategy to double-check the data on a regular basis so that any inconsistencies can be identified immediately and corrective measures can be taken within a day;
 - ii. Data quality checks and edits (data cleaning) planned to ensure logical consistency and coherence, as well as an indication of the software to be used;

6. Sampling weights to be included on the data file. The formulae used to calculate the sampling weights should be included as part of a data dictionary document. Different sampling weights will need to be calculated for separate analysis of each district and of the program level aggregate. Note that a household non-response adjustment should be made to the sampling weights as part of the final weighting system;
7. Indicator tabulation plan. Estimates should be produced for each stratum and for the overall level; Indication of which sub-groups, if any, for which the Contractor will produced estimators;
 - i. To understand factors that explain the variation in change in stunting, household hunger scale, household dietary diversity score, and minimum acceptable diet, multivariate analysis model must be specified and presented in the tabulation plan.
 - ii. The contractor should specify all intended bivariate and multivariate analysis in the tabulation plan;
 - iii. Indication that confidence intervals associated with the indicators will be produced alongside the indicator estimates and that these will take into account the design effect associated with the complex sampling design. Additional statistical outputs are required for multivariate analysis, but should be provided in an appendix;
 - iv. Software to be used for data analysis and for conversion of anthropometric data into Z-scores.
 - v. Description of methods for comparing the final survey data with the baseline survey data, and tests to be used to detect a population level difference at 95 percent level of significance.
8. The tools and methodologies should be finalized having concurrence from Nobo Jibon management and USAID/ FFP, OFDHA/B.
9. Field Procedure Manual: It is expected that the Contractor will develop a field manual to be used as part of the training materials for survey enumerators and supervisors and serve as reference material for staff in the field conducting the survey. The field manual should include instructions on how to sample dwellings within clusters, households within dwellings, and select individuals within households. The manual should also give recommended best practices for conducting interviews and dealing with specific challenging situations, e.g. households that refuse to participate, and provide a household and individual respondent non-response follow-up strategy. The manual should also describe the roles and responsibilities of the enumerators, supervisors, and other field staff and contain a detailed explanation of how to properly administer each question in the questionnaire.
10. The survey team is required to ensure statistically representative data collection within the household survey and anthropometric measurement with appropriate representation of three districts.
11. For the anthropometric data collection, the Contractor must use international standard height boards and weight scales.

12. To comply with USAID's Open Data Policy, USAID/FFP will host the data to USAID's Open Data portal. To comply, the Contractor must submit the following:
 - i. Raw data and the cleaned data files with all of the computed variables both in SPSS and CSV formats.
 - ii. SPSS or STATA Syntax files and weighting files in Microsoft Excel
 - iii. Submit a data dictionary - essentially a definition and description of any of the fields provided in the dataset
13. Carry out a comparative analysis of quantitative survey results, existing M&E data and/or the data presented in Indicator Performance Tracking Tables (IPTT) as needed
14. Establish plausible links between inputs, outputs, outcomes and impact at final evaluation and identify factors that contribute to or impede the program interventions.
15. Quantify program result with comparison to Baseline and disaggregated by district, gender and economic strata and document accordingly.
16. Find reasons of program progress and challenges encountered to produce targeted results (if any).
17. Make specific recommendations based on results of the quantitative survey on how the project could have improved its strategies, systems and interventions to enhance its performance with respect to the above mentioned objectives.
18. Consideration/assessment of beneficiary targeting criteria and practice, including transparency, probing a.) whether the right beneficiaries are identified for program interventions and b.) whether the interventions are appropriate for the most vulnerable beneficiaries (and if not, why not). There should also be some consideration of barriers to participation for vulnerable groups (childcare availability, travel distances, gender norms of women in public, etc.).

2.3 Audience and use of information

The primary audience of the evaluation report will be USAID (Bangladesh and Washington DC), and specifically the Office of Food for Peace. The report will provide important evidence to Government of Bangladesh (line ministries) and Save the Children (Bangladesh, Member & SCI) and other MYAP Partners. Secondary users might be development organizations (PVOs and Development actors), other interested donors (UN, DFID, EC, etc.), and research/academic institutions as a contribution to the broader.

