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# AN EVALUATION OF THE RURAL ADVISORY SERVICES PROGRAM (RASP) AND RELATED ACTIVITIES UNDER FEED THE FUTURE

APRIL 2015

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# PREFACE

This evaluation was designed to review the goals and implementation of activities relating to public and private extension services supporting the achievement of USAID agriculture and food security program objectives. It assesses the relevance and efficacy of current activities, identifies ways to make future USAID support in this area more efficient and effective, and may be used in shaping future Feed the Future programs both at the Washington support level and in mission programs. It looks at extension and advisory services provided through NGOs, farmer associations, cooperatives and private input delivery and marketing enterprises, and identifies both good practices and problem areas for consideration in on-going and possible future USAID-supported work in this area.

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While funding and overall direction for the study were provided by the USAID Bureau for Food Security, the content of the report is entirely the responsibility of the evaluation team.

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# ACRONYMS

ACDI	Agricultural Cooperative Development International
ACDI/VOCA	USA-based international NGO
ADB	Asian Development Bank
AECB	Agricultural Extension Capacity Building Project
AESA	Agricultural Extension Support Activity
AFAAS	African Forum for Agricultural Advisory Services
AFD	Agence Francaise de Development
AFSI	L'Aquila Food Security Initiative
AGP	Agricultural Growth Program
AGRA	Alliance for a Green Revolution in Africa
AMDE	Agribusiness and Market Development
ARP	Agricultural Research and Policy Division of USAID/BFS
AU	African Union
BFS	Bureau for Food Security, USAID
CAADP	Comprehensive Africa Agriculture Development Program
CEA	Comprehensive Extension Assessments
CFSP	Commercial Farm Service Program
CGIAR	Consultative Group for International Agricultural Research
CIDA	Canadian International Development Agency
CIMMYT	International Center for Maize and Wheat Improvement
CIP	International Potato Research Center
CIPP	Comprehensive Integrated Package Project
CNFA	Citizens Network for Foreign Affairs
CoP	Chief of Party
CP	Cultural Practices
CRS	Catholic Relief Services
CSIR	Council for Scientific and Industrial Research
CSISA	Cereal Systems Initiative for South Asia
CU	Cornell University
DAI	Development Alternatives Inc.
DANIDA	Danish International Development Agency
DFID	Department of International Development of UK
EAS	Extension and Advisory Services
EU	European Union
EWB	Engineers Without Borders
F2F	Farmer-to-Farmer Program
FBO	Farmer Based Organization
FCUs	Farmer Cooperative Unions
FFP	Family Farming Program of USAID
FSA	Field Support Activity of MEAS
FSC	Farm Service Center
FTC	Farmer Training Center

GAFFSP	Global Agriculture and Food Security Program
GAIN	Global Alliance for Improved Nutrition
GFRAS	Global Forum for Rural Advisory Services
GLEE	Global Learning and Evidence Exchange
GIZ	German Agency for International Technical Collaboration
HABP	Household Asset Building Program
IARCs	International Agricultural Research Centers
ICT	Information and Communication Technology
IEHA	Initiative to End Hunger in Africa
IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
IL	Innovation Laboratory
IMC	International Medical Corps
INGENAES	Integrating Gender and Nutrition in Agricultural Extension Services
INGO	International Non-Governmental Organization
IPM	Integrated Pest Management
IPM-IL	Integrated Pest Management Innovation Laboratory
IRRI	International Rice Research Institute
JICA	Japan International Cooperation Agency
LMD	Livestock Market Development
LMD	Local Market Development NGO
LWA	Leader with Associates
MEAS	Modernizing Extension and Advisory Services
MPP	Minimum Package Program
MSU	Michigan State University
NCATSU	North Carolina Agricultural and Technical State University
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
PADEPS	Peasant Agriculture Development Extension Project
PADETS	Participatory Demonstration and Training Extension System
PPP	Public-Private Partnership
PSNP	Productive Safety Net Program
RAD	Regional Agricultural Departments
RAS	Rural Advisory Services
RASP	Rural Advisory Services Program
SAFE	Sasakawa African Fund for Extension Education
SNV	Netherlands Development Organization
SPRING	Strengthening Partnerships, Results and Innovations in Nutrition Globally
T&V	Training and Visit
TVET	Technical Vocational and Educational Training
UC-Davis	University of California at Davis
UF	University of Florida
UIUC	University of Illinois at Urbana-Champaign
USAID	US Agency for International Development
VOCA	Volunteer Overseas Cooperatives Association

WB	World Bank
WFP	World Food Program
WI	Winrock International
WIAD	Women in Agriculture Development
WUA	Water Users Association
WV	World Vision
WVC	World Vegetable Center/AVRDC
ZoI	Zone of Influence

## CHAPTER ONE

# EVOLUTION OF AGRICULTURAL EXTENSION

### BACKGROUND

The accepted definition of agricultural extension is that it imparts knowledge to farmers on how to manage their enterprises, increase productivity, and raise their standard of living. Knowledge sharing in farming and rural enterprises goes back to the beginnings of agriculture and was characterized through the exchange of crop varieties and animal breeds as well as improved cultural practices. This exchange of knowledge became more organized in the mid-19<sup>th</sup> century in Europe and especially in Great Britain with the establishment of agricultural experimental stations leading to a more scientific approach to farming.

The term *extension* had its origin in universities of the time, since it was considered to be an education activity and was *extending* the activities of the universities into the community. This term was widely adopted in the US since supporting knowledge sharing in farming was a key element of the Land Grant university system. The term extension has survived and has served its purpose in this context, even though its focus and activities have changed enormously over time. Today, a definition which is gaining currency is that of Ian Christoplos, who defines “extension” as “including all systems that (a) facilitate access of farmers, their organizations, and other market actors to knowledge, information, and technologies; (b) facilitate their interaction with partners in research, education, agribusiness, and other relevant institutions; and (c) assist them to develop their own technical, organizational and management skills and practices.”<sup>1</sup> This report also uses the alternative term “advisory services,” to reflect current thinking that places relatively more emphasis on responsiveness to client needs.<sup>2</sup>

### AGRICULTURAL EXTENSION POST WWII

While agricultural extension was supported by the colonial powers, especially the British in Africa and Asia as a means of boosting production of export crops such as cocoa, rubber, and tea, it is really a post-independence phenomenon dating back to the 1950s in much of the developing world. This emphasis on agricultural extension was mostly driven by donors such as USAID and other philanthropic foundations. The initial approach throughout the 1950s and 1960s was to create public extension institutions within the Ministries of Agriculture for the purposes of increasing agricultural production and “rural development,” broadly defined.

At the same time, important strides were being made in agricultural technology -- improved crop varieties, soil fertility, irrigation, tillage practices, etc. -- that later became known as the Green Revolution. This phenomenon led to a surge in interest in agricultural technology, and many

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<sup>1</sup> Christoplos, Ian: “Mobilizing the Potential of Rural and Agricultural Extension;” FAO, Rome; 2010.

<sup>2</sup> Another term, more widely used by public health practitioners, is “Behavior Change Communication.”

countries and donors saw this as an opportunity to increase agricultural production in a big way through increased investment in both agricultural research and extension. Food self-sufficiency was also an overarching policy objective of many countries, and as a result research and extension institutions were focused on the production of basic staples. Many of the present-day public agricultural extension institutions in developing countries date back to this era. While the Green Revolution had success in many of the countries that were facing food crises in the sixties, most notably South Asia, Southeast Asia, and Latin America, not all of the technology and practices were transferable. This was especially true in resource poor areas, i.e. those characterized by infertile soils, low and uncertain rainfall, disease, and lack of market access.

### **AGRICULTURAL EXTENSION IN CRISIS**

Throughout the 1960s and 1970s, public services dominated extension in most developing countries, and public spending for extension often exceeded that for agricultural research. However, by the late 1970s, because of the lack of spillover of technology and the lack of indigenous innovation, these systems were facing severe problems in terms of sustainability. Public perception was that many of these institutions were ineffective and unaccountable. This was compounded by the fact that some had become bloated public bureaucracies that had little contact with the farming community.

This led to a reexamination of the implementation models and the messaging strategies employed by extension institutions. Their activities were re-defined in many cases. Terms such as “technology transfer,” “advisory services,” and “non-formal education” began to be used in an effort to be more precise as regards message content. For example, “advisory services” is a term that is now used widely in Africa. Whatever term or methodology used, most of these discussions revolved around the same objectives, that of imparting knowledge to farmers on how to manage their enterprises, to increase productivity and to raise their standard of living. This led to institutional change whereby institutions were set up on the basis of fixed methodologies. These were usually organized in a “top-down” fashion in which the extension worker delivered recommendations to the farmers in a one-way exchange of knowledge that had many flaws. Doing things this way required a strong link between research and extension that in practice rarely existed since extension and research were carried out very often in two separate autonomous institutions. The most prominent model that arose from this analysis was the Training and Visit (T&V) approach that was established in over 70 countries, mainly in Asia and Sub-Saharan Africa. This model was highly intensive in terms of human resources and required a well-supported and productive knowledge base. Because of its high cost and because it did not effectively address other basic issues such as research-extension linkages and an innovative knowledge base, the model proved to be unsustainable both financially and technically.

### **RETHINKING AGRICULTURAL EXTENSION**

In the mid-1980s, national agricultural extension services in several countries were criticized for being outdated, inefficient, and costly. More specific criticism focused on:

- The top-down approach used by most extension services based on a linear innovation model. Seen as passive clients rather than active participants, farmers hardly had any control over the quality of extension services provided;

- Overstaffing extension services with large numbers of poorly trained (and often poorly paid) staff, and the near perpetual lack of operating resources;
- Lack of effective planning and monitoring and evaluation of activities;
- Incidences of corruption and feckless bureaucracy, which undermined the legitimacy of the services;
- Perceived low impact of extension services, in part due to the difficulty of attributing technology diffusion to specific interventions.

Bold reforms were considered necessary. At the same time, due to the debt and economic crises, many countries had to adopt structural adjustment measures and cut government expenditures drastically. This further undermined national agricultural extension services and sent them into a deep crisis. Restructuring and reorganizing centralized national agricultural extension services from within (which several countries attempted unsuccessfully) was no longer considered a realistic option, and many countries decided to dismantle these systems and adopt completely new modes of supporting technology and knowledge diffusion among farmers. In other countries, reforms were not attempted, and extension systems were allowed to degrade or in some cases wither away entirely.

By this time, many donors, out of frustration with the lack of performance and accountability of public extension services, began putting resources into a variety of NGOs and foundations so as to maintain some engagement in agricultural extension. This boiled down to a choice between long-term institution building and a short-term, tactical approach leading to more immediate impacts.<sup>3</sup> Since these approaches were mostly donor-funded and not country-owned, funding was not sustainable once donor interest dried up. This approach also diverted attention away from a more holistic approach to reform that would lead to more pluralistic systems, both in terms of funding and implementation. However, while this approach set back meaningful reforms in several systems during the 1980s and 90s, it did provide NGOs with experience and expertise that served them well when they were later called upon to implement major portions of new agriculture and food security initiatives.

#### **THE NEUCHÂTEL INITIATIVE<sup>4</sup>**

A rich literature emerged from the different approaches to agricultural extension taken during the 1990s by NGOs, regional organizations, and the donor community. In the African context, where the Green Revolution had very limited impact, it was clear that new approaches were needed. Other developmental shifts occurring throughout the continent (e.g. economic liberalization, decentralization, and privatization) moreover led to a new look at extension and advisory services. Representatives of bilateral and multilateral cooperation development partners involved in agricultural development in Sub-Saharan Africa, including USAID, came together informally to consider alternatives for dealing with the extension challenges. A framework that came to be known as the Neuchâtel Initiative emerged from these discussions. The aim of this Initiative, which was started in 1995, was to bring about a convergence of ideas on the objectives, methods, and means of support for agricultural extension.

<sup>3</sup> World Bank 2010 Strengthening Agricultural Extension and Advisory Systems, Agricultural and Rural Development Discussion Paper 45.

<sup>4</sup> Common Framework on Agricultural Extension, Neuchâtel Group.

The discussion took into account the following changes occurring in the African context:

- The decentralization, liberalization, privatization, and democratization taking place across the continent;
- Recognition that extension systems must be accessible and useful to the poorest and also address the special concerns of women farmers and young farmers;
- The emergence of new actors such as producer organizations, NGOs, and private business actors such as farm input suppliers, purchasers, and processors, all of whom were becoming involved in extension activities;
- The continued decline in government spending on extension.

To accommodate these trends it was concluded that a new approach to agricultural extension was needed. The following principles were developed as the basis of a program of reform of agricultural extension:

- A **sound agricultural policy** is indispensable; extension is only one aspect of agricultural policy;
- Agricultural extension is a **process of facilitation** involving exchange of information and knowledge between and among the actors that make up the system i.e. farmers, businesses, researchers, extension workers;
- **Enhanced client orientation and participation**; producers are clients and stakeholders rather than beneficiaries;
- Market demands create an impetus for a **new relationship between farmers and private suppliers of goods and services**; without inputs and markets extension is ineffective;
- New perspectives are needed with regard to **public implementation/financing and private actors**; more attention has to be given to decentralization of service delivery, outsourcing of service delivery, and co-financing of services by direct beneficiaries;
- Pluralism and decentralized activities require **coordination and dialogue between actors**; no single approach or organization fits all; producers should have a choice of a range of providers in terms of methods, quality of service, and cost.

## **A CHANGED LANDSCAPE: COMPLEXITY, CHALLENGES, AND OPPORTUNITIES FOR AGRICULTURAL EXTENSION AND ADVISORY SERVICES**

### **VALUE CHAINS**

Modern agriculture is increasingly integrated into more sophisticated and lengthy value chains with forward (processing, consumption) and backward (inputs) linkages.<sup>5</sup> Such a scenario presents a series of challenges for an agricultural extension system which goes beyond the traditional linear approach of technology transfer where “one size fits all” and where the farmer is the passive receiver of information. Each stage of the process has its own requirements and standards that need to be met by the various actors along the chain and ultimately need to be communicated to the

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<sup>5</sup> World Bank; “Enhancing Agricultural Innovation: How to go Beyond the Strengthening of Research Systems;” Washington DC, 2007.

primary producer – the farmer. Linkages and information exchange along the chain are vital for the competitiveness of the sector.

These characteristics of the market have increased the need for information and technology, no longer just in relation to the product itself, but also to the whole production process, including sound agricultural practices, post-harvest handling and processing, certification, labeling of origin, classification or standardization, packaging, food safety, and means of storage and transportation. This development of a knowledge-based agriculture will depend on an innovation system, of which extension is part, that is diverse and pluralistic in terms of financing and execution, competitive in the allocation of resources, international in focus, and participative with strong private-public partnerships that gives synergy to the overall system.<sup>6</sup> The private sector is increasingly involved in the generation and dissemination of knowledge and technology, and the role of the private sector increases in importance as agriculture becomes more commercial and more intensified.

There are, however, limitations inherent in the value chain approach: Most small farms are highly diversified operations involving, for instance, complex crop-livestock interactions. Focusing on value chains in isolation may result in missing these inter-relationships, with implications for household health and nutrition. Also, value chain approaches based on private profit incentives may also fail to address important public goods (e.g., the environment) and public welfare issues (resiliency, inclusiveness). Finally, parallel EAS systems focusing on individual value chains can become duplicative and costly.

#### **FACILITATING LINKAGES IN THE KNOWLEDGE CHAIN**

A competent extension system can facilitate both the initial adoption and the spread of innovations if properly focused, providing for a continuous flow of information from existing sources both from research and from other actors in system. Institutional linkages are key in the facilitation of knowledge and innovation, and in many countries these linkages are still weak or non-existent. The development and the strengthening of these linkages, ranging from research institutions to private sector firms and farmers, will increase the impact and the efficiency of the agricultural extension system. The public extension system will also need to reach out to other players and incorporate them into the extension activities, forming partnerships with private-sector firms along the production chain. Extension providers, to be effective, must collaborate with firms, banks, NGOs, and other service providers. Moreover, farmers will no longer be content to be passive receivers of information but active participants in the process.

#### **FOCUSING ON PUBLIC GOODS**

As medium to small-scale farmers become more dependent on the private sector -- i.e. input suppliers and other actors in the value chain -- to provide technical knowledge, and as *technology transfer* becomes increasingly privatized, public extension systems will have to focus more on public goods. In the case of extension, public good activities would include farmer organization, strengthening farmer participation in the production chain(s), risk reduction in terms of plant and animal health as well as food safety, environmental sustainability, natural resource conservation, and non-formal education. This shift in focus could be especially important as national agricultural development goals move increasingly toward improving rural livelihoods.

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<sup>6</sup> World Bank Chile: Review of Public Technological Institutes in the Public Sector, Washington DC, 2010.

## **ALLEVIATING GENDER INEQUALITY**

Women farmers predominate as agricultural producers in many countries but are often overlooked by those directing extension and advisory services. Because of culture and tradition, their roles differ from continent to continent. In Asia and Latin America they are often more involved in the production of horticultural crops or farmyard activities, mostly around livestock. In Sub-Saharan Africa, women traditionally produce the major food crops. Considering women's importance in agriculture and having gender-sensitive practices in extension is a priority. The Global Forum for Rural Advisory Services (GFRAS)<sup>7</sup> has identified two important policy areas that, if implemented, would contribute to gender equality in agricultural extension:

- Strengthening women's ownership and control, which requires a decentralized and transparent budgeting process that ensures that women's demands are actually planned and budgeted for; and
- Increasing the number of women EAS professionals, which requires adjusting recruitment criteria, providing gender-sensitive work conditions, and promoting gender sensitivity with both male and female agents.

## **USE OF ICT**

Smallhold farmers throughout the world are commonly constrained by lack of timely information on production practices, market prices, disease epidemics, and weather conditions and projections, all of which are vital to the viability of their enterprises. Improving communication to the markets, organizations, and institutions with which farmers interact is essential to making their enterprises more productive. Information and communication technologies (ICT)<sup>8</sup> represent a potentially valuable tool for providing needed information on a timely and cost-effective basis.

ICTs have four broad functions in EAS: (i) addressing the need for localized and customized information, adapted to rural users in a comprehensible format and appropriate language; (ii) helping document and store information that is usually available in very diverse qualitative and quantitative forms; (iii) enabling collaboration and partnerships for innovation among rural actors; and (iv) helping rural communities "gain a voice."<sup>9</sup>

It should also be noted that information channels along the agricultural value chain are diversifying, and ICT is playing an increasingly key role in this diversification. Farmers with access to mobile and other ICT platforms can get information not only from national agricultural research and extension systems but also from other farmers, purchasers, processors, and financial institutions that will allow them to improve their decision-making. Because of the inexorable improvement in, and the affordable deployment of, communication technology -- especially in the area of mobile technology -- effective extension systems should have both ICT strategies and appropriate deployment and use of these technologies.

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<sup>7</sup> Sanne Chipeta; Gender Equality in Rural Advisory Services; GFRAS Brief #2, December 2013.

<sup>8</sup> The Role of Information and Communication Technologies; Kerry McNamara, ARD Notes; World Bank, 2009.

<sup>9</sup> ICT in Agriculture, World Bank, 2011.

# RESPONSES TO CHANGED ENVIRONMENT

## **NEPAD AND THE COMPREHENSIVE AFRICAN AGRICULTURAL DEVELOPMENT PROGRAM (CAADP)**

The New Partnership for Africa's Development (NEPAD) represents an African response to the perceived development failures of the 80s and 90s. NEPAD, which is an undertaking of African states under the aegis of the African Union (AU), addresses critical challenges facing the continent: poverty, development, and international marginalization. CAADP, first announced at the 2003 AU Summit, is NEPAD's policy framework for agricultural transformation, food security, and economic growth. Both NEPAD and CAADP are based on the principles of African ownership and leadership, accountability and transparency, inclusiveness, evidence-based planning and decision-making, harnessing regional complementarities, private sector driven development, and systemic capacity enhancement. As part of CAADP, countries undertook extensive stocktaking and analytical work to develop peer-reviewed strategies and implementation plans, which were focused on achievement of the first Millennium Development Goal: halving extreme poverty and hunger by 2015. Significantly, CAADP provides a common framework for addressing issues of agriculture and food security, including EAS: All donor assistance in African agriculture is now expected to accord with and support country efforts being undertaken through the CAADP.

## **THE INITIATIVE TO END HUNGER IN AFRICA (IEHA)**

IEHA, which began in 2003, and in 2009 transitioned to the Global Hunger and Food Security Initiative, was the main USAID agriculture investment program during this period and was aligned with NEPAD and CAADP. The IEHA was active in nine African countries.<sup>10</sup> The largely positive results of the six years of IEHA implementation were instrumental in convincing the USG to broaden and intensify its efforts in agriculture and food security. The experience gained through the IEHA provided a basis for strategy development in the follow-on Feed the Future Initiative.

## **FOOD AID AND AES**

With the precipitous drop in USG agricultural development assistance in the 1990s, monetized Title II food aid became the prime source for agricultural productivity and rural income programs in a number of countries. These programs, implemented by NGOs, provided a useful means for testing alternative models for the delivery of Extension and Advisory Services through, for example, work with farmers' groups, cooperatives, and input supply dealers. This experience was then drawn from for the design of subsequent activities under Feed the Future.

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<sup>10</sup> Rwanda, Uganda, Kenya, Mozambique, Malawi, Zambia, Mali, Senegal and Ghana.

## **L'AQUILA GLOBAL FOOD SECURITY INITIATIVE (AFSI)<sup>11</sup>**

The food price crisis of 2007-08 delivered a wake-up call to the international community regarding the precariousness of the world's food supply and the urgent need to increase food production, especially in Africa, in order to meet demand which was expected to increase by 50% by 2050. Recognizing the urgent need to ensure future food availability and access, donors at the 2009 G8 Summit in L'Aquila, Italy, pledged to increase investment in agriculture and other complementary sectors to address these challenges. The AFSI was a pledge by donors to provide \$22 billion (\$3.5 billion on the part of the USG) in assistance over fiscal years 2010-2012, to be implemented in accordance with the Rome Principles for Sustainable Global Food Security. These principles make up a set of aid effectiveness goals that commit the donor community to:

- Invest in country-owned plans that support results-based programs and partnerships so assistance is tailored to the needs of individual countries through consultative processes and plans that are developed and led by country governments;
- Strengthen strategic coordination to mobilize and align the resources of the diverse partners and stakeholders—including the private sector and civil society—needed to achieve common objectives;
- Ensure a comprehensive approach that accelerates inclusive agriculture-led growth and improves nutrition while also bridging humanitarian relief and sustainable development efforts;
- Leverage the benefits of multilateral institutions so priorities and approaches are aligned, investments coordinated, and financial and technical assistance gaps filled;
- Deliver on sustained and accountable commitments, phasing in investments responsibly to ensure returns, using benchmarks and targets to measure progress toward shared goals, and holding stakeholders publicly accountable for achieving results.

The AFSI recognizes that since demand for arable land is rising at a faster rate due to population and economic growth, water scarcity, and demand for biofuels, food production must intensify and agricultural productivity must rise if this demand is to be met in environmentally acceptable ways. The agriculture sector, especially in Africa, suffers from a dearth of research and extension, up-to-date infrastructure, and access to information and inputs. Moreover, African agricultural productivity has shown very little increase over the past 25 years. Although production has doubled, this was due to area expansion, not increased productivity. Confronting this problem poses a great opportunity to reverse environmental decline and contribute to overall economic growth. Likewise, in order to ensure that women, who produce 60-80% of food in Africa, have equal access to land, credit, extension, and inputs should amplify benefits as well as improve child nutrition.

At L'Aquila it was agreed that "investment in and access to education, research, science, and technologies should be substantially strengthened at the national, regional and international levels." Furthermore, it was recognized that continued innovation would be needed to increase agricultural productivity, improve nutritional outcomes, and achieve global food security. Innovation is driven, above all, by investments in research and technology dissemination.

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<sup>11</sup> [www.state.gov/s/globalfoodsecurity/rls/rpt/laquila/202837.htm](http://www.state.gov/s/globalfoodsecurity/rls/rpt/laquila/202837.htm).

AFSI donors have since gone beyond the original \$22 billion pledge, and the funds have resulted in significant growth in donor support for food and nutrition security. Analyses show that AFSI donors are making progress in coordinating their investments and programs in partner countries. These analyses show the large number and geographic diversity of countries benefitting from AFSI investments, which are spread across 40 partner countries. AFSI donors are also co-financing projects with development institutions such as the World Bank and the International Fund for Agricultural Development (IFAD). AFSI members contribute to, and coordinate their programs with these institutions in the context of their long-term collaboration.

## **GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM (GAFSP)**

One of the initial steps in responding to the global food crisis was the GAFSP. The GAFSP is a multilateral mechanism to assist in the implementation of pledges made by the G20 in Pittsburgh in September 2009. GAFSP addresses the underfunding of country and regional agriculture and food security strategic investment plans that are already being developed by countries in consultation with donors and other stakeholders at the country-level. The GAFSP is implemented as a Financial Intermediary Fund for which the World Bank serves as Trustee. The World Bank also hosts a small coordination unit that provides support to the GAFSP Steering Committee. The USG has been the major contributor to the GAFSP, with contributions to date totaling over \$450 million.

Since its initiation in 2010, GAFSP has addressed financing gaps in coordination with national agricultural investment plans. Investments focus directly on agricultural production in, for example, extension services, training, roads, and irrigation. The focus countries are Bangladesh, Cambodia, Ethiopia, Ghana, Guatemala, Haiti, Honduras, Kenya, Liberia, Malawi, Mali, Mozambique, Nepal, Rwanda, Senegal, Tajikistan, Tanzania, Uganda, and Zambia.

## **FEED THE FUTURE**

Feed the Future constitutes the USG's bilateral assistance response to 2007-08 food price crisis. Feed the Future is a "whole of government" undertaking, led by USAID and with participation of ten other USG Agencies, principally USDA and the Department of State. Efforts are focused on 19 countries in Africa, Asia, and Latin America and the Caribbean, selected principally on the bases of degree of poverty or food insecurity and commitment to development<sup>12</sup>. From its outset, Feed the Future was planned to be "transformative," resulting in substantive, measurable increases in agricultural productivity, rural incomes, and child nutrition within the five-year time period allotted.

Feed the Future was also meant to accord with the Agency's "new directions" (generally designed to accord with the Rome Principles), which urged local engagement, stakeholder collaboration, sustainability, and effective host government engagement. Ideally, Feed the Future was to "buy-into" host government development programs developed through a consultative process, often under the earlier IEHA. There was a push to increase government-to-government funding, but a simultaneous push for strict accountability frequently led missions in the direction of contracted

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<sup>12</sup> Feed the Future currently has 19 focus countries across three regions:

- Africa: Ethiopia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Rwanda, Senegal, Tanzania, Uganda, Zambia.
- Asia: Bangladesh, Cambodia, Nepal, Tajikistan.
- Latin America and the Caribbean: Guatemala, Haiti, Honduras.

technical services, which can be more tightly controlled and held to higher accountability standards than government institutions or NGOs. Public extension systems were generally suspect, for reasons noted above, and the calls for government engagement generally did not extend to work with such systems.

All this came at a time that most missions were woefully understaffed. The few USAID agricultural officers in the field had little opportunity to undertake the careful analyses of indigenous extension and advisory services systems that would provide the basis for the dissemination of productivity and income-enhancing technologies. Instead, Feed the Future began with a series of rapid assessments by outside contractors to identify key value chains and geographic zones of influence (generally, the more marginalized, poorer regions). It, then, moved quickly into the design of specific activities, emphasizing these value chains and geographic areas and deemphasizing institutional development. A result is that Feed the Future employs a variety of approaches to technology transfer, mostly funded and implemented through Feed the Future implementers (contractors and NGOs using approaches they have found effective in other contexts) but also involving public sector extension services, producer cooperatives, information technology, agricultural input suppliers, and product buyers, often simultaneously. Thus, while not explicitly emphasizing EAS, Feed the Future lends itself to a comparison of effectiveness and cost effectiveness of different approaches.

Feed the Future was launched in mid-2010, but was not operational in the field until a year later. In eastern and southern Africa, Feed the Future activities reflect and strengthen regional and national priorities as described by the CAADP. These include both broad based goals and commodity-specific objectives for the agriculture sector that are critical to fostering food security and poverty reduction, in tandem with production plans for specific commodities and investment targets for national governments. The dynamic interactions and synergies of a combined public and private sector investment and agro-economic landscape are key to the success of both Feed the Future and the CAADP.

### **GLOBAL FORUM FOR RURAL ADVISORY SERVICES (GFRAS)**

During the early years of this century, the Neuchâtel Initiative stimulated a renewed interest in EAS on the part of many development partners, especially with respect to Africa. Many stakeholders felt that a worldwide body for RAS advocacy, analogous to that for agricultural research, was needed. They also recognized the need for the sharing of experience both regionally and worldwide. With the support of various donors, including USAID, GFRAS was established to fulfill this role on January 1, 2010. The African Forum for Agricultural Advisory Services (AFAAS), moreover, was created to meet this need in Africa and currently partners with GFRAS. Latin America and Asia are in the process of developing comparable organizations.

GFRAS has elaborated the following functions:<sup>13</sup>

- **Providing voice** for advisory services within global policy dialogues and promoting improved investment in RAS;
- Supporting the development and synthesis of **evidence-based approaches and policies** for improving the effectiveness of RAS;

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<sup>13</sup> <http://www.g-fras.org/en/about-us/vision-mission.html>.

- **Strengthening actors and fora** in RAS through facilitating interaction and networking.

GFRAS has completed its first five years of operation and will prepare a further 5-year strategic framework during 2015, which will include consultation with a wide range of stakeholders.

During 2015, GFRAS is planning to launch a *Global Good Practices Initiative – for Better Extension* that will cover areas, such as use of ICT in RAS, how to deliver nutrition messaging, the role of producer organizations, public-private partnerships in RAS, and increasing the role of women extension agents. This study will draw on the changes and reforms that have been implemented globally over the recent past. Since this study will cover several of the topics that are of interest to MEAS, it calls for collaboration between the two programs.

### **MEAS (MODERNIZING EXTENSION AND ADVISORY SERVICES)**

MEAS was developed by USAID as part of the USG’s initial response to the 2007-08 food crisis. Its overarching goal was to “establish the institutional capacity to promote rural innovation necessary to achieve sustainable food security, reduce poverty, conserve natural resources, and address other rural problems.” The program objective was “to define and disseminate good practice strategies and approaches to establishing efficient, effective, and financially sustainable rural extension and advisory services in selected countries.<sup>14</sup>” MEAS is directed to work with both public and private sector extension services, with a focus on understanding and enhancing the cost-effectiveness and financial and institutional sustainability of extension services.

MEAS was authorized in August 2009 and awarded to a consortium led by the University of Illinois in September 2010.<sup>15</sup> MEAS was designed as a five-year “leader with associates”<sup>16</sup> cooperative agreement, with estimated core funding of \$9 million and provision of up to \$50 million in associate awards. MEAS sees that extension and advisory services are vital elements of a broader agricultural innovation system and are designed in consideration of the fact that over the preceding decades USAID had lost its formerly preeminent position as thought leader and major funder for EAS in the developing world. If USAID hoped to be effective in addressing current and projected food production needs, renewed attention to agricultural extension and advisory services was essential.

MEAS was designed with three components or themes, which may be basically understood as “Teach,” “Learn,” and “Apply:”

- “Teach” involves mainstreaming modern approaches to extension into curricula and training programs at all levels;
- “Learn” consists of documenting lessons learned and good practices; and

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<sup>14</sup> MEAS Cooperative Agreement, pp. 13-14.

<sup>15</sup> Other consortium members consist of UC Davis, University of Florida, Michigan State University, Cornell University, North Carolina A&T State University, IFPRI, Cultural Practice, LLC, CRS, Winrock, SAFE (Sasakawa Africa Fund for Extension and Education), the Sasakawa Africa Association, and AGRA (the Alliance for a Green Revolution in Africa).

<sup>16</sup> A Leader with Associates (LWA) grant or cooperative agreement is competitively awarded to solve a far-reaching development problem or address a development issue. The Leader Agreement covers broad worldwide activities and is usually managed centrally in USAID/WV. Missions can then award Associate Agreements to the Leader recipient to cover specific Mission or Bureau activities that fall within the scope of the Leader Award. The benefits of an LWA include: (1) no further competition required for Associate Awards; (2) simplified Associate Award documents; (3) precertification of recipients; and (4) a single set of reports provided directly to the Missions and Bureaus on the use of their funds.

- “Apply” involves designing or contributing to the design of extension and advisory service programs.

Under “Teach,” (see Table 2.1) MEAS was charged with developing state-of-the-art training modules for both policy-makers and field extension staff, developing and publishing technical notes on good extension practices, and developing a “robust” ICT system to strengthen extension fieldwork, increase farmer access to market information, and expand access to knowledge and training for extension professionals.

**TABLE 2.1: MEAS IMPLEMENTATION TARGETS AND ACHIEVEMENTS THROUGH JULY 2014:<sup>17</sup>**

<b>TEACH: Disseminate Modern Approaches to Extension</b>	<b>Target</b>	<b>Achievements</b>
Developed training modules	40	32
Training Workshops conducted	16	39
Developed technical notes/Good Practice Papers	20	18
Extension staff trained	300	565
USAID and development partners professionals trained	565	916
Trained Policy Makers (senior govt. officials)	130	115
<b>LEARN: Document Lessons Learned &amp; Good Practices</b>		
Best Practice synthesis review completed	70%	70%
Best Practice team workshop	1	2
Case Studies completed	17	29
Program Evaluations completed	8	7
Pilot Extension Projects implemented	8	7
Academic Papers published	8	9
New Extension strategies/methods defined	5	10
<b>APPLY: Designing Modern EAS Programs</b>		
Country extension systems assessed	20	13, plus 4 ICT assessments
Private enterprises and client organizations receiving MEAS assistance	10	12
Good practice reforms incorporated into private sector extension services	8	9
Good practice reforms incorporated into public extension programs	8	10
Rural Clients Receiving Improved EAS	2M	1.7 M

The “Learn” component was designed to “serve as the principal tool in assimilating, integrating, and guiding innovations in . . . EAS reform.” Outcomes from this component were to inform, enrich, and provide core content for the training programs and modules developed and made available through Component 1. This would start with a comprehensive review and synthesis of “best practices” in successfully reaching limited-resource farmers, both male and female, with the goal of identifying those principles and methodologies associated with high levels of EAS success. A minimum of ten in-depth EAS evaluations were to be conducted, including economic (cost-benefit) analyses of the

<sup>17</sup> MEAS Annual Report Year 4, Sept. 2013 – Sept. 2014, pp. 5-7.

different programs reviewed. The results of these evaluations, plus the country EAS assessments conducted under the “Apply” component, would be used to test and demonstrate key interventions and efficiency-enhancing technologies and approaches. MEAS would work to broaden the network of institutions involved in the Sasakawa Africa Fund for Extension Education (SAFE), equipping the institutions of higher education preparing the next generation(s) of practitioners with the requisite skills and attitudes.

The third component – designing extension and advisory service programs, or “Apply” – was to start with analyses of the role/capacity of primary EAS providers in key countries, with a special focus on USAID’s Feed the Future countries. In these (roughly 20) countries, MEAS would field Comprehensive Extension Assessment (CEA) teams to carry out thorough analyses of the pluralistic extension systems in each country. These would be followed by investment plans to modernize EAS systems.

Overall performance has been good to superior in terms of meeting established targets. Overall, 38 countries, half of them Feed the Future countries, have seen some degree of MEAS activity. MEAS funding by country, broken down by core and mission buy-ins, is shown in Table 2.2.

**TABLE 2.2: MEAS FUNDING BY COUNTRY, BROKEN DOWN BY CORE AND MISSION BUY-INS**

<b>Country</b>	<b>Obligations to Date, Core Funds</b>	<b>Obligations to Date, Buy-Ins</b>
Bangladesh	263,000	500,000
Tajikistan	110,000	499,000
Mozambique	35,000	350,000
Ghana	66,000	250,000
Rwanda	32,000	170,000
Liberia	245,000	47,000
Malawi	247,000	97,000
Nepal	130,000	2,000
Cambodia	33,000	0
Ethiopia	40,000	0
Kenya	333,000	0
Mali	57,000	0
Tanzania	26,000	0
Uganda	305,000	0
Zambia	120,000	0
Central America	50,000	0
Georgia	0	100,000
Other non-Feed the Future <sup>18</sup>	N/A	
<b>Totals</b>	<b>2,092,000</b>	<b>2,015,000</b>

<sup>18</sup> Includes Benin, Burkina Faso, Colombia, Congo (Dem. Republic of), Ecuador, Egypt, India, Jordan, Malaysia, Morocco, Myanmar, Philippines, Serbia, Sierra Leone, Thailand, Timor Leste, Vietnam.

The mission buy-ins fall almost entirely into the “Apply” component, consisting of assessments of country EAS systems oriented toward subsequent follow-up, either as stand-alone EAS activities or for incorporation in on-going Mission Feed the Future programs. Activities in non-Feed the Future countries fall largely into the “Teach” and “Learn” categories, i.e. training workshops, seminars and case studies.

MEAS has been actively engaged globally in various contexts. MEAS has been a regular participant at the annual meetings of GFRAS, conducting side events on extension evaluation and EAS curriculum. At the 2014 meeting, MEAS presented an EAS “Policy Guide” intended as a one-stop shop for those working on, advocating for, and implementing extension policy. Essentially, this is meant to be a resource to direct decisions and facilitate successful policy processes and outcomes in extension and advisory services.

In collaboration with the Latin American network of extension professionals (RELASERI), MEAS implemented a joint five-day workshop on principles of effective extension services with representatives from ten Latin American countries. This is expected to lead to organizational changes, improved coordination among service providers, and knowledge sharing across borders.

MEAS has contributed to regional Feed the Future Global Learning and Evidence Exchange (GLEE) workshops in Addis Ababa and Bangkok. The Addis Ababa GLEE involved more than 35 Mission staff from 17 Missions (over 80 total participants), and the Bangkok GLEE focused on the Asia region and included over 70 participants, both USAID and partners. In both workshops, MEAS led sessions on sustainable extension and advisory services and how to best advance strategies to scale up achievements and achieve faster and deeper impact on Feed the Future goals.

Another example of MEAS work under the “Teach” component is its collaboration with the Peace Corps. Volunteers play an important role in Feed the Future programs in a number of countries, working at the village level to encourage the adoption of income and productivity-enhancing technologies and improved nutritional practices. MEAS consortium member UC Davis worked with the Peace Corp and the University of Illinois (UIUC) to draft training modules for volunteers on both the principles and practice of good extension.

In addition to these activities, two countries – Tajikistan and Georgia – have entered into associate awards for implementation of EAS-focused activities, with overall authorized budgets of \$8 million and \$2.4 million respectively.

## **NUTRITION IN EXTENSION AND ADVISORY SERVICES**

Improving the nutritional status of mothers and young children is one of the principal objectives of Feed the Future, a reflection of the growing recognition of the importance of nutrition in childhood development and of the interrelationship of agricultural production, incomes, and childhood nutrition. As a result, there is increased attention to the use of EAS to deliver nutrition messaging and improve nutritional outcomes.

MEAS has undertaken some work in this area, primarily under the “learn” component. These include assessments of the effectiveness of integrating nutrition in farmer field schools (FFS) in Eastern Africa, integrated agriculture-nutrition extension services in Malawi, and increasing production and consumption of diversified macronutrient-rich foods using a modified FFS model in Bangladesh. Adapting EAS tools such as FFS to strengthen the linkages of agricultural production to

nutrition education and training is showing positive outcomes, especially among poor farmers. MEAS also documented improved nutrition outcomes by empowering women and making extension and advisory services more gender sensitive.

More significantly, MEAS has been awarded an associate award to assist Feed The Future missions to strengthen gender and nutrition integration within agricultural extension and advisory services. This activity, christened INGENAES (INtegrating Gender and Nutrition in Agricultural Extension Services), is authorized for \$7 million and will run from September 2014 through February 2018. INGENAES is intended to enable Feed the Future missions to:

- Build more robust, gender-responsive, and nutrition-sensitive institutions, projects, and programs capable of assessing and responding to the needs of both men and women farmers through EAS;
- Identify, test the efficacy of, and scale proven mechanisms for delivering improved EAS to women farmers;
- Disseminate gender-appropriate and nutrition-enhancing technologies and access to inputs to improve women's agricultural productivity and enhance household nutrition;
- Apply effective, nutrition-sensitive, extension approaches and tools for engaging both men and women.

Apart from MEAS, USAID Missions are integrating agriculture and nutrition education as a means of improving nutrition outcomes in their Feed the Future programs. USAID/Bangladesh, for example, is funding four nutrition-focused Feed the Future projects: (1) Aquaculture for Income and Nutrition (AIN); (2) Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING); (3) Global Alliance for Improved Nutrition (GAIN); and (4) SHIKHA. In Malawi, the flagship Feed the Future activity has been the Integrating Nutrition in Value Chains Project. USAID/Tajikistan has initiated agriculture-nutrition education links in its two new Feed the Future nutrition-sensitive horticulture projects.

### **RURAL ADVISORY SERVICES PROGRAM (RASP)**

After its authorization, but before the award was made, MEAS was subsumed into a broader USAID program to support extension and advisory services: the Rural Advisory Services Program. This enabled the USG to respond more directly to the multi-donor Neuchâtel Initiative, expanding its efforts beyond MEAS to include support to the broader global effort to upgrade and expand extension and advisory services in developing countries. Under RASP, USAID – in addition to implementing MEAS – undertook to support:

- A worldwide extension and advisory services assessment (now being maintained by GFRAS) to help bridge the knowledge gap about the status of agricultural extension systems worldwide. This assessment, completed in 2014, provides host countries, USAID Missions, and other donors with an overview and inventory of the extension and advisory service institutions in over 120 countries and facilitates more detailed study and more informed investments in extension and advisory service enhancement;<sup>19</sup>

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<sup>19</sup> "Status of Agricultural Extension and Rural Advisory Services Worldwide: Summary Report." Burton Swanson and Kirstin Davis, authors, Global Forum for Rural Advisory Services (GFRAS), 2014.

- A re-engagement in the broader donor effort to promote rural innovations and technological change through financial support for GFRAS. GFRAS, which may be regarded as a continuation and expansion of the Neuchâtel Initiative, is a multi-donor initiative to advocate, provide leadership and promote an informed perspective on pluralistic, demand driven rural advisory services. GFRAS emphasizes recognition of the central role of advice and facilitation in (a) innovation systems, (b) addressing emerging challenges in natural resource management, and (c) creating conditions for pro-poor rural change.

RASP was designed as a global effort, with particular focus on those countries that were identified as particularly food insecure under the Global Hunger and Food Security Initiative, which subsequently became known as Feed the Future. Additional funding was provided to the initial \$9 million MEAS authorization, \$2 million to support the worldwide extension and advisory services assessment, and \$2.5 million to support GFRAS.

Finally, it is important to note for the purposes of this study that while MEAS (and, subsequently, RASP) was originally conceived before USAID's Feed the Future Initiative, by the time the MEAS award was issued to the consortium led by the UIUC, Feed the Future had been launched and guidance for its implementation had been issued. Thus, what was intended primarily as a tool to assist Missions in thoughtful planning for expanded, effective agriculture and food security programs became almost an afterthought. MEAS was forced into a position, vis-à-vis Mission programs, of insinuating itself into already well-underway Feed the Future efforts.

## CHAPTER THREE

# COUNTRY SUMMARIES

Country studies were undertaken to provide a better understanding of EAS field activities under the Feed the Future Initiative, both with and without MEAS involvement. The nine countries selected were Bangladesh, Tajikistan, Ethiopia, Ghana, Uganda, Mozambique, Kenya, Nepal, and Cambodia. These were chosen in order to illustrate the gamut of EAS activities and MEAS engagement, from those where MEAS played a major role (e.g. Tajikistan, Bangladesh) to those where its involvement was minimal or insignificant (e.g. Cambodia, Ethiopia). Studies in Bangladesh, Tajikistan, Ethiopia, Ghana, Uganda, and Mozambique involved country visits of 6-8 days' duration, allowing for a thorough but not comprehensive review. Kenya, Nepal and Cambodia were conducted as desk studies.

### **BANGLADESH**

The EAS system in Bangladesh is highly pluralistic, consisting of a government extension network, local and international NGOs, private sector firms, donors and their development projects, and voluntary farmer advisors. The government's EAS system is by far the biggest. The Ministry of Agriculture (MoA) has three extension departments: Department of Agricultural Extension (DAE), Department of Marketing (DAM), and Agricultural Information Services (AIS). The Ministry of Fisheries and Livestock (MoFL) has two smaller departments: Department of Livestock Services (DLS) and Department of Forestry (DOF). The biggest of these is DAE, with about 14,000 sub-district assistant agricultural officers (SAAOs).

Private sector firms include consulting firms, input supply dealers, wholesalers, processors, and traders that use pay-for-service approaches. The most common are agricultural input suppliers of seeds, pesticides, and fertilizers that give technical advice to their farmer customers who buy their products. They collaborate with large commercial input companies who support consultants, training of farmers, and demonstration plots.

NGOs generally use pay-for-service approaches and have their own donors to fund EAS activities. International NGOs, such as CARE International, World Vision, Catholic Relief Services (CRS), and Winrock International, work with local NGOs in implementing donor projects, strengthening their capacity in the process. A local NGO, BRAC, is the largest in Bangladesh and the biggest provider of EAS after the government.

USAID/Bangladesh has twenty-seven Feed the Future projects, ongoing and planned, that cover crop, livestock, and aquaculture value chains, agricultural inputs, biotechnology, trade facilitation, nutrition, health, and capacity building. One of these, the Agricultural Extension Support Activity (AESA), a five-year, \$23.4 million project, concentrates specifically on EAS. Other Feed the Future value chain projects have extension-related activities.

There are also ten centrally-funded (i.e. BFS-funded and managed) research-oriented projects active in Bangladesh, many of them with a built-in outreach component. Six of these are with international agricultural research centers (CIP, CIMMYT, IFDC, IRRI, WorldFish, and WVC/AVRDC),

and a further three “Innovation Laboratories” (Aquaculture and Fisheries, Horticulture and IPM) are implemented by US universities. All of these research-focused activities are important sources of new and improved technologies and research-based information, and help ensure high quality research support for Feed the Future activities.

MEAS has carried out a total of sixteen distinct activities in Bangladesh. These began in January 2011 with an assessment of the country’s existing pluralistic extension system. Based on the results, two major activities were funded by the USAID Mission: (1) the Agricultural Extension Support Activity (AESA), a five year (2013-2017), \$23.4 million EAS activity, and (2) the ICT Support Project in Bangladesh (ICTSP), a two-year activity (2012-2013) with a Mission buy-in of \$500,000.

AESA is the only extension project *per se* in the Feed the Future portfolio. Its focus is on extension capacity building to increase the access and use of EAS by smallholder women and men farmers. As designed, institutions from the non-government sector, i.e. two NGOs (DAM and CARE/Bangladesh) and a private ICT firm (mPower) implement AESA. DAM (Dhaka Ahsania Mission) is new in agriculture and this has affected its technical leadership in the project. There is only limited, informal, engagement with the government’s extension system.

Of the sixteen activities, eleven were related to ICT. These included training workshops on ICT in EAS, a workshop on ICT strategy development for AESA, trainings on video and script writing, piloting of the *Farmbook* (a farm management tool), ICT seminars for university and research institute staff, a case study video on a new mechanical seeder, and an assessment and action research on gender-sensitive approaches.

#### **PRINCIPAL FINDINGS:**

- Consolidated technical assistance and funding for a single theme (e.g. ICT in Bangladesh) can strengthen a traditional EAS system using ICT tools and applications and can promote the participation of private sector ICT firms through public-private partnerships.
- There has been significant leveraging of MEAS core funds (\$220,000) with funds from the USAID Mission for two major EAS activities (\$23.9 million) from 2012-2017. The phased approach used by MEAS to generate funding and implement the activities worked well in Bangladesh and can be promoted as good practice in EAS management.

## **TAJIKISTAN**

Tajikistan’s EAS system is pluralistic, but its development has been through donor projects that focus on private sector firms and international and local NGOs, with EAS being donor-driven and often unsustainable. These extension providers serve only large commercial farms and only some 10% of all farmers in the country. The Government of Tajikistan (GoTJ) Ministry of Agriculture (MoA) has a small agricultural extension unit at the national level that has few staff. At the regional and district levels, the Department of Agriculture (DoA) has agriculture specialists (in agronomy, livestock, and economics) to provide technical advice and training to *dhekan* (larger, commercial) farms.

EAS for smallhold farmers are funded by the donor community (e.g. USAID, EU, GIZ, DfID, SDC) and are implemented mainly by both international and local NGOs and private sector firms.

International NGOs working in Tajikistan include Oxfam, Mercy Corps, ACDI-VOCA and Helvetas.

The private firms include commercial agricultural input retailers, wholesalers, processors, and traders that charge fees for services.

There are six Feed the Future activities in Tajikistan, one of which focuses specifically on extension and advisory services, the Farmer Advisory Services in Tajikistan (FAST) Project. FAST is piloting an EAS that was designed by MEAS in the Feed the Future zone of influence (ZoI) specifically for Tajikistan. The key features of this model are the *mahalla* (village) learning groups and group volunteers (farmer leaders), the group learning packages (advisory products), and the group learning activities for both women and men farmers. *Jamoat* agricultural extension coordinators (one per sub-district) and EAS facilitators who assist farmers in their activities provide support. EAS techniques include the use of demonstration plots of new and improved technologies as well as the use of print, radio, and video media. FAST collaborates with agricultural universities and research institutes, and with NGOs, private sector firms, and donor projects.

The other Feed the Future activities include the Land Reform and Farm Restructuring Project which supports the continuing progress of *dehkan* restructuring and property rights, the Family Farming Project that supports water users associations and the rehabilitation of irrigation structures, the Potato Production and Research Project, and the Nutrition-Sensitive Vegetable Production Project. They all have EAS-related activities. The latter two specifically support smallholder women farmers by helping to increase their production and improve nutrition. An additional resource is the Farmer-to-Farmer (F2F) program that connects short-term technical assistance from the US with local farms and firms. NGOs like ACDI-VOCA, research centers like CIP, and private consulting firms like DAI and Chemonics and their local NGO partners all implement these activities.

MEAS activities in Tajikistan started in 2011 with an assessment of the existing EAS system. The MEAS team identified and recommended the features of a suitable EAS model that would focus on the needs of the large number of small-scale household farms (0.1 ha or less) which are not served by the GoTJ or other donors. Based on the results, the USAID/TJ funded MEAS through a \$500,000 buy-in to design a suitable EAS model for the Feed the Future ZoI. The current FAST Project, which UIUC is implementing on behalf of the MEAS consortium through an \$8 million associate award, is based on that design. Implementation has encountered delays due to UIUC's lack of legal recognition in the country. UIUC subcontracted a local business to carry out project administration (salary payments, receiving funds, accounting) and staff management (recruitment, contracting), but its performance has been below expectation due to lack of experience working with USAID.

Through its initial core-funded assessment, MEAS was able to stimulate Mission interest in a pluralistic, sustainable, farmer-driven, and market-oriented EAS system and leverage \$8.5 million in Mission funds. The systematic approach of phasing the MEAS interventions worked well, particularly considering implementation constraints.

**PRINCIPAL FINDINGS:**

- More active participation of the government sector (GoTJ) is needed to balance the development of an EAS system that is currently almost entirely donor-funded and implemented exclusively by NGOs and private firms. Cooperation among EAS providers and donors should start early to facilitate public-private partnerships and cost-sharing of funding for EAS activities.

- Institutional and human resource capacity building is a long-term activity that needs sustained funding for at least the medium-term to ensure sustainability of the EAS initiatives in Tajikistan. The USAID's five-year extension project (FAST) to strengthen the current EAS system in the Feed the Future ZoI and build capacity of farmers and extension staff is a significant step. Strengthening the role of the public sector by enhancing collaboration with the GoTJ extension units through public-private partnerships would facilitate the achievement of this objective.
- Experience of MEAS in Tajikistan shows that it can field strong teams of specialists who can provide high quality analysis and project design. However, MEAS' ability to implement large, multi-faceted activities over a number of years is more limited. In the Tajikistan case, the inability of UIUC, acting on behalf of MEAS, to gain recognition as a legal entity necessitated cumbersome and costly work-arounds and resulted in significant delays.

## **CAMBODIA**

The centerpiece of the Feed the Future effort in Cambodia is HARVEST (Helping Address Rural Vulnerabilities and Ecosystem Stability). Its objective is to improve food security through enhanced agricultural development and improved management of natural resources in a four-province area. HARVEST began implementation in December 2010 and is currently scheduled to end in December 2015. Two of HARVEST's four components are relevant to consideration of EAS: food availability increased, and the capacity (of the public and private sectors and civil society) to address food security increased. HARVEST maintains a focus on three broad value chains considered vital to both rural economic vitality and nutrition: rice, horticulture (vegetables), and aquaculture. The extension and advisory work under HARVEST has, to this point, been undertaken directly by HARVEST staff or by local NGOs under contract with HARVEST, with little engagement from the Cambodian Government extension service.

HARVEST was subjected to an intensive mid-term performance evaluation. Among other things, the evaluation found that while the value chain support activities are leading to increased economic benefits (i.e. the beneficial impacts of HARVEST interventions in horticulture are enough to generate sustainability and replication among those farmers with the capacity for investment), capacity development has generally been limited to the local NGOs subcontracted to HARVEST. This is concerning because there is no guarantee that such technical assistance capacity will continue to be available to growers post-HARVEST. Also, while HARVEST has been effective in enhancing the extension capacity of input suppliers, there has been little progress in building sustainable capacity in other organizations/institutions. Only within the last few months, partly in response to the evaluation recommendations, has an effort been initiated to extend in-service training opportunities to public sector extension staff at the province and district levels.

The only MEAS engagement in Cambodia to date has been in the context of an effort, at the request of the Cambodian government, to formulate an extension policy for the country. USAID/Cambodia agreed to assist in this effort by providing a technical assistance team, which included an extension expert from Michigan State University, a MEAS partner institution. This constitutes a potential success story in which MEAS has played a role, albeit indirectly. The draft policy has emerged through a process consonant with MEAS principles, i.e. participatory, market-driven, and pluralistic.

**PRINCIPAL FINDINGS:**

- As pointed out by the mid-term evaluation, the Feed the Future effort in Cambodia demonstrates that it's possible to achieve production objectives while falling short on capacity development, leaving open the question of sustainability of the production gains realized. Now, four years into program implementation, this fact is coming into focus, and efforts are beginning to address it. MEAS, or a successor activity, could be helpful in this effort, subject to mission budget limitations.

**NEPAL**

The Mission's primary vehicle for achieving its Feed the Future goals is KISAN, a five-year effort to increase agricultural productivity and income, improve the nutritional status of women and children under age five, and increase the resilience of vulnerable communities and households in the target geographic region, 16-20 districts in the west of the country.

KISAN's planned outputs include increased agricultural productivity in selected value chains, leading to increased household incomes and improved nutrition, and improved capacity of agriculture extension workers and service providers. These are to be achieved principally through work with farmer groups and cooperatives, use of lead farmers and demonstration farms, private input suppliers, and the use of information and communication technologies (ICT).

KISAN works to build the capacities of local and national organizations, the private sector, and government stakeholders to plan, implement, and manage food security efforts. As part of its capacity building effort, KISAN is designed so that Nepali organizations can gradually take over implementation responsibilities, albeit with continued funding from KISAN, beginning in the third year of implementation. It is expected that these organizations will be NGOs or private firms, but they will be expected to continue to work with all service providers, including the Nepal public extension service.

MEAS undertook a scoping mission, at the Mission's request, in late CY 2011 to identify key issues within the current extension system that would need to be addressed to develop a sustainable, farmer-led, and market-driven system of extension and advisory services. However, the USAID Mission was never fully invested in the exercise. Design of the Nepal Feed the Future program was already underway, and there was little scope for addressing the assessment's findings and recommendations within the given Feed the Future parameters (relatively narrow value-chain focus, arms-length relationship with a GON institution, especially in the extension field.)

Since the initial scoping mission, MEAS has used core resources to sponsor several training sessions for mid-career extension officers and others, mostly from public sector, dealing with extension policy and implementation. MEAS has also supported a pilot extension activity in one district that, unfortunately, is not among Feed the Future's focus districts. MEAS core funding for its work in Nepal comes to roughly \$171,000. \$76,000 of that was for the initial scoping mission. \$25,000 was for the training workshops, and the remaining \$70,000 was for the off-season vegetable production pilot.

**PRINCIPAL FINDINGS:**

- While MEAS' activities in Nepal have not been insignificant, at least in terms of funding, the impact on programs has been slight. The Mission designed its flagship project largely

independently of the MEAS extension assessment and has not availed itself of MEAS' services during implementation.

- At the same time, MEAS core-funded training and pilot extension activities have been undertaken with only minimal Mission involvement. This disconnect can be attributed, at least in part, to timing and staff turnover, but the Nepal case is illustrative of broader issues in the de-emphasis of institutional (especially public sector) capacity development and sustainability relative to hitting production and income targets. Possibly in consequence, missions and MEAS never really getting on the same page.

## **ETHIOPIA**

The Government of Ethiopia (GoE) has made investments in EAS going back to the 1950s with a significant stepping up of activity in the past two decades. Although the system is becoming more pluralistic, the public extension program remains a huge, centrally-managed bureaucracy. According to the latest information, the Ministry of Agriculture and Rural Development (MOARD) has about 60,000 Development Agents, making Ethiopia's agricultural extension system the largest in Sub-Saharan Africa. There has been some recent decentralization of decision-making, but the effective autonomy of the Regional and State governments is questionable. The GoE has now established about 10,000 Farmer Training Centers around the country with the intent to build up to 18,000. It has also launched twenty-five Agricultural Technical and Vocational Education and Training Centers to train and upgrade the skills of its extension agents.

USAID works with other donors and the GoE to promote the emergence of a pluralistic, government-led, donor-harmonized, and evidence-based EAS system as the best means of achieving its production and income objectives. The Agricultural Growth Program (AGP) is the flagship program of the Government of Ethiopia's CAADP-approved investment plan. The AGP is a comprehensive program supported by several donors, including USAID, anchored in the Ethiopian Government's economic growth program. Feed the Future constitutes the USG's contribution to the AGP. The development objective of Feed the Future in Ethiopia is to increase agricultural productivity and market access for key crop and livestock product value chains.<sup>20</sup>

Feed the Future in Ethiopia differs from many other Feed the Future programs because of its real integration into an overall GoE program (the AGP) that was jointly developed by Government and development partners. Feed the Future does not provide any direct support to the GoE's extension program. It does contribute to a multi-donor effort to develop capacity in the GoE's extension directorate. Primarily, however, Feed the Future concentrates on growing the private sector involvement in rural areas and developing input and output markets. Support for the AGP through Feed the Future is complemented by two other USAID activities, the Productive Safety Net (PSNP) and Household Asset Building (HABP) programs. Collectively, these are showing encouraging outcomes.

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<sup>20</sup> While MEAS did not do an assessment in Ethiopia, the initial leaders for both MEAS and GFRAS were involved in an assessment of EAS systems and options just prior to the start of the RASP program. (The assessment was funded from other sources.) This assessment provided direction for the GOE.

## **PRINCIPAL FINDINGS:**

- On-going efforts to strengthen the competitiveness of value chains, link value chain actors and service providers, and promote Farmer Service Center-led outreach activities are empowering both farmers and private sector actors;
- In the areas that make up the Feed the Future Zone of Influence, public extension agents are implementing specific national programs with budgets and project implementation manuals offered by the AGP, the PSNP and HABP programs;
- Because the Feed the Future activities are integrated into the AGP, there is an established relationship with the public extension system -- the USAID and other donor “parallel” programs have a recognized role in testing and piloting innovations that increase the private sector involvement in provision of extension services; because they are part of the overall AGP they can do this for the most part in a way that is collaborative and not threatening to the public extension system.
- In spite of GoE restrictions on NGOs, some of USAID’s “parallel” programming under the PSNP and HABP remain channeled through large NGOs with a focus on local capacity building.
- Overall, Ethiopia’s EAS program is evolving and continuing to produce results. To ensure sustainability, however, it will be necessary to: (1) uphold a level playing field for the non-state sector in provision of EAS, enhancing prospects for achieving private sector-led sustainable growth; and (2) incorporate a “MEAS-Type” technical assistance team in the Donor Group to enhance program effectiveness and harmony among varied service providers by filling gaps in evidence about what works and does not work, as well as through contributions to establishing institutional capacity.
- While the Mission has not worked directly with either MEAS or with the GoE’s public extension system, its contribution to the multi-donor capacity development efforts for the extension directorate has facilitated the incorporation of lessons learned into the GoE’s Agricultural Growth Program. The effectiveness, and cost-effectiveness, of these efforts would be a worthwhile study for a MEAS follow-on activity.

## **UGANDA**

Feed the Future in Uganda focuses its work on three value chains: coffee, maize, and beans. The Feed the Future ZoI covers 38 districts with 34% of farming households and 48% of children ages 0-5. Key objectives include increased agricultural productivity and market access, improved nutritional status, and integration of nutrition and agriculture at the household level. Climate change adaptation and public-private collaboration are overarching themes. There are currently eight Feed the Future activities, with one more under procurement. Half of these include a strong emphasis on nutrition, distinguishing USAID/Uganda as a worldwide leader in establishing linkages between health, agriculture, and nutrition. In addition to increasing yields, programs seek to improve the numbers of children receiving the minimally acceptable diet, reduce stunting, and promote the production and consumption of biofortified crops. Feed the Future also supports the

production and distribution of Ready to Use Therapeutic Foods (RUTF) for nutrition rehabilitation and PLWAs and promotes the use of indigenous ingredients in the recipe.<sup>21</sup>

The Ministry of Agriculture and Livestock in Uganda is in the process of significantly recasting and re-staffing its extension services branch, and Feed the Future activities are not linked into the public extension service at this time. As is the case with other Feed the Future programs in East Africa, much of the Mission-supported EAS activity flows through USAID funded contractors and grantees. Extension services are also provided through other donor organizations. These include the World Food Program's (WFP) Purchase for Progress (P4P), DANIDA (the Danish government's foreign assistance agency), and the US PeaceCorps. USAID Food for Peace supports extension in Uganda through its PL 480 Title II activity, which combines a comprehensive health and nutrition education with small-scale agricultural extension services. This "Community Connector" activity has been recognized as a Feed the Future model program on integration of agriculture and nutrition.

The MEAS portfolio in Uganda consists of two activities, both funded from MEAS' core budget: an evaluation of Farmer to Farmer (F2F) videos completed in July 2013 and an ongoing evaluation of the Grameen Foundation's cellular technology-based Community Knowledge Worker (CKW) program. The total cost of these activities, borne from the MEAS core budget, is approximately \$164,000.

*The Grameen Foundation* activity, which began in 2009, aims to reach the "last kilometer" (i.e. most marginalized) farmers. CKWs are selected by their peers to participate in a six-week comprehensive training session where they receive basic information on the agronomics of crop and livestock production, methods to educate other farmers to facilitate new technology uptake, how to connect farmers with service and input providers, how to advise to farmers on market and weather conditions, and rapid response troubleshooting. Grameen initially identified several critical barriers to the success of using cellular technologies as extension tools:

- Although the penetration of cellular phones throughout many rural communities is generally high, it is neither complete nor reliable;
- The delivery of information without providing farmers an informed dialogue with a trained extension agent is often ineffective;
- Literacy rates within the most disadvantaged communities are low, creating barriers to accessing, understanding, and applying information in isolation;
- Farmers need real time responses as problems occur and cannot wait for the next rotation of an infrequently appearing extension agent.

CKWs are given a smart phone which from which they can access databases, managed by Grameen, with relevant and timely information. The use of the CKW as a go-between addresses many of the problems that the Foundation identifies as barriers to serving the poorest and most remote farming communities in Uganda and elsewhere.

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<sup>21</sup> A detailed description of the USAID Uganda FEED THE FUTURE 5-Year Strategic Plan 2011-15 is available at: [http://www.feedthefuture.gov/sites/default/files/country/strategies/files/UgandaFEED\\_THE\\_FUTUREMulti-YearStrategy.pdf](http://www.feedthefuture.gov/sites/default/files/country/strategies/files/UgandaFEED_THE_FUTUREMulti-YearStrategy.pdf).

Over time, and based on experience, the CKWs have narrowed their focus to specific value chains, primarily coffee, dairy, bananas, and maize. Their target audience is now approximately fifty fellow producers each. Under this new model, Grameen estimates that they are able to reach into the “last kilometer” villages at a cost of up to fifteen times less than the relatively more expensive face-to-face farmer field schools run by other NGOs and donor-funded extension providers. To address sustainability as grant funding support ends, Grameen has trained the CKWs as data collectors and enumerators for other studies and projects. Revenues generated from these exercises now support 57% of the recurrent cost of the project.

In 2012, the Foundation invited MEAS to conduct an impact assessment of the CKW. To date, MEAS has established the baseline consisting of 1,200 farmers in twelve different areas comprising 100 dairy hubs, and collected four rounds of data, providing a valuable information resource.<sup>22</sup>

*Mud on Their Legs: Evaluating Farmer-to-Farmer Videos in Uganda:* In 2011, 7,500 copies of the video series “Rice Advice” were translated into five Ugandan local languages under a small grant from the UK-supported Kilimo Trust.<sup>23</sup> These were subsequently distributed to 18 different organizations, including the national agricultural research stations, the WFP, the FAO, farmers’ associations, private sector input vendors, and several NGOs for showing to farmers around the country.

In November 2012, a MEAS team undertook an assessment of the impact of these videos. They found, to their surprise, that a majority of the farmers interviewed, based only on watching the video, had increased their yields and applied new natural resource management practices. Further, farmers indicated that they actually enjoyed seeing fellow farmers from other countries who were facing similar challenges.

#### **PRINCIPAL FINDINGS:**

- Farmers learned from the video and were able to put the new information into practice;
- Ugandan farmers related to farmers in the videos because they were smallholders who were also producing under similar non-mechanized conditions;
- Translation into local languages proved to be most important for women producers who had not benefited from learning English in school;
- More research is needed on the best settings in which to show the videos;
- The inclusion of value chain actors, such as millers and input vendors, helped to widen distribution.
- Most importantly, the evaluation dispels some of the conventional wisdom about video and extension, which may be helpful as the use of ICTs expands as an extension tool.

#### **MOZAMBIQUE**

The USAID/Mozambique Feed the Future program includes a number of research, policy and production activities. A research consortium comprised of four CGIAR institutions and the

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<sup>22</sup> A full description of engagement between the Grameen Foundation and MEAS can be found at: <http://www.meas-extension.org/meas-offers/program-evaluation/grameen-uganda>.

<sup>23</sup><http://www.gatsby.org.uk/en/Africa/Projects/Kilimo-Trust.aspxand>

International Fertilizer development Corporation (IFDC) works closely with the Ministry of Agriculture (MOA) agricultural research unit. However, the Feed the Future effort itself does not include any formal working relationship with the MOA extension services department. The private sector engages in extensive contract farming for the main export crops of cotton, tea, sugar, sesame, cashew, and tobacco, and provides advisory services to its contract farmers. Until its close out in 2013, the five-year Title II Food for Peace Multi-year Assistance Program (MYAP) was a mainstay of extension, nutrition education, and water, sanitation, and hygiene (WASH) programs across the Feed the Future geographical and programmatic ZoI, which covers 23 districts. A nascent private voluntary (NGO) sector offers few opportunities for collaboration with donors at this time.

Ten Feed the Future activities focus on specific value chains. These include groundnut, sesame, soybean, pigeon pea, common pea, and banana. With the exception of the new “Partnering for Innovation” project, which utilizes private sector input providers as extension agents, extension services are delivered through Feed the Future-funded contractors and grantees. There does not appear to be a broader vision of Feed the Future’s potential to influence the larger agricultural economy. Instead, a distinctly commodity-value chain driven approach prevails. (However, this approach accurately reflects the mandate of the Government of Mozambique’s (GOM) CAADP Compact.)

Feed the Future has made a measurable contribution to the achievement of the New Alliance objectives, under which \$91 million of investments in agriculture were collectively provided by the close of 2014, with 225,000 small holder farmers in Mozambique benefiting from donor supported programs, generating a 6.8% growth rate for the agriculture sector.

Over the past four years, Agrifutura, a \$24 million contract, has been the Mission’s flagship Feed the Future activity, providing extension services to build cooperatives and farmers associations, training in improved management practices, and promoting increased access to markets and credit for the target value chains. FinAgro provides \$10 million of grant funding targeting oilseeds, pulses, cashews, and fruits, and also offers investment and financial management support to farmers, farmer associations and cooperatives, agroprocessors, and marketing and export industries. Feed the Future/Mozambique also partners with the Alliance for a Green revolution in Africa (AGRA) on seed production. Table 3.1 describes the extension provider landscape in Mozambique today.

Linking nutrition and agriculture is a priority for both Feed the Future and the USAID Office of Health. This is to be achieved through a combination of improved dietary practices, and WASH education, coupled with income generation for rural farming households. However, the probable correlation and expected outcomes between increased production of the targeted value chains and impacts on stunting and childhood malnutrition that can be attributed to these activities has not been accurately quantified as yet.

MEAS received a \$350,000 Mission buy-in in March 2014 to conduct the following three tasks:

- Conduct a Feed the Future ZoI on-the-ground assessment and analysis of alternative models of providing EAS along the target value chains;
- Identify improved knowledge and information management systems, including use of ICTs, to improve flow of information and technologies between research/extension and end users;

- Provide support to identify a strategy for the research platform, PARTI, to improve coordination between Research & Extension and stakeholders.