2.4 Indicators to evaluate

SL	Level	Indicator description
1	GOAL	% children between 6 and 59 months stunted (height-for-age) (disaggregated by gender) (<-2SD; <-3SD)
2	GOAL	Average HH Food Insecurity Access Scale score
3	GOAL	Average HH coping strategy index
4	SO1	Percentage of underweight (WAZ<-2) children aged 0-59 months
6	SO1	Percentage of wasted (WHZ<-2) children aged 6-59 months
8	SO1	% Children 0-6 months exclusively breastfed
10	SO1	% of children 6-23 months of age who receive a minimum acceptable diet (apart from

SL	Level	Indicator description
		breastmilk)
12	SO1	% of caregivers demonstrating proper personal hygiene behaviors
13	SO1	% of beneficiary caregivers demonstrating food hygiene behaviors
14	SO1	% of PLW who consume food rich in iron
16	SO1	% of PLW who consume food rich in Vitamin A
18	SO1	% of PLW who consume food rich in Calcium
20	SO1	% of PLW taking iron or iron folate supplements in the last 7 day
22	SO1	% of children 12-23 months who received Vitamin-A supplementation in the past 6 months
23	SO1	% of mothers of children aged 6-23 months who received high-dose Vitamin A supplement within 8 weeks postpartum (6 weeks if not exclusively breastfeeding) in last pregnancy
24	SO1	% of mothers attended ANC session at least 4 times during last pregnancy
25	SO1	% of beneficiary children 12-24 months receiving de-worming medication in previous 6 months
30	SO1	% of beneficiary women whose husband attends ANC/PNC with her
31	SO2	Average HH dietary diversity score (HDDS)
32	SO2	Average number of months of adequate household food provisioning (MAHFP)
33	SO2	% of HHs reporting increase in production of one or more products
34	SO2	Average annual income from sale of agricultural products
35	SO2	Per capita yearly income of USG targeted beneficiaries
39	SO2	%of beneficiaries (farmers) using 3 or more sustainable/improved production practices.
41	SO2	Numbers of farmers and others who have applied new technologies or management practices as result of USG assistance
43	SO2	Number of hectares under improved technologies or management practices as a result of USG assistance.
44	SO2	% of targeted PP HHs adopting improved marketing practices
48	SO2	% of targeted HHs (PP+HPP) having access to quality inputs and technical service
49	SO2	% of targeted HHs (PP+HPP) having access to or participating in output markets
53	SO2	% of extremely poor HHs using distributed assets for increased production and income generation.
54	SO3	% of HHs with a feasible plan to protect human life and productive assets during disaster
55	SO3	%of HHs able to resume livelihood activities within 2 weeks following a natural disaster.
63	SO3	% of HHs that sought shelter in a timely manner during last disaster
64	SO3	% of HHs that received location specific cyclone warning signal with adequate lead time

2.5 Evaluation Questions

Through the analysis of the quantitative final survey data, most recent monitoring indicator results, Midterm Review data and supportive qualitative assessments with key stakeholders, the contractors will address the following questions:

MATERNAL CHILD HEALTH AND NUTRITION (SO1)

1. To what level Nobo Jibon achieved the anthropometric targets stated at IPTT?
2. What level were MCHN and WASH practices adopted by the community in comparison with Baseline, Geography, Sex, HH economic strata?
3. Do the NJ livelihood supported activities have positive correlation with higher uptake of MCHN service and behavior? If so, what beneficiary segments and/or interventions show maximum correlation?
4. Is there any quantitative evidence suggesting the hypothesis that PLW and mothers with children under 2 that participated in MCHN sessions from Nobo Jibon are more likely to practice MCHN and IYCF practices and contribute to better nutritional outcomes?

5. Whether ration size difference had an effect on MCHN practice/Outcome controlling other factors?

MARKET BASED PRODUCTION & INCOME GENERATION (SO2)

1. To what extent were proposed SO2 program targets achieved?
2. Were NJ mechanisms/techniques adopted to make livelihoods resilient to natural disasters?
3. What percent of extreme poor HHs practice effective and sustainable IGA through NJ support and which IGAs proved to be sustainable and suitable for those?
4. Which market-driven approaches taken by Nobo Jibon contributed to the improvement of the productivity and income of the targeted beneficiaries (PP and HPP)?
5. Did introduced technologies have significant contributions to the food security of HH? Which categories of HHs achieved success and what contributing factors were responsible?
6. What technologies are mostly adopted by HHs? What factors (geography, HH economic category, land type, program follow-up etc.) are causing the adoption rate?

DISASTER RISK REDUCTION (SO3)

1. To what extent were proposed program output targets were achieved?
2. Was the HH level awareness program successful in gaining knowledge and practice of DRR initiatives taken by HH members?
3. Are vulnerable areas people more aware in terms DRR preparedness?
4. How successful are the assisted communities in achieving the preparedness of HHs?
5. What is the level of uptakes of NJ promoted messages by HHs?
6. How far communities are familiar with cyclone signaling system and use that during NJ period?