**TABLE 3.1: MOZAMBIQUE EXTENSION PROVIDERS AND PROGRAMS<sup>24</sup>**

	<b>Public Extension</b>	<b>Private Sector</b>	<b>NGO &amp; Donors</b>
<b>Provider</b>	Ministry of Agriculture through the National Directorate of Agrarian Extension (DNEA)	Trade and export enterprises for cotton, tea, tobacco, and sugar	Bilateral donors, International donors, International NGOs
<b>Services</b>	Crops and Livestock; Natural Resource Management; Farmer Organization; Marketing Support	Commodity-specific extension for increased production	Holistic extension packages; value chain and objective (income generation, poverty alleviation) specific; gender sensitive;
<b>Approach</b>	No-cost services; Community-based field agents; Demonstration plots; Farmer field days	Financing of inputs; Contract farming arrangements	No cost services; Donor trained and supported staff; Restricted to donors' value chain and geographic preferences; Use of community-based field agents
<b>Programs</b>	Technology transfer; Civil society strengthening; Asset management; Post-harvest handling; Vouchers for seed, fertilizer and agro-chemicals	Improved crop production management; Soil & irrigation management; SPS & quality control; Primary processing and handling for export	Farmer organizations; Savings clubs; Social capital development; Advocacy skills; Technology transfer; Provision of modernized inputs; Innovation uptake

This work program was developed through a dialogue between the Mission and the University of Florida in Gainesville, a MEAS consortium member, and represents an opportunity to address generic issues relevant to all Feed the Future/Mozambique activities and to strengthen the quality and sharpen the direction of the Feed the Future program.

As shown by the relative rankings in the table below, the different value chains can be expected to have different relative effects on the Feed the Future goals of poverty reduction, equitable growth, and food security. Hence, EAS work on maize would rate highly in terms of poverty reduction and food security, but low for overall sector growth. Livestock has the best potential for sector growth, but only moderate potential for poverty reduction and food security.

For the second task, the issue at hand is the lack of a steady stream of information regarding possibilities and limitations for ICT. This is what MEAS, the Mission, and the GoM extension service need to address as a team.

<sup>24</sup> Author's observation and interviews, Mozambique 2014

The third task indicates that the Mission is prepared to fully explore options for improving EAS in Mozambique. This is an area where MEAS has considerable momentum and expertise. Furthermore, the University of Florida team has a solid history of working in Mozambique and can provide an informed view based on experience and expert analysis.

**TABLE 3.2: POTENTIAL IMPACT OF WORK IN DIFFERENT VALUE CHAINS ON ACHIEVING FEED THE FUTURE OBJECTIVES<sup>25</sup>**

<b>Sector</b>	<b>Poverty Reduction as Agriculture GDP</b>	<b>Improved Food Security as Reduced Caloric Deficit</b>	<b>Agriculture Growth Sector</b>
<b>Maize</b>	1	1	6
<b>Root crops</b>	2	2	3
<b>Livestock</b>	3	6	1
<b>Export crops</b>	4	4	5
<b>Horticultural</b>	5	3	2
<b>Pulses</b>	6	4	5
<b>Other cereals</b>	7	7	7

**PRINCIPAL FINDINGS:**

- The prevailing practice of using USAID-funded contractors and grantees as surrogate public extension agents is not sustainable. However, lengthy institutional development programs cannot be entertained under either Feed the Future or the New Alliance. New opportunities within the existing research platform and the SAFRA, to engage with MOA extension departments, should be identified and formalized.
- Feed the Future has established a vibrant research platform bringing together some of the world’s best scientists. However, challenges of scaling up and sustainability remain. One approach is the creation of a bridging mechanism. As research milestones are achieved, this would activate one segment of the bridge, establishing the pathway for a scale up mode. Models to test this approach could be supported by MEAS Task 2.
- While the practice of using agricultural extension agents as nutrition educators is gaining popularity, care must be taken not to discourage allocation of labor resources that could be more efficiently utilized for income generating crops in deference to small scale “kitchen garden” generation of nutrients for the household. When developing nutrition education curriculum for agricultural extension workers, focus first on nutrition rubrics embedded within the production arena that will not usually be covered by traditional MOH clinical nutrition services.
- The NGO sector in Mozambique is weak, posing challenges for a transition from Feed the Future-funded contractor and grantee extension agents to local organizations. Under SAFRA, the Mission should establish new initiatives for strengthening of indigenous NGOs in line with USAID Forward principals.

<sup>25</sup> Pauw, K., Thurlaw, J., Vaiene, R., Mazunda, J. Technical Analysis in Support of CAADP, Agricultural Growth and Poverty in Mozambique. IFPRI, Washington, D.C. 2013.

- While the objectives of the Feed the Future nutrition program are clearly articulated and appropriate, further analyses is needed to quantify and describe the chain of events that will ensure the increased availability, accessibility, and consumption of specific micro and macro nutrients necessary to reverse the cycle of under- and malnutrition.

## **KENYA**

Kenya's Feed the Future portfolio seeks to increase incomes, enhance food security, and improve nutritional status for women and children. It is geographically focused in selected high-rainfall areas, and arid and semi-arid lands (ASAL). It concentrates on specific value chains, primarily horticulture, dairy, maize, and other staples in the high-rainfall areas, drought tolerant crops, horticulture and dairy in the semi-arid areas, and livestock in arid and semi-arid lands. The portfolio includes 22 activities ranging from multi-million dollar contracts such as Resilience and Economic Growth in Arid Lands (REGAL) to small grants for NGOs such as the Global Alliance for Innovative Nutrition (GAIN). Improvements in the nutritional status of women and children are promoted through increased consumption of nutritious foods, exclusive breastfeeding, vitamin A supplementation, treatment of diarrhea with zinc supplements, and the integration of nutrition into the public health care system's clinical care programs. The overall Kenyan Feed the Future effort also includes \$50 million of HIV treatment and care plus health, nutrition, family planning, and WASH activities, offering significant potential for achieving synergies between household food security, women's empowerment, nutrition, and agriculture.<sup>26</sup>

The devolution of Ministry of Agriculture (MOA) services and budget to Kenya's 27 counties has provided Feed the Future with an opportunity to support good governance in tandem with the development of agricultural policies and programs that are responsive to local needs. Feed the Future marketing and financial services have also followed the devolution and played a leadership role in connecting the private sector to opportunities within the New Alliance and Grow Africa initiatives.

USAID/Kenya follows a classic pluralistic model for its EAS support. This includes a well-established working relationship with the MOA extension department, now devolved to the county level, coordination with private sector extension providers, support to NGOs delivering extension services, and a substantial team of extension agents employed directly on contracts and grants funded by Feed the Future.

MEAS' work in Kenya, using core funding alone, has focused on the roll-out and testing of Smart Skills<sup>27</sup> and Farmbook. Smart Skills is an innovative extension program being implemented by Catholic Relief Services (CRS)<sup>28</sup> in Kenya, and has proven to be a valuable approach to increasing the effectiveness of extension services. Beginning in 2009 as a hard copy extension training curriculum program, Smart Skills transitioned to an e-learning format in 2010. Based on an accumulation of research and field experiences, Smart Skills incorporates five key skill areas that were identified as critical to the success of smallholder farming operations: group management, financial education, marketing and agro-enterprise development, natural resource management, and innovation uptake. The five e-learning modules are used to train extension agents using a

<sup>26</sup> A detailed description of the USAID Kenya Feed the Future program is available at: <http://www.feedthefuture.gov/country/kenya>

<sup>27</sup> See [www.crsprogramquality.org/smart-skills-for-farmers](http://www.crsprogramquality.org/smart-skills-for-farmers).

<sup>28</sup> CRS is an affiliated NGO under the MEAS Consortium.

laptop computer. In addition to Smart Skills, CRS in Kenya is field-testing Farmbook, a new digital platform. Farmbook enables field-based extension agents to provide farmers with financial and business planning to increase the efficiency of a farm, and to assess the productivity and profitability of a farming enterprise. MEAS provided \$248,000 to CRS/Kenya for the roll-out of Smart Skills in conjunction with technical assistance to design and carry out a statistically sound evaluation of the program.

Beginning in 2015, MEAS will undertake a study to assess the impact of the CRS Smart Skills and Farmbook in Kenya. In collaboration with the Bill & Melinda Gates Foundation, a new “Map & Track” cellular geotracking tool will be integrated into the program. The study will provide valuable information on agent performance and generate feedback on the effectiveness of each of the specific training modules. MEAS will contribute \$150,000 to this effort. The final data collection is scheduled for April 2015. The Kenyan MOA has also contributed \$131,700 to the combined Smart Skills-Farmbook activities to date. Feed the Future Kenya acknowledges the valuable contribution of both MEAS and CRS to extension services in Kenya. However, as is the case with other Washington-funded initiatives, Mission involvement has been limited.

#### **PRINCIPAL FINDINGS:**

- Kenya’s State Department of Agriculture is integrating Farmbook and Smart Skills into e-extension for all 47 counties;
- The pilot Map & Track cellular geotracking tool has been activated;
- East Africa regional ministries of agriculture have been briefed on Smart Skills and Farmbook in conjunction with a sensitization workshop;
- MEAS funding has leveraged other e-extension activities funded by the World Bank, DFID, SIDA, and NAAIAP in Kenya;
- The program has helped to stabilize the quality and presence of extension services in the midst of numerous disruptions stemming from the devolution process.
- MEAS has been instrumental in establishing the credibility and visibility of Smart Skills and Farmbook, which are now being used by four organizations across eight additional countries. The adoption of Smart Skills and Farmbook into the larger MOA e-learning agenda demonstrates an impressive multiplier effect of a relatively small investment.
- The MEAS supported Internet and cellular technologies (ICT) models illustrated by Smart Skills, Farmbook, and Map & Track hold promise for application to other USAID programs. These could include, for example, nutrition and family planning for ministries of health, clinic and community based treatment and care packages for people living with AIDS (PLWAs), natural resource management modules for ministries of environment, and microfinance and lending training and analysis for the banking sector.

#### **GHANA**

For several years, Ghanaians have witnessed a steady improvement in the circumstances of their nation. The political stability has inspired investor confidence and accelerated economic growth. Since the start of the global recession, however, economic growth rates have generally declined and

the country is currently wrestling with rising inflation, a falling currency (the cedi) and a persistently high budget deficit.

The extension system in Ghana has gone through a substantive shift from export commodity (primarily cocoa) promotion prior to independence in 1957 to the promotion of food crop production. Over the past 25 years, successive governments of Ghana have pursued a decentralization program, including agricultural services, with various levels of urgency and intensity.

Currently, both public and non-public sector actors provide extension and advisory services. The public sector is represented primarily by the Ministry of Food and Agriculture (MOFA). Field level MOFA extension workers in Ghana total about 1,244, of which 896 (72%) are male and 348 (28%) are female. The private sector's role tends to be in the areas of input supply to farmers, contracted technical advice to farmers associations and cooperatives, and organizing farmers groups to facilitate export of commercial crops. NGOs and other donors also play a crucial role in the provision of extension and advisory services.

Ghana's Feed the Future Program has partnered with the Government of Ghana (GoG), multilaterals, the business sector, and key civil society institutions to leverage public and private investment, and it is designed to align with the GoG's agricultural investment programs, enhancing overall aid effectiveness in accord with the Rome Principles. Its main focus has been on commercializing select value chains, primarily rice, maize and soy.

MEAS has been involved in Ghana in defining and disseminating good practice strategies and approaches for establishing efficient, effective, and sustainable EAS systems. The primary MEAS activity is by means of a \$200,000 Mission buy-in, only now beginning implementation, for work in the following three areas: (1) Capacity building for officials and extension officers; (2) Education and training for local government officials on EAS; and (3) Advocacy training for farmer organizations. This follows on a \$41,000 buy-in for the initial country assessment.

#### **PRINCIPAL FINDINGS:**

- Although the MEAS activities through the buy-in are behind schedule, several activities have been undertaken using BFS core funding, including initial assessments of the agricultural extension system and the ICT infrastructure.
- While the context remains favorable for promoting a pluralistic advisory system, major bottlenecks remain. Among the key limiting factors are weak coordination of the actors involved in decentralization, lack of adequate coverage of the rural population, inability to assure quality in EAS content, and limitations in building capacity of service providers. Alleviating such weaknesses is critical for achieving tangible benefits from the decentralization effort.
- MOFA's intention to move toward the decentralization is a step in the right direction for the eventual emergence of a mature, pluralistic EAS system. The GoG seems ready to provide local and regional governments, and eventually farmers, with an increasing role relative to national governments over extension service matters. Like-minded donors are now considering a new initiative to provide budgetary support to selected viable districts to promote the process.

- Effective collaboration between MEAS and the Mission has suffered due to lack of an on-the-ground MEAS presence in country. Alternatives that might result in more timely and effective collaboration with USAID and other relevant donors and service providers need to be explored.
- The MEAS engagement in Ghana is rolling out slowly but surely, contributing to its objective of defining and disseminating good extension management strategies and practices. As the number of service providers continues to increase, so does the need for enhanced harmony in the activities of these service providers. With support from USAID, MEAS may take advantage of the favorable context in Ghana to play a positive role in bringing about more effective collaboration between Feed the Future, the GoG, and other partners by defining an effective extension policy, ensuring quality program content, and filling key knowledge gaps concerning the effectiveness, and cost effectiveness, of alternative EAS approaches.

## CHAPTER FOUR

# SUMMARY FINDINGS AND CONCLUSIONS

### ACHIEVEMENTS

Feed the Future is making progress relative to its goals, which means that, *ipso facto*, extension messages are being communicated and applied, even though Missions may not be focusing explicitly on extension and advisory services. Innovative work, by grantees and private sector contractors in collaboration with farmers' groups, buyers, input supply dealers, research agencies, and ICT suppliers, is taking place. Examples include:

- Farmbook & Smart Skills (Kenya & Bangladesh)
- Video (Uganda)
- ICT (Bangladesh)
- Input supply dealers (Ethiopia)
- Community Knowledge Workers (Uganda)

The country reports – particularly for Bangladesh, Ethiopia and Ghana -- indicate (1) that the Feed the Future emphasis on country-owned plans has succeeded in aligning external support with host country priorities and in meeting the aid effectiveness objectives of the Rome Principles, and (2) that a pluralistic EAS system is emerging in many Feed the Future countries. However, the role played by each EAS provider varies with each national context, underscoring the need for thorough analysis and a supportive policy framework. As pluralistic systems expand, the need for coordination among EAS providers and donors increases.

Ghana and Kenya, among others, are actively engaged in decentralization of EAS, i.e. providing local and regional governments with resources and authority for an increasing role. Other countries are expressing interest in decentralization. This move has the potential for tangible benefits provided effective investments are made in local level capacity development of EAS providers, both public and private.

In Asia there are already large, decentralized EAS systems, such as in Indonesia and the Philippines, that date back fifteen years and more. *The World Bank and other donors have consistently supported the development of decentralized systems which comply with the Neuchâtel principles.* However, concerted efforts are necessary to maintain the linkage between farmers and the national level administration as well as to facilitate coordination between regions and among providers of EAS within the country. In the absence of a central, public framework these linkages are unlikely to develop and be maintained.

In such countries as Ethiopia, Bangladesh, and Mozambique, Missions are indirectly contributing to the strengthening of public extension through the pooling of resources with other donors to build

public research and extension capability. Furthermore, while there may be no direct, formal connection with a public extension system, Feed the Future contractors and grantees at the field level in such countries as Ghana and Bangladesh frequently find themselves working with public extension staff and, in the process, helping to educate and develop the capacity of the public extension service. In Cambodia, this engagement with and support for the public extension system is being formalized. Feed the Future has also been effective in developing capacity of farmer groups and local NGOs, although the sustainability of this achievement remains subject to future funding availability.

As previously noted, one of the key objectives for Feed the Future is improved nutritional status for pregnant and lactating women and children up to 5 years. In some country programs, Feed the Future activities address these issues directly; in others, such as Nepal and Ethiopia, health sector programs play the primary role in addressing these nutritional objectives. Although in depth study of extension systems in other sectors was beyond the scope of this effort, we should note the complementary nature of the Health Extension Worker System in Ethiopia to the Agricultural Extension Development Agent system. This dual systems approach - agricultural and health - is an interesting model that is based at the community level, emphasizes the non-formal education functions of extension, and was rolled out rapidly at scale for nationwide coverage. The emerging success in reducing poverty, increasing productivity, and improving health and nutritional outcomes could warrant a separate study of these twin extension systems at the community, regional, and federal levels to draw out lessons learned.

## **MEAS-SPECIFIC ACHIEVEMENTS**

- The MEAS teams have demonstrated the ability to support USAID Missions and Feed the Future implementing partners with quality, methodologically sound analyses. This quality analytic dimension is something that can be lost in the haste of responding to the shorter-term pressures of meeting Feed the Future objectives. However, this can be avoided with a well-balanced combination of good planning and the collective wisdom of dedicated individuals within the MEAS consortium.
- MEAS' products and services are delivered in a cost-effective manner. This is complemented by MEAS' ability to disseminate material widely through numerous publications networks and websites.
- The decision of MEAS leadership in the early stages of the project to focus on strategic "learning" was sound, especially given the lag in mission engagement. As a result, MEAS has accumulated a robust body of knowledge on the modernization of extension and advisory services that can guide future decision-making for USAID and the broader donor community. This legacy of knowledge now available to the development community might have been missed had MEAS been more narrowly demand-driven.
- MEAS assessments have contributed to institutional analyses that provide a basis for planning capacity development strategies and emphasize sustainable local solutions.
- MEAS has been successful in achieving a substantial level of engagement throughout all of the USAID geographical regions. This is helpful in identifying lessons learned, both positive and negative, that Missions need to take into consideration as they plan and implement Feed the Future programs.

- MEAS' support was catalytic, despite the absence of direct Mission support, in promoting promising technologies, such as Farmbook and Smart Skills, and the use of ICT for the delivery of extension messages, particularly in Bangladesh.
- MEAS "learning" outcomes have been well-received by the broader development community. MEAS has been a regular contributor to annual meetings of GFRAS, and has responded to specific requests for training or information by national extension services. A 2014 webinar on Modernizing Extension and Advisory Services, in which MEAS was among the presenters, drew 140 participants from NGOs, private consulting firms, and universities, both in the United States and overseas.
- MEAS has provided informal but effective support to the "Scaling Up Results" effort through its consortium partners and their networks:
  - One such illustration is the input MEAS contributed to the ICT-enabled extension challenge fund that is supporting the AGRA Scaling Seeds and Technologies Partnerships.
  - IFPRI, a CGIAR center, and AGRA (Alliance for a Green Revolution in Africa) are Associate Partners in MEAS, making both eligible to receive sub-grants. IFPRI is generally regarded as the CGIAR lead for extension and is also a CAADP partner, a New Alliance partner, and a scaling partner for most extension-related activities under Feed the Future. MEAS has had considerable indirect influence on the IFPRI views.
  - Extension is part of the CGIAR consolidated research program (CRP) on Policies, Institutions, and Markets. IFPRI provides advice on extension to other centers as they did in the implementation of Africa RISING.

## **CHALLENGES**

The initial implementation strategy to make the MEAS assistance to missions demand-driven has been less than totally effective. While MEAS has been involved to some extent in nearly all Feed the Future countries (as well as many non-Feed the Future countries), the instances of effective collaboration are more limited. Only seven of the nineteen Feed the Future focus countries have "bought in" to MEAS in any significant way. Five of the larger Feed the Future programs – Ethiopia, Kenya, Cambodia, Uganda, Tanzania – did not participate financially at all, even though, in the cases of Kenya and Uganda, MEAS was intensely involved in carrying out learning activities which have proven highly informative and useful. In other Feed the Future countries – Mozambique, Ghana, Rwanda – mission buy-ins came too late in the life of the project to enable this study to assess impact or effectiveness.

Another illustration of the perception gap between MEAS and the Missions may be the very limited participation of Mission staff in the above-mentioned extension webinar: Of the 153 participants, only 14 were USAID staff, and almost all of these were in AID/W. While this is only one example, and challenges continue to exist with staff scattered across twelve or more time zones trying to engage with each other, there can be no question that MEAS has faced difficulties in making itself widely known and relevant to Missions' Feed the Future efforts, at least in terms of its "Teach" and "Apply" components.

The lingering effects of an ideology, carrying over from the 1980s and 90s, that views the public sector as ineffective and support for public sector institutions largely a waste of resources seems to be an important underlying factor here. MEAS has had to work with this ideological legacy. Nevertheless, while this skepticism toward public institutions is not unfounded, the public sector plays an important role when policy conditions are right. Furthermore, as Missions increasingly realize, prospects for sustainability are considerably enhanced when there is effective engagement with public sector EAS institutions.

Also, as noted above, Feed the Future and MEAS were not “in step” when it came to implementation. MEAS was conceived and authorized first, but implementation was delayed until after Feed the Future, with its accelerated design and obligation schedule, was underway. There was little opportunity for the kind of assessment of constraints and opportunities that MEAS was originally designed to provide. The shortage of experienced agricultural staff in many of the Feed the Future countries contributed to extension and advisory services being accorded lesser importance.

One might criticize MEAS for not being strategic enough, stretching its core budget (\$6.9 million as of summer 2014) too thinly. As noted in Chapter 2, as of summer 2014, MEAS was involved in numerous activities, i.e. training sessions, seminars, case studies, pilot activities, and scoping studies all spread across 36 countries. To a certain extent, this is commendable. MEAS carried out studies in many non-Feed the Future countries that significantly advanced the state of knowledge regarding the effectiveness of different approaches to provision of EAS. Also, many of the training activities – even if not explicitly integrated into Mission programs – did complement and serve to advance Feed the Future programs. Still, the fact that so much of the MEAS work to date has been in non-Feed the Future countries is probably not what was initially envisioned, nor is the relatively limited set of activities carried out under the “Apply” component.

For example, in the case of Nepal, after the initial scoping study, MEAS’ activities were undertaken unilaterally, with essentially no involvement on the part of the Mission, and with no follow-up. In Kenya and Uganda, MEAS invested roughly \$650,000 in core funds with no Mission buy-in and little effective engagement, even with respect to the promising Farmbook and Smart Skills technologies. In the case of Kenya, it was the Ministry of Agriculture that contacted MEAS directly for assistance, albeit with the knowledge of the Mission. The Kenya Mission apparently did not want to engage with FarmBook and Smart Skills deployment in the federal extension system during a time when devolution of authority made the future of that system unsure.

To summarize, the problems that affected MEAS’ relationships with Missions include:

- Timing – Feed the Future flagship activities were well along in design by the time MEAS was operational, and the initial scoping studies were generally too late to have other than marginal utility;
- Personnel – Mission staff in most Feed the Future countries was inadequate, both in terms of number and experience, and generally lacking in appreciation of the EAS and the different approaches for getting new technologies into the hands of farmers;
- Feed the Future design, with its emphasis on meeting production and income targets and achieving a significant impact in the program ZOI within the five-year time frame – Capacity development and sustainability, although theoretically of equal importance, ended up being downplayed in the push to achieve targets.

- Anti-Public Sector Bias – As noted above, the initial guidance on Feed the Future carried a clear bias against work with the public sector, particularly in extension, and there was a perception, reflecting a lack of experienced field staff, that extension implied a major role for the public sector in technology transfer. The pluralistic approach promoted by MEAS does have a role for the public sector, but that role can vary widely and may only involve opening up and guaranteeing space for the private sector and NGOs to provide EAS.
- Implementation Capability – MEAS’ sterling analysis and design capability does not necessarily translate into the ability to implement those designs. These different tasks call for a significantly different type and level of administrative support capability.

Fortunately, MEAS, using its core resources, was able to move ahead with its research component which has generated significant learning that is being taken up by the donor community and, to an increasing degree, by USAID Missions.

# FOSTERING A DIVERSITY OF APPROACHES

## SUMMARY

In countries where reforms of the extension and advisory system, whether intentional or *de facto*, have taken place over the past twenty years, the means of technology diffusion and adoption have changed dramatically. What these countries have in common is that they no longer support an exclusively public agricultural extension service, organized on the basis of a top-down, bureaucratized command structure, as an effective way to tackle knowledge diffusion in agriculture. Instead, they have systems that take into account such factors as decentralization, client participation, cost recovery (co-financing), and public/private partnerships in various forms and combinations. A fixed model has not resulted from these reforms. Instead, they have resulted in many diverse systems, as shown in the country reports for this review. Even within one country, different approaches are often being tried simultaneously. It appears that instead of expecting a “new model” to emerge, multiple approaches and experimentation should continue to be encouraged. Over time, issues such as gender, nutrition, and environmental management have become more important and will continue to do so. Agricultural extension is a dynamic process that is not easy to standardize or convert into a routine activity and should not be treated as such.

GFRAS, the multi-donor successor initiative to Neuchâtel, is planning to launch a *Global Good Practices Initiative – for Better Extension* during 2015 which will cover areas such as the use of ICT in EAS, how to most effectively deliver nutrition messages, the role of producer organizations and public-private partnerships in EAS, and increasing the role of women extension agents. This study will draw on the changes and reforms that have been implemented globally over the recent past. Since this study will cover a lot of the topics that are of interest to MEAS, it calls for collaboration between the two programs.

The MEAS/RASP experience serves to confirm many of the important lessons of the past twenty years in agricultural extension and advisory services, namely, that institutional experimentation and change must become permanent features of the system. In other words, innovation is not only about developing and adopting new technologies but also about developing and adopting new ways of organizing and managing innovation. Particularly in dynamic economies, such processes change permanently and rapidly. Any successor activity needs to focus on promoting and facilitating an institutionally dynamic setting in which organizations and systems permanently learn from their experiences and experimentation and adjust their modes of operation to rapidly changing circumstances.

## IMPLICATIONS/RECOMMENDATIONS FOR FUTURE BFS SUPPORT TO EAS

- Consider a more proactive and facilitated process of drawing the interest and commitment of USAID Missions to continue funding more EAS activities in its Feed the Future projects.

Waiting for the USAID Mission to react to proposals sent by MEAS did not work well in terms of leveraging funding and getting commitment from Missions.

- A follow-on project should concentrate on fewer countries with priority given to those that (1) have successfully initiated EAS reforms, (2) have a government and a set of donors that are committed to support institutional and human resource capacity building for farmers and extension workers, and (3) have strong prospects for leveraging additional resources. However, when opportunities occur in other countries to learn from unique EAS innovations, these should be considered as part of research and documentation for broader sharing.
- A follow-on project should not lose sight of the need to ensure quality analysis of the sort that MEAS, through its consortium, has been able to achieve.
- Consider broadening the scope of a follow-on project to include targeted work with public extension, research, and education systems. One option is to include a component for institutional and human resource capacity building that involves these institutions.
- EAS content: Bangladesh and Mozambique are two Feed the Future countries with robust research programs that can provide quality information. The means to assure linkages are needed.
- Consider expanding work on extension policy engagement that incorporate the core Neuchâtel principles of pluralism, demand-driven, sustainability.
- ICT: Given other work on ICT being supported through BFS, *design* of new ICT initiatives need not be a priority for a follow-on project. However, further analysis on the effectiveness and cost effectiveness of ICT interventions is needed. Such work should include consideration of the full range of variables associated with ICT.
  - There is often misperception regarding the availability and reliability of cell phone services for the most remote rural communities.
  - The value of ICT is a function of the quality and timeliness of the information provided. It is easy to get caught up in the technology and lose sight of the content.
  - Information is not in and of itself useful in a vacuum.
  - Farmers may not have the capability to act upon the information they receive due to lack of inputs, credit, etc.
- Focus of activities:
  - Avoid activities undertaken in isolation; insist on mission knowledge of, support for (even if that is only moral support), and commitment to follow-up. Core funds should be committed only in the presence of some kind of agreement with the Mission;
  - The sole exception could be for evaluations or research undertakings that provide promising learning opportunities. These may be pursued even without explicit Mission follow-up commitment but only with Mission knowledge and approval.

- Ensure that important, cross-cutting issues, such as gender equality, women's empowerment, nutrition education, other health-related issues, natural resource management, and climate change, are addressed in the follow-on activity.

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## ANNEX I

# BANGLADESH

Dely Pascual Gapasin, Evaluator  
September 21-26, 2014

### **INTRODUCTION**

I undertook an evaluation of USAID-funded extension activities in Bangladesh, with a special focus on the “Modernizing Extension and Advisory Services” (MEAS) Project, September 21-26, 2014. In Dhaka, I met with USAID officials; government extension and information officers and staff; some USAID Mission-funded project implementers; representatives of private sector firms involved in information and communication technology (ICT); university extension officials; and scientists at research centers. I also visited project field sites in Jessore District and met with men and women farmers, project field teams, the government’s *Upazilla* (sub-district) Extension Officers and field extension staff; and other extension providers from the non-government sector.

The purposes of the evaluation were to review the goals and implementation activities related to strengthening public and private extension services to support agricultural innovations required to achieve defined USAID program objectives, assess the relevance and efficiency of current activities and suggest ways to make USAID support more efficient and effective. A list of MEAS reports and other documents consulted by the evaluator is in Annex I.1. A summary of selected USAID Mission-funded extension and agriculture projects in the Feed the Future Program in Bangladesh is in Annex I.2.

I would like to thank the farmer groups, field project teams, and local extension officials and field extension staff I met in Jessore. I appreciate the time spent in meetings by representatives of the government’s extension agencies, local university, private sector firms, non-government extension providers, and team leaders and staff of USAID-funded Feed the Future activities. I appreciate the support of Mr. Anar Khalilov of the USAID Mission/Bangladesh, the POC for this undertaking, and Mr. Shahid Uddin Akbar of the Bangladesh Institute of ICT in Development (BIID) for making excellent local arrangements in Dhaka and Jessore.

### **BRIEF DESCRIPTION OF EXTENSION PROVIDERS IN BANGLADESH**

MEAS activities in Bangladesh were initiated on January 2-21, 2011 by carrying out an assessment of its pluralistic extension system using core funds. The objective of the study was to identify the major extension and advisory service providers within Bangladesh, including strategies and gaps within and between these extension providers. The assessment identified strengths and weaknesses of the current system, and provided a basis for a plan to strengthen the system through MEAS and through learning from the experiences and successful cases in other countries. Bangladesh’s extension and advisory services (EAS) system consists of public extension institutions, including universities and research institutions; private sector firms like input suppliers and traders; non-government organizations (NGOs); donor-funded projects; and farmer

volunteers. Some key constraints identified were: (1) limited coordination between government extension departments; (2) weak research-extension linkages; (3) very limited resources/funds reaching the field extension workers; (4) limited ICT use; and (5) outdated training of field extension workers, focused mainly on crop production.

#### **GOVERNMENT AGRICULTURAL EXTENSION SERVICES:**

The government of Bangladesh (GoB) has the largest sector in the Bangladesh EAS system. However, their participation in donor projects is limited, although informally the SAAOs are utilized by project implementers. There are four public extension departments in two separate ministries: The Department of Agricultural Extension (DAE), the Department of Agricultural Marketing (DAM) and the Agricultural Information Service (AIS) under the Ministry of Agriculture (MOA); and the Department of Livestock Services (DLS) and Department of Fisheries (DOF) under the Ministry of Fisheries and Livestock (MOFL). The extension structure is centralized and since these departments belong to different ministries, coordination is limited. In 2014, DAE has about 14,000 Sub-Assistant Agriculture Officers (SAAOs) in the sub-district level; the number of livestock and fisheries extension workers is much smaller and are located mainly at the *upazilla* (district), with 2-3 livestock or fishery extension workers per district and none at the sub-district and village levels. Constraints in human and financial resources have limited their effectiveness in providing extension services especially to smallholder farmers in the rural areas.

#### **DONOR-FUNDED EXTENSION PROJECTS:**

Most agricultural extension projects are funded by donors such as the USAID, the Danish International Development Agency (DANIDA), the World Bank and the Asian Development Bank (ADB). USAID is a major funding source with 28 projects in its Feed the Future Program. The Mission provides substantial funding and has strong commitment to strengthen extension services in the Feed the Future zone of influence (ZoI). The Feed the Future portfolio includes projects/activities on crops, aquaculture, livestock, nutrition, health, trade facilitation, capacity building, etc. Some Feed the Future projects have good collaboration with the government and other service providers. CSISA-BD has done extremely well in building partnerships reporting that in 2013 alone, the three centers (IRRI, CIMMYT and WorldFish) signed a total of 47 Letters of Agreement (LoAs), Memorandum of Understanding (MoUs) and service contracts. There was limited time to assess the effectiveness or efficiency of these projects, hence this report is based mainly on discussion with key project implementers, limited field observations, and information from recent project reports of four Feed the Future projects.

#### **PRIVATE SECTOR FIRMS:**

Agricultural input supply dealers are a primary source of input-related advisory services, especially about seeds, pesticides and fertilizers. Farmers call their input suppliers for their recommendations on the use of inputs. Private firms focus on medium and large farmer<sup>29</sup> who produce staple crops and high-value products and can pay for advisory services. When farmers are organized into producer groups to market their produce together, linkages to wholesale market dealers become more important, especially for high-value horticulture crops and fishery products.

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<sup>29</sup> In the Bangladesh context, five hectares counts as “large.” Farms of more than ten hectares are extremely rare.

### **NON-GOVERNMENT ORGANIZATIONS (NGOs) AND VOLUNTARY FARMERS:**

Many international and local NGOs provide advisory services in Bangladesh. Some NGOs include: BRAC, the largest (and entirely indigenous) NGO in the country; World Vision, working on market-driven extension; the Association for Social Advancement (ASA); Agricultural Advisory Society (AAS), a small NGO; D-Net with an ICT network; Dhaka Ashania Mission (DAM); and CARE/Bangladesh. The last two NGOs are implementers of AESA. Many NGOs are heavily dependent on donor funds, which are time-bound and project specific. Hence, their extension services tend to be unsustainable when the donor projects are completed. Some projects also recruit progressive farmers as “voluntary farmer advisors” and train them to provide advisory services to other farmers in their own villages or blocks.

### **USAID-FUNDED EXTENSION AND ADVISORY SERVICES PROJECTS**

#### **MEAS ACTIVITIES IN BANGLADESH:**

Since 2011, MEAS has carried out 16 extension-related activities in Bangladesh focusing on ICT as per request of the USAID Mission. MEAS involvement started with an assessment of Bangladesh’s pluralistic extension system in January 2011. The USAID Mission had committed to support agricultural extension hence the MEAS portfolio in Bangladesh has substantial support and funding. A major share of the activities was designed to support a Mission-funded “Agricultural Extension Support Activity” (AESA). The MEAS ICT activities included: (1) assessment of the status of ICT for agricultural extension in Bangladesh; (2) assistance to AESA in developing an ICT strategy in Bangladesh; (3) training workshops on ICT for agricultural extension; (4) training workshops on video and script writing; (5) pilot testing of Farmbook, a farm management tool and training of farmers and extension workers; (6) ICT seminars for university (BAU) and research institute (BARI) staff; (7) case study video on a mechanical seeder; and (8) assessment and action research on gender-sensitive approaches to reach rural women. The concentration of MEAS activities on a single theme (ICT) was a good strategy to support AESA implementation.