CROSS CUTTING (COMMUNITY MOBILIZATION & GENDER)

1. To what extent community committee (VDC) contributed in Nobo Jibon program achievement and sustainability of intervention?
2. To what extent has the project improved role of women in:
 - *Decision making about MCHN and care?*
 - *Decision making about intra-household food distribution especially for PLW and Children under 2?*
 - *Decisions about production system, income, savings and usage of resources?*
 - *Decisions about making major household purchases?*

SUSTAINABILITY

1. To what extent, Nobo Jibon beneficiaries are habituated in taking services from local level government, service delivery sources and NGOs?
2. What are the HHs' perception about the quality and effectiveness of services provided by NJ and perceived source of services after NJ ends?

QUANTITATIVE PERFORMANCE EVALUATION DESIGN & METHODOLOGY

2.6 Evaluation design

This assignment will be a Quantitative performance evaluation which is mainly quantitative survey but accompany with some qualitative research methods to satisfy the validation of quantitative data for concrete result reporting. The quantitative survey will utilize the same 'adequacy design', or non-experimental design for simple pre-post comparison of results as Baseline design. This will be a population-based survey with the sample drawn randomly from the sample frame of all households residing within the action areas of Nobo Jibon. The sample size will be determined to provide statistically representative results for indicators at the level of household and children under five years of age. A two-stage sample selection process will be used to select households to be interviewed. In the first stage, mouzas will be selected in each of the three program districts. In the second stage, a pre-determined number of households will be interviewed in each of the selected mouzas to achieve desired confidence intervals. Before selecting the HHs, A complete HH census will be done from each selected Mauzas by the enumerators. Enumerators will go from door to door, compiling a list of all households in the mauza with name, location, information on selection criteria for being selected as evaluation respondent. Then, from that list a pre-determined number of eligible households will be selected randomly. During analysis the sample will be weighted to account for the fact that within the three districts, the proportion of sampled households to district population is different and non-response cases should be counted during sample size determination process. As per USAID policy and Nobo Jibon M&E, Quantitative Performance Evaluation sampling process should be same as Baseline protocol. To be noted that in Baseline, total sample size was 5082 where per district sample was 1694. During Quantitative Performance Evaluation sampling, P1 and design effect value should be used from Baseline data. On the other hand, non-response factor should be used from the experience of Baseline and Midterm review.

While a majority of the data will be collected to measure progress against indicators in the IPTT, data for some indicators will be drawn from the project M&E system and the beneficiary based annual survey. In addition, to satisfy the interpretation of Quantitative data and reporting, some qualitative tools will be applied in addition to the population based survey. These may include key stakeholder informant interviews and/or focus group discussions. For example, Nobo Jibon is working mainly with farmers under Livelihood component but there are some interventions with non-farmers stakeholders like market players (seed dealers, input suppliers, buyers etc.). So, contribution to market system should be captured by interviewing both farmers and other market players including the GO-NGO service providers.

While USAID will commission a separate and independent qualitative evaluation, the Quantitative Performance Evaluation will measure changes in performance indicators to determine the performance of Nobo Jibon and its contribution towards national and USAID's strategic goal. This study will complement the qualitative evaluation report.

2.7 Data Collection Method

The Quantitative Performance Evaluation data will be collected through a Structured questionnaire from population within the selected Nobo Jibon community. Others stakeholder information through either quantitative or qualitative tools should be collected as per the evaluation design and SoW questions.

In addition to the quantitative population based survey the consultants may use qualitative interviews and other tools to gather information from private sectors (seed dealer, paikars, agents, buyers, company representatives, government staffs, NGOs etc. They should consider employing a variety of qualitative primary data collection methods, including semi-structured in-depth-interviews, group discussions, key informant interviews, and direct observation.

2.8 Data Analysis Method

Data analysis will be done with several relevant comparisons among various groups. An analysis plan should be finalized and shared prior to data exploration. The analysis may present comparisons of food security levels among identified groups using factor analysis. (Refer to the Baseline report and M&E Plan). Additionally, data will be disaggregated and compared by the three sampled districts: Barisal, Barguna, and Patuakhali. Last, for several key food and economic security indicators, the data is analyzed by sex of household head.

Data should be presented with statistical significant tests and confidence intervals whenever it will be compared with Baseline figure. Consultant team will analyze household data using statistical software (SPSS/STATA etc.), calculating secondary variables (asset indices, coping strategy index) from primary variables where appropriate. Where appropriate, data must be weighted to account for differences in underlying population distributions among the primary sampling units.

To validate the quantitative data, evaluation team should interview different stakeholders through different qualitative tools like FGD, KII, semi-structured interview, case studies etc. and analyzed the context holistically for preparing the Quantitative Performance Evaluation report.

3 QUANTITATIVE PERFORMANCE EVALUATION PRODUCTS

3.1 Deliverables

1. The following deliverables are to be submitted to Save the Children:

The Consultant team/ Contractor is responsible for:

- a) Pertinent permissions, insurance, and other required permits i). Obtaining all the necessary permissions for implementing the quantitative evaluation data collection. ii). Adhering to country and local formalities and obtaining any required permits related to data collection from human subjects and logistics of survey implementation, including any necessary Internal Review Board (IRB) approvals, as well as health and accident insurance, salary, and taxes for all enumerators and supervisors. **Deliverable: Evidence of insurances and permits for implementing survey and other data collection activities in electronic form**
- b) Survey plan including detailed survey implementation plan (DSIP) i). Specifying details for methodology, critical tasks, anticipated outputs, date-bound timelines, resource needs, and responsible person(s). Composition of a standard field survey team, including expected tasks and responsibilities of each team member, should also be described. ii). Detailing a sampling plan for the quantitative population-based household survey that responds to the elements specified in Section 2.2. **Deliverable: Survey plan including sampling plan, and detailed implementation plan reviewed and approved by Save the Children, USAID/FFP, USAID/Bangladesh Mission.**
- c) Quantitative survey instrument which must take into account the instrument used in the baseline survey. Additional questions can be added to the instrument if needed. Adapting the questionnaire to the local context if additional questions are to be added to the instrument. Translating the approved questionnaire instrument from English into Bangla. Back translating the questionnaire from Bangla to English with a second translator to ensure it is accurately translated in Bangla. Making any necessary changes to Bangla questionnaire based on the back translation. The questionnaire used in the baseline survey is already translated into Bangla, thus the contractor does not

have to translate the major part of the questionnaire. **Deliverable: Final Bangla and corresponding English questionnaires reviewed and approved by Save the Children, USAID/FFP and USAID/ Bangladesh Mission**

- d) Data treatment and analysis plan a. Detailing a data treatment and analysis plan that responds to the elements specified in section 2.2.4. **Deliverable: Data treatment and analysis plan reviewed and approved by Save the Children, USAID/FFP and USAID/Bangladesh Mission**
- e) Raw and cleaned data set, data dictionary/codebook, edit rules, and syntax for data analysis, including syntax for variable transformations **Deliverables: i. Raw data set in SPSS and CSV formats;;**
 - ii). Edit rules for cleaning data;
 - iii). Data dictionary/codebook;
 - iv). Syntax for all data analysis and variable transformations;
 - v). Final data set that includes cleaned data, sampling weights at each stage, final sampling weights, and all derived indicators; and
 - vi). Sampling weights used to tabulate the aggregate-level estimates for the USAID/FFP Standard Indicators
- f) Briefings for the Save the Children and USAID Bangladesh. Presenting findings, conclusions, lessons learned, and recommendations based on the quantitative performance evaluation survey. **Deliverables: i). Mid-term and final briefings to Save the Children and final debriefings to USAID Bangladesh**
- g) Draft quantitative performance evaluation report i). Not exceeding 50 pages, excluding appendices and attachments. The draft report must be presented in English. ii). Presenting the estimates and confidence interval for all indicators (impact and outcome) at the Nobo Jibon program level and by districts; iii). Using appropriate tests of differences, determine the change at the underlying population level with confidence intervals. **Deliverable: Draft quantitative performance evaluation report reviewed and approved by Save the Children and USAID**
- h) Final Quantitative Performance Evaluation report: This report will be a revised version of the quantitative performance evaluation report that incorporates the comments of Save the Children, USAID/FFP and the USAID Bangladesh Mission. The final report must be presented in English. **Deliverable: Final quantitative performance evaluation report reviewed and approved by Save the Children and USAID**

Reporting guidelines

Final Quantitative Performance Evaluation reporting should be done based on USAID's Evaluation policy⁴ and other guideline on reporting structure⁵. The report should be a maximum of 50 pages, in Times New Roman 12pt font in single space, excluding the cover page, table of contents, and annexes. The format for the Quantitative Performance Evaluation report is as follows:

⁴ This policy can be accessed at http://www.usaid.gov/evaluation/USAID_EVALUATION_POLICY.pdf.

⁵ Available at <http://www.usaid.gov/policy/evalweb/documents/TIPS-ConstructinganEvaluationReport.pdf>