#### **AGRICULTURAL EXTENSION SUPPORT ACTIVITY (AESA):**

AESA is the only extension project *per se* in the USAID Mission portfolio, and is the first USAID project awarded to a national entity (DAM) as part of the USAID Forward policy. This five-year activity was initiated in October 2012. Its goal is to strengthen the agricultural extension system in 40 *upazillas* (districts) in southwest and central Bangladesh to sustainably improve food security and nutrition for smallholder women farmers. Its four components are: (1) Enhance access to and utilization of agricultural extension services by small holder farmers and women; (2) Expand and strengthen ICT mechanisms to increase access to agricultural market information, knowledge and technologies; (3) Strengthen the capacity of agricultural extension service agents (public and private); and (4) Intensify and diversify high-value crops and nutrition-rich products through improved extension services.

As designed, AESA is implemented by a consortium led by Dhaka Ahsania Mission (DAM) and including CARE/Bangladesh (both NGOs) and mPower (a local social enterprise). The government’s agricultural extension departments (DAE, DLS, DOF and AIS) are not explicitly involved. However, the DAE’s field extension staff at the sub-district level (SAAOs) helps organize farmer producer groups (FPGs) and provide extension services to farmers in the project sites. Extension workers are trained by AESA on facilitation and communication skills. In AESA’s 2014 Semi-Annual Report, USAID officials have urged AESA project officials to formalize their collaboration with DAE, but the

*Upazilla* Agriculture Officer of Sadar, in Jessore, indicated that he was not involved in the project but he allowed his extension staff to participate in project activities. I met with DAE's Director of Field Services who was also in Jessore and he suggested that a follow-up meeting be done in Dhaka.

In addition to AESA, there are 27 other projects/activities in the Feed the Future portfolio (ongoing and planned), evidence of a significant commitment to support agricultural development in the country. These projects have many extension-related activities such as organizing farmers into producer groups; training women and men farmers on new/improved technologies (e.g., saline-tolerant crop varieties, IPM practices, deep placement of fertilizers); setting up on-farm demonstration plots to showcase successful technologies; developing training modules and materials; and developing ICT tools NS applications to improve farmers' access to market information and technologies.

AESA supports the actual provision of improved extension services (under AESA Component 4) by partnering with other Feed the Future projects such as the Cereal Systems Initiative for South Asia (CSISA), the Horticulture Project (HP) and Aquaculture for Income and Nutrition (AIN). AESA plans collaborate with the relevant IARCs (CIMMYT, CIP, IRRI, WorldFish, WVC) but activities are still to be initiated. This project implementation scheme would strengthen research-extension linkages and enhances technology testing and dissemination. Some Feed the Future projects already collaborate with the government's extension departments. An example, the Aquaculture for Income and Nutrition (AIN) Project works with about 100 SAAOs but has a formal Memorandum of Understanding (MOU) with the MoFL (at national level) which is difficult to obtain. Although the relationship of AESA with DAE is not yet formalized, AESA currently works with some 318 government extension workers (SAAOs) at the field level.

**USAID/BFS-CENTRALLY FUNDED PROGRAMS/PROJECT:**

Besides the Mission's Feed the Future activities, there are other USAID/BFS-centrally funded programs/projects operating in Bangladesh. Their focus is mainly on research, but they also involve substantial extension support. These include: Innovation Laboratory (IL) programs (Aquaculture and Fisheries, Horticulture and Integrated Pest Management); Abiotic Stress Tolerant Rice and Wheat (Arcadia) with the International Fertilizer Development Center (IFDC); and ARP-CGIAR core grants through the World Bank (global). The CGIAR centers' collaboration helps ensure the scientific quality and credibility of the technologies and research information reaching farmers; strengthens technology development and applied research aspects of the Feed the Future projects; and serves to partly address the identified weak linkages of local extension and research institutions.

While there was insufficient time to assess the effectiveness of the Mission-funded projects, a brief review of three sample projects from the Feed the Future portfolio – CSISA-BD for rice, maize and wheat; AIN project for fish, shrimp, prawn and vegetables; and Horticulture Project for potato, sweet potato and vegetables -- revealed that all three have significant extension and applied research activities including technology development and on-farm demonstrations, organizing farmer groups and farmers training, training of extension providers (public, private and NGOs), and development of training modules and materials and information dissemination. The information in this report was from discussion with some project implementers, limited field observations during the visit with farmers in Jessore, and from recent project annual and quarterly reports.

## **FIELD VISITS IN JESSORE**

On September 23-24, I visited field sites in Jessore District, where many Feed the Future and other donor-funded projects are actively engaged. We met with the following: (1) the AESA Project Team for Jessore District and the Jessore region; (2) DAE regional extension officers and DAE's Director for Field Services; (4) Sadar *Upazilla* Extension Officers and extension staff; (5) Farmer Producer Groups participating in AESA, BIID and IPM-IL piloting; and (6) NGOs and private extension service providers.

### **MEETING WITH GOVERNMENT EXTENSION OFFICERS AND STAFF:**

I met briefly with DAE's Director for Field Services, who was visiting Jessore at that time. We also met some extension officers at the DAE regional office in Jessore and the *Upazilla* Agriculture Officer and six SAAOs in the Sadar *Upazilla* office. Two SAAOs were also present in Noapara and Chalishia villages during the farmers meetings. The agriculture officer and staff brought up the problem of very limited government resources to support extension activities and the need to improve coordination with projects such as AESA.

### **MEETING WITH FARMER PRODUCERS GROUP (FPG) DURGAPUR RAIL IN DURGAPUR VILLAGE:**

The group consisted of 20 women and 5 men organized in February 2014. With support from AESA team, they have started a cattle fattening enterprise. The women and group officers were very active and enthusiastic. The village is along the road and farmers are prosperous (houses are large and made of bricks) and they their cattle. Some women said they have two cows and would like to keep them for 6-12 months. The members were aware of the process from organizing their group of conducting monthly meetings. A team of six DAM/AESA field staff, led by the AESA Field Manager, accompanied me to the village. No SAAO was present. There is a need to review the cattle fattening technology, such as concentrate feeding and length of time the animals are fattened before selling, and the selection of the village and farmers (focus on poor women farmers.)

### **MEETING WITH FARMER GROUP CHALASHIA IN NOAPARA VILLAGE:**

I met ten rice farmers belonging to Chalashia Farmer Group that is piloting the MEAS Farmbook tool. This is one of ten BIID pilot locations in Jessore. The farmers were very enthusiastic about participating in testing Farmbook; all members have cell phones and knew how to use them to access information. Two SAAOs were trained by BIID on computer use and Farmbook (customized and translated into Bangla by BIID). The SAAOs received laptops from CRS while BIID staff trained the farmers and extension workers on Farmbook and computer use. The Farmbook piloting in Jessore showed that farmers and extension workers can learn to use an ICT tool with proper training, and farmers would likely adopt the tool once they understand the benefits to their farm operation.

### **MEETING WITH FARMERS IN NOAPARA VILLAGE PILOTING IPM-IL TECHNOLOGIES:**

I visited two farms where IPM practices are being followed to control insect pests (sex pheromone traps, clean culture and destruction of infested plants). Farmers were happy with the results of the field demonstrations. IPM-IL had trained farmers on vegetable IPM and carried out field days in the sites. Some neighboring farmers who joined us said that they spray their cabbage, eggplant and cauliflower with pesticides 1-2 times a week but would like to try the IPM practices. In another location, GKSS, a woman-owned business that hires women is producing trichocompost (20,000 tons in 2014) using *Tichoderma harzianum*. IPM-IL has also trained women farmers to maintain

*Trichoderma* culture with assistance from the Bangladesh Agricultural Research Institute (BARI) where IPM-IL has offices.

**VISIT TO CHALASHIA UISC AND FIAC:**

I visited two union-level service centers in Chalashia village. The first center was a privately-owned Union Information and Service Centre (UISC) managed by a young local entrepreneur who provided fee-based services to the public including farmers. The second center was a Farmers Information and Advisory Center (FIAC) that is managed by the SOAAs and provides information and advice to farmers who visit them. The FIAC was built by a World Bank-funded Project and both centers are located in a union government building.

**RASP-MEAS EVALUATION QUESTIONS**

**QUESTION 1:**

*Is the current set of Bureau of Food Security (BFS) extension support activities coherent, appropriate and efficient? Does it adequately address public, private and civil society roles in modern extension services?*

The MEAS EAS activities funded by USAID BFS in Bangladesh support two MEAS-related major activities supported by the USAID Mission including (1) a one year ICT Support Project and (2) a five year Agricultural Extension Support Activity (AESA). Majority of the MEAS activities are appropriate and coherent with AESA's ICT component 2 implementation but excluded the opportunity for MEAS to contribute to other key EAS themes. AESA's implementers are two NGOs and a private sector ICT firm which practically excluded the government's extension departments, agricultural research institutes and agricultural universities. A stronger participation of government extension and research institutions is needed since they make up the largest sector of the EAS system. Their participation would strengthen the collaboration among EAS providers and ensure the sustainability of the initiatives to modernize the overall system.

**QUESTION 2:**

*Are current Mission programs supporting efficient, effective and sustainable extension systems, including appropriate roles for public, private and civil-society actors? And to what extent are current Mission programs contributing to aide effectiveness?*

Currently, there are 28 Mission-funded Feed the Future activities in Bangladesh (ongoing and planned) covering a range of agriculture, nutrition and health-related themes. And although there are many activities related to extension, with the exception of AESA, their objectives are not to strengthen the EAS system per se. The limited engagement with public institutions (ministries, universities, research institutes) and lack of a common or integrated extension approach would affect their effectiveness and overall impact on the sustainability of the overall EAS system in the longer-term. Bangladesh's updated Agricultural Extension Policy (dated 2012) could provide a framework in which the FrF projects especially AESA could contribute significantly to modernizing of the EAS system.

**QUESTION 3:**

*Are sound approaches being used to develop needed extension services as part of value-chain-based investment programs? What effective models are being used to develop such value-chain-based sustainable extension services?*

The value chain approach is being used by the Feed the Future projects including AESA in selecting the specific value chain enterprises that farmer/producer groups will undertake. In AESA, after the producer groups are organized, the project carries out participatory rural appraisal followed by value chain survey that includes inputs market mapping. Based on the results, technical teams facilitate value chain analysis and producer groups are formalized along value chains based on identified high-value products in the project area. Collaboration with Feed the Future and other donor projects is based on the high-value products identified by producer groups. Another example is CSISA-BD conducting value chain analysis of the rice seed industry to determine the seed needs in the project area. The value chain approach is important in ensuring that the EAS system is market-oriented. AESA staff had been trained on the approach by CARE agribusiness specialists.

**QUESTION 4:**

*Are special objectives of gender equity, women's empowerment, nutrition education and NRM/climate change issues being adequately addressed and integrated into Mission extension programs and extension BFS support programs?*

In Bangladesh, MEAS had carried out three activities related to rural women's empowerment. The focus of AESA is smallholder farmers with emphasis on women who suffer most from food insecurity, poverty and malnutrition. AESA and other Feed the Future projects have integrated these crosscutting themes within their design and have targets for the participation of women to ensure that they benefit from the interventions. Women's groups are organized and women are urged to participate in production and post-harvest activities. The Mission is in the process of standing up a new gender project to provide assistance to other Feed the Future projects.

Nutrition is an important issue in Bangladesh because of high rates of anemia and malnutrition among women and children. USAID supports the integration of nutrition in its Feed the Future projects and encourages the collaboration across projects on nutrition. USAID funds four nutrition-focused Feed the Future projects: (1) Aquaculture for Income and Nutrition (AIN) Project, (2) Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING), (3) Global Alliance for Improved Nutrition (GAIN), and (4) SHIKHA. AESA collaborates with SPRING and SHIKHA to get access their nutritional messaging, nutritional training modules and materials. AESA staff and selected agricultural extension agents have attended training of trainers (ToT) nutrition workshops in 2014. In turn, the project's Field Facilitators have included nutritional messaging for producer group members in their activities and meetings. Another example is the AIN Project promoting aquaculture technologies such as the system, which integrates fish production in the pond and vegetables growing on the dikes. Both fish and vegetables are important to women for cash income and improved nutrition for the family.

Natural resource management issues are important in the Feed the Future ZoI which is prone to disasters like land degradation, water bodies and wetlands. Climate change poses significant risks like flooding, increased soil salinity in coastal areas, etc. The focus of technology development, on-farm testing and demonstrations in the CSISA-BD Project is on stress-tolerant varieties (for salinity, flood, draught) of rice and maize.

**QUESTION 5:**

*Is adequate attention being given to effective use of ICTs in extension system development?*

The USAID Mission supports strongly the use of ICT in strengthening and modernizing extension in Bangladesh. AESA's Component 2 was designed to "Expand and strengthen ICT mechanisms to increase access to agricultural market information, knowledge and technologies." MEAS' assistance in Bangladesh is through the "MEAS ICT Support Project/Bangladesh" with buy-in funds from the Mission of \$500,000. A complement of eleven ICT-related activities was carried out to support ICT implementation in AESA. Two key activities were: (1) an assessment of the status of ICT for extension in Bangladesh in 2012 followed by a workshop; and (2) the development of an ICT strategy for Bangladesh in 2013 by AESA/mPower with assistance from MEAS. EAS and ICT workshops and seminars were also organized to discuss ICT and other EAS issues with various stakeholders, and to provide a platform for awareness building among stakeholders.

Several private sector firms have developed and are testing ICT tools/applications for farmers' use. AESA/mPower has developed some mobile-based mAgri applications for use by farmers and extension workers including: Farmers query system; Crop diagnostic application demo; Seed variety & fertilizer selection demo; Livestock health tracking system; and Fish diagnostic application. MEAS has introduced Farmbook, an ICT tool developed and promoted by CRS in Africa. The Farmbook allows extension workers to assist farmers to prepare and implement their farm business plans effectively and analyze their farm productivity and profitability. BIID is currently piloting Farmbook in Jessore in partnership CRS and DAE. Grameen Intel Social Business, Ltd., a private ICT firm in Bangladesh, has developed four agriculture-related software programs for farmers' use which are being piloted in four other countries (Cambodia, India, Nepal, and Macedonia). Initial results showed potential use of some ICT tools in Bangladesh and farmers are enthusiastic participants.

**QUESTION 6:**

*What is the extent and nature of Mission interaction with MEAS?*

MEAS implementers have had good relations with USAID Mission staff. AESA project officers and staff have acknowledged the MEAS assistance on ICT especially the formulation of an ICT strategy for Bangladesh.

**QUESTION 7:**

*What has been the demand for MEAS work, either on the part of the USAID Mission or other donors?*

There has been good demand by USAID for the expertise from the MEAS consortium in Bangladesh especially for ICT-related support (UICU, UC Davis, CRS, Access Agriculture/UK). Other donors have not utilized MEAS EAS support. The 2011 country assessment was used by MEAS to create better awareness of key stakeholders including donors on modernizing EAS and specifically the role of ICT. USAID had used this document in designing the Feed the Future "Agriculture Extension Support Activity" that was approved and initiated in October 2013. The mission requested MEAS involvement and provided buy-in funds for the "ICT Support Project in Bangladesh" (2012-2013) to design ICT support activities and provide implementation support for AESA's Component 2. In addition, the private ICT firm, BIID, has adapted to local situations and is piloting Farmbook, a farm management app for farmers and also Five Skill Set, both tools introduced by MEAS from Africa to Bangladesh through CRS. The strategy of concentrating MEAS' assistance on one important topic

seems to have worked well. However, this focus excluded further inputs of MEAS on other key EAS aspects.

**QUESTION 8:**

*What resources, financial or otherwise, has MEAS been able to leverage through its investment of core funds?*

Since 2012, MEAS had invested a total of \$213,000 from its core funds to support EAS activities in Bangladesh. This leveraged \$500,000 in buy-in funds for the ICT Support Project in Bangladesh and \$8.0 million to support ICT-related activities under AESA (Component 2).

**QUESTION 9:**

*What are some outputs/results of MEAS work and EAS-related activities that are ready for scaling-up?*

MEAS had introduced the Farmbook application for farmers and extension workers and the Five Skills Set module for training, both in collaboration between CRS and BIID. Farmbook is currently being piloted in 10 locations in Jessore. AESA/mPower has developed several mobile-based ICT tools for farmers and extension workers but these are still being piloted. Some ICT tools including Farmbook show promise and have potential for scaling-up in Bangladesh.

**QUESTION 10:**

*What recommendations should be considered for future BFS support to extension services development? Should current projects be revised in any way? Should continuing support be considered under new projects?*

MEAS has done well in introducing innovative EAS strategies, tools and methods that would strengthen and modernize the EAS systems in Bangladesh specifically those related to ICT. There is excellent documentation of its work in Bangladesh, especially with respect to ICT-related activities and experiences. The Bangladesh results argue for MEAS spending its remaining time documenting its outputs, outcomes and lessons learned as the basis for further work, including a possible follow-on project.

## **FINDINGS**

### **STRENGTHENING THE PUBLIC EAS SYSTEM IN BANGLADESH:**

A major part of the Bangladesh EAS system is in the public sector, with over 14,000 extension workers (SAAOs) in DAE alone. The major players are: DAE (crops) and DAM (marketing) of Ministry of Agriculture; and DLS (livestock) and DOF (fishery) of the Ministry of Fisheries and Livestock. The public extension workers are responsible for providing services to farmers at the *upazilla*, union and block levels. Currently, MEAS and AESA are not formally linked with these departments; better coordination would enhance project implementation and USAID's investment would contribute to institutional and capacity building of the public EAS system and its sustainability. Some Feed the Future projects have formal arrangements with these departments through Memoranda of Understanding (MOU). An example is AIN (aquaculture project). Discussed below are three private sector firms that could also contribute to the EAS system and collaboration could be enhanced by public-private partnerships (PPP).

#### **PROMOTION OF PPP MODELS IN BANGLADESH:**

MEAS is collaborating with BIID, a private ICT firm in Bangladesh, and CRS to pilot a customized version of Farmbook translated into Bangla by BIID. BIID is already promoting Farmbook application under its e-Krishok service, an ICT-enabled extension and market linkage services for farmers and extension workers. BIID has developed its own ICT applications such as 16250: Voice and SMS-based help line and e-Learning program for extension officers. BIID has been collaborating with DAE on the Farmbook piloting and has trained SAAOs in the pilot sites. There are challenges in the technical, management and human resources aspects, but this tool has good potential use in agricultural extension based on two seasons of piloting.

Two other private sector firms in Bangladesh that have developed and are piloting agriculture-related business models that are suitable for smallholder farmers. One is the Syngenta Foundation Bangladesh (SFB), which has established four farmer's hubs (branded Krishan Bazaar) that are operated as independent business entities. The hubs are service centers that link a farming community to formal input and output markets and provide fee-based farmer services (agricultural information, buying and selling, equipment rental, input supply and market information). Results of piloting by SFB show that farmer's hubs can be a good agricultural business model for marginal farmers in remote areas.

Grameen Intel Social Business (GISB) is another private ICT firm in Bangladesh that has developed and is piloting four agriculture-related applications for farmers' use including (1) *mruttika* for soil analysis and fertilizer recommendation; (2) *ankur* for seed selection and recommendation; (3) *protikar* for managing diseases, pests and weeds; and (4) *vistar* for accessing market or buyer information. Using the application software would benefit both farmers and entrepreneurs. GISB is piloting these software applications also in Cambodia, India, Macedonia and Nepal. Results from the use of *mruttika* fertilizer recommendations for potato and wheat cultivation show promise in terms of higher productivity and lower fertilizer cost for farmers.

## **CONCLUSIONS**

In Bangladesh, the focus on ICT-related activities consolidated the USAID assistance on a new initiative for modernizing the EAS considering specific local needs. Better collaboration with other actors working on ICT, especially private sector firms (BIID, mPower, GISB) and government agencies (AIS of MoA), should be considered by AESA since their continuing support can be enhanced through public-private partnerships including co-financing options in strengthening the EAS system and ensure sustainability of the new initiatives.

MEAS has done an excellent job of documenting its activities in Bangladesh. During MEAS's last year of implementation in 2015, documentation and analyses of outputs, outcomes, impacts and lessons learned would provide a good basis for the design of a follow-on project to build on the strengths and successful experiences of MEAS in Bangladesh as well as globally.

The USAID Mission's receptivity to USAID BFS centrally-funded projects involving international agricultural research centers, focusing on research and technology development but with strong extension and farmer-oriented activities, has served to partially resolve the weak research-extension linkages identified during the country assessment.

Based on its design, AESA implementation is limited to host-country non-governmental institutions. Prospects for sustainable positive impact could be enhanced by formalizing the collaboration between the public extension agencies and AESA. AESA's effort to strengthen the current EAS could include capacity building of extension staff and extension institutions to ensure sustainability.

There has been significant leveraging of MEAS core funds (\$213,000) with funds from the USAID Mission of \$500,000 buy-in funds for ICT Support Activity and \$8.0 million for AESA implementation.

## **RECOMMENDATIONS**

MEAS to continue its ongoing assistance to AESA, such as developing ICT training programs for extension staff and farmers and conducting research on the rollout of a subset of ICT tools developed by mPower. AESA would further benefit from the cadre of specialists in the MEAS consortium and the transfer of successful tools, mechanisms and strategies from other countries on other aspects of EAS in addition to ICT.

AESA to strengthen its collaboration with the government extension agencies (DAE, DOF, DLS, DAM, AIS) during the remaining period to ensure sustainability of the EAS innovations and initiatives introduced by AESA and MEAS in the public sector. Examples are the ICT tools developed by AESA (mPower) and GISB and introduced by MEAS from Africa (Farmbook) being piloted in Bangladesh.

USAID Mission to continue supporting EAS strengthening through AESA, but consider broadening the participation of other key actors from the public, private and non-government sectors, improve collaboration and coordination among actors and focus assistance on the development of a more balanced EAS system with stronger and formalized participation of government extension agencies.

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## ANNEX I.2

**SUMMARY OF SOME FEED THE FUTURE PROJECTS IN BANGLADESH,  
SEPTEMBER 2014**

Project	Implementers	Goals/Objectives	Components	Extension-Related Activities	Some Achievements to 2014
Agricultural Extension Support Activity (AESAs) 2012-2017 (third year of implementation)	Dhaka Ahsania Mission (DAM), mPower, CARE International	Objective: To define and disseminate food practice strategies and approaching to establishing efficient, effective and financially sustainable rural extension and advisory service systems	Increase access to agricultural extension services. Increase access to inform through ICT mechanisms. Capacity building of agricultural extension agents. Intensify and diversify production of high value nutritious rich crops.	*Organize farmer producer groups (FPGs); *Train farmer group members on technologies to be transferred; *Carry out training needs assessment of FPGs and extension workers; *Develop training modules and materials; *Train extension agents on ICT, facilitation and other skills; *Develop and test ICT tools and applications.	* Established 1,349 FPGs; *Carried out needs assessment of FPGs; *Provided technical training of farmers on various topics; *Developed and tested ICT innovations (apps, software); *Conducted ICT training for 186 extension workers; *M&E baseline data collected;

ANNEX I.2

**SUMMARY OF SOME FEED THE FUTURE PROJECTS IN BANGLADESH,  
SEPTEMBER 2014**

Project	Implementers	Goals/Objectives	Components	Extension-Related Activities	Some Achievements to 2014
Accelerating Agriculture Productivity Improvement (AAPI) 2010-2015 (fifth year of implementation)	International Fertilizer Development Center Department of Agricultural Extension (DAE/MOA)	Goal: To improve food security and increase rural incomes by sustainably enhancing agricultural productivity.		*Set up demonstration plots and field trials using fertilizer deep placement (FDP) technology; *Organize field days.	*Conducted 151 demonstrations on FDP for fruits and vegetables since March 2013; *Provided training for farmers; *Fertilizer deep placement and high yielding seeds are ready for scaling up.

## ANNEX I.2

**SUMMARY OF SOME FEED THE FUTURE PROJECTS IN BANGLADESH,  
SEPTEMBER 2014**

Project	Implementers	Goals/Objectives	Components	Extension-Related Activities	Some Achievements to 2014
Aquaculture for Income and Nutrition (AIN) 2011-2016 (third year of implementation)	WorldFish	Objective: To disseminate improved fish and shrimp seeds to meet domestic demand; improve nutrition and income of farm households; raise farm incomes and provide off-farm employment.	Fish and shrimp seeds Household aquaculture Commercial aquaculture Institution and policy development	*Train farmer group members and extension workers; *Refresher training on good agriculture practices; *Set up demonstrations, communication programs; *Disseminate nutrition and aquaculture technologies, messages *Develop training modules, materials branded with AIN, farmers guidebooks; *Assist government in implementing policy, regulatory measures of the fish and shrimp industry. *Use WF Gender Transformative approaches based on “Stepping Stone” model.	*Introduced homestead pond aquaculture (fish mola, Vitamin A-rich orange sweet potato) to households; *Introduced freshwater “gher farming system”; *Introduced horticulture model for aquaculture systems (pond, gher, rice-fish, homestead) to households.

## ANNEX I.2

**SUMMARY OF SOME FEED THE FUTURE PROJECTS IN BANGLADESH,  
SEPTEMBER 2014**

Project	Implementers	Goals/Objectives	Components	Extension-Related Activities	Some Achievements to 2014
Cereal Systems Intensification in South Asia in Bangladesh (CSISA-BD) 2010-2015 (last year of implementation)	International Rice Research Institute (IRRI), International Center for Maize and Wheat Improvement (CIMMYT), WorldFish	Objective: To increase household income in impoverished and agriculturally dependent regions of Bangladesh.  Goal: To increase household income, food security and farm productivity through high yielding stress tolerant seeds and improved agronomic practices in FEED THE FUTURE zone.		*Organizing farmer groups; *Participatory farmer trials; *Adaptive trials to identify agricultural technologies, crops and integrated crop management practices; *Setting up demonstration plots and field days; *Developing training manuals and materials, farmer guidebooks; *Training of farmers on various topics *Develop training model focused on WF gender transformative approaches.	*Tech. to successfully grow maize and wheat in southwest Bangladesh; *Developed horticulture model for different aquaculture systems (ponds, gher, rice-fish, homestead); *Ghers and ponds are very profitable and dykes of ghers are major sources of income and nutrition; *Developed and promoted small-scale farming of orange sweet potato in homesteads.

## ANNEX I.2

**SUMMARY OF SOME FEED THE FUTURE PROJECTS IN BANGLADESH,  
SEPTEMBER 2014**

Project	Implementers	Goals/Objectives	Components	Extension-Related Activities	Some Achievements to 2014
Horticulture Project	International Potato Center (CIP), World Vegetable Centre (WVC) BRAC NGO BARI	Goal: To improve food security, nutrition, and livelihood of smallholder potato, sweet potato, and vegetable producers in southern Bangladesh.		*Organizing farmer groups; *Training of farmers including women; *Setting up on-farm demonstration trials of improved technologies.	*High yielding, heat tolerant tomatoes and brassicae; *Multiple disease resistant tomatoes, peppers, cucurbits, onions, mungbean, soybean and eggplant;

**Acronyms:** AESA=Agricultural Extension Support Activity; AGRA=Alliance for a Green Revolution in Africa; AIN=Agriculture in Nutrition; AIRN=Agricultural Inputs Retailers Network; AVCA=Agricultural Value Chains Activity; BARI-Bangladesh Agricultural Research Institute; CIMMYT=International Center for Maize and Wheat Improvement; CIP=International Potato Center; CRS=Catholic Relief Services; DAE/MOA=Department of Agricultural Extension of the Ministry of Agriculture; DAM=Dhaka Ahsania Mission; ICT=Information and Communication Technology; IFDC=International Fertilizer Development Center; IFPRI=International Food Policy Research Institute; IRRI=International Rice Research Institute; MEAS=Modernizing Extension and Advisory Services Project; SAFE=Sasakawa Africa Fund for Extension Education; WVC=World Vegetable Center/AVRDC=Asian Vegetable Research and Development Center.

## ANNEX II

# CAMBODIA

### **HARVEST OVERVIEW**

HARVEST (Helping Address Rural Vulnerabilities and Ecosystem Stability) is the centerpiece of the Feed the Future effort in Cambodia. Its objective is to improve food security through enhanced agricultural development and improved management of natural resources. HARVEST began implementation in December 2010 and will end in December 2015.

The overall program is comprised of four components:

- Food availability increased;
- Increased food access through rural income diversification;
- Natural Resource Management and Resilience to Climate Change increased; and
- Capacity of Public, Private and Civil Society to Address Food Security and Climate Change Increased.

Objectives under components one and four – the most relevant for extension and advisory services – are as follows:

Component 1: Food Availability in Selected Value Chains (horticulture, rice, and aquaculture) Increased

- Agricultural Input and Production Systems Enhanced
- Improved Varieties and Cultivation Techniques Adopted
- Rural Production Systems Diversified
- Agricultural Policy Framework Enhanced

Component 4: Capacity of Public, Private, and Civil Society to Address Food Security and Climate Change Increased

- Capacity of Producer Groups & Private Sector Networks Increased
- Capacity for Adaptive Research and Extension Enhanced
- Capacity for Climate Change Mitigation and Monitoring Established

HARVEST also works to ensure environmental sustainability, integrating the principles of sustainable development into country policies and programs and reversing the loss of environmental resources. It is also intended that nutrition be incorporated into HARVEST activities “when logical and where synergies exist as another key focus of this program objective.”

HARVEST implementation has unfolded in three overlapping phases. The first emphasized data collection and analysis as well as the initial inventorying and valuation of key natural resources and evaluation of the strengths and weaknesses of potential partners. The second phase focuses on enhanced value added production, income diversification, and technologies for climate change adaptation and mitigation. The third phase builds on the results of and lessons learned to maximize program achievements and impacts.

Capacity development and strengthening of local institutions (public, private, civil society, producer cooperatives) are explicitly recognized as key to improving food security and reducing vulnerability to climate change. Such local institutions and partners include the following:

**MINISTRY OF AGRICULTURE, FORESTRY, AND FISHERIES (MAFF):**

The MAFF is responsible for policies relating to the agricultural sector and for extension services and research with respect to agricultural technology and agricultural farming techniques.

**LOCAL GOVERNMENTS:**

The Commune Councils and regional and village government formulate development plans for their respective areas, and provide an essential focal point for coordination of activities of technical ministries, and NGO and community efforts to realize development objectives.

**PRIVATE SECTOR:**

Although national policy somewhat supports private sector investment in agriculture and natural resources, there are often inconsistencies in implementation and there are numerous legal and regulatory barriers to investment.

**LOCAL UNIVERSITIES AND RESEARCH INSTITUTIONS:**

A major focus of HARVEST is building capacity and institutional strengthening at local universities and research institutions, improving local capacity for research to support the environmental and agricultural sectors.

**CIVIL SOCIETY:**

Another key emphasis of HARVEST is to building the organizational capacity of civil society organizations, in order to enhance prospects for sustainability.

Component 1 – increasing food availability – involves enhancing agricultural input and production systems and diversifying cropping and farming systems. This, in turn, involves:

- Assisting agribusinesses with providing improved and more affordable products and services;
- Assisting farmers and other input suppliers improve their access to agricultural credit;
- Policies and a regulatory environment that encourage private investment and the coordination of activities by the private sector, donors, and government entities; and
- Improved understanding of, and access to, markets.

Illustrative activities under this component may include:

- On-farm demonstrations, in collaboration with Cambodian institutions and producer groups, of technologies for increased production and increased income generation.

- Facilitating the establishment and strengthening of agricultural input suppliers.
- Addressing enabling environment/policy issues at the national and regional levels.
- Working with key private sector counterparts (farmers, associations and processors) to identify and introduce improved practices for grading and sorting, improved packaging, and more effective branding.
- Working with service providers and trade associations to enhance their effectiveness in supporting increased agricultural production and sales.

Component 4 – increasing the capacity of public, private and civil society focuses primarily on adaptive research and extension. HARVEST partners with staff from key line ministries, universities and research institutions to jointly undertake analyses and adaptive research while strengthening the technical capacity of the Cambodian partners.

Extension services are essential to scale up adoption of improved technologies and practices. Given current budget realities, RGC extension efforts at the ground level are limited. HARVEST supports innovative extension and outreach models in Cambodia including extension through input suppliers or local NGOs, contract farming arrangements, farmer-field-schools and provincial extension services. HARVEST also supports efforts to strengthen networks of producer groups and private sector partners; develop national capacity to conduct adaptive agricultural research and diffuse improved production technology; and formulate and implement policies to foster rational natural resources management and ecosystem functions.

Illustrative activities under this component include:

- Institutional assessments to identify capacity building needs of targeted organizations.
- Training for targeted organizations in organizational and financial management, transparency and internal governance, advocacy/negotiations.
- Work with RGC research institutions and the private sector to conduct adaptive research to identify, optimize and extend options for increased productivity and production for target products.
- Piloting innovative extension and outreach models to identify cost-efficient methods for scaling up adoption of improved varieties, technologies or practices.
- Analyzing the needs for institutional strengthening with a focus on short-, medium- and long-term informal and formal training for improving food security and establishing an enabling environment for agribusinesses.

Local NGOs provide the majority of HARVEST field extension staff. The EAS models applied by HARVEST vary according to the value chain and beneficiary. In all cases (albeit to a lesser extent in rice), the HARVEST approach is characterized by a combination of technical assistance and the provision of inputs and equipment on a declining co-investment basis. Generally, for the initial production cycle the subsidy amounts to roughly 70 percent of production costs. This declines to 30 percent in 2<sup>nd</sup> cycle, and disappears completely in the third. At the same time, input suppliers are being trained to step in and provide the production inputs (fertilizers, seeds, irrigation, etc.).

In horticulture, an intensive one-on-five/ten approach is used for all commercial clients. For rice, a lead client will receive direct supervision and training on a regular basis, while other farmers participate in group training sessions and may take advantage of extension staff visits to the lead client demonstration site when they occur. The training is focused on demonstrating the benefits of improved (uniform, open pollinated) varieties in farmers' fields. The vast majority of the demonstrations result in the dissemination of improved seeds (by barter or sale) in the communities. This achieves a scaling effect in the field through local rice growing associations.

## **HARVEST MID-TERM PERFORMANCE EVALUATION**

In December 2013 HARVEST underwent a thorough mid-term performance evaluation.

Observations included the following:

- The extent of input provision by HARVEST is substantial, especially for commercial horticulture, but is considered necessary in order to entice the beneficiary to adopt the improved practices in the Cambodian context. This approach to extension is clearly effective in achieving adoption and replication in commercial horticulture<sup>30</sup> as well as in home gardens as evidenced by approximately 25-30 percent of home gardeners expanding their fields using their own resources.
- The capacity of farmers has been considerably enhanced, and extension capacity has been developed within local NGOs subcontracted to HARVEST. However, this is of concern, since there is no guarantee that such technical assistance capacity will continue to be available to growers post-HARVEST.
- Commercial horticulture, rice and aquaculture components have interacted with provincial extension services at the district level in terms of training and participation in field days and field visits. Nevertheless, the lack of any operational agreement between line ministries and HARVEST limits the scope for interaction.

Specific findings included the following:

- HARVEST's agriculture value chain support activities are leading to increased economic benefits. HARVEST has placed major emphasis upon increasing the availability of food and considerable effort has gone into the development of commercial horticulture in particular.
- Capacity development has been well addressed insofar as it relates to increased agricultural production, but except for provision of long-term training through a number of ongoing regional and domestic graduate level scholarships, capacity building has not been strongly addressed outside of this area.<sup>31</sup>
- Commercial horticultural producers remain dependent upon extension for advice. Extension capacity has been developed within local NGO representatives subcontracted to the HARVEST program. This is of concern since there is no guarantee that such technical assistance capacity will continue to be available to growers post-HARVEST.