1. **Cover page, Table of Contents, List of Acronyms**
2. **Executive Summary** should be a clear and concise stand-alone document that states the most salient findings, conclusions, and recommendations of the evaluation survey and gives readers the essential contents of the Quantitative Performance Evaluation survey report in two or three pages. The Executive Summary helps readers to build a mental framework for organizing and understanding the detailed information within the report;
3. **Introduction** should include purpose, audience, and synopsis of task;
4. **Program background** should describe Nobo Jibon goal, theory of change, targeting, geographic scope, history and key timeline
5. **Methodology** should describe sampling design, study methods, data collection techniques, constraints and limitations of the study process and rigor, and issues in carrying out the study;
6. **Tabular summary of results** should present quantitative performance evaluation results in table form for all the indicators by district and for the overall program;
7. **Findings** should present findings on all of the key indicators. Quantitative performance evaluation survey values must be presented in quantitative format and complemented by descriptive analysis for each stratum and at the aggregate Nobo Jibon program level;
8. **Conclusions and Recommendations** should provide additional analysis of the data and results, drawing out programmatic and organizational recommendations for future program design. Recommendations must be relevant to program and context.
9. **Issues** should provide a list of key technical and/or administrative, if any, for Nobo Jibon for which the quantitative performance evaluation survey was conducted; and
10. **Annexes** should document the study methods, scope of work, schedules, interview lists and tables and be succinct, pertinent, and readable.
11. References, including bibliographical documentation, meetings, interviews, and focus group discussions;
12. List of stakeholder group with number, type, and date of interactions;
13. Data collection instruments in English and the local language;
14. Data dictionary and program files used to process the data in electronic format;
15. Other special documentation identified as necessary or useful.
16. Data Tables showing progress against the IPTT + SAPQ indicators (by district).
17. Tabular results with Statistical significance
 - i. Data analysis & Statistical test syntaxes

3.2 Deliverables & Timeline

Output	Jun'2014		Jul'2014		Aug'2014		Sep'2014		Oct'2014		Nov'2014		Dec'2014		Jan'2015	
	1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-31
Final SoW submission to USAID accommodating the comments																
Approval from USAID																
RFP floated																
Selection of Consultant firm																
QPE team meeting with NJ and other SC teams																
Work Plan finalization																
Draft FE protocol, including detailed SoWs for each expert for the team, as well as the team leader																
Questionnaire design, translation, data collector training materials, field guides preparation, Design data entry templates at appropriate hardware (PDA/Smartphone) as per finalized Survey questionnaire																
Arrange necessary survey equipment (PDA/Smartphone, Weight scale, height scale, weight, stationeries etc.)																
Enumerators training, field testing the questionnaire, data-entry templates, data entry hardware and measuring equipment etc.																
Conduct Quantitative performance evaluation survey as per FE protocol																
Stakeholder meetings and other information (non-population based data collection) collection for data validation.																
Submit draft FE report.																
Submission of final QPE report (softcopies) with all required attachments and cleaned dataset																

4 COMPOSITION OF FINAL QUANTITATIVE PERFORMANCE EVALUATION TEAM

The review will be carried out by an external review team⁶. The Senior Manager-M&E of Nobo Jibon with the help of the program Chief of Party will coordinate the review activities, with technical assistance from relevant SC/US and SCI units (e.g. food security, livelihoods, M&E). Save the Children in Bangladesh's MEAL Director will also assist in guiding the review from technical aspect.

Position	Required Qualifications	Responsibilities
Team Leader (I) : International Consultant	<p>The Team Leader (Masters or PhD) will be contracted for this activity as Team Leader cum evaluation expert. This person should have previous experience in monitoring and evaluation, especially for Title II multi-year food security programming, be fluent in English and have a solid understanding of the relationship between small-scale agricultural production systems, pro-poor market approach, income generation, and behavior change in nutrition/health and household food security. In addition, the team leader must have skills in conducting final survey studies for development programs especially with respect to local institutional capacity building and micro credit, sustainable agricultural development, nutrition, analysis of vulnerability/risk and disaster management.</p> <p>She/he must have practical experience in the areas of designing input masks and data collection tools, developing sampling methods, processing and analysis of data. She/he should master software for processing and analysis of data, specifically SPSS, Epi-Info, Access, etc.</p> <p>Person who could be available in short notice will be an priority for Nobo Jibon.</p>	<p>The international consultant will be contracted for this activity as Team Leader Evaluation expert. S/he will have overall responsibility to review documentation, design the fieldwork phase of this exercise and complete the final write up of the report. S/he will also be responsible for field interviews and data validation (if required). S/he will be responsible for sampling, questionnaire coding, database design, training of enumerators, data cleaning, and statistical analysis. The enumerators' training will be designed by the consultant, at least 5 days will be required, and be implemented in 3 phases: theoretical training; one day of pre-testing; and one day debriefing and review of tools. S/he must continue till assignment ends and can't propose any alternative person in lieu of.</p>
Disaster Risk Reduction Consultant (I): (Local or International)	<ul style="list-style-type: none"> • Having regional (Asian) experience working with populations that face regular, rapid onset and chronic disasters. This person should have background in evaluating institutional capacity. LOE is required during questionnaire design, data analysis and reporting. • Person who could be available in short notice will be priority for Nobo Jibon. 	<p>Reporting to the team leader, s/he will review project documents prior to the fieldwork, participate in the design of interview guides, field interviews regarding DRR. S/he will work in close collaboration with the external consultant on project indicators and key questions related to DRR. S/he must continue till assignment ends and can't propose any alternative person in lieu of.</p>

⁶ A short-term contracted consultancy organization.

5 QUANTITATIVE PERFORMANCE EVALUATION MANAGEMENT

The QPE team is expected to develop a unique SOW for each of the team members. These SOWs should utilize the questions listed in the following sections as a guide in developing the SOWs for each team member. The Evaluation questions stated at section 2.5 serve as a sample only and should be augmented, based on the expertise of the Consulting Team.

5.1 Team members' responsibilities and obligations

The members shall be responsible for the following:

- Adhering to all terms/conditions stipulated in their contracts
- Hire local survey firm for conducting quantitative performance evaluation survey through arranging survey equipment (PDA/Smartphone/Tab, Anthropometric measurement tools etc.)
- Arrange orientation for the enumerators and facilitate the technical sessions with guidance from Nobo Jibon team (M&E & program).
- Determination and documentation of appropriate informed consent practices for survey respondents and clear protocols for voluntary non-participation in line with human subjects protection standards.
- Monitor the data collection and ensuring data quality assessment as per USAID & SCI requirement through necessary supervisory hierarchy and technical backstopping.
- Assuring the validity of their passports and other relevant travel documentation within Bangladesh
- Obtaining their health insurance
- Conduct themselves in a respectful manner, while undertaking assignment, which includes not making any promises or commitments to communities and any other persons, on behalf of Save the Children.
- Adhering to the agreed time-frames with regard to all activities outlined in the timeline
- Providing their own laptop to be used during the assignment (printing, photocopying and other related supports will be provided by Save the Children).

5.2 Nobo Jibon Responsibilities

Nobo Jibon program management will be responsible for the following:

- Ensure effective coordination of the QPE logistics to facilitate the consultants in undertaking their assignment including their travel, lodging, per-diem and visas. SCI/NJ will not bear any cost related to survey design, implementation, monitoring and reporting.
- Provide consultants with all key program documents, including the original proposal and cooperative agreement, the baseline study, midterm evaluation, and other relevant program literature, documentation and reports.
- Assist the consultants in scheduling meetings with partners including USAID, Government of Bangladesh line ministries, and other relevant stakeholders
- Communicate with the team members Save the Children policies and protocols.

5.3 Ownership of Research Data/Findings

All data collected for this review shall remain the property of Save the Children. Any work product resulting from this review must cite the participating partners and USAID as well as include relevant Nobo Jibon staff as a primary or contributing author.

5.4 Budget

Budget for the whole consultancy service is mainly divided into three parts. First part includes the consultant cost (Daily Allowance, per diem for field, transportation (overseas & local), overhead (if any). The following matrix (section-5.8) can give an idea for budgeting for the evaluation task. Second part is for enumerators cost which is related to survey schedule and their level of effort to be planned in lump sum amount for each day work. The rest is for logistics for arranging survey equipment, tools, printing, photocopy, DVDs, internet connectivity, communication and orientation cost for the enumerators and facilitators. A separate cost proposal should be submitted along with technical proposal when bid is open for submission.

5.5 Consultant selection criteria

Consultant will be selected based on both Technical and Financial scores and criteria. Evaluation committee members will review the technical proposal first and upon receiving of successful technical proposal, committee will scrutinize the financial proposal of technically eligible firms. The ratio of technical and financial proposal will be 70:30 respectively.

The following areas will be served as criteria for technical proposal (100 marks) assessment with pass-mark 60:

- Firm's Previous experience regarding donor, similar work & Bangladesh (20)
- Statistically representative Sampling and concurrent with Baseline sampling (20)
- Team composition and relevancy (20)
- Time-bound rollout plan (10)
- Data collection, quality assurance, data management plan & smart tools/sound equipment usage (20)
- Analysis plan (10)

For financial proposal the following areas should be considered:

- Cost Relevancy with technical proposal
- Cost-effectiveness
- Compliance with SCI procurement policy and payment schedule
- Appropriate structure of financial proposal. A financial proposal shall include containing Summary of Costs, Breakdown of Staff Remuneration, Travel and DSAs, miscellaneous, overhead costs (if any)

5.6 Profile of Consultant firm

For this consultancy work, the firm should have the following quality:

- Any consultancy firm (International) having valid license of doing work with latest tax-paying evidences.
- Team Leader consultant must be international having professional background of more than 15 years in development field. S/he should have access to Bangladesh considering visa issuance. Working experience with USAID is must.
- Data collection task should be done by Bangladeshi firm having experience of data collection and management of large project with complex evaluation experiences (more than 10 years). They should have valid registration paper with updated tax-vat

registration. Working experience with USAID project would be added quality. For eligibility, Firm and proposed consultants must submit the copy of work order / experience certificate to prove of at least last three (3) international/national experience (whichever applicable).