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<sup>30</sup> "Mid-Term Performance Evaluation of the Cambodia Harvest Project (Helping Address Rural Vulnerabilities and Ecosystem Stability," p. 24. USAID/Cambodia, December 2013.

<sup>31</sup> Harvest Mid-Term Evaluation, p. viii.

- HARVEST has been effective in enhancing the extension capacity of input suppliers, but there has been little progress in building sustainable capacity in other organizations/institutions outside of HARVEST.
- The beneficial impacts of HARVEST interventions in horticulture are enough to generate sustainability and replication amongst those farmers with the capacity for investment, although questions remain regarding the high level of dependence on program technicians.<sup>32</sup>
- The nutrition element was not well articulated in the original contract, but had been developed to the maximum extent possible, and represented the most practicable form of assistance the HARVEST currently provides to the poorest households.

Recommendations coming out of the evaluation include the following:

- Capacity Development - The program should proactively seek out and develop alternative options for the provision of technical assistance to growers and producers once HARVEST is completed. These may include the MAFF (although it is recognized that capacity and funding constraints may limit this option), private sector input suppliers, marketing wholesalers and others, including NGOs. Contract farming/out-grower schemes offer opportunities to embed technical assistance capacity within horticulture, rice and aquaculture value chains.
- Management - HARVEST's policy agenda actions should be linked within an overall USAID policy agenda across the Mission's program.
- The relationship between the RGC and HARVEST needs to be readdressed to allow for a more effective working relationship between RGC and HARVEST staff at all levels.

## POST-EVALUATION DEVELOPMENTS

### **PUBLIC EXTENSION STAFF TRAINING:**<sup>33</sup>

In July 2014, in response to both evaluation recommendations and pre-evaluation Mission initiatives, HARVEST entered into an agreement with the Provincial Department of Agriculture (PDA) for Kampong Thom Province (one of the four provinces where HARVEST is being implemented) for training for the Provincial Department of Agriculture staff. Since then, agreements have been signed with each PDA in the Feed the Future zone of influence. HARVEST agreed to collaborate with the PDA to implement a training program for the benefit of PDA staff at the province and district levels. This would consist of an intensive, twelve-month training program in agriculture production, focusing on commercial horticulture (vegetables), to will include both classroom and field training through the use of demonstration sites, plus refresher classroom training after 4 and 8 months respectively. Each PDA is to nominate one technical officer from each district plus one farmer in each district where HARVEST is active. There are approximately 40 trainees in this program including PDA and private sector participants.

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<sup>32</sup> Harvest Mid-Term Evaluation, p. x.

<sup>33</sup> Letter of Agreement, "Collaboration between Cambodia HARVEST and the Kampong Thom Provincial Department of Agriculture," July 1, 2014

After the initial 10 days classroom training, field training for the remainder of the program will be delivered at the demonstration sites, where all training and programmed field events will take place. Monthly field events will be held at each demonstration site where it is expected that PDA staff along with Cambodia HARVEST staff invite neighboring farmers. Other district PDA staff is also invited to participate and will receive the transportation and per-diem allowance for that day's event.

In addition to the ETP monthly training events mentioned for PDA technicians, Cambodia HARVEST agriculture holds regularly scheduled monthly training events for village commercial horticulture clients and neighboring farmers at pre-determined lead client demonstration sites. These trainings are specifically designed to transfer technology and good agriculture practices to the attending farmers. Also in attendance are input suppliers, MFI's, and buyers. As a means to strengthen staff knowledge and build technical capacity, PDA is encouraged to send their district field staff to these trainings.

**EXTENSION POLICY:<sup>34</sup>**

The RCG's Ministry of Agriculture, Forestry and Fisheries (MAFF) requested support from USAID in June 2013, through HARVEST, to formulate a draft agricultural extension policy that will bring greater internal coherence and consistency to efforts to improve the country's agriculture. The desired outcome is a "well-grounded policy that will define and focus on roles and functions, as well as the structure and operation of a sustainable agricultural extension service," one that would sustain and enhance food security and rural livelihoods through effective access to and use of appropriate agricultural knowledge, information and technologies by the farmers.

USAID/Cambodia agreed to assist in the policy formulation through a technical assistance team consisting of local and international experts, including Dr. Murari Suvedi from Michigan State University, a MEAS partner institution. The policy formulation team formulated a five-phase approach, beginning with an inception report reviewing the current situation and setting out the mission and objectives (phase one) and continuing through preparation of a draft policy (phase two), a national workshop and consultative meeting to review and discuss the draft policy (phase 3), a final drafting process (phase 4) and final approval (phase 5).

The extension policy inception report, of March 2014, notes that Cambodia has literally hundreds of NGOs providing agricultural extension services to farmers, almost all of them supported by bilateral or multilateral donors. At present, the RCG's Department of Agriculture Extension (DAE) has roughly 1,100 professional staff at all levels (national, provincial and district) to serve some 600,000 farmers.

By August 2014 the first two phases were completed and a first draft of an extension policy formulated.

The draft policy proposes coordinated, decentralized, market-driven and participatory approaches that respond to user demand, with the following characteristics:

- Need-based, demand-driven;
- Participatory and market-oriented;

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<sup>34</sup> "Inception Report, Agricultural Extension Policy," USAID/Cambodia, March 2014.

- Decentralized/de-concentrated, promoting public-private partnership;
- Collaborative, with networking among Development Partners, NGOs, Civil Societies, CBOs and private service partners.
- Continually updated through strengthened agricultural education institutions for human resource development.
- Making use of the latest in Information and Communication Technologies and mass media.

The salient features of the August 2014 draft policy include the following:

- The RGC will fund and support the DAE and its services. Select extension services will gradually be privatized and commercialized. However, DAE services will continue in providing agricultural extension services and coordinating the role where private sector participation is low.
- Within the next five years, the District Agricultural Office will be the main point for technical support and for providing extension training at the local level.
- Agricultural extension will be pluralistic, i.e., services can be offered by development partners and NGOs, farmer organizations, input suppliers and religious institutions in partnership with GDA/DAE and PDA.
- MAFF will invest in improving the quality of agricultural extension workers and building capacity in extension trainers.
- A common monitoring, evaluation and learning system will be developed and implemented to systematically monitor and evaluate impacts of extension services throughout the nation.

## ANNEX II.I

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### **DOCUMENTS REVIEWED**

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USAID/Cambodia: "Inception Report, Agricultural Extension Policy;" HARVEST Project, March 2014

USAID/Cambodia: "Mid-Term Performance Evaluation of the Cambodia Harvest Project (Helpint Address Rural Vulnerabilities and Ecosystem Stability," HARVEST Project, December 2013.

Ministry of Agriculture, Forestry and Fisheries, Government of Cambodia: "Agricultural Extension Policy (first draft); August 2014

IFAD: "Agriculture Services Programme for Innovation, Resilience and Extension – Design Completion Report;" March 2014

HARVEST Project Scope of Work

## ANNEX III

# ETHIOPIA

Kifle Negash, Evaluator  
December 12, 2014

### **INTRODUCTION**

When the MEAS Evaluation Team met on August 21-22, 2014 in Chicago, I was designated to visit and assess the extension advisory services activities in Ghana and Ethiopia. Although Ethiopia does not have an on-going MEAS project, the country was described as having a large Feed the Future program with significant Extension Advisory Services (EAS), with interesting approach targeted at promoting value chain development.

I visited Ethiopia from September 28 to October 5, 2014. Based on my intent to learn more on the EAS approach of Feed the Future, I requested USAID/Ethiopia to assist in identifying appropriate project contacts. The USAID/Ethiopia Feed the Future Team informed me to contact the Agricultural Growth Program (AGP) implementers.

The AGP is the flag ship program of the Government of Ethiopia's CAADP investment plan and the USAID contribution to the AGP is considered as the flagship project under Feed the Future strategy. The development objective of the USAID component of the AGP is to increase agricultural productivity, and market access for key crops and livestock products selected under the value chain. The AGP is a comprehensive program supported by several donors, including USAID, anchored in the Ethiopian Government's emphasis on economic growth. The combined U.S. support to the AGP comprises about 30 percent of the total multi-donor investment, representing one of USAID's largest contributions to the GoE's Agricultural Growth Program. In addition, the GoE is awarded a \$51 million grant under the World Bank-managed Global Agriculture and Food Security Program (GAFSP) public window which supports GoE-implemented component of the AGP. The USG is the largest contributor to the GAFSP fund and the contribution is considered as part of Feed the Future increasing the US stake in the AGP.

Under the AGP, I focused on the activities of the USAID group of "parallel funded" (not pooled funding) programs: Agribusiness and Market Development (AGP - AMDe), the Livestock Market Development Programs (AGP - LMD), and the CNFA: Commercial Farm Service Program. Due to time limitations, I was unable to plan long field trips to the interior country side to visit activities of these programs in varied agro-ecological zones. Fortunately, I was able to attend farmers'/ cooperative unions gathering event arranged by ACDI/VOCA team in Addis Ababa. Also, I traveled about 50 km out of Addis Ababa to Bishoftu to visit a model Farm Service Center (FSC) established by USAID/Ethiopia CNFA/CFSP.

This field visit report presents a brief summary of my observations, key findings, conclusions and recommendations.

## **COUNTRY VISIT SUMMARY NOTES**

### **COUNTRY OVERVIEW:**

Ethiopia is the second-most populous country in Sub-Saharan Africa with a population of about 90 million. The population is growing by 2.6 percent annually, and the terrain contains three main agro-ecological zones ranging from a) regions with adequate moisture (predictable climate and fertile soils) b) with moisture deficit areas (irregular climate and degraded soils) to c) areas with large grazing areas (irregular climate). The country also has ancient history and old traditions, with a wide range of cultures coming from more than 80 ethnic groups.

Ethiopia's economy is still dependent on agriculture. The sector accounts for about 46 percent of GDP, 85 percent of employment and 90 percent of exports. Cereals dominate Ethiopian Agriculture, accounting for about 30 percent of agricultural GDP. Livestock production accounts for about 12 percent while forestry contributes about 4 percent of agricultural GDP, and animal power is critical for all farming systems.

The economy has experienced solid growth over the past decade, averaging 10.9 percent per year in 2004/05 - 2012/13 compared to the regional average of 5.3 percent. During the same period, inflation was high on the average about 29.6 percent. According to recent report [15], Ethiopia's macroeconomic performance continues to be sound, with robust economic growth supported by high agricultural production, direct public sector and foreign investments. The country's per capita income of \$470 is lower than the regional average, but the GoE continues to allocate a high share of its annual budget to the agricultural sector anticipating to reach middle income country status by 2025, thus, augmenting the large scale donor support provided to boost agricultural growth.

The current ruling party, the Ethiopian People's Revolutionary Democratic Front (EPRDF) has governed Ethiopia since 1991. Since taking power, the EPRDF has devolved powers and mandates to ethnic-based regional states, and then to *woredas* or (district authorities), and *kebeles*, or (village authorities).

Overall, Ethiopia's investment-led development strategy has delivered robust growth and progress. Growth is expected to remain strong driven by agriculture and services. Inflation is expected to continue to remain in single digits. However, sustainability of current public sector led-growth strategy could be susceptible to several downside risks-including external financing of the public investment program, declining prices for export commodities, and weather related shocks. Observers note that moderating these risks will necessitate, among other things, monitoring of both state-owned enterprises such as banking, Power Telecommunications, Sugar production and in Party-owned enterprises such as Ground Transport, Cement, Textile and Fertilizer Companies, to ensure prudent borrowing and appropriate policy to help shift the balance toward private sector-led, sustainable growth.

### **OVERVIEW OF AGRICULTURAL EXTENSION SERVICES IN ETHIOPIA:**

Ethiopia has had agricultural extension services since the 1950s, when a model similar to the United States Land Grant approach was used, where universities reached out to communities with research-based knowledge and through adult education. This program started with the establishment of Alemaya College of Agriculture in 1953 to nationally coordinate and lead agricultural education, research and extension, which was a major watershed in the history of agricultural extension in Ethiopia. Through the Ethio-American Point Four Agreement, the college

was expected to develop and deliver a national program of agricultural extension [3]. During the 1953-63 period, also called the era of Alemaya College [10], the college initiated a number of research fields that also served as satellite extension demonstration plots. Besides, college graduates, high school graduates were recruited and trained in agricultural techniques and communication skills to work as extension agents. The number of extension agents and sites grew over the years, and by 1963, 132 nationals were working, stationed at 77 extension posts [3]. Although short lived, this extension model illustrated how a nation could lay the institutional foundation for agricultural education to undertake agricultural teaching, research and extension activities to promote productivity of the farming community.

In 1963, the Ministry of Agriculture was established, and the mandate of extension provision was transferred to this institution. The Ministry of Agriculture established Extension and Project Implementation Departments (EPID), at the headquarters and provincial levels [1]. During this time, there were several national development plans devised, the last of which supported small-scale farmers through comprehensive package programs (Comprehensive Integrated Package Projects -CIPPs), the most prominent of which were the Chilalo and Wolayita Agricultural Development Units (CADU and WADU). CADU was established in Arsi to improve living standards through increased production and infrastructure. The WADU program, based in Wolayita, while still focused on improving living standards, based its approach on agro-ecological zones (Abate 2000). A minimum package (Minimum Package Program – MPP1 and MPP2) approach then followed these programs, to help scale up the CIPPs.

A major turning point came to Ethiopia with the 1974 revolution, which brought in a military-led provisional Marxist regime that began taking drastic measures. Its Land Reform Proclamation abolished private ownership of land, prohibited the transfer of land by sale, exchange or mortgage, limited the maximum farm size of a farmer and paved the way for the establishment of Peasants' Association. The extension program was decentralized in 1976 to facilitate implementation of the land reform agenda. From around 1986-1995, there were various new programs, such as the National Program for Food Self Sufficiency (1986-89), Modified Training and Visit (T&V) Approach, and the Peasant Agriculture Development Extension Projects-PADEPs [1].

Following the downfall of the socialist regime in 1991, the relationship between the United States Government and Ethiopia was normalized and the GOE's declared focus changed to a "free market economy."

In 1993, NGO Sasakawa Global 2000 (SG-2000) promoted the use of productivity-enhancing technologies and access to inputs and credit, coupled with training using 1/4- to 1/2-ha demonstration plots that were closely supervised by research and extension. SG-2000's goal was to increase food production and stimulate links between research and extension. Via their on-farm demonstration plots, SG-2000 showed that – with sufficient inputs and supervision and management – farmers could double or triple their cereal yields of maize and wheat.

In 1995 the GOE adopted the PADETES (Participatory Demonstration and Training Extension System) model. This was based in part on the T&V system as well the SG-2000 pilots. The goal of PADETES is to improve incomes via increasing productivity, ensure self-sufficiency in food production, establish farmer organizations, increase production of export crops, conserve natural resources, and increase women's participation in development.

Identifying challenges in the PADETES program resulting from insufficient extension staff, the government realized the need for additional human resources in extension to continue to bring about high rates of technology adoption and production. The plan to use the technical and vocational education and training centers (TVETS) to produce additional development agents was undertaken.

In 2011, Farmers' Training Centers (FTCs) at the kebele level were also identified as a critical resource needed to enable extension delivery. The FTCs were designed as local-level focal points for farmers to receive information, training, demonstrations, and advice, and included both classrooms and demonstration fields. They are expected to form an important node between extension and farmers in the agricultural sector. FTCs are managed at the kebele level, but capital, operational, and salary costs come from the woreda level.

#### **CURRENT SITUATION:**

Currently, GoE is promoting a "Participatory Extension System." Both public and non-public sector actors provide extension/advisory services in Ethiopia. The public sector is prominently represented by the Ministry of Agriculture and Rural Development (MOARD) at the center and Bureau of Agriculture (BOA) at the Woreda/District level. There are also research institutions, universities and parastatal companies playing the public provider role.

In 2009, the Ethiopian Parliament passed legislation regulating Non-Governmental Organizations (NGOs). This new law is restrictive in demarcating areas of operations for different types of NGOs (for example by excluding those receiving more than 10% of funding from external sources from many areas of activity). While looking forward for a new and more coherent regulatory framework, a good number of NGOs are already involved in extension service delivery at all levels: national, regional, zonal, woreda and kebele.

The private sector's involvement in service delivery is evident in the areas of veterinary services, animal feed processing, breed improvement through bull service and marketing, herbicide and pesticides and seed supply.

The GOE has long declared that extension/advisory services play a crucial role in transforming the agricultural sector and in reducing poverty as well as promoting economic growth. Recently, the GOE has looked to Asia for experience—the lessons of the Green Revolution but also the lessons of the rapid economic growth of the "Asian Tigers" and "Tiger Clubs". The focus countries for review of experiences included: Korea, Thailand, Malaysia, China, India and Vietnam. In 2008 with the help of FAO, the GoE convened a group of experts to examine the lessons for Ethiopia's public extension to be learned from these countries. Also in 2010, GOE established the Agricultural Transformation Agency (ATA) by federal regulations. The ATA is modeled after similar public-sector bodies in Asia. The primary aim of ATA is to promote agricultural sector transformation by supporting existing structures of government, private sector and other non-governmental partners.

The public extension program still remains a huge bureaucracy and centrally managed but with some decentralized decision-making (although the autonomy of the Regional State governments from ruling party control is debatable). GOE has now established about 10,000 FTCs (Farmer Training Centers), with the intent to build up to 18,000. It has also launched 25 ATVETs to train and upgrade the skills of its extension Agents. Recent indications are that about 60,000

Development Agents are deployed through-out the nation to work with farmers and farmer groups, making Ethiopia's agricultural extension system the largest in Sub-Saharan Africa.

Despite the progress recorded to date, several observers of the Ethiopian Extension System suggest the urgent need to address prevailing shortcomings [14]. A few of the often-noted priority actions include the following:

- Developing Clear Vision and Mission for the Extension System (i.e., a policy for EAS, whether explicit or implicit) that would spell out what is to be accomplished, and clearing space for more involvement of the non-state service providers)
- Firming up farmer-led decision-making at the FTC level (such as establishing/enhancing farmer representatives at the FTC level by involving broad set of farmer stakeholders- female, male, youth farmers, bestowing clear management role on MOARD, etc.)
- Expanding Development Agent (DA) skill set for broadening extension contributions (such as launching a set of in-service training for DAs, Subject Matter Specialists (SMS) and other personnel on business development, marketing, communication/market information and facilitation skills, including arranging experience/information sharing tours/visits in other locations.
- Encouraging FTC revenue generation (among other things, this entails incorporating farmer and market-driven crop demonstrations with the proposed goal of self-sustaining FTCs).
- Using ICT to enhance market information system.

#### **FEED THE FUTURE AND THE AGRICULTURAL GROWTH PROGRAM:**

The Agricultural Growth Program (AGP) is a major component of the Five Year Growth and Transformation Plan (FYGTP). It aims to achieve a greater balance between targeted support to the poorest rural households and support to more dynamic households and enterprises in areas with high potential. The AGP targeted about 96 Districts in areas with high potential for agricultural growth that are underdeveloped in four regions of the country: Oromia, Amhara, Southern Nations and Tigray.

The AGP is a comprehensive program supported by the US Agency for International Development, the World Bank, the Canadian International Agency, and other international donors, anchored in the Ethiopian government's emphasis on growth and the growth corridor concept. Although the Ministry of Agriculture is responsible for developing and refining the overall national agricultural and rural development strategies and policies for the country, the ministry is expected to collaborate with the New Agricultural Transformation Agency (ATA) in problem solving, implementation, and coordination of priority initiatives. The ATA is part of the GoE and reports to an Agricultural Transformation Council Chaired by the Prime Minister.

The Ethiopian Feed the Future program is based on the assumption that the USG must engage and promote the emerging development paradigm of government-led, donor-harmonized, and evidence-based collaborative efforts and investments to effectively achieve these initiative objectives. The paradigm is framed in the context of food security, i.e. availability, access and utilization of food and strives to promote efficiency in management and service delivery within the country, as well as greater integration into regional markets [32].

Feed the Future took the lead role in supporting Ethiopian-led, multi-donor efforts to promote Agriculture-led economic growth by strengthening strategically selected value chains of key crop and livestock commodities, promoting private sector engagement, and improving market function. The Key challenges in assuring availability of adequate quantity and quality of production surplus to meet demand for local needs and for foreign earnings include:

- Low farm productivity and high post-harvest losses
- Poor market linkages and little value addition
- Land degradation and
- Poor infrastructure

Thru the AGP, significant investments are being made to address some of the underlying causes of chronic food insecurity. It is worth noting as well that, the AGP is aligned with the fundamentals of the:

- Agricultural Development Led Industrialization (ADLI)
- Comprehensive Africa Agriculture Development Program (CAADP)
- Rural Development Policy and Strategies (RDPS); and
- Plan for Accelerated and Sustained Development to End Poverty (PASDEP) Program

USAID/Ethiopia's contribution toward improving performance of the agricultural sector can be illustrated by focusing on Agribusiness and Market Development (AGP-AMDe), and Livestock Marketing Development (AGP-LMD) and the Commercial Farm Service Program (CFSP). The Agribusiness activity is managed by ACDI/VOCA, while the Livestock Market and the Commercial Farm Service Programs are managed by CNFA. Both programs are funded under the Feed the Future initiative.

**ACDI/VOCA: Agribusiness and Market Development (AMDe) Program:**

The Agricultural Growth Program- Agribusiness and market Development is a \$51 .35 million project that is helping to transform Ethiopia's agricultural sector through increased competitiveness in domestic, regional and international markets. ACDI/VOCA is the prime contractor and lead organization of the implementation team that comprises of consortium of subcontractors: IFDC, Coffee Quality Institute, John Mellor Associates, RENEW, Kimetrica, Danya International and Crown Agents USA, including several local AGP partners at the national, regional, zonal and woreda levels.

The development objective of Agribusiness and Market Development Program is to increase agricultural productivity and market access for six value chains:

- **Wheat:** Although Ethiopia is Africa's second largest producer of wheat and the national production volumes is increasing, productivity still remains low by international standards and total production satisfies only half of domestic demand. Availability and accessibility of improved seed, extension and technical services remain chief constraints to increasing productivity. Of the total cereal production, about 20% is lost due to poor post-harvest handling and storage conditions and only 4% reaches the industrial sector.

- **Maize:** Ethiopia is Africa's third largest producer of maize and maize is Ethiopia's most important crop in terms of number of households involved, total acreage under cultivation and the total production volume. There is an estimated 25 percent post-harvest losses and the majority of maize is consumed within the household. On-farm and community storage facilities are inadequate and the bulk of the maize crop that is traded is sold at the local markets in the months immediately following the harvest. There are export potentials of maize to the neighboring countries, but due to a shortage of maize in Ethiopia, the government has imposed an export ban on maize.
- **Coffee:** Coffee is Ethiopia's largest foreign currency earning industry. Ethiopian coffee accounts for 3% of the global coffee trade. The vast majority of coffee (90 percent) is produced by smallholders, some of whom are organized in one of the country's many farmer cooperatives. While many farmer cooperatives are poorly managed, there are a number of large and well-organized coffee farmer cooperatives providing their members with important services and buying the member's coffee at competitive prices.
- **Sesame:** Ethiopia is the third largest exporter of sesame in the world, accounting for 14 percent of the world exports. Sesame is the second most important commodity after coffee to generate foreign currency. Sesame production has increased in the last couple of years, primarily due to increased area under cultivation. However, the productivity per hectare remains low, and losses during and following harvest are high.
- **Honey:** With more than 40,000 MT, Ethiopia is the largest honey producer in Africa and the 9th in the world. The majority of honey is produced by small scale beekeepers, 95 percent of whom employ traditional techniques with low yield. Women play an important role in honey production and its "off-farm" character makes honey production particularly useful in land scarce areas.
- **Chickpeas:** Ethiopia is the seventh largest producer of chickpeas in the world. Most of the production is conducted by smallholders. Chickpea is particularly important as: 1) it provides an alternative protein source; 2) it fetches high price for farmers; 3) its leguminous nature reduces future fertilizer expenses; and 4) it uses residual water and is grown at the end of the growing season (the second harvest). Although estimates vary widely farmers sell a significant share of their produce and the domestic demand for chickpeas is on the increase. About 20 % of chickpeas produced in Ethiopia are destined for export. Ethiopian chickpea exports account for 3.6 percent of global chickpea trade (8th in the world) and 64 percent of African exports.

The AGP-AMDE program is expected to expand access to improved inputs (including seed and fertilizer) and farm technology; introduces effective post-harvest handling that reduces loss; strengthens public and private sector agricultural services; and expands value addition through-agro-processing. This value chain approach is intended to unite agricultural stakeholders to work together to create market opportunities and overcome shared obstacles, including the following:

- Strengthening the competitiveness of the six value chains
- Increase access to finance, thereby encouraging investment, productivity and trade
- Improve the enabling environment, working closely with the GoE and

- Expand public-private partnership investment

**Attendance at the Grain Grading Equipment Handover Ceremony:** On Monday, September 29, 2014, I met with the Technical Deputy Head of the ACDI/VOCA and was thoroughly briefed on ACDI/VOCA Activities in Ethiopia. After learning that I have no time to do field visits, he suggested that I attend the equipment handover ceremony planned to be held September 30, 2014 at the Oromia Branch Office in Addis Ababa, and he graciously arranged the logistics.

The handover was new post-harvest handling equipment, valued at \$228,000 for 39 Farmers' Cooperative Unions (FCUs) in Oromia, Amhara, Tigray and SNNRP that could be accessed by more than 1.5 million member farmers. The post-harvest handling equipment included: grain cleaners, maize sellers, mobile bag, stitching machines, and fumigation sheets. The new equipment also included hand held grain moisture meters, tools for sample testing, and compact scales.

As noted during the ceremony, the objective of introducing these innovative post-harvest technologies is to provide farmers' cooperative unions (FCU) with the technology to enable smallholder farmers to decrease post-harvest losses as well as improve quality.

It was noted that the U.S Government, through USAID invested about 228,000 U.S. dollars in this new grain grading equipment as well as market linkages and technical support.

According to the USAID Economic Growth Office Chief, "through the previous post-harvest training and technology, we have reduced post-harvest loss significantly since the start of the USAID AGP-AMDe project. Chickpea post-harvest losses were reduced dramatically from 20 percent to six percent. Maize post-harvest losses were cut in half—from 23 percent to 11 percent... USAID AGP-AMDe works closely with farmers' cooperatives, and USAID is pleased with the achievements to date:

- Over 62,000 smallholder farmers applied new technology on more than 38,800 hectares
- Facilitated market linkages with buyers for FCUs and processors for domestic and export markets that resulted in sales of 91 million U.S. dollars
- Trained more than 78,000 smallholder farmers and created almost 1,000 new jobs."

**CNFA: Livestock Marketing Development (AGP-LMD) Program:**

The Agricultural Growth Program-Livestock Market Development is a \$37.67 million project to be implemented over a 5-year period, 2012-2017. LMD follows value chain development approach and develops the capacity of value chain actors. The project's Development Hypothesis is that market-driven enterprise development can generate increased producer incomes by pulling previously marginalized populations into commercial value chains. Increased incomes, supported by effective planning and social behavior change communication, then lead to improvements in nutrition, household food security and health, and can equitably impact women, minorities and people living with HIV/AIDS.

This "spread effect" along the value chain will leverage and strengthen "productive Ethiopia" to feed "hungry Ethiopia" and commercialize "pastoral Ethiopia."

The project addresses USAID's strategic objective of improving smallholder incomes and nutritional status through the achievement of three key USAID intermediate results: 1) Increase Productivity

and Competitiveness of selected value chains 2) Strengthen Enabling Environment for Livestock Value Chains and 3) Improve Quality and Diversity of Household Diet through Intake of Livestock Products.

Although Ethiopia has some important comparative advantage in the Middle Eastern livestock and meat markets, internal and external challenges, such as trade bans by importing countries and inadequate domestic facilities have had high costs on the Ethiopian livestock trade. This project intends to use evidence based findings to address some of the issues and constraints.

AGP-LMD is led by CNFA and supported by 13 consortium partners. CNFA, a Washington, D.C.-based international development organization specializes in implementing enterprise-based agricultural/livestock development initiatives that are designed to facilitate market access, enhance agribusiness competitiveness, increase productivity and improve access to inputs and finance.

CNFA has mobilized a team of international partners, including the Netherlands Development Organization (SNV), which has been at the forefront of Ethiopian dairy development and International Medical Corps (IMC), which integrates its 10 years of continuous work addressing HIV/AIDS and nutrition in Ethiopia to the CNFA approach. Additionally, J.E. Austin & Associates (JAA) is leading value chain analytics, the Institute for International Education (IIE) is contributing its approach to gender equity, and the International Institute for Communication and Development (IICD) is integrating technology solutions into all program activities.

In addition, the consortium includes four large regional partners operating in the AGP-LMD target regions: (1) the Relief Society of Tigray (REST); (2) the Oromo Grassroots Development Initiative (HUNDEE-Oromia); (3) the Organization for Rehabilitation and Development in Amhara (ORDA); and (4) Self Help Africa-Ethiopia. These provide regional office facilities and regionally-based personnel for front-line implementation of AGP-LMD activities. Local consulting firms TREG, BCaD, Precise Consult and DOT Ethiopia support the program's relevant studies/analyses.

The foci of the value chain activity are:

- **Meat/Live Animals:** AGP-LMD works closely with actors in the cattle, sheep and goats meat and live animal value chain, and assists them to expand market reach and become enterprises that are more efficient. AGP-LMD also creates stronger market linkages, based on mutual benefits and synergies among actors at different levels of the value chain.
- **Dairy:** AGP-LMD assists dairy producer groups, milk collectors, processors and other supporting businesses to increase milk production at the farm level, improve collection and logistics, and strengthen processing capacity and efficiency. In addition, AGP-LMD stimulates demand, to spark growth in volume and efficiency across the value chain
- **Hides and Skins:** AGP-LMD focuses its efforts on improving and increasing hide and skin processing and collection through abattoirs and slaughter houses. These activities increase the volume of hides and skins by reducing rejection rates and developing a more effective marketing/collection system that preserves the quality of the materials.

To improve the productivity and competitiveness of the selected livestock value chains, the CNFA implementing team undertook the following strategic actions:

- ***Linked Value Chain Actors and Service Providers:*** To build and strengthen commercial relationships between input supply companies and value chain businesses, AGP-LMD conducted business meetings between value chain actors, input suppliers and service providers in each of the four project regions. These meetings were structured as one-day “mini- trade fairs,” a new format for Ethiopia’s livestock sector. While the morning sessions included presentations by the input supply companies describing their company and services, the afternoon sessions included tabletop displays from each company that allowed each business to exhibit their products and directly interact with potential buyers. The companies were provided with a “deal sheet” prior to the event and were asked to complete the sheet for each sale, or potential sale, that they made during the event. Over five hundred businesses participated in the AGP- LMD business-to-business meetings during the year, resulting in 168 confirmed sales. The input supply companies that participated in the events included feed manufacturers, artificial insemination providers, animal health and drug providers, manufacturers of agricultural and food processing equipment, milk processors and abattoirs. These business-to-business meetings were very well received by the farmers and companies who participated, as well as by the local officials who were previously unfamiliar with this type of activity and its benefits (a brief note on Lesson Learned in developing linkages between Value Chain Actors and Service Providers in Ethiopia is attached as Annex III.2.)
- ***Established and Strengthened Input Suppliers and Service Providers:*** In addition to linking input suppliers and service providers to value chain businesses (Strategy 1), AGP-LMD also develops and strengthens the livestock-related input supply sector (Strategy 2). During the past year, AGP-LMD has strengthened input and service providers in several key sectors: Livestock Health Services (private and public), Feed Supply (private), Artificial Insemination Services (private and public), Livestock Slaughter Services (public), and Business Development Services Improved Livestock Management. Poor farm-level livestock management practices have led to very low productivity, although Ethiopia has the largest livestock population in Africa. The AGP-LMD Strategy 3 includes activities that train farmers (primarily those who are organized into producer-groups such as Community Interest Groups (CIGs), Cooperatives, and Unions) through a cadre of qualified trainers.
- ***Improved Post-Production Relationships, Effectiveness and Quality:*** AGP-LMD’s Strategy 4 establishes and strengthens horizontal relationships among producer groups and downstream businesses to enable producer groups and other businesses to share information, collaborate to provide or procure services, increase bargaining power, reduce costs and improve access through economies of scale, and access finance. Key Strategy 4 activities during the 2013/4 period include: development of embedded services, creating quality based payments systems, and strengthening relationships and infrastructure between buyers and sellers, including producers in the GRAD and PRIME project region
- ***Improved Number, Quality and Functionality of business in the Middle of the Value Chain:*** AGP-LMD prioritizes activities focused on developing businesses in the middle of the value chain in recognition that private sector businesses can serve as the engine for development. These businesses connect livestock producers to markets. AGP-LMD provided technical assistance to dairy processors, feedlots and abattoirs during the 2013/4 period to

help them produce new products, utilize new technology, and implement new management practices.

**CNFA: Commercial Farm Service Program (CFSP):**

The CFSP is a 24-month, \$2 million project funded by the USAID/Ethiopia Feed the Future Innovative Fund for Ethiopian Agriculture (IFEA). CFSP adapts CNFA's Farm Service Center (FSC) model to the Ethiopian context for the first time, with the overall goal of developing a pilot network of six input supply FSCs in the Oromia region to improve small holder productivity, food security and income through the development of sustainable, private-sector driven agricultural input supplies and services. The specific objectives include:

- Addressing smallholder farmers' needs for improved seeds, fertilizers and plant protection products through its FSC model to move production to a commercial level;
- Strengthening commercial linkages between agricultural service providers, producers, processors, wholesalers/ distributors and markets, to support sustainable, long-term growth and generate new jobs; and
- Demonstrating the viability of the FSC model as a platform for larger-scale public-private partnerships to expand Ethiopian smallholder's access to inputs, training and services;

**Program Implementation Approach:**

- Establish at least six locally (Ethiopian) owned, retail farm supply and service locations (FSCs) with inventories, training, services and output market link- ages
- Deliver uniform branding, business skills, technical/advisory capacity, quality standards, environmental and worker safety procedures among the network
- Promote FSC-led farmer outreach activities, including training seminars, demonstration plots and field days, to showcase the impacts of improved inputs and improve farmer production skills, and
- Create a wholesale buying cooperative, owned by and dedicated to serving the inventory needs of the FSCs and linking them to national and international supplier

**Current Results:**

Following a broad outreach campaign to publicize the program and explain the application, evaluation, and selection process to potential applicants, CNFA selected six FSCs through a competitive grant application process:

- Alema Farms PLC (Bishoftu)
- Barite Agricultural Inputs Trader (Shashamane)
- Biftu Salale Farmers' Cooperative Union (Fiche)
- Etafa Mekonnen Crops Trade (Nekemte)
- Gadissa Gobena Commercial Farm Products PLC (Ambo)
- Raya Wakena Farmers' Cooperative Union (Dodola)

These 6 FSCs and apex wholesale cooperative are expected to serve over 30,000 smallholders in Oromia Region and will serve as an innovative model for scaling up private farm supply and service networks in Ethiopia and throughout Africa. In support of the 6 FSCs, CFSP has made a grant totaling \$240,000 and was matched by over \$1.5 million as leveraged by the six grantees. Of these six FSCs, one is a woman-owned enterprise, two are owned by cooperative unions, and three are owned by private entrepreneurs.