5.7 Payment process & Schedule

The payment will be made as per the Table below upon reaching the milestones. For all payments, Consultant firm has to submit a Letter of Satisfaction and completion of the milestone endorsed by firm and an invoice to SCI BD.

Milestone	% of Total value
Completion of survey design (format, Sampling, work-plan etc.)	20%
Completion of the surveys (quantitative & qualitative)	40%
Final Report with cleaned datasets	40%
Total	100%

5.8 Scheduling with Level of Effort (LOE)

The consultancy will commence on approximately **25 Sep, 2014** and proceed until **January 15, 2015** as per the timeline outlined at section 3.2:

	Paid Work Days			Questions/Comments
	Team	Local	Local	
Activity	Leader	Technical	Consultant/	
Review all background documents and all				
Draft QPE plan (protocol)/design, including detailed SoWs for each expert				
Design data entry templates at appropriate hardware (PDA/Smartphone) as per				
Appointment of technical resource person &				
Procure data collection equipment (PDA/Smartphone, Weight scale, height scale, weight, stationeries etc.)				Renting cost may be added in addition to the consultants' LOE if the local consultant firm doesn't have those equipments, tools or their
Travel (In country/Overseas)				
Meeting with team members, Nobo Jibon representatives				

Activity	Paid Work Days			Questions/Comments
	Team Leader	Local Technical Experts	Local Consultant/ Firm	
Arrange orientation of Enumerators through ensuring field testing the questionnaire, data-entry templates, data entry hardware and measuring equipment etc.				Orientation cost with all logistics will be added here with the costing of enumerators LOE for at least 5 days.
Conduct data collection and data management for data analysis				Enumerators' data collection time is not estimated here but will be presented separately as lump sum amount.
Data analysis & validation				
Drafting the report and share with all concerned				
Debriefing meeting with Nobo Jibon, SCI and USAID				
USAID, NJ, SCI provide feedback on draft report				
USAID endorses the final review				
Completing the Final report & shared with all concerned				
Total estimated Level of Effort (LOE)				

ANNEX

A. Description of Nobo Jibon partnership

Save the Children is serving as lead agency overseeing an institutional partnership with well-defined roles, responsibilities and opportunities for sectoral integration and cross-learning. Four local NGOs (GUP, Speed Trust, SAP Bangladesh and CODEC) have been selected as implementing partners (I-Ps). A government agency, the Department of Relief and Rehabilitation, is a partner during construction or rehabilitation of cyclone shelters. Four additional international NGOs – Helen Keller International (HKI), International Development Enterprises (IDE), the WorldFish Center (WFC) and Regional Integrated Multi-Hazard Early Warning System (RIMES) – serve as technical partners (T-P). The table below indicates the partners and roles.

<i>Institution</i>	<i>Role</i>
<i>IMPLEMENTING PARTNERS</i>	
<i>Community Development Center (CODEC)</i>	<i>Multi-sectoral work in Barisal Sadar, Amtali and Taltali Upazilas</i>
<i>Gonno Ummuyan Prochesta (GUP)</i>	<i>Multi-sectoral work in Mehendiganj and Hizla Upazilas</i>
<i>South Asian Partnership (SAP) Bangladesh</i>	<i>Multi-sectoral work in Galachipa, Rangabali, Barguna Sadar and Patharghata Upazilas</i>
<i>Speed Trust</i>	<i>Multi-sectoral work in Dashmina and Kalapara Upazilas</i>
<i>Department of Relief and Rehabilitation (DMRD)</i>	<i>Collaborate with Save the Children on shelter construction and rehabilitation</i>
<i>TECHNICAL PARTNERS</i>	
<i>Helen Keller International (HKI)</i>	<i>Contributions to SO1 (particularly dissemination of Essential Nutrition Action) and gender</i>
<i>International Development Enterprises (IDE)</i>	<i>Support SO2 market and business development activities</i>
<i>World Fish Centre</i>	<i>Support SO2 fish production and marketing activities</i>
<i>Regional Integrated Multi-Hazard Early Warning System (RIMES)</i>	<i>Pilot test advanced cyclone early warning systems.</i>

The overall partnership can be characterized as having productive relationships, joint problem solving, and mutual respect.