Visit at the Bishoftu FSC:

The Bishoftu FSC is jointly owned by two experienced business people who have previously run successful livestock and poultry farms. The FSC is well stocked with range of inputs: fertilizer, seeds, agricultural tools, pesticides and numerous veterinary service products.

- The center is staffed by seven employees: An Agronomist, Veterinarian, Accountant, Center Administrators/General Manager, a Cashier and a Clerk
- Properly stacked items in the sales room with all items clearly displayed
- Rooms for consultation
- A good size furnished meeting hall

The Center has received support from the grant to cover the salaries of the Veterinarian, Agronomist and the Accountant for the first two years. The grant resources have also helped in furnishing some of the facilities.

Other matters I learned during the visit included the following:

- The center offers series of trainings on various topics, business management skills, environmental mitigation, pesticide application and worker safety, gender etc.
- Formation of the Apex wholesale buying cooperative is in process (designated as EGGA representing the initials of the four FSC owners) to engage with importing activities in the near future.
- The pilot CFSC program is linked with the ACDI Agribusiness marketing project for Accessing TA and with the USAID Loan Guarantee project for credit access.
- The CFSP Phase II program is expected to be launched in 2015, covering 40 more Woredas/Districts in three additional regions of the country.
- CFSP Phase II is expected to be linked with the ATA.

## **KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **RESPONSE TO RELEVANT EVALUATION QUESTIONS:**

During my field visit and document reviews, I was also attempting to get some understanding on the following evaluation questions:

**Question 1:**

*Are current Mission programs supporting efficient effective and sustainable extension systems, including appropriate roles for public, private and civil-society actors? And to what extent are current Mission programs contributing to aid effectiveness?*

The Feed the Future program is based on the assumption that the USG must engage and promote the emerging development paradigm of government-led, donor-harmonized, and evidence-based collaborative efforts and investments. The USAID AGP support is considered the flagship activity under the Feed the future initiative. Both ACDI/VOCA and CNFA work closely with small holder farmers' Cooperatives, Farmers' Cooperative Unions, the private sector, GoE extension agents and numerous local organizations. To ensure Mission program contribution to aid effectiveness, the USAID AGP programs are aligned with the frameworks of Agricultural Development Led Industrialization (ADLI), Comprehensive Africa Agriculture Development Program (CAADP), Rural Development Policy and Strategies (RDPS); and Plan for Accelerated and Sustained Development to End Poverty (PASDEP) program.

- In the areas that make up the FEED THE FUTURE Zone of Influence – public extension agents are implementing specific national programs they have budgets and project implementation manuals: the AGP, the PSNP and HABP, the SLM, the primary health care program with sixteen essential nutrition messages, etc. ... rural development - they are integral part of the GoE plan for transformation and coordination is part of the plan.
- The parallel-funded programs such as the USAID NGO projects are implementing the same joint GoE-donor programs but with a different (or modified) role than public extension within the AGP and the PSNP-HABP. Because the FEED THE FUTURE programs are integrated they have an established relationship with the public extension – the USAID and other donor “parallel” programs have a recognized role in testing and piloting innovations that increase the private sector involvement in provision of extension services – and because they are part of the overall program they can do this for the most part in a way that is collaborative and not threatening to the public extension system.
- The “aid-effectiveness” approach of the USAID programs, working with other donors can contribute to building capacity within the government to manage development and implement huge programs as well as to effectively reach rural areas (with about 12 million rural households, the majority of which are poor) – even the most remote – with rural development through public extension. This joint government and donor approach puts a focus on local capacity development–part of the overall program is the community development committee. Some of USAID “parallel” programming with the PSNP and HABP are through the large local Non-Governmental Organization.

**Question 2:**

*Are sound approaches being used to develop needed extension services as part of value-chain based programs? What effective models are being used to develop such value chain-based sustainable extension services?*

The development objective of the Agribusiness and Market Development Program is to increase agricultural productivity and market access for the selected six value chain commodities. The program is expected to expand access to improved inputs (including seed and fertilizer) and farm

technology; introduce effective post-harvest handling that reduces loss; strengthen public and private sector agricultural services and expand value addition through–agro-processing. This value chain approach is intended to unite agricultural stakeholders to work together to create market opportunities and overcome shared obstacles, including:

- Strengthening the competitiveness of the six value chains
- Increasing access to finance, thereby encouraging investment , productivity and trade
- Improving the enabling environment , working closely with the GoE and
- Expanding public-private partnership investment

Also the AGP-LMD follows value chain development approach aimed at fostering growth and reducing poverty through improving the productivity and competitiveness of selected livestock value chains: meat/live animals, dairy, and hides/skins. Project interventions are implemented in AGP targeted regions and work closely with a network of local organizations in building capacity, linking value chain actors to service providers, as well as in establishing and strengthening input suppliers and service providers.

The Six functioning Farm Center Services and the Wholesale Cooperative under formulation with the support of CFSP will serve as a sustainable model for scaling up private farm supply and services in Ethiopia.

**Question 3:**

*Are special objectives of gender equity, women’s empowerment, nutritional education, and NRM/climate change issues being adequately addressed and integrated into Mission extension programs?*

The primary focus of the Feed the Future approach has been to link the three broad agro-ecological zones (labeled as Productive Ethiopia-high rainfall; Hungry Ethiopia-low rainfall; Pastoral Ethiopia to achieve food security. At the core of the linking hypothesis is the desire to:

- Transform Productive Ethiopia by capitalizing on its potential and linking the vulnerable population
- Increase nutritional status among Ethiopians , with focus on women and young children

- Link to the long-standing USAID Programs such as the PSNP.
- Scale Up community and government efforts to adapt to the increasing effects of climate change

The Agricultural Growth Programs on the ground supported by Feed the Future are now monitoring and showing positive progress for most of the following indicators:

- Proportion of female participants in USG-assisted programs designated to increase access to productive economic resources
- Number of vulnerable households linked to market as a result of the project assistance
- Number of children under five reached by project-supported nutrition programs
- Number of people trained in child health and nutrition through project-supported programs
- % Increase of number of women in leadership positions in assisted farmers' based organizations
- Number of assisted firms /organizations adopted environment as a cross –cutting issues as the result of the project assistance

**Question 4:**

*Is adequate attention being given to effective use of ICTs in extension systems development?*

The ICT sector in Ethiopia has seen growth over the last decade. Mobile telecommunication grew from 1.2 million subscribers in 2007 to 24 million subscribers in 2013 (representing 26 percent of the population). The fixed line telephone stands at less than 1 million subscribers, representing about 1 percent of the population. Nonetheless, the voice communication geographic coverage has reached 64 percent.

As described by the MEAS desk review documentation [18], there are several ICT Projects initiated in Ethiopia, including the following:

- The Farmer Training Center (FTC)
- The ICT Center of Excellence at Addis Ababa University
- The Ethiopian Livestock Market Information System (ET LEMIS)
- The Ministry of Agriculture and Rural Development (MOARD)
- Improving Productivity and Market Success (IPMS)
- WoredaNet
- Farm Radio International

The Ethiopian Government has declared that development information and communication technology (ICT) to be its strategic priorities. At this point, however, GoE continues to have a tight control of TV, internet and telecommunications.

## **OTHER GENERAL FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS**

- Overall, Ethiopia’s investment-led development strategy has delivered robust growth and progress. Growth is expected to remain strong driven by agriculture and services. Inflation is expected to continue to remain in single digits. However, sustainability of current public sector led-growth strategy could be susceptible to several downside risks-including external financing of the public investment program, declining prices for export commodities, and weather related shocks. Observers note that moderating these risks will necessitate, among other things, monitoring of both state-owned, and party-owned enterprises to ensure prudent borrowing and appropriate policy to help shift the balance toward private sector–led, sustainable growth. GoE policy makers may consider, as a starting point, recent proposition of the Government of Ghana requiring state-owned enterprises to secure their own debt.
- Ethiopia’s economy is still dependent on agriculture. The sector accounts for about 46 percent of GDP, 85 percent of employment and 90 percent of exports. Cereals dominate Ethiopian Agriculture, accounting for about 30 percent of agricultural GDP. Livestock production accounts for about 12 percent while forestry contributes about 4 percent of agricultural GDP, and animal power is critical for all farming systems. Various extension models have been initiated and tried, including the United States Land Grant approach. The GoE has also explored lessons learned from the Asian experience-the lessons of the Green Revolution and also of the rapid economic growth of the “Asian Tigers” and “Tiger Clubs”.
- The GoE has made investments in public extension over the past two decades, establishing about 10,000 FTCs, with the intent to build up to 18,000. GoE has also created 25 ATVETs to train and upgrade the skills of its Extension Agents. Recent indications are that the MOARD has about 60,000 Development Agents, making Ethiopia’s agricultural extension system the largest in Sub-Saharan Africa.
- Although the system is pluralistic, it is dominated by public sector extension. Despite a restrictive legislation limiting operations, NGOs are involved in extension service delivery at all levels of the economy (particularly the GONGOs). The private sector’s involvement in service delivery is also growing in the areas of vet services, animal feed processing, breed improvement through bull service and marketing, herbicide and pesticides and seed supply.
- Despite the progress to date, both MOARD and ATA have teamed up to identify and take measures to improve the effectiveness of the extension system, including linkage between research and the extension system.
- On-going efforts such as strengthening the competitiveness of value chains, linking value chain actors and service providers, promoting Farmer Service Center-led outreach activities are empowering farmers and private sector actors and are showing encouraging results. Nonetheless, upholding a level playing field for the private enterprises is a precondition to enhance the possibility of achieving a private sector-led sustainable growth in Ethiopia.
- The Feed the Future program in Ethiopia differs from many of the other FEED THE FUTURE programs because of its real integration into the GoE programs—with a defined and recognized role within a growth plan that was jointly developed by government and development partners. The USAID’s earlier experience in starting and managing a huge Public Safety Program has laid the base and the outlook, and in the AGP USAID projects are

responsible for growing the private sector involvement in rural areas and developing input and output markets.

- Donor Cooperation to Enhance Pluralistic EAS: The Productive Safety Net Program (PSNP), which started in 2004, has resulted with active cooperation between the GOE and donors. USAID played a leading role in developing the very intensive cooperation on the framework and modalities of the program—program budget support from a number of donors—that continues to this day (7 above).
- Because of the effectiveness of the approach, the combination of budget support and direct partner implementation in a joint program to address GOE priorities has been adopted for implementing the Agriculture Growth Program.
- Incorporating a “ Modernizing Extension and Advisory Services” Type Technical Assistance Team” in the Donor Group may help in strengthening the EAS System by enhancing the harmony among the growing number of pluralistic service providers even more thru contributions to establishing institutional capacity and promoting rural innovation necessary to achieve sustainable food security.
- Such a TA team can also support all other donor partner teams in filling gaps in evidence about what works and doesn’t work from experiences and lessons learned in previous endeavor from such elements as the ongoing component types of the current MEAS approach: Teach-Disseminate Modern Approaches to Extension, Learn-Document Lessons Learned & Good Practice, and Apply-Design Modern Extension & Advisory Service Systems.

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### **LINKING VALUE CHAIN ACTORS TO INPUT AND SERVICE PROVIDERS: LESSON LEARNED<sup>35</sup>**

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In Ethiopia, where private sector activity is nascent, business development activities are often mirrored after public-sector meetings, which generally include presentations by government officials, round table discussions, and question-and-answer sessions between an audience and a panel of experts. In other countries, where the private sector is more developed, industry associations conduct specialized activities that more effectively enable businesses to market their services and enable customers to learn about both new technology and sources for valuable products. The term “trade show” is often used to describe this industry-friendly format. Trade shows are conducted in developed countries within specific industries, often structured to include presentations on new technological developments by private sector companies and exhibition time for potential customers to visit private sector booths and learn about specific companies’ products, services, prices, distribution method, and technology. The private sector presentations are conducted on a voluntary basis (with no speaker fee) in recognition of the value of the marketing opportunity. At the conclusion of each trade show, private sector companies have three primary outcomes: 1) new sales, 2) potential sales, and 3) increased awareness of their competition. Customers, or buyers, benefit from new access to products and services.

AGP-LMD tested the value of the mini-trade show format in Ethiopia’s livestock sector in each of the four project regions at the outset of the 2012/3 project year. AGP-LMD coached the private sector companies to prepare their display and presentations, invited livestock producers, cooperatives and other value chain businesses to participate, and also invited public-sector officials to open each of the mini-trade shows to demonstrate government endorsement of the event.

The result was that the participating companies developed relationships with new customers, made sales, and learned about the value of conducting marketing activities. In addition, livestock producers learned about companies, products and services that they did not previously know existed. It is often assumed that livestock producers do not buy feed or other services because they lack the financial resources to do so. AGP-LMD learned that many livestock producers do have financial resources but are either not aware of the benefit of using purchased inputs, or they do not know where to purchase these products. AGP-LMD also concluded that the mini-trade fair format is an effective structure to promote the adoption of new technology that can increase farmers’ productivity and competitiveness, and also increase sales for input suppliers and other value chain companies to help them achieve economies of scale and customer-oriented services. AGP-LMD has continued to regularly conduct these meetings in each of the four project regions. In the future, AGP-LMD will begin to assist industry associations to organize and host these mini-trade fairs in order to achieve sustainability and build associations’ services and membership.

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<sup>35</sup> AGP-LMD, Annual Report July, 2013-June2014

## ANNEX IV

# GHANA

Kifle Negas, Evaluator  
December 12, 2014

### INTRODUCTION

As a member of the five-person Evaluation Team of Modernizing Extension and Advisory Services (MEAS), I was designated to assess the activities in Ghana. I visited Ghana from September 22 to 27 meeting with contacts in Accra and the Tamale Region in Northern Ghana. Given that my field visit days were quite limited, I e-mailed the evaluation questions to potential contacts suggesting that the questions will be the focus of our meetings. I also requested my contacts to complete and return the questions to me via e-mail, in case we failed to meet for any-reason. Following are the ten questions the Evaluation Team Agreed upon as the basis for in-country field assessments:

- Is the current set of the Bureau for Food Security extension support activities coherent, appropriate, efficient, and effective? Does it adequately address public, private and civil-society roles in modern extension services?
- Are current Mission programs supporting efficient effective and sustainable extension systems, including appropriate roles for public, private and civil –society actors? And to what extent are current Mission programs contributing to aid effectiveness?
- Are sound approaches being used to develop needed extension services as part of value-chain based programs? What effective models are being used to develop such value chain-based sustainable extension services?
- Are special objectives of gender equity, women’s empowerment, nutritional education, and NRM/climate change issues being adequately addressed and integrated into Mission extension programs and BFS extension support programs?
- Is adequate attention being given to effective use of ICTs in extension system development?
- What recommendations should be considered for future BFS support to extension services development? Should current projects be revised in any way? Should continued support be considered under new projects?
- What is the extent and nature of Mission interaction with MEAS?
- What has been the demand for MEAS work, either on the part of USAID Mission or other donors?
- What sources, financial or otherwise, MEAS been able to leverage through its investments of core funds?

- What are some outputs/results of MEAS work and Extension Advisory Services-related activities that are ready for scaling up?

Following meetings in Tamale town, I visited Tolen District, 40 KM outside Tamale to assess the situations at that level, and follow-up with MEAS sponsored participants. I interacted with the Leadership at the Agricultural District Office, as well as Professors/Lecturers at the University for Development Services (UDS) and appreciated the briefing on CSIR-Savanna Agricultural Research Institute. This report presents a brief summary of my Ghana field visit observations, key findings, conclusions and recommendations.

## **FIELD TRIP IN GHANA**

### **COUNTRY OVERVIEW:**

For the last several years, Ghanaians have witnessed a steady improvement in the circumstances of their nation. With a return to democracy and constitutional rule, Ghana became an example for the African nations. The stability inspired investor confidence and accelerated economic growth. Subsequently, Ghana was noted as one of the fastest growing economies in the world.

Since the start of the global recession, however, economic growth rates have generally declined and people seem to have become pessimistic about their future. As commodity prices continued to fall, cost of living has increased. Overall, the country is wrestling with rising inflation, a falling currency (the cedi) and a persistent high budget deficit.

To combat this dilemma, the Government of Ghana recently sold a \$1 billion Eurobond. Although the bond was sold lower than analysts' expectations, the bond was oversubscribed with orders of up to \$3 billion, indicating that investors saw fundamental long-term value in the Ghanaian economy.

It is also noted in the press that Ghana is now set to begin talks with the International Monetary Fund on assistance program aimed at restoring fiscal stability and promoting economic transformation. The cedi, which fell around 40 percent against the dollar between January and August, 2014, has now gained ground in the weeks since Ghana launched its Eurobond and announced its intent to engage with the IMF.

In Ghana, agriculture contributes about 30 percent of GDP. It is the largest source of employment, more than 50% of the total labor force, approximately 49 percent of men and 51 percent of women are working in the sector. Eighty percent of agriculture is conducted by smallholder farmers with an average of 1.2 hectares producing food and cash crops. The sector has been a major driver of poverty reduction, especially in the southern part of Ghana. According to recent report on development challenges and opportunities, the sector continues to dominate the lives of people as main activity of rural households and will continue to be an important and large sector over the coming decade.

Agricultural development remains key to meeting global challenges of poverty reduction, economic growth, food security, and environmental conservation. Success of agricultural development programs depends on individual actions of millions of rural families, whose decisions are shaped by the information available to them. Extension and advisory services defined broadly as the rural knowledge and innovation system is considered critical component of the development process

informing and influencing these rural household decisions, contributing to the reduction of hunger, and poverty, increasing adoption of improved technologies and increasing productivity and capacity.

#### **EXTENSION IN GHANA:**

As highlighted in the literature, agricultural extension in Ghana has gone through political shift from export commodity development approach prior to independence in 1957 to the promotion of food crop production. Dr. Kwaku, et al (4) underscores that successive governments of Ghana have, in the last 25 years pursued a decentralization program for the country with various levels of urgency and intensity. The motivations for the change from a centralized system have been reported to include the following: a) that political and economic decisions be left in the hands of the citizenry at the district level, b) to enhance community development in rural areas, c) to make the bureaucratic system more flexible and less cumbersome than it was at the time, and by so doing, eliminate or reduce corruption and promote transparency, d) to encourage local economic development through a demand-driven approach, e) to provide opportunities for local public/private partnerships to enhance development at the local level, and, f) to end the situation of the center domineering development at the local level.

Currently, both public and non-public sector actors provide extension/advisory services in the country. The public sector is represented by the Ministry of Food and Agriculture (MOFA), the Ministry of Local Government and Rural Development (MLGRD), the Ministry of Environment Science and Technology (MEST), several universities and research institutions around the country. For many years, the MOFA has used its staff from the national level down to the field level to implement extension programs (5). With the decentralization leading to the transfer of power to the district level offices, MOFA also transferred resources including staff to district offices. This transfer reduced the level of involvement of the ministries and the number of technical staff for coordination activities. At the national level, Ghana public extension comprises 50 staff members and is managed by a team of 9 senior staff. Seven of the senior staff members have a PhD and the remaining two staff was trained at the Master of Science level. Women account for 22 percent of senior management staff. There are 5 subject matter specialists; they are trained at the Bachelor and Master Degree levels. Field level extension workers in the public extension service in Ghana totaled 1244, of which 72 percent (896) are male and 28 percent (348) are female (5).

Private sector firms are key non-public sector actors. The private sector's role of provision of extension and advisory services is noted in the areas of input supply to farmers; contract to provide technical advises to farmers associations and cooperatives; organizing farmers groups to facilitate export of commercial crops.

Non-Governmental Organizations and other donors also play crucial role in the provision of extension and advisory services. Both local and international NGOs work in partnership with the government and farmers in the production, processing and marketing of agricultural commodities.

Evaluation reports (4 and 5) suggest, that there are significant challenges at both the regional and district levels in the implementation of Agricultural plans and policies in Ghana. As the Regional Agricultural Departments evaluation team, in particular notes, support to the Regions without additional support to the Districts amounts to taking one step forward and two steps backwards. Several observers of Ghana also indicate that coordination of actors and linkages could be improved if the decentralization process is fully completed. There is a need to strengthen the collaboration

among the various directorates within MOFA and between MOFA and the Regional Co-coordinating Council, the District Assemblies, research Institutions and the Universities.

**THE USAID/GHANA PROGRAM:**

Despite an overall poverty rate reduction in Ghana from 52 percent to 28 percent over the past 10 years, poverty rates in the northern region of the country remain twice that of the south. Further, while food secure in most staples, Ghana has a significant deficit of nearly 70 percent of its rice needs and 15 percent of its maize needs. While Ghana has made progress in decreasing the prevalence of underweight children under five, major child health challenges remain. Also, even though progress has been made in the use of optimal breast feeding behaviors, only less than half of children 6-23 months receive foods from four or more food groups and just half are fed the minimum meal frequency.

To address these challenges, the USG, through USAID/Ghana, has partnered with GOG, multilaterals, the business sector and key civil society institutions to help put in place the process to leverage public and private investment.

To assure Government of Ghana of USAID's Careful alignment with its Agricultural Policy framework, the USAID Ghana Economic Growth Program Team arranged a consultation with a Theme "Your Agenda is Our Agenda" (19). USAID's Objective was to ensure that Ghanaians understood and appreciated the theme and feel assured that the USAID team understood the countries Agricultural development objectives and that its strategy is consistent with and aligned with their strategy.

The Feed the Future activities in the Northern region continue leveraging the various donor/Partner activities including: CIDA, IFAD, WFP, AFD, AGRA, WB, GIZ, JIZ, JICA and IFDC.

**MODERNIZING EXTENSION ADVISORY SERVICES IN GHANA (MEAS):**

The goal of the MEAS activities in Ghana is to establish institutional capacity to promote rural innovation necessary to achieve sustainable food security, reduce poverty, conserve natural resources and address associated rural problems. Its objective is to define and disseminate good practice strategies and approaches to establishing efficient, effective and sustainable rural extension and advisory systems. The Program in Ghana is expected to be composed of three components (1) Mainstreaming Modern Approaches to Extension which entails developing user-friendly materials for dissemination and training programs that promote new strategies and approaches to rural extension and advisory service delivery; (2) Documenting Lessons Learned and Good Practices...these call for developing case studies, conducting evaluations carrying out pilot projects, and assisting on-going extension service reform programs to document experience and impacts from modernizing service delivery systems; and (3) Designing Modern Extension and Advisory Services Programs, intending to provide technical assistance to host country organizations-both public and private-for the design, evaluation and reform of rural extension and advisory services.

The MEAS activity is being implemented through a competitively awarded Leader with Associates (LWA) Award Cooperative Agreement. The University of Illinois at Urbana -Champaign is the lead institution of the Consortium. The U.S. Agency for International Development provided a sum up to \$9.00 million through the BFS for implementing the agreed upon activities effective September 15, 2010 and ending September 14, 2015.

As of March 2014, MEAS has a \$250,000 field support buy-in from USAID/Ghana and is now engaged in consultation to arrive at an implementation action plan. Possible future activities under the buy-in may include:

- Capacity building for District officials and extension officers.
- A review of recent Ghana's extension policy.
- Training District Assemblies on extension finance and management.
- Providing advocacy training to farmer groups etc.

To date, MEAS has launched several activities in Ghana (using its core funding from the Bureau for Food Security), including assessments of the Agricultural Extension System, and the ICT Infrastructure in Ghana (more details on its activities in the section: Response to Evaluation Questions, below and in Annex IV.2).

## **SUMMARY RESPONSES TO EVALUATION QUESTIONS:**

### **QUESTION 1:**

*Is the current set of the Bureau for Food Security (BFS) extension support activities coherent, appropriate, efficient, and effective? Does it adequately address public, private and civil-society roles in modern extension services?*

The stated objective of the MEAS project is to support the development of efficient, effective and sustainable rural extension, information and advocacy service system in Ghana. The MEAS Team has so far used its core funding from BFS to work with a few partners such as Extension Personnel, University Staff, NGOs, and business persons in the ICT sector and association of exporters. The Partnership project between USAID/Ghana and the MEAS team was delayed in the finalization process. They are now engaged in designing extension support activities for achieving results during the remaining life of the project.

### **QUESTION 2:**

*Are current Mission programs supporting efficient effective and sustainable extension systems, including appropriate roles for public, private and civil –society actors? And to what extent are current Mission programs contributing to aid effectiveness?*

USAID/Ghana manages a well-structured program, particular in Northern Ghana. It is aimed at promoting economic growth and reducing poverty (15, 17). Value chain approaches are extensively used to ensure linkages both to the product and factor markets. While funding from Canada ensures flow of resources to support MOFA Extension structures, the Alliance for Green Revolution in Africa (AGRA) project plays the Coordinator role on behalf of MOFA to ensure that various actors periodically meet and share information to minimize/avoid duplication of effort and share experiences.

The USAID/Ghana Programs are being implemented by ACDI and IFDC, using the Nucleus Farmers model – a network of stakeholders including private sector with the Ministry of Food and Agriculture having a mandate to provide extension services. The main focus is more on commercializing select value-chains of rice, maize and soy.

From the start, the USAID/Ghana programs are designed to align with the Government of Ghana's medium term agricultural investment program known as the Medium Term Agricultural sector Investment Program (METASIP), a CAADP led country investment program. As such, the programs contribute to aid effectiveness by harmonizing and aligning with country priorities sector development objectives. As attested by the MOFA/AGRA Coordinator in Tamale, USAID effectively participates in the coordination effort through the Agricultural Sector Working Group and the Joint Sector Review process, contributing to the Aid effectiveness theme.

### **QUESTION 3:**

*Are sound approaches being used to develop needed extension services as part of value-chain based programs? What effective models are being used to develop such value chain-based sustainable extension services?*

The Mission's programs do not have a specific extension approach; rather each project/program has an extension strategy built into it with the aim of ensuring new technology adoption by collaboratively working with the extensions mechanisms existing on the ground.

As mentioned above, the Nucleus Farmer value-chain facilitation model is used to enhance sustainability of the operation. Sustainability will be assessed periodically to ensure established relations continue to expand and flourish gradually.

Also, MOFA's intent to move toward the decentralization reform path is a move in the right direction. It is targeted on providing local and regional governments, and eventually farmers, an increasing role relative to national governments over extension service matters. Unfortunately, major bottlenecks still hinder promotion of a pluralistic system. Among the Key limiting factors are weak coordination of the actors involved in decentralization, lack of adequate coverage of the rural population, inability to assure quality and limitations in building capacity of service providers. Alleviating such weaknesses is critical for achieving tangible benefits from the decentralization effort.

**QUESTION 4:**

*Are special objectives of gender equity, women's empowerment, nutritional education, and NRM/climate change issues being adequately addressed and integrated into Mission extension programs and BFS extension support programs*

MEAS has produced a solid body of documentation on best extension and Advisory Service practices and case studies, including lessons learned regarding gender equality women's empowerment and climate change issues. MEAS is regarded as having a strong body of knowledge regarding issues affecting female farmers. Those who are aware of the document Platform are very appreciative of MEAS' contribution. Also, improving the nutritional status of pregnant women and children under 5 years old throughout Ghana is the expressed aim of Feed the Future strategy.

Overall, the USAID/Ghana programs meet mandatory requirements for Gender, nutrition and NRM, and the design of the projects integrates all these issues. The Monitoring and evaluation plans call for assessing the impact of these efforts at different points during the life of the program.

**QUESTION 5:**

*Is adequate attention being given to effective use of ICTs in extension system development?*

Different users of ICT such as farmers, extension agent, researchers, NGOs and government entities require different ICT options to meet their respective needs and requirements. Several ICT tools (e-mail, internet, phone, radio, TV, print) are found in Ghana. Mobile phone services are reported to have spread very rapidly in all parts of the country including rural areas. Reports indicate (5, 8, and 12) that about 64 percent of the population of Ghana own and operate a mobile phone. Indeed, innovative ICT based approaches that utilize internet connection have the advantage of providing advice to farmers on-line and mobile phones help farmers' access information instantly via SMS. Observers credit the MEAS Team for having synthesized relevant knowledge on ICT in extension, providing some caution to this trend which is moving ahead without solid studies on its effectiveness. MEAS is helping to ensure that projects that join the ICT trend in extension are making evidence-based decisions on the potential impact of interventions. USAID/Ghana's GDA partnership with ESOKO is an illustration of Mission's vision in promoting utilization of ICT in extension.

**QUESTION 6:**

*What recommendations should be considered for future BFS support to extension services development? Should current projects be revised in any way? Should continued support be considered under new projects?*

Support to extension should continue and the MEAS Projects should continue to collaborate with local partners and permanent institutions in Ghana.

MEAS could do more to ensure that the research and knowledge that has been garnered is adopted by projects working in extension through greater advocacy, sharing and active discussion of lessons learned. The vast array of best practices and lessons learned that MEAS has produced and supported need to be widely shared become part of project design and implementation at a higher level. For supporting extension services, attention needs to now focus on extension survey delivery mechanisms at the local authority level as current efforts in Ghana goes towards decentralization.

Despite the leadership role of universities in the MEAS Consortium, the design of an extension program should not be heavily research oriented but should give room for Missions to build on existing extension service delivery mechanisms to deliver tangible results. Also any new program needs to allow for the consideration of country-specific issues, as noted above, such as the need for the using of local partners in order to achieve greater results and make impact during the remaining phase of the life of the project. Although CRS is in full operation in the northern Ghana, its participation in the MEAS activity is not that noticeable.

**QUESTION 7:**

*What is the extent and nature of Mission interaction with MEAS?*

The Ghana Mission has had good and sometimes rather lengthy interactions with MEAS through the Project Director, Paul McNamara of the University of Illinois. The Mission and MEAS worked together to complete the rapid scoping which was an assessment of the pluralistic extension system in Ghana and specific recommendations were made. While it was the expectation of the Mission that this would lead to specific follow-on activities, that process has taken considerably longer than anticipated. Both parties are now collaborating to complete the design process and produce an agreed-upon action plan to begin the activity implementation process. However, valuable time has been lost.

**QUESTION 8:**

*What has been the demand for MEAS work, either on the part of USAID Mission or other donors?*

Indications from USAID/GHANA: Demand for further MEAS involvement has been constrained by the delays in implementation as noted in no 7 above. With the approval and implementation of the new \$250K buy-in, the pace of activities can be expected to pick up.

Perspective from Other Donors: Given the prominent role of CIDA in providing budgetary support to MOFA for covering operating cost of Extension for extended period, I met with the CIDA Team to learn of their experiences. Unfortunately, due to recent staff turnover the MEAS activities are not very familiar to the current staff. Among other things, I did learn that a new initiative under consideration is for a group of like-minded donors (CIDA, EU, DANIDA, etc.) to provide budgetary support to selected districts to promote the decentralization process. MEAS, with the support of USAID/Ghana may wish to explore possibilities to link with the new partnership to share its

accumulated knowledge and experience for expanding pluralistic extension system (See Annex 2 for more remarks on demand).

**QUESTION 9:**

*What sources, financial or otherwise, MEAS been able to leverage through its investments of core funds?*

EWB co-funded a case study on Women Extension Volunteers with MEAS in 2012. MEAS has been able to leverage the extensive human resources of EWB on the ground, learning from its field level experience and sharing that knowledge with others in the sector.

USAID/Ghana provided about 70,000 for the initial Appraisal work, and latter obligated \$250,000 for the buy-in.

**QUESTION 10:**

*What are some outputs/results of MEAS work and Extension Advisory Services-related activities that are ready for scaling up?*

MEAS has enabled greater knowledge sharing within the sector. Rather than each project or organization re-inventing the wheel, MEAS has increased the sharing of best practices, approaches and lessons learned across the sector globally. Also, EWB has used these resources in its work, projects, partnerships and strategies. For example, EWB has used MEAS's definitions (on its website), its case studies, M&E resources and the review of Ghana's extension system.

MEAS has supported more innovative and effective agriculture and extension training at Ghana's agricultural colleges. By supporting a national workshop on teaching methodologies in December, 2013 at Kwadaso Agricultural College, MEAS supported bringing together lecturers across the country for skills building and sharing across colleges. In the past, this was funded by the Government of Ghana, but due to lack of funding, this annual meeting has not happened for several years. A 2014 EWB review of the colleges showed that an annual meeting of all lecturers helps to build the capacity of the teaching staff and support innovation and effectiveness across the colleges. MEAS supported this process in 2013.

MEAS supported innovative research with EWB. In 2012, EWB collaborated with MEAS to analyze and prepare a case study on women extension volunteers in Ghana. This case study helped the NGO that ran this program, VSO Ghana, to be informed in their approach to this project.

MEAS supported the establishment of a curriculum for graduate studies in extension and advisory services in Ghana. This support helped Ghana to create higher education opportunities in this sector, which will help to create scholars and researchers on extension within Ghana.

MEAS has facilitated those working in extension to access resources, research and field level understandings globally.

As for USAID/Ghana, a notable output was the rapid scoping mission report titled: "Strengthening Pluralistic Agricultural Extension in Ghana."

This report contained recommendations that are now being followed on with some planned activities for MEAS in 2014/15 before the project comes to a close. Scaling up activities from MEAS is not evident at least at this time.

## KEY FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

- Although the MEAS buy-in activities with USAID/Ghana are behind schedule in implementation, MEAS has launched several activities in Ghana (using its core funding from BFS ), including assessments of the Agricultural Extension System and the ICT Infrastructure in Ghana (more details on its activities in the section: Response to Evaluation Questions, including the summary presentation in Annex 2).
- The USAID/Ghana programs are designed to align with the Government of Ghana's medium term agricultural investment program known as the Medium Term Agricultural sector Investment Program (METASIP), a CAADP led country investment program. As such, the programs contribute to aid effectiveness by harmonizing and aligning with country priorities sector development objectives. As attested by the AGRA Coordinator at MOFA, in Tamale, USAID effectively participates in the coordination effort through the Agricultural Sector Working Group and the Joint Sector Review process, contributing to the Aid effectiveness theme. One key point of discussion between MEAS and USAID seems to have been how well to relate MEAS activities to the Feed the Future strategy and ensure that its impacts are measured with contributions to the Economic Growth portfolio results framework.
- Like minded donors are now considering a new initiative to provide budgetary support to selected viable Districts to promote the Decentralization process. Also, MOFA's intent to move toward the decentralization reform path is a move in the right direction. There seems to be a favorable intent to provide local and regional governments, and eventually farmers, an increasing role relative to national governments over extension service matters.
- While the context remains favorable for the promoting a pluralistic advisory system, major bottlenecks still hinder the operation of a pluralistic system. Among the Key limiting factors are weak coordination of the actors involved in decentralization, lack of adequate coverage of the rural population, inability to assure quality and limitations in building capacity of service providers. Alleviating such weaknesses is critical for achieving tangible benefits from the decentralization effort. However, as the literature suggests producing effective results on these challenges requires persistent and longer-term concerted actions.
- It is becoming apparent that the MEAS project in Ghana is rolling out slowly but surely contributing to its objective of defining and disseminating good extension management strategies that will help establish and maintain pluralistic advisory service system. As the number of service providers continues to increase, the need arises to enhance harmony in the activities of the various service providers. With support from USAID, the MEAS Team may take advantage of the favorable context in Ghana and plan for effective collaborative engagement with the Feed the Future program and other partners by filing gaps in evidence about what works and doesn't work from lessons learned (The full Country field visit report is attached to the main report as Annex 2).
- To enhance timely collaborative engagement with USAID and other relevant Donors and Service Providers, the MEAS Team needs to explore options to boost its field presence.