B. Program history and other cross-cutting

Nobo Jibon started in June 2010 and its host country agreement was signed in August 2010. The first sub-agreements were signed in October 2010 and the program received monetization commodities in November 2010. A baseline survey was conducted during October-November 2010. Nobo Jibon began work in program communities in December 2010 and distributed first direct distribution commodities to MCHN beneficiaries in February 2011. By the end of 2011, the program had started its work in all upazilas at least with the SO1 interventions. Full coverage was achieved early in 2012. The table below shows the total program coverage to date:

Districts	Villages	VDCs	VHCs	VDMCs
Barguna	441	423	423	410
Barisal	311	292	292	292
Patuakhali	501	441	441	441
Total	1253	1156	1156	1143

Nobo Jibon formed 1156 Village Development Committee (VDCs) and its sub committees like, Village Health Committees (VHC) and Village Disaster Management Committees (VDMC) were formed to represent a cross-section of the community and to give a voice to under-represented groups such as women and extremely poor households. The committees provide a local perspective to decision-making

and make valuable contributions to Targeting and Engaging beneficiaries, Phasing in activities, Local Capacity Building, Participatory Monitoring of activities and Sustainability of program interventions.

Gender dynamics affect all Nobo Jibon activities and are considered a crucial cross-cutting issue to the program. Issues of gender are important to Nobo Jibon for two main reasons. First, it is well established that women have a vital and essential role to play in maintaining healthy and well-nourished children and families. Second, women in Bangladesh face many disadvantages because of their gender. They are frequently excluded from household decisions, money-making opportunities, and exposure to external messages. Incorporating gender equity into Nobo Jibon is a central goal of the program, cross-cutting all strategic objectives. 13560 women leaders and 4068 male Champions formed and they address gender issues such as intra-household conflict and abuse (in partnership with other group members. Nobo Jibon formed a Gender Working Group and Upazila Gender Focal person who are develop and carry out a comprehensive program-wise gender strategy and implementation.

A. M&E Plan (will be attached as PDF)

B. Nobo Jibon Result Framework

Goal: Reduced food insecurity and vulnerability for 191,000 households in nine upazilas of Barisal Division in southern Bangladesh over five years

SO1 MCHN Improved health and nutritional status of children U5 and PLW

SO2 Market-based Production and Income Generation

Poor and extremely poor households have increased production and income

SO3 DRR

Households in targeted communities protect their lives and assets and quickly resume livelihood activities following natural disasters

IR 1.1. – PLW and care-givers of children U5 practice improved MCHN and environmental health behaviors

IR 1.2. – Households have improved access to integrated health, family planning and nutrition services

IR 1.3. –Equity increased within households and communities

IR 2.1. – Poor households apply improved knowledge and skills for production and marketing

IR 2.2. – Poor households access quality inputs, capital and markets

IR 2.3. – Extremely poor households access land, water bodies, and/or productive assets

IR 3.1. – Commune-ties manage functional emergency preparedness and response plans

IR 3.2. – Commune-ties access appropriate infra-structure for protecting lives and assets in emergencies

IR 3.3. – Improved and effective coordination among SC and Nobo Jibon partners to respond to emergencies

IR 3.4. – Communities receive and respond to early warning for floods and cyclones

Activities
 1.1.1 Develop and implement a BCC strategy
 1.1.2 Promote CCM of childhood illness
 1.1.3 Promote counseling on health and nutrition.
 1.1.4 Provide supprations to HH with PLW or U2s

Activities
 1.2.1 Provide tech support to integrate ENA and CCM into public and private health care services
 1.2.2 Provide support to health facilities for nut. Info system
 1.2.3 Lead advocacy workshops on nutrition-related themes and protocols

Activities
 1.3.1 Identify and support women leaders
 1.3.2 Form and empower youth groups for community awareness activities
 1.3.3 Train male leaders in health, nutrition and social issues

Activities
 2.1.1 Homestead-based experiential learning, demos and input provision
 2.1.2 Facilitate cross visits for small producers
 2.1.3 Promote selected value chains

Activities
 2.2.1 Establish produce collection points for producers and buyers
 2.2.2 Facilitate linkages with input suppliers/buyers
 2.2.3 Facilitate access capital through village savings and loans

Activities
 2.3.1 Asset transfers to targeted HHs
 2.3.2 Facilitate access to khas land and water bodies

Activities
 3.1.1 Facilitate community emergency preparedness and DRR planning
 3.1.2 Form and train cadres of community volunteers
 3.1.3 Build HH capacity on disaster preparedness
 3.1.4 Lead disaster drills/simulations in high risk communities

Activities
 3.2.1 Construct /rehabilitate DRR infrastructure
 3.2.2 FFW/CFW compensation for work on DRR infra-structure

Activities
 3.3.1 Coordinate contingency planning
 3.3.2 Build capacity of institutional stakeholders
 3.3.3 Train implementing partners in commodity management

Activities
 3.4.1 Promote awareness of GoB early warning system
 3.4.2 Pilot test innovations in cyclone early warning