## ANNEX IV. I

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### DOCUMENTS REVIEWED

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Burt Swanson and Riikka Rajalahti, Strengthening Agricultural Extension and Advisory Systems: The World Bank, Agricultural and Rural Development Discussion Paper 45, 2010.

Etse, *et al.*; Public Private Partnership in Agricultural Extension: Lessons from Pilot Projects in Ghana, March 2013

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Kristin Davis and Burt Swanson, Status of Agricultural Extension and Rural Advisory Services Worldwide, GFRAS, 2014

Dr. Paul McNamara, et al, Strengthening Pluralistic Agricultural Extension in Ghana, A MEAS Rapid Scoping Mission, October 2012.

Miriam Hird-Younger, *et al.*; Women Extension Volunteers: An Extension Approach for Female Farmers, MEAS Case Study#2 May 2013.

MEAS, Rapid Appraisal of the ICT for Agricultural Extension Landscape in Ghana, 2013

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MEAS Annual Work Plans September 15, 2010 to September 15, 2013

MEAS Evaluation Meeting in Chicago, Slide Deck, August 21-22, 2014

MEAS, Strengthening Pluralistic Agricultural Extension in the Feed the Future ZOI in Ghana, Field Activity work plan, Draft September 1, 2014.

MOFA, Medium Term Agricultural Sector Investment Plan (METASIP) 2011-2015.

MOFA/AGRA, Breadbasket Transformation of Ghana's Northern Region, April 2010

USAID/Ghana, FY 2011-2015 Multi-YEAR Strategy

USAID/Ghana, Ghana Fact Sheet, Feed the Future

USAID/Ghana Economic Growth Program, October 2013

USAID/BFS Amendment One to the Authorization of the Modernizing Extension and Advisory Services Leader with Associates Program-FY2010 through FY 2014

USAID/BFS Leader with Associates Cooperative Agreement No. AID-OAA-L-10-00003, September 15, 2010.

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**MORE SUMMARY REMARKS ON DEMAND FOR MEAS WORK: RESPONSE TO EVALUATION QUESTION NO. 8**

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**SUMMARY REMARKS FROM ENGINEERS WITHOUT BORDERS**

EWB, a development partner of MEAS, has shown demand for the services that MEAS provides. The MEAS review of extension services in Ghana has been helpful to inform our strategy and show evidence of the need of the type of work we are doing in Ghana. MEAS has provided a platform where EWB can share some of the best practices that it has learned in its 10 year history of working in agriculture in Ghana. MEAS has also supported our approach of partnership and embedded working with partners. EWB has recognized and appreciated the lessons learned and best practices that MEAS has disseminated.

**SUMMARY REMARKS FROM A UNIVERSITY LECTURER**

I first heard of MEAS when a team visited my university and introduced the project to about three of us. After a fruitful interaction, it took quite a long time until one day, I got an invitation to partake in a training/conference program in the US. I was also given the opportunity to nominate a female with extension background for the program and had the chance to nominate one staff of MOFA. Due to visa problems, I missed the chance but my nominee attended. On her return, she shared with me all the useful information she got from the program.

Just around that time, MEAS in collaboration with AGRA organized a workshop in Kumasi with some selected universities in Ghana and other African countries. I was asked to represent my Department in that workshop. The title of the workshop was Preparing Agricultural Science Graduates for Extension, and the objectives of the workshop were to:

- Investigate the potential for extension minor
- Propose extension Minor Model
- Identify skills and competencies for graduates and
- Identify opportunities for institutional capacity and collaborations.

He shared the minutes of that workshop with me and expressed hope that, although he had challenges getting the curricula incorporated and running for now, but still thinks it is useful and will continue to talk to other faculty members in his University to see how best the existing draft could be modified to fit with the prevailing programs and priorities for future implementation consideration.

**SUMMARY REMARKS FROM DISTRICT EXTENSION DIRECTOR**

During my visit in Northern Ghana, Tamale I had a meeting with the Regional Deputy Director of MOFA, in Charge of Extension. During the meeting I found out that The Head of the District Extension Office 40 miles from Tamale has participated in MEAS sponsored training but,

unfortunately, she is out of the country at the moment. I was also informed that if I wished, I could meet and discuss with her Deputy, who is also the head of the Monitoring and Evaluation unit of the District Extension Office.

I met with him the next day and got good briefing on the state of extension in the District. Regarding his absent boss, he indicated that she returned very much motivated with what she learned during her workshop on the subject of- "Providing Advocacy Training".

Soon after her arrival, she focused on arranging Advocacy Training for the Farmer Based Organizations (FBOs) in her District. Here intent, I was told was to develop the FBOs into cooperatives and Apex organizations.

She drafted a funding proposal and secured the funds from the local World Vision Organization. Subsequently, the District trained 300 executive members of 60 FBOs, comprising 180 male and 120 Female executives on Needs Assessment, Advocacy and Lobbying Skills.

# KENYA

## BACKGROUND

Feed the Future activities support an innovative agricultural development portfolio based on the analysis and use of data, policy formation and implementation, value chain focused education, research and extension, and entrepreneurship for production, trade, and agribusiness. Feed the Future program are implemented at USAID Missions abroad and supported by the Bureau for Food Security (BFS), USAID, and Washington, D.C. Within eastern and southern Africa, Feed the Future activities reflect and strengthen regional and national priorities as described by the Comprehensive African Agricultural Development Program (CAADP). CAADP goals include both broad based goals and commodity specific objectives for the agriculture sector that are critical to fostering food security and poverty reduction, in tandem with production plans for specific commodities and investment targets for national governments. The dynamic interactions and synergies of a combined public and private sector investment and agro economic landscape are key to the success of both Feed the Future programs and the CAADP.

To provide additional depth to a more comprehensive evaluation that has been undertaken of Feed the Future extension-related program investments, a series of country specific studies exploring Feed the Future activities and outcomes in extension, information and advisory services, as well as an assessment of issues and consideration of future strategies to ensure the adoption and scale-up of research and innovation has been done. Of particular interest to BFS in this context is the USAID centrally funded, Modernizing Extension and Advisory Services (MEAS) project, a leader with associate award based at the University of Illinois in Champagne. The consortium focuses on three mechanisms believed to be transformational for the development of extension services:

- Mainstreaming of modern approaches to extension through training to promote new strategies and delivery systems; improved access to user-friendly materials and up-to-date information; and application of cutting edge informational and communication technologies.
- Documenting and sharing “lessons learned” and “good practice” through case studies, evaluation, pilot projects, and research.
- Designing modern extension and advisory services through assistance to governments, the private sector, and farmers.

A full description of MEAS objectives, activities, and accomplishments can be viewed at: <http://www.meas-extension.org/>.

Feed the Future Kenya acknowledges the valuable contribution of MEAS and Catholic Relief Services (CRS) to extension services in Kenya. However, as is the case with many Washington-funded initiatives, the Mission has not been involved to date. While security issues in Kenya precluded field work for this assessment, a desk study of the MEAS-CRS partnership was conducted from Dar es Salaam, Tanzania. This included documents reviews, interviews with Ministry of

Agriculture (MOA) principals in Kenya involved in Smart Skills, and both the CRS Kenya and CRS Baltimore headquarters staff.

## Introduction

Feed the Future activities for USAID Kenya include a substantial portfolio of extension services delivered through its contractors, grantees, and NGO partners. This takes place in the context of awfully collaborative and time-tested working relationship with the MOA extension services. The 2012 devolution of the budget from central to county levels included support for extension programs. This has thrust MOA extension services into a state of transition. Some counties have allocated addition funds for extension, while others have not. The impact of these changes on the CRS programs have not yet been fully assessed, however initial impressions are that support for extension services varies considerably from district to district.

Kenya has a well-established agricultural export industry of horticulture and floriculture into the European Union (EU), and is a major supplier of livestock products to the Middle East. Efficient aggregation is key to maintaining export shares outside of the region, as are business management and production advisory services to ensure farmers and traders fulfill stringent sanitary and phytosanitary (SPS) quality standards, packaging, and volume requirements of importing countries. There are numerous farmers' associations, including over 400 agriculture-based savings groups with 10,700 members throughout Kenya. Nevertheless, the vast majority of Kenya's farmers are small landholders operating within the confines of informal markets. The Kenya Feed the Future extension model is characterized by a strong and cooperative relationship between the Mission's project-supported extension portfolio and MOA public extension services. Feed the Future Kenya is comparatively less invested in research than other Feed the Future programs in the region, but has accumulated substantial momentum toward realizing in sustainable economic growth and poverty reduction programs through development of the agriculture sector.

Kenya continues to experience the most prolonged emergency food aid programs worldwide, with 2-4 million people requiring donor supported supplementary food assistance each year. Approximately one-third of young children are afflicted by stunting. Malnutrition rates are 45% for rural women and 26% for women residing in urban areas. Micro-nutritional deficiencies, particularly zinc, iron, and vitamin A, persist, with 69% of women and 55% of school age children suffering from anemia. The World Bank estimated that in 2012 30% of Kenyan households were classified as food insecure.

Recently, agriculture has contributed 52% to Kenya's GDP, 25% directly and an additional 27% indirectly, generating 65% of export earnings and employing 80% of the labor force. As the tourism industry and its associated service sector in Kenya continue to contract, the relative share of agriculture in the GDP is likely to increase.

## **MEAS IN KENYA**

*"The process of working with MEAS has been incredibly important to our program, as they have helped to accelerate our work, the testing and refinement of the products and then the start of our scaling out process."*

### *-Catholic Relief Services*

This discussion provides a brief assessment of the contribution of MEAS to Smart Skills, an innovative extension program implemented by CRS in Kenya. Smart Skills has proven to be a flagship approach to increasing the effectiveness of extension services globally. Beginning in 2009 as a hard copy extension training curriculum program, Smart Skills transitioned to an e-learning format in 2010. Based on an accumulation of research and field experiences, Smart Skills incorporates five key skill areas that were identified as critical to the success of smallholder farming operations (<http://www.crsprogramquality.org/smart-skills-for-farmers/>). These include: group management, financial education, marketing and agro-enterprise development, natural resource management, and innovation uptake. The five e-learning modules are used to train extension agents using a laptop.

In addition to Smart Skills in Kenya, CRS is field-testing Farmbook, a new digital platform. Farmbook enables field-based extension agents to assist farmers with financial and business planning to increase the efficiency of a farm, and to assess the productivity and profitability of a farming enterprise.

MEAS provided \$248,000 to CRS Kenya for the roll out of Smart Skills in conjunction with technical assistance to design a survey instrument, conduct statistical analysis, and write an evaluation report of the program. Beginning in 2015, led by University of Illinois Urbana Champaign, MEAS will also undertake a pilot research study to assess the impact of the CRS Smart Skills and Farmbook activities in Kenya. In collaboration with the Bill & Melinda Gates Foundation, the Map& Track cellular geo-tracking tool will be integrated into the CRS program. This will cover 10 counties and provide data on the location and time spent by each extension agent. MEAS will contribute \$150,000 to this pilot. The study will provide valuable information in agent performance and its impact on farmers. It will also provide important feedback on each of the specific training modules which can be improved. The Kenyan MOA has also contributed \$131,700 to the combined Smart Skills-Farmbook activity.

Initially, the MOA was concerned because the research design control group was not receiving the benefit of the Smart Skills and Farmbook training. CRS has assured the control group that they will receive the benefits of the same training as their counterpart, once the study phase is completed. There was also a setback when extension agents were instructed not to use their laptops for anything other than the CRS programs; however this issue also has been resolved.

The MEAS study covers the program period from August 2013 to June 2015. To date, MEAS has completed the pre and post baseline surveys and data entry for 1,500 farmers. The final data collection is scheduled for April 2015.

### **ACHIEVEMENTS TO DATE**

MEAS has made several important contributions to improving the agriculture sector in Kenya. This includes core results as well as a cascade of other benefits.

- The project has successfully achieved a number of quantifiable outputs and impacts:
  - 30 MOA front line extension agents trained in the five Smart Skills and Formbook program

- 9 training modules for Smart Skills and Farmbook field tested
  - 750 farmers belonging to 30 organizations reached
  - 21 senior Kenyan government officials received in-service training
  - The State Department of Agriculture in Kenya has launched a larger e-extension to all 47 counties and is integrating Smart Skills and Farmbook into these programs
  - The pilot Map & Track cellular geo-tracking tool has been activated
  - East Africa regional ministries of agriculture have been briefed on Smart Skills and Farmbook in conjunction with a sensitization workshop
  - MEAS funding has leveraged other e-extension activities funded by the World Bank, DFID, SIDA, and NAAIAP in Kenya.
- MEAS has been instrumental to increasing the credibility and visibility of the CRS Smart Skills and Farmbook programs, both regionally and globally, which are now being used by four organizations across eight additional countries. This includes links with market integration projects in Kenya, Madagascar, Malawi, Zambia, and Zimbabwe.
  - Reaching out to regional players in the agriculture sector was an excellent first step to scaling up this innovative extension e-technology.
  - The adoption of Smart Skills and Farmbook technologies into the larger MOA e-learning agenda demonstrates an impressive multiplier effect of a relatively small investment by MEAS.
  - The has program helped to stabilize and improve the quality of extension services in the midst of numerous disruptions faced by the extensions service in the context of the Kenyan MOA program and budget devolution and the subsequent period of adjustment.
  - The MEAS supported Internet and cellular technologies (ICT) models illustrated by Smart Skills, Farmbook, and Map & Track hold promise for technology transfer to other key Feed the Future and USAID technical programs. These could include, for example, nutrition and family planning for ministries of health, clinic and community based treatment and care packages for people living with AIDS (PLWAs), natural resource management modules for ministries of environment, and microfinance and lending training and analysis for the banking sector.

## ANNEX VI

# MOZAMBIQUE

Feed the Future activities support an innovative agricultural development portfolio based on the analysis and use of data, policy formation and implementation, value chain focused education, research & extension, and entrepreneurship for production, trade, and agribusiness. The Feed the Future program is implemented at USAID Missions abroad and supported by the Bureau for Food Security (BFS) at USAID/Washington, D.C. Within eastern and southern Africa, Feed the Future activities reflect and strengthen regional and national priorities as described by the Comprehensive African Agricultural Development Program (CAADP). CAADPs include both broad based goals and commodity specific objectives for the agriculture sector that are critical to fostering food security and poverty reduction, in tandem with production plans for specific commodities and investment targets for national governments. The dynamic interactions and synergies of a combined public and private sector investment and agro-economic landscape are key to the success of both Feed the Future programs and the CAADP.

To provide additional depth to a more comprehensive evaluation that has been undertaken of Feed the Future extension-related program investments, a series of country specific studies exploring Feed the Future activities and outcomes in extension, information & advisory services, as well as an assessment of issues and consideration of future strategies to ensure the adoption and scale-up of research and innovation has been done. Of particular interest to BFS in this context is the USAID centrally funded, “Modernizing Extension and Advisory Services” (MEAS) project, a leader with associate award based at the University of Illinois in Champagne. The consortium focuses on three mechanisms believed to be transformational for the development of extension services:

- Mainstreaming of modern approaches to extension through training to promote new strategies and delivery systems; improved access to user-friendly materials and up-to-date information; and application of cutting edge informational and communication technologies.
- Documenting and sharing “lessons learned” and “good practice” through case studies, evaluation, pilot projects, and research.
- Designing modern extension and advisory services through assistance to governments, the private sector, and farmers.

A full description of MEAS objectives, activities, and accomplishments can be viewed at:  
<http://www.meas-extension.org/>.

This discussion provides a brief overview of extension services in Mozambique and discusses how MEAS may best continue to support the Feed the Future portfolio. This includes building upon the existing agricultural extension services within the country, strengthening linkages between USAID-supported research and dissemination through extension, and identifying avenues to accelerate innovation uptake and the scaling up of technologies.

## **BACKGROUND**

The USAID/Mozambique Office of Agriculture, Trade, and Business (ATB) supports a large portfolio of production, policy design, and research activities. This includes a platform of research working on crops of economic and food security importance. The platform works closely with the Ministry of Agriculture (MOA) agricultural research unit, the Institute for Agricultural Research of Mozambique (IIAM) where they are co-located on a single campus in Maputo. Individual research entities often include local extension agents in their extension activities; however, this is done on an ad hoc basis. Similar to Kenya, the Mission also funnels substantial resources through its implementing partners to deliver extension service. However, in contrast to both Kenya and Uganda, ATB has no formal working relationship or projects with the MOA extension services department. The private sector engages in extensive contract farming for Mozambique's main export crops of cotton, tea, sugar and tobacco which include the provision of inputs and extension services. Sesame and cashew are also exported to South Asian markets and are seasonally competitive.

Until its close out in 2013, the five-year, the Title II Food for Peace Multi-year Assistance Program (MYOP) was a mainstay of extension, nutrition education, and water, sanitation & hygiene (WASH) programs across the ATB geographical and programmatic "zone of influence" (ZOI). MYOPs delivered a comprehensive package of services, training, and education to small and subsistence level farm households. Due to irreconcilable administrative issues, the program was not renewed, creating a significant gap in reaching the most disenfranchised communities within the ZOI. Other food aid linked extension initiatives include the ongoing U.S. Department of Agriculture's (USDA) Food for Progress program. During 2014, USDA monetized \$11 million of edible oils to support NGO programs for extension services for animal husbandry, dairy development, and the production, processing, and export of cashews.

The advent of extractive industries in Mozambique is likely to have a profound impact on Mozambique's economy, including the agriculture sector. These can be positive if managed wisely but may become detrimental if left unchecked. A nascent private voluntary (NGO) sector offers few opportunities for collaboration with donors at this time.

## **COUNTRY ASSESSMENT**

Mozambique lies along the south eastern coast of Africa with an extensive coast line of 2,470 kilometers and an area of 801,590 square kilometers. The country is divided into 10 provinces and 128 districts. It has about 36 million hectares of land suitable for agriculture. At present, approximately 3.9 million hectares, comprising approximately 10% of the arable land, are under cultivation. The vast majority of this, 97%, is cultivated by smallholders with an average size farm of 2 hectares. As elsewhere on the Africa continent, approximately 25% of the population in classified as landless poor. While the availability of arable land is abundant, expansion is limited by lack of access to labor, water, production inputs, and draught power. Agriculture plays a key role in the economy of Mozambique, accounting for 81% of the total labor force, of which 65% are women. Small and medium size farmers comprise 99% of producers, and generate 95% of the agricultural GDP. Of this, 31.5% is attributable to value added agricultural products, while 30% of merchandise exports are food. Mozambique falls into the group of "alarmingly" food insecure countries within sub Saharan Africa on the International Food Policy Research Institute's (IFPRI) Global Hunger Index (GHI). The stunting rate, an indicator of chronic malnutrition for infants and young children, was 44% in 2013. Of the 20.6 million people in Mozambique, 54.7% live below the poverty line,

surviving on less than \$1.25 per day. Life expectancy is low at 50 years, with 1.6 million people living with AIDS (PLWA).

Of the total 3 million hectares of arable land, it is estimated that 3 million are suitable for intensified production using irrigation and improved production inputs. While the vast ecological diversity of the country lends itself to expansion of forestry and fisheries, in addition to crops and livestock, significant constraints continue to hinder growth in the sector. During half of the past 25 years, farmers have been subject to sequential droughts and flooding. It is anticipated that global climate change (CGG) will have additional consequences for the agro-economy. Constraints continue to be far reaching and complex, including:

- Limited support services, particularly for research, extension, the uptake of information, and scaling up of innovations
- Low productivity due to dominance of rain fed production, low use of inputs such as fertilizer, lack of availability of modern seed and planting material varieties, and antiquated cultivation methods
- Limited private investment beyond the three key commercial crops of cotton, cashew, and tobacco
- Lagging implementation of the CAADP process by the Government of Mozambique (GOM), including core investment
- An absence of appropriate technologies for mechanized farming
- Lack of access to affordable credit, weak business management practices, and insufficient numbers of farmer organizations.

## **EXTENSION SERVICES**

Prior to independence in 1975, national agricultural extension services focused solely on commercial and export crops. The first GOM extension department was established in 1987, following resolution of the civil conflict. Until 1992, operations were fully financed by the international donor community. The “training and visit” model was widely utilized. Between 1993 and 1997, donor support was redirected to diversify the roles of extension workers, followed by a five year plan that began in 1999 to formalize the existing public-private model of a pluralistic extension. For the public sector, this focused on livestock, crop production, natural resource management, and a new decentralized approach for management and service delivery. Concurrently, extension service to Mozambique’s major export crops – sugar, tea, tobacco, and cotton –continued. Today, this pluralistic extension model continues. The MOA public extension network covers all of Mozambique’s 128 rural districts, and includes 1,500 MOA extension workers, of which 15% are women. Major impediments to recruiting and retaining qualified staff include noncompetitive salaries, an extremely slow hiring process, inadequate resources for performing the required duties, and limited opportunities for advancement within the service.

According to a 2006 World Bank study in Mozambique, weak extensions services have had a significantly negative impact on crop production. Where farmers did have access to services, income from crops rose by an average of 8%. NGOs were determined to have more effective extension programs overall, whereas the public sector better addressed needs of the rural poor.

Farmer education level did not affect adoption of technology nor income on average; one additional year of schooling was associated with only 1.9% increase in crop income.

More recently, sesame and pigeon pea production have accelerated, gaining increased visibility as export crops along with the cash earners of cotton, cashew, sugar, tea, and tobacco. Excepting sugar, which is exported under a preferential trade agreement into the EU at above world market prices, Mozambique competes successfully in the global marketplace with all of these products. Crops of domestic importance include maize, cassava, beans, groundnut, rice, sorghum, Irish and sweet potatoes and, to a lesser extent, livestock products, including goats, cattle, and poultry. ATB has played a pivotal role in the expansion of soy, although the longer term competitiveness of this crop remains fragile.

A comprehensive evaluation of Mozambique's extension landscape was undertaken by the International Food Policy Research Institute (IFPRI) in 2013. While much of this assessment focused on shortcomings that ultimately lead to the dissolution of a substantial national initiative to reformulate the operational and programmatic aspects of public extension services, the issues identified by the researchers remain today. These include lack of adequate budgetary resources at the district levels to enable extension workers to engage with farmers, lack of qualified extension agents; a multitude of impediments inherent to the civil service system that impact negatively on the quality of extension services; inability to of the extension department to coordinate market-driven responses among producers; lack of support mechanisms to enhance the economic access of subsistence and small holder farmers to modern production inputs and technology; and weak linkages between research and innovation uptake.

Currently, Mozambique follows a pluralistic extension service model with three key providers of service. The MOA has national coverage for crop and a livestock producer at no cost, and is also responsible for natural resource management of agricultural zones. They work with farmers' organizations and marketing associations. Private extension is offered by agribusiness enterprises, often in a "contract farming" mode whereby all required production inputs are supplied to producers who are in turn obligated to sell to the provider. In Mozambique this has been limited to the traditional cash export crops. Donor funded projects and nongovernmental organizations (NGO) comprise the third element of this pluralistic network. Funding cycles, program specifics, beneficiaries and geographical locations of these services are driven by individual organizational priorities and mandates. Table VI.1 below summarizes the approaches and methodologies of these three extension service providers.

## **DISCUSSION OF CURRENT ATB EXTENSION ACTIVITIES**

An in-depth evaluation of the ATB portfolio's seven activities was conducted in 2012. Major findings related to the delivery of training and extension services included:

- Projected sustainability of activities varied significantly among projects.
- Technology transfer resulting in increased yields had the best prospects for sustainability among farmers.
- Farmer organizations were an effective mechanism for ensuring lasting and positive momentum from ATB project assistance.

- Cross-over effects from multiple donor activities operating within in the same ATB ZOI made direct attribution of results to Feed the Future programs difficult.
- The transition from small scale agriculture to mechanized modern farming remains a challenge for Mozambique.
- The availability of affordable credit continues as a major constraint to growth in the sector.
- Market linkages remain weak but were vastly improved though the ATB supported farmer associations.
- MYOP programs, which included nutrition education, and water, sanitation & health (WASH), brought about positive behavior changes that improved beneficiary household health and nutritional status, including reduced rates of diarrheal disease among children, reduced stunting, and improved dietary diversity.
- ATB policy support programs were instrumental in the formation of the CAADP and the Cooperative Law.
- The participation of women in farmers' association was encouraged.
- The introduction of drought resistant varieties, improved farming practices, and dietary diversification through the introduction of new crops, had positive contributions to community and household food security.
- The advisory, training, and extension services provided to farmers, processors, and traders through each of the four major projects evaluated were appropriately designed, of excellent quality, and instrumental in the success of meeting project objectives.

**TABLE VI.1: MOZAMBIQUE EXTENSION PROVIDERS AND PROGRAMS**

	<b>Public Extension</b>	<b>Private Sector</b>	<b>NGO &amp; Donors</b>
Provider	Ministry of Agriculture (MINAG) through the National Directorate of Agrarian Extension (DNEA)	Trade & export enterprises for cotton, tea, tobacco, and sugar	Bi-lateral donors International donors International NGOs
Services	Crops & Livestock; Natural Resource Management, Farmer Organization; Marketing Support	Commodity specific extension for intensification of production	Value chain specific Crop or livestock specific Holistic extension packages Objective specific: income generation, poverty alleviation, gender sensitive
Approach	No-cost services Community-based field agents Demonstration plots Farmer field days	Financing of inputs Contract farming arrangements	No cost services Restricted to donor geographical preference Donor trained and supported staff Community-based field agents

**TABLE VI.1: MOZAMBIQUE EXTENSION PROVIDERS AND PROGRAMS**

	<b>Public Extension</b>	<b>Private Sector</b>	<b>NGO &amp; Donors</b>
Programs	Technology transfer Civil society strengthening Asset management Post-harvest handling Vouchers for seed, fertilizer & agro-chemicals	Improved crop production management Soil & irrigation management SPS & quality control Primary processing & handling for export	Farmer organizations Savings clubs Social capital development Advocacy skills Technology transfer Provision of modernized inputs Innovation uptake

Source: Author's observation and interviews, Mozambique 2014

Within this portfolio, the key providers of extensions services were USAID-supported contractors and grantees. This model continues today across all most ATB Feed the Future programs and projects. This is likely a reflection of the dynamic tension between the need for Feed the Future programs to meet shorter term “New Alliance” goals and objectives which preclude longer term institutional strengthening, as is needed for the public extension department. Indeed, a number of far reaching and complex GOM reforms would be prerequisite to engaging public extensions services and being responsive to Feed the Future’s mandates. These would include, for example, reform of the civil service, a bona fide decentralization of the department, the additional of significant human and material resource to the extension budget, and a significant restructuring of qualifications and remuneration for extension agents. While the CAADP process may be useful to press the GOM to address some of these issues, even with the greatest political will, such changes will require many years and fall far outside the manageable interest of USAID.

A brief description of the projects currently delivering extensions services through the ATB follows below.

**AGRIFUTURA:**

Agrifutura is a four year \$24 million contract to increase the competitiveness of Mozambique’s agriculture sector. They are currently phasing out over a fifth year-11 month extension period. The project has provided extension services to build cooperatives and farmers associations, train farmers in improved production and management practices, and value chain strengthening. Soybean, groundnuts, pulses, fruits, sesame, and cashew are included. There was substantial partnership and outreach to establish markets and improve access to credit for farmers. With a strong private sector foundation, there were limited opportunities for public extension participation. Abt Associates has partnered with CLUSA, Technoserve, and Wingerts Consulting.

**SCALING SEEDS AND TECHNOLOGY PARTNERSHIP (SSTP):**

SSTP is improving the capacity of public and private groups to deliver quality seeds and other technologies to small farmers in Mozambique. Extension services include training on the use of new seed varieties. Under this joint USAID/AGRA activity, project extension agents provide services to farmers.

**FINAGRO:**

The objective of FinAgro is to increase the competitiveness of Mozambique's agriculture sector. Key value chains are oilseeds, pulses, cashews, and fruits. This activity offers investment and financial management support to farmers, farmer associations and cooperatives, agro-processors, and marketing and export industries. Grants are contingent upon a 30% match and demonstration of capability by the recipient. This \$10 million grant targets small holder producers in the Feed the Future ZOI.

**PARTNERING FOR INNOVATION:**

This new project within ATB will move to full implementation during FY2015. Through grant support to several private sector agro enterprises, these private-public partnerships will include extension services and trading to high support small holder farmers through expanded market access, providing improved production inputs, and offering a comprehensive package of associated technical training. This activity promises to be fully sustainable after ATB grant funding is exhausted, as well as to address significant quality control problems with seeds, fertilizers, and pesticides often sold to unsuspecting framers by unscrupulous vendors. To date five awards have been made.

**THE PLATFORM FOR AGRICULTURAL RESEARCH & TECHNOLOGY:**

ATB supports a comprehensive portfolio of research activities from the Platform for Agricultural Research & Technology based in Maputo, with projects operating throughout the ZOI. Several CGIAR research organizations participate in the platform with support from ATB. This includes the International Fertilizer Development Institute (IFDC), the International Crops Research Institute for the Semi-Arid Tropics (ICISTAT), the International Maize and Wheat Improvement Research Institute (CYMMYT), the International Institute of Tropical Agriculture (IITA), and the International Potato Research Institute (CIP). The platform is co-located with the MOA research arm, the Instituto de Investigacio Agricola (IIAM). An IIAM staff member serves as the platform coordinator.

**IFDC:**

The Agriculture Inputs and Marketing project, AIMS III, is two year \$1.3 million project to support conservation agriculture, private sector participation in the inputs marketplace, and work with the GOM to implement policies and legislation specifically related to fertilizer markets. Improvement of market information systems for fertilizer products is also underway. AIMS III collaborates with Technoserve on the conservation farming and fertilizer use portions of its programs. While private dealerships for fertilizer are involved, public extension workers are not. The inclusion of the MOA extension department and its agent in future activities could stimulate tangential support to new policies and legislation to rationalize the public-private balance within the fertilizer sector.

**ICRISTAT:**

In its fifth year of implementation, ICRISAT supports the development of new and improved varieties of pigeon pea. Varieties are being specialized by agro-ecological zones. The three objectives of the research are to increase productivity of legumes such as pigeon pea, provide incentives for farmers to purchase improved seed—which in turn leads to higher yields and greater surplus for marketing—and to develop legume management recommendations to improve productivity and quality and mitigate the effects of current climate induced risks such as shorter rainfall seasons. The project works closely with IIAMS but does not include public extension agents in its field activities.

**CYMMYT:**

This project focuses in the development and dissemination of a drought tolerant (DT) variety of maize for Mozambique. Training to reduce slash and burn clearing, weed control, and improved planting, fertilizing, harvesting, and drying techniques is shared with farmers directly by the research team. MOA extension agents are not formally included in this process. Seed replication options are being explored to ensure a sustainable supply of the DT variety. A unique feature of this research has been the development and teaching of innovative labor saving methods which give women more time for other tasks on the farm and in the household.

**IITA:**

This five-year \$1.75 million activity is located in four provinces and involves transfers of soybean and cowpea technologies developed by IITA and its partners in Mozambique to increase productivity, improve household income, reduce poverty, and increase food security. Extension services are utilized for technology transfer to promote modernized production systems, processing, and household consumption of legume products. It has also evaluated soy bean and cowpea breeding lines and climate adaptation. Future constraints will include the availability of the required inoculants and seeds for farmers and investments in agribusiness to support processing plants. While the project is a model of technological success, there are significant risks that the positive momentum will be slowed at the end of the funding due to the absence of a transitional scale up and dissemination plan. This exemplifies the weak link in the chain of innovation and technology scale up throughout the ATB portfolio. The project has received a one-year cost extension, proving a good window of opportunity to address this issue. Public extension agents were included in some of the training activities, but not on a formalized or methodical basis.

**CIP:**

Dissemination of Drought Tolerant Resistant Orange Fleshed Sweet Potato (OFSP) through Effective Partnerships seeks to improve the Vitamin A status, especially for vulnerable groups, through the increased availability and accessibility of carotene in the bio-fortified orange fleshed sweet potato. Two promising varieties have been identified for Mozambique, and field trials with farmers in three areas of the country are underway. A parallel activity to encourage consumption of the sweet potato plant leaves is also underway. CIP continues to evaluate the dry matter and nutritional quality of the OFSP from pilot farms. MOSA public extension agents are fully involved in the CIP project.

**MODERNIZING EXTENSION AND ADVISORY SERVICES (MEAS)**

The ATB Office began its dialogue with the University of Florida under the MEAS agreement in 2013. A scope of work was finalized with a budget of \$350,000 in October 2014 as follows:

- Conduct a Feed the Future /ZOI on the ground assessment and analysis of alternative models of providing extension and advisory services along the target value chains (existent opportunities).
- Identify improved knowledge and information management systems including use of ICTs to improve flow of information and technologies between research/extension and end users.

- Provide support to identify a strategy for the research platform, PARTI, to improve coordination between Research & Extension and stakeholders through existent or proposing new structural arrangements.

What is the potential for MEAS to have influence and impact on the direction and effectiveness of the ATB extension portfolio and the realization of Feed the Future objectives through the analysis it will undertake? As described by the relative rankings in Table VI.2 below, the potential impacts of extension and advisory services on targeted value chains can be expected to have different impacts on poverty reduction, equitable growth and food security. For example, while growth in the livestock sector will reflect the greatest improvement for overall growth the agriculture sector, and have a moderate impact on poverty reduction, it has the lowest potential for addressing core nutrition issues of vulnerable groups, via correction of the caloric deficit. At the same time, increased production of maize can be expected to have a significant impact on food security, likely attributable to high levels of on-farm consumption. Other cereals show the lowest potential for addressing all three key areas of development across the agriculture sector, while expansion of root crops has high potential across all three areas. This implies that the selection of targeted value chains, accompanying the extension services, and choices for research and innovation uptake are closely intertwined to meeting Feed the Future goals and objectives. They should be continuously analyzed, assessed and adjusted as the portfolio evolves.

ATB currently supports several important research activities through the Platform. These cover a wide range of innovations ranging from policy formation to improving micronutrient intakes among vulnerable groups. While there are many best practices for both scaling up new technologies as well as policy implementation, it is unlikely that there is a generic “system” that will function effectively for such a vast array of programs. What might be most useful for ATB is the design of a monitoring tool which identifies milestones for the packaging of knowledge and information for dissemination. Given the current weaknesses of the MOA extension services and the Mission’s heavy reliance on partners to provide extension, the “system” would be hypothetical and thus perhaps not practical. Another key issue which would need to be resolved as prerequisite to a systemic approach would be the identification of a repository for information and knowledge, and the accurate, timely, and sustainable delivery of this. In other words, the development of a full-fledged system may be premature.

There is an exhaustive body of literature and ample evidence on the efficiency and effectiveness of various internet and cellular technologies (ICT) for agricultural extension services in many countries similar to Mozambique. Reiterating this information would not be useful, and it is unlikely that even most in-depth research would reveal any new information that is unique to Mozambique and/or currently not known. As discussed, we suggest this segment of MEAS focus more on identifying the sources from which critical information can be sustainably generated, where it can be archived, and when and to whom it can be best disseminated. The disposition of the knowledge and information will in turn drive the choice of ICT, and this will again vary according to the level of sophistication of the information and the end user.

MEAS Task 3 suggests that ATB is prepared to fully explore all of the options to improve extension services in Mozambique. This is an area where MEAS has considerable momentum and expertise; the choice of the Mission to engage MEAS to conduct this analysis was wise. Furthermore, the University of Florida team has a solid history of working in Mozambique and can provide an informed view based on experience and analysis.

**TABLE VI.2: POTENTIAL IMPACT OF EXTENSION SERVICES AND INNOVATION UPDATE ON ACHIEVING FEED THE FUTURE OBJECTIVES**

<b>Sector</b>	<b>Poverty Reduction as Agriculture GDP</b>	<b>Improved Food Security as Reduced Caloric Deficit</b>	<b>Agriculture Growth Sector</b>
Maize	1	1	6
Root crops	2	2	3
Livestock	3	6	1
Export crops	4	4	5
Horticultural	5	3	2
Pulses	6	4	5
Other cereals	7	7	7

Source: Pauw, K., Thurlaw, J., Vaiene, R., Mazunda, J. Technical Analysis in Support of CAADP, Agricultural Growth and Poverty in Mozambique. International Food Policy Research Center, Washington, D.C. 2013.

## **THE WAY FORWARD: DISCUSSION AND RECOMMENDATIONS**

### **DISCUSSION:**

While it would not be practical to entertain a standalone activity for institutional strengthening between ATB and the GOM extension services department, notwithstanding the new Partnering for Innovation project, the current practice of using USAID funded contractors and grantees as surrogate public extension agents is not sustainable. It is likely that there will be many future opportunities within the existing research platform, and the upcoming USAID “Strengthening Agribusiness & Fostering Rural Alimentation” (SAFRA) project to engage with and strengthen public sector extension services without compromising the quality and required outcomes of the Feed the Future portfolio. Indeed, the long term gains of a more inclusive approach will increase the prospects of sustainability and GOM buy in.

**RECOMMENDATION:**

In developing work plans for the new SAFRA project, contractors and their subs should be asked to develop, pilot, evaluate, and report on creative mechanisms to continue with the high quality of extension services that ATB has supported in the past, while also incorporating the public extension sector into selected activities. One promising activity is the use of cellular technologies to provide extension and training to farmers. An approach of vertical programming rather than a difficult to realize institutional arrangement could be pursued under MEAS Task 3: "Support to identify a strategy for PARTI to improve coordination between Research & Extension and stakeholders through existent or proposing new structural arrangements."

**DISCUSSION:**

ATB has successfully established a vibrant research platform bringing together some of the world's best scientists. The research activities underway hold significant potential for export growth, income generation, value chain strengthening and improved household food security. Many have transitioned successfully from the laboratories to the fields. However challenges of scale up and sustainability remain. One possible approach to take would be the creation of a progressive bridging mechanism. Under such an approach, a scale up plan would be built into to each research activity. As milestones are achieved this would activate one segment of the bridge. In doing so, when the end of the research and pilot testing stage had ended with success, rather than standing on the brink of a precipice, the Mission would have an established momentum to continue upon the pathway forward and transition into the uptake and scale up mode seamlessly. While this would add an additional element to the research activity, it could be a small investment that would yield significant gains. Given the current platform configuration, an umbrella activity which tracked all of the current research activities underway, and the achievement of milestones which would trigger steps along the pathway of the scale up trajectory could work for ATB. Such an overarching approach could also incorporate a component to strengthen the lines of communication between IIAM and the public extension services related to the anticipated scale up of specific innovations. In this way, ATB could strengthen its relationship and the capability of the MOA extension branch through already existing mechanisms.

**RECOMMENDATION:**

Scale up trajectories should be built into all existing current and future ATB funded research activities. This should include not only the milestones that queue planners to move toward activation of scale up plans, but also to ensure adequate planning for the human and financial resources of the proposed scale up by ATB and/or the GOM. Such an approach would also accommodate the Feed the Future forward funding cycle of one to two years. Along this trajectory, various models for scale up and innovation uptake could be piloted, operating sequentially with the research achievements. This model can be further explored under the MEAS Task 2." Identify improved knowledge and information management systems including use of ICTs to improve flow of information and technologies between research/extension and end users."

**DISCUSSION:**

The introduction of sufficient amounts of dietary sources of vitamin A is especially important for school aged children. A number of government and donor programs offer clinic based supplementation for pregnant and lactating women, and children 0-5. However, as children begin their schooling; they are simultaneously released from clinic-based support programs for Vitamin A supplementation by tablet. This means the in this critical period of beginning to develop their

intellectual skills, they are also at risk of becoming Vitamin A deficient. The OFSP has been piloted in several countries of the East and Southern Africa region. A key impediment to increasing its acceptability among consumers is the entrenchment of food and dietary preferences. This is likely to impede scale up in Mozambique. A new approach should be considered to ensure the benefits of this research and the important nutritional value it offers are widely utilized.

**RECOMMENDATION:**

Following the identification of the best varieties of the OFSP for Mozambique, CIP should consider partnering with the USDA McGovern Dole School Feeding Program for scale up. Using the school gardens and community suppliers for the lunch program, this is an ideal conduit to facilitate an intergenerational shift in a taste preference and appreciation for the OFSP. It will also serve as an important source of vitamin A for older children who no longer receive supplements at the health clinic.

**DISCUSSION:**

While the practice of using agricultural extension agents as nutrition educators is gaining popularity and can be effective, it needs to be carefully thought through in each individual context. There is a risk of losing focus on the primary role of the agent under this model, which is to assist the farmer to select the best balance of production activities to either provide adequate income for food purchases, or plan a mixed production scheme of sales and on farm consumption. In global terms, there is a negative correlation between prosperity and levels of on farm consumption. Thus, care must be taken not to discourage labor that could be more efficiently utilized for income generating crops in deference to small scale “kitchen garden” generation of nutrients for the household. There are cultural barriers which will complicate the delivery of a significant proportion of information needed by pregnant and lactating women from male extension workers, who comprise the majority of the workforce of extension agents. By overloading extension workers with nutrition education messages for which they have little technical education, there is a risk of diverting attention from the limited opportunities that have improved “nutrition in agriculture”, e.g. the selection of bio-fortified crops, increasing zinc levels in fertilizers, and managing new varieties. In other words, the nutrition curriculum for agricultural extension workers may be most effective if it addresses issues that are not covered by the more traditional Ministry of Health (MOH) nutrition curriculum. Lastly, throughout African societies, men rarely purchase or prepare food for the family, yet another limiting factor in their use as surrogate nutrition educators.

**RECOMMENDATION:**

When developing nutrition education curriculum for agricultural extension workers, focus first on nutrition rubrics embedded within the production arena that will not usually be covered by traditional MOH clinical nutrition education services.

**DISCUSSION:**

The NGO sector in Mozambique is weak; this fact poses challenges for a transition from ATB funded contractor and grantee extension agents to local organizations.

**RECOMMENDATION:**

Under the upcoming SAFRA as well as for existing activities, ATB should embrace the USAID Forward principals, and establish initiatives for strengthening of indigenous NGOs. Specific NGOs with a potential to participate in the delivery of extension services, mentor with the platform

research entities, and become integrated into other USAID-funded agricultural sector development activities, should be identified. This initiative should include a transition plan whereby some proportion of extension and support services currently provided by U.S. based contractors and grantees is transitioned to indigenous Mozambique NGOs.

**DISCUSSION:**

“Dutch Disease” is an economic phenomenon whereby a sharp increase in the development of natural resources, most often extractive industries, and a decline in the manufacturing sector, often including agriculture, coupled with high inflows of foreign exchange, cause the national currency to strengthen. The result of this is that other exports become too expensive for trading partners to buy, while at the same time, imports become cheaper. This results in a weakening manufacturing sector, e.g. agriculture, rendering it noncompetitive. The term was coined in 1977 by the *Economist* magazine to describe the decline of the manufacturing sector in the Netherlands after the discovery of a large natural gas field in 1959. This resource boom, such as Mozambique’s recent exploitation of natural gas, affects the economy in two ways. In the “resource movement effect”, the resource boom increases demand for labor, which causes production to shift toward the booming sector, away from the lagging sector. This shift in labor from the lagging sector to the booming sector is called “direct de-industrialization”. The “spending effect” occurs as a result of the extra revenue brought in by the resource boom. It increases demand for labor in the non-tradable sector (services), at the expense of the lagging sector. This shift from the lagging sector to the non-tradable sector is known as indirect de-industrialization. The increased demand for non-traded goods increases their price. However, prices in the traded goods sector are set internationally, so they cannot change. This amounts to an increase in the real exchange rate within the country.

**RECOMMENDATION:**

There are a number of effective fiscal policies that can address and suppress impending Dutch disease in Mozambique, thereby protecting gains within the agricultural sector while also reaping the benefits of profits from extractive industries. ATB should task its policy think tank at the Platform in Maputo to consider the best economic policies and practices, in tandem with other interventions to protect farmers and consumer. This should include the allocation of funds within the GOM budget to the MOA, as prescribed by the CAADP, to determine if adequate measures are in place to address the potential impacts of inflation, a review of tariff schedules for production inputs, and other fiscal policies that may be harmful to the sector as mining operations intensify. Based on these findings, a dialogue should be opened with the GOM to ensure the best options are adopted. In the absence of these policies, gains realized in the agriculture sector could be swiftly overshadowed by Dutch disease in the near future.

## ANNEX VII

# NEPAL

### **MISSION PROGRAM IN NEPAL**

The Mission's primary vehicle for achieving Feed the Future goals of increasing farm income and reducing malnutrition is KISAN, which is designed to contribute to the achievement of this goal by increasing agricultural productivity and income, improving the nutritional status of women and children under five, and increasing the resilience of vulnerable communities and households. KISAN is designed as a five-year effort focused on 16 to 20 districts in the Western region of Nepal.

KISAN's planned outputs include:

- Farmers trained in improved practices leading to increased agricultural productivity and household incomes; and
- Improved capacity of agriculture extension workers and service providers.

### **INCREASED PRODUCTIVITY**

Improved agricultural practices, access to quality inputs, and capacity building of change agents will provide the base from which sustainable poverty reduction is achieved. High value vegetables constitute the core value chain, given the demonstrated positive impact of increased horticultural production on household income, increased food quantity, quality and variety.

Examples of best practices from current and previous USAID/Nepal projects include:

- *Farmer Groups/Cooperatives*: a vast number of agricultural projects around the world, including in Nepal, have shown the effectiveness of farmer groups in maximizing information flow, input and output market power, improving local governance, and facilitating access to public resources.
- *Demonstration Farms*: Several Nepal projects are developing model farmers through field training on and modeling of improved agricultural practices. New cropping, pest control, and post-harvest storage techniques have helped farmers to increase agricultural production and intensity.
- *Information and Communication Technology*: The use of media, such as the radio, mobile phone and other technology, as an extension tool.

Specific objectives under the enhanced productivity component include:

- Capacities of cooperatives and marketing committees enhanced;
- Agricultural production and extension system enhanced via private and public service providers; and
- Availability of quality inputs increased.

## **IMPROVED EXTENSION CAPACITY**

In order to achieve the objective of increasing agricultural productivity, it is necessary to mobilize change agents that can provide improved technologies, quality inputs, technical know-how, knowledge, and other backstopping for production and marketing of vegetables and agricultural crops. Options for providing this backstopping include service providers, commercial agribusinesses, Govt. of Nepal Extension Workers, and Lead Farmers.

### **SERVICE PROVIDERS:**

Service providers are private sector entities based in district headquarters and market centers that provide input and agriculture services to farmers. Service providers include Agrovets and local companies that import and sell new equipment to farmers according to local demand (e.g. tractors, tillers, and seed processing and packaging machinery).

Agrovets are found in market centers in small towns and rural areas with established networks of sales representatives. They assist farmers in gaining access to inputs, and provide farmers with information on optimal utilization of these inputs. Service providers also include “mistri” that assist in the construction or repair of equipment and rural infrastructure, and individuals who sell agricultural and livestock supplies and services. Beyond sales, some of these individuals have been able to charge a fee for service, thus creating an opportunity for sustainable extension services. Service providers help drive market linkages, as it is in their financial interest to do so.

### **COMMERCIAL AGRIBUSINESSES:**

Commercial agribusiness can be important buyers of produce and provider of inputs, training and even financing in certain cases. These businesses may provide steady bulk markets or contract farming opportunities to farmer groups.

### **PUBLIC SECTOR EXTENSION:**

The Department of Agriculture (DOA) extension network is present throughout the country, but lacks resources and is not locally-oriented or directed. Each district has an average of six agricultural service centers and several sub-service centers, and 20-25 extension technicians, with each technician covering several Village Development Committees (VDCs). KISAN works to coordinate the activity of these extension workers with other interventions and change agents, and to involve government extension staff in agriculture service centers and sub-centers in the VDCs at the farmer-household level.

### **LEAD FARMERS:**

The GON frequently works through farmer groups in its extension program. Each of these groups has a Lead Farmer, identified as a local resource person and trained by the DOA to promote technology transfer to local communities through demonstration farms. Lead farmers conduct field-to-field visits to neighboring farmer groups and cooperatives, provide technical advice, and demonstrate new cultivation practices, such as soil and water management, seed treatment, pest control, and grafting technologies. Building the capacity of such networks and change agents serves to leverage existing resources, improve technology dissemination, and promote sustainability of interventions. KISAN employs a “lead farmer” model, working with groups of farmers and providing a series of trainings in production technologies.

KISAN’s ultimate success and sustainability depends on the effective and sustained role of these four types of locally present change agents. The project endeavors to build the capacity of the

change agents through relevant training and to mobilize them to play an effective role in increasing production and creating market linkages.

Interestingly, while the design of KISAN cites ICT as a “best practice” and means of enhancing prospects for sustainability, there has not been much work to date in this area. Some private phone companies are reportedly exploring possible apps for agriculture, but without much input from KISAN.

## **INTEGRATING CAPACITY BUILDING**

One of KISAN’s goals is to build the capacities of local and national organizations, the private sector, and government stakeholders to plan, implement, and manage food security programs. This includes building the technical, fiduciary and management capacity of local organizations, and ensuring coordination and integration with the GON’s US\$46.5M Global Agriculture and Food Security Project (GAFSP). GAFSP’s overall goal is to enhance food security (availability, access, and utilization) in the poorest, most food-insecure regions through increased agricultural productivity, household incomes and awareness of health and nutrition.

As part of the capacity building, KISAN is designed for Nepali organizations to gradually take over implementation responsibilities beginning in the third year of implementation. It is expected that these organizations will be NGOs or private firms, but they will be expected to continue to work with all service providers, including the Nepal public extension service.

Capacity-building interventions will focus on the organizational and technical capacity of local organizations to, for example, conduct rigorous and large scale monitoring and evaluation, and to perform sound financial management, internal auditing and reporting. With respect to the GON, capacity building will be undertaken in agriculture research and extension, enhancing the capacity of agricultural research institutions to disseminate successful innovations to the field through increased and upgraded training of DOA extension workers, Agrovets and other input suppliers.

While the design of KISAN cites ICT as a “best practice” to be encouraged in the course of the project, there has not been much work to date in this area. Some private phone companies are exploring possible apps for agriculture.

## **MEAS ACTIVITIES**

MEAS undertook an initial scoping mission in December 2011, at the request of USAID/Nepal. Its purpose was to identify key issues within the pluralistic extension system in Nepal that would need to be addressed to develop a sustainable, farmer-led, and market-driven system of extension and advisory services. However, the Mission was never really invested in the exercise. Design of the Feed the Future program was already well underway, and there was little scope for addressing the assessment findings and recommendations within the given Feed the Future parameters (relatively narrow value-chain focus, arms-length relationship with GON institution, especially in the extension field).

That being said, the scoping mission did provide a useful service in inventorying and providing an initial assessment of the range of EAS-related activities in the country. The assessment itself was comprehensive, involving interviews with representatives of government, private sector, NGOs

(both international and domestic), farmer groups and freelance agricultural development professionals, review of relevant publications and reports, and an online survey of mid-career and senior agricultural development professionals.

The report's recommendations were oriented largely toward the public extension service and steps that Ministry of Agriculture and Cooperative could take to strengthen Nepal's agricultural extension services while supporting the emergence of a pluralistic extension system, involving the public and private sectors. The report noted that while Nepal has a nationwide structure of research farms, extension staff, and education and training centers, and while the extension service has government support and has received funding from various donors, results have generally been disappointing. The system is still largely "top-down," characterized by poor linkages with agricultural research and education systems and the private sector, and by inadequately supported field staff.

While acknowledging that privatization of extension services may enhance efficiency in certain respects, the "public goods" nature of EAS continues to require a significant public sector role. And while projects come and go, the public extension service will continue to exist and require continued support and upgrading to cope with changing conditions.

Recommendations included improved in-service training, improved capacity of agriculture information and communication centers to use mass media and the Internet to deliver extension services and messages, and decentralized extension program planning, implementation, and performance evaluation, placing these functions at the VDC level.

Other recommendations included:

- The use of best practice methods in monitoring and evaluating MOAC extension programs;
- Assisting the MOAC in the use of performance and programming criteria in extension human resources management; and
- Building capacity within the MOAC, private sector advisors, and NGO community for market-led and farmer-driven extension programming.

The report notes that a potential role for Feed the Future in Nepal may be the coordination of services and communication between government organizations, donor communities, autonomous agencies, and NGOs funded through donor communities. One option would be for DADOs (District Agricultural Development Officers) and other partner organizations at the district level to collaboratively work on a coherent and explicit plan that would lead to improved food security. The main outputs of interest would be adoption of higher yielding and more robust varieties of maize, rice, lentils, and other agricultural staples, as well as implementation of appropriate best practices (e.g., small tube/well irrigation, improved storage, fertilizer use, and adoption of integrated pest management practices). District level public agricultural and livestock services offices would benefit from training and coaching in work plans. Such proposals and statements of capacity would detail and identify key extension assets in each district, including complete staffing of the DADO and sub-district offices, as well as enhancement of partner organization capacity (farmer associations, cooperatives, private input dealers, and lead farmers).

Since the initial scoping mission, MEAS has sponsored, using core resources, several training sessions for mid-career extension officers and others (mostly from public sector) dealing with extension policy and implementation. This work was undertaken largely at the request of

government officials involved in Nepal’s extension program. MEAS has also supported (\$70 K total funding) a pilot activity “Improving Agricultural Extension: Scaling Up Off-Season Vegetable Production” in Kaski District (unfortunately not one of Feed the Future focus districts).

MEAS Core funding for its work in Nepal comes to roughly \$171,000: \$76,000 of that was for the initial scoping mission; \$25,000 was for the training workshops, and the balance \$70,000 for the off-season vegetable production pilot.

## ANNEX VII.I

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### **DOCUMENTS REVIEWED**

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Nepal KISAN Project, Statement of Work

MEAS, “Strengthening the Pluralistic Extension System in Nepal;” MEAS Scoping Study, December 2011

MEAS, “Scaling up Off-Season Vegetable Production in Nepal;” pilot study progress report, November 2014

## ANNEX VIII

# TAJIKISTAN

Dely Pascual Gapasin, Evaluator  
November 17-21, 2014

### **INTRODUCTION**

I undertook an evaluation of the EAS activities of the USAID-funded “Modernizing Extension and Advisory Services (MEAS) in Tajikistan November 17-21, 2014. In Dushanbe, I met with USAID officials; managers and staff of the USAID Mission-funded “Farmer Advisory Services of Tajikistan Project” (FAST); the managers and staff of three other Feed the Future projects; representatives of three international NGOs (Mercy Corps, Oxfam and ACDI-VOCA) and a donor-supported private consulting firm (Sarob). I also visited project field sites in Qurghonteppa city, Khatlon province, and met with two women farmer groups in the FAST Project field pilot sites in Pushkin mahalla (village), Navobod jamoat (sub-district), Rumi rohia (district) and the head of Navobod jamoat. I also met field team from the FAST Project field office in Queghonteppa city, the head of the Regional Department of Agriculture (DoA) in Qurghonteppa city, women participants of the Feed the Future Land Reform and Fatm Restructuring Project (LRFPRP); the agroshop manager of a private firm (formerly Sugdagroserv Consulting, renamed Neksikol), and a volunteer specialist and the Program Coordinator of the Farmer-to-Farmer (F2F) Project implemented by ACDI-VOCA.

The purposes of the MEAS evaluation were to review the implementation activities related to strengthening public and private extension services in support of USAID program objectives, assess the relevance and efficiency of current extension activities, and suggest ways to make USAID support more efficient and effective. Annex 1 lists the reports and other documents consulted in the course of the study; USAID/Tajikistan activities are briefly summarized in Annex 2.

### **EXTENSION AND ADVISORY SERVICE PROVIDERS IN TAJIKISTAN**

In December 2010, Development Alternatives, Inc. (DAI), with USAID funding, carried out a survey of existing agricultural extension providers and related programs in Tajikistan. The intended user of the 2010 study was the USAID Family Farming Program. In October 2011, MEAS personnel carried out an assessment of the extension and advisory service (EAS) system, with the objective of documenting the status of the current EAS providers in the country and recommending the design of an appropriate EAS system for the country. Some key findings of these two studies are included in this report.

The EAS system of Tajikistan is pluralistic with extension services provided by over 30 organizations. Most of these are in the non-government sector (NGOs and private firms); collectively the EAS impacts only less the 10 percent of the farm households. The capacity of these organizations has been developed through donor support since the Soviet Union broke up in 1991 and, following a civil war in 1992-1997, when land reform was initiated by the Government of Tajikistan (GoTJ). The 2010 DAI survey showed that at least 95 percent of all advisory

organizations were financed by donors. The NGOs and private sector service providers are continue to be donor-responsive, and donors continue to use them as project implementers. These EAS providers generally focus on large commercial farms using “pay-for-service” approaches. The government and donors, until recently, have not provided extension services to the large number of very small household farms (0.1 ha/household) that produce about 61 percent of agricultural outputs by value in the country in 2014 (grains, potatoes, vegetables and livestock). These producers are critical for food security and nutrition, especially given that most are women who do not have farming skills and knowledge and have very limited access to resources.

**PRIVATE EXTENSION SERVICE PROVIDERS:**

Private firms providing EAS are for-profit businesses related to agricultural input supply such as seeds, fertilizers, herbicides and pesticides. Some input retailers are most often linked with international agro-companies such as Syngenta (USA) and Bejo (Netherlands). They provide paid advisory services to the small and large commercial farms (so called “*Dehkan*” farms) that utilize their inputs. Two examples of private consulting firms visited by the evaluator are described below.

**SUGDAGROSERV CONSULTING/NEKSIGOL:**

Sugdagsrosv Consulting or Neksigol (new firm name) is a leading agricultural input firm in Sugd Oblast/Province in northern Tajikistan and has a network of six agricultural input shops in different districts in the southern Khatlon province. Each shop has an agronomist consultant hired by Neksigol who provides technical advice to farmers and who sets up demonstration plots in partnership with agricultural input companies such as Syngenta and Bejo. Neksigol has its own training facilities and provides technical training for farmer/customers on new technologies. Previously, this firm had received computers and other equipment from the USAID Productive Agricultural Project (PRO-APT). The USAID-funded Farmer Advisory Services in Tajikistan (FAST) Project (see section C. below) has recently concluded a contract with Neksigol to supply improved/imported seeds. The firm publishes *Agroinform*, a newspaper for farmers, supported by donors. It also maintains an extensive website (<http://agroinform.tj>) which contains technical and market information for input supply dealers and farmers who have internet access.

**SAROB:**

Sarob is a commercial association of agricultural specialists that provides fee-for-service technical advice to *Dehkan* farms. Sarob receives support from the German Society for International Cooperation (GIZ). The firm has 60 agricultural specialists that provide technical support to farmers in 40,000 hectares. They expect to increase to 164 agronomists by the end of 2014. A team consisting of a senior specialist and 2 scouts (agronomists) covers 200-280 hectares. Farmers pay the Sarob team based on farm size. When a specialist applies to become a Sarob member, he/she pays *Somoni* 500 for membership dues and *Somoni* 500 for share in the firm. Sarob provides training, transport to the field and ensures that members have updated agriculture skills and knowledge. There is a need to evaluate the effectiveness of the Sarob approach, since farmers are usually hesitant to pay for extension services.

**NON-GOVERNMENT ORGANIZATIONS (NGOS):**

In Tajikistan, donors prefer to contract NGOs and private firms to implement their development projects. Usually, international NGOs partner with local NGOs, thereby developing the capacity of the local NGO partner while gaining experience from the country. These NGOs rely on donors to support their activities hence sustainability of their services is questionable after the projects are

completed. Some prominent international NGOs working in Tajikistan include Mercy Corps (USA), Oxfam (international), ACDI-VOCA (USA), and the Swiss NGO Helvetas, which funded the Local Market Development (LMD) NGO. ACDI-VOCA is also implementing the USAID Farmer-to-Farmer (F2F) Project, which provides technical assistance through highly qualified and experienced volunteer experts from the US.

**MERCYCORPS:**

MercyCorps' extension activities are related to health, with funding provided by USAID and the European Union (EU). In 2013, this NGO expanded to Khatlon province in the Feed the Future zone of influence (ZoI) working on nutrition and maternal and child health care projects. Mercy Corps has 60-70 staff in Khatlon province working with about 1,000 community-based volunteers (2 per *mahalla* [village or neighborhood]), 98 percent of whom are women. Nutrition experts provide training for women on nutrition and health topics. The Country Director explained that the trained volunteers provide sustainability of the activities; some project staff is now working with the local government but they need more political buy-in.

**OXFAM INTERNATIONAL:**

Oxfam has three programs in Tajikistan: (1) Growth in the Rural Economy and Agriculture of Tajikistan ("GREAT", GIZ-funded) to support sustainable extension services; (2) Gendered Enterprise and Market Development (DFID-funded) to promote market linkages and market development; and (3) a gender project to support women producer groups (Oxfam-funded). Oxfam is currently collaborating with the FAST Project in strengthening extension services at the *jamoat* (sub-district) level.

**CAMP KUHISTON OF TAJIKISTAN:**

The Central Asian Mountain Partnership (CAMP) is a network of four non-profit NGOs promoting sustainable development and environmental issues in Central Asian mountain regions in Tajikistan, Kyrgyzstan and Kazakhstan. CAMP Kuhiston works with both local and international partners to develop, adapt and promote innovative and simple technologies and provide practical training on topics like soil and water conservation, energy saving technologies and pasture management. CAMP Kuhiston hires local experts from research institutes and agricultural university to carry out their activities. CAMP Kuhiston has had discussions with the FAST Project regarding possible collaboration in the Feed the Future ZoI.

**ACDI-VOCA:**

Since 1985, ACDI-VOCA has provided volunteer technical assistance through the USAID-funded Farmer-to-Farmer (F2F) Program, which connects highly qualified volunteer experts from USA with partners in developing countries for short-term technical assistance assignments. In 2014, ACDI-VOCA has provided four volunteer specialists (three on orchard management, one on food processing) for the FAST Project. Their main activity is conducting training/workshops for farmers. The FAST Project had also requested a further five technical volunteer experts in 2015. The strength of ACDI-VOCA is that the technical volunteers are professionals in their field and have direct experience in farming or related activities as owners/operators of their enterprises.

**LOCAL NGOS:**

Some examples of local NGOs in Tajikistan strengthened by donor support include: (i) ICCO, a Dutch-based inter-church organization, which implemented the Agricultural Training and Advisory

Center in Khatlon province, with support from the EU; (2) the Advisory Information Network (AIN) established in 2007, financed by EU and other donors, provides agricultural information to farmers through Agricultural Information Centers, later converted into commercial centers; (3) Merangez NGO, a district-level NGO started in 1997 with donor funds which set-up self-help groups (SHGs) that have been scaled-up to include women groups; and (4) Ghamkhori NGO, started in 2007, which works in agriculture, health, nutrition and education projects in Khatlon province following the strategy of Mehrangez NGO.

#### **PUBLIC AGRICULTURAL EXTENSION SERVICE PROVIDERS:**

The comprehensive Agrarian Reform, through Resolution 406 of the GoTJ (July 2009), became the framework for developing an agricultural extension system in the country. The Ministry of Agriculture (MoA) supported the establishment of a National Advisory Service through the SENAS project in 2009. The key priorities were to: (1) create a National Association of Agricultural Advisory Services (Agrodonish) which includes public, private and NGO service providers; (2) create a coordinating center for the different providers to meet and refine their extension strategies; and (3) recruit 1-2 agronomists per rayon (district) to function as extension advisors. The public organizations that provide extension services in Tajikistan include the: (i) Agrodonish; (ii) National Association of Dehkan Farms (NADF); (iii) Agricultural Information Service of Tajikistan (AIST); (iv) National Agricultural Training Center (NATC); (v) Center for Information and Press of MoA; and (vi) public Agricultural Offices at the rayon (district) and jamoat (sub-district) levels.

#### **GOTJ'S EAS SYSTEM:**

The government's EAS system is still developing. At the national level, the MoA has a small Agricultural Extension Unit with a few staff. At the regional and district levels, the Department of Agriculture (DoA) has technical staff (agronomist, livestock specialist and agricultural economist) many with university degrees in agricultural fields and have experience in working with collective farms. The district level agricultural specialists provide advisory services only for *Dehkan* farms that produce mainly cotton. The staff conducts workshops and trainings for *Dehkan* farm leaders. Each *jamoat* has 20-25 *Dehkan* farm leaders but many need training on technical skills, value-chain approaches and market information. One agricultural officer monitors the needs of the *Dehkan* farms within a *jamoat*. The government does not provide extension services to the numerous small-scale household farms managed mostly by women.

#### **USAID-FUNDED EXTENSION AND ADVISORY SERVICES PROJECTS/PROGRAMS:**

##### **RASP-MEAS ACTIVITIES IN TAJIKISTAN:**

Since 2011, MEAS has carried out three principal activities in Tajikistan. The first, "Assessment of the Pluralistic Extension and Advisory System in Tajikistan," was funded through its core budget. The USAID/TJ funded Phases 2 (2013) and Phase 3 (2013-2017) under the MEAS Cooperative Agreement. Phase 2 was a 6-month Field Support Activity (\$ 500,000); Phase 3 is the Farmer Advisory Services in Tajikistan (FAST) Project (\$ 8.0 million) that is piloting a suitable EAS system for Tajikistan in 12 districts of Khatlon province (in the Feed the Future ZoI). A follow-on project, not to be implemented by MEAS, is under design and expected to start in 2015 when the EAS component of FAST will end and scaling-up of the EAS model will start in the entire Feed the Future ZoI area.

**EAS Model for Tajikistan:**

One objective of the Field Support Activity (FSA) was to design an EAS model that suits the current situation of agricultural development in Tajikistan. FAST (2013-2017) continues and builds on the brief FSA, supporting the implementation of the Feed the Future agriculture and nutrition initiatives in Tajikistan. Its objective is to design, test and document an agricultural EAS system which could be successfully implemented in the Feed the Future ZoI in Khatlon province. The EAS model focuses on extension services needed by small-scale household farms and small commercial farms. Current implementation is on selected pilot sites in 11 districts, to expand to 12 districts in 2015.

The main features of the EAS model include: (1) organizing mahalla (village) farmer learning groups and designation of three volunteers per group (farmer leaders); (2) group learning packages (advisory products); (3) group learning activities (e.g., training); (4) jamoat technical specialists to backstop the extension coordinators; (5) one jamoat extension coordinator (JEC) per district; (6) EAS facilitators and subject matter support; (7) demonstration plots showcasing new/improved technologies and good practices; (8) research support from research institutes and agrarian university; (9) collaboration with NGOs, private sector and donor projects; (10) communication support for information sharing (print, video, radio, etc.); and (11) monitoring and evaluation of EAS activities of farmer learning groups and other actors. In 2014, about 300 staff is employed by Dhaka Ahsania Mission (DAM), the lead implementer with CARE/Bangladesh and mPower, the partners, providing their own technical specialists. It is expected that the extension staff including JECs, EAS facilitators and technical specialists would eventually be from government extension departments. The success and sustainability of the EAS system would depend on the commitment of GoTJ to adopt and implement this model with support from donors.

**Policy Development in the MoA:**

FAST provides policy advice and assistance in policy development and capacity building within the GoTJ in implementing an effective agrarian reform in the Feed the Future ZoI. The Policy Unit of MoA is implementing the policy component, which will continue until 2017. FAST collaborates with USAID/TJ's Land Reform and Farm Restructuring Project (LRFRP) on the agrarian reform policy aspects. The follow-on project to FAST (provisionally referred to as "FASTER") will scale-up the successful EAS model throughout the 12 districts in the ZoI. This systematic phasing of the design and financing of EAS activities by USAID/TJ and the collaboration with other Feed the Future activities and partners is a sound approach. However, collaboration with government departments in EAS and policy, which would lead to a more sustainable outcome, remains extremely limited.

**USAID MISSION-FUNDED FEED THE FUTURE PROJECTS:**

Currently, USAID/TJ is funding six Feed the Future projects with extension-related activities. Both FAST and F2F Projects are focused on EAS needs of small-scale household farms managed mainly by women. The Feed the Future projects offer an opportunity for women farmers to increase food production, earn cash income and improve family nutrition in these small subsistence farms that have been neglected in the past. The other Feed the Future activities include: (1) the Family Farming Program (FFP) that supports water users associations (WUAs) and rehabilitation of irrigation structures (2010-March 2015); (2) the Land Reform and Farm Restructuring Project (LRFRP) which supports the continuing progress of Dehkan farm restructuring and recognition of land property rights for Tajiks (2013-2016); (3) Nutrition-Sensitive Vegetable Technologies Project (NSVTP) that improves nutrition outcomes by introducing improved vegetable production methods

(2014-2016); and (4) the Potato Production Support and Research in Khatlon Province (PPSRKP) that improves the economic welfare and nutritional status of smallholder potato farmers (2014-2016). These activities share a similar goal, to increase income and improve nutrition of the rural population in a particularly sensitive region. A summary of the Feed the Future projects is in Annex 2.

#### **USAID CENTRALLY-FUNDED PROJECTS IN TAJIKISTAN:**

USAID/Bureau of Food Security (BFS): Besides MEAS, USAID BFS, through the ARP-CGIAR Fund Core Grant with the World Bank provide funds to three international agricultural research centers (IARCs) with activities in Tajikistan. Two centers are implementers of new Feed the Future projects: the International Potato Center (CIP) that implements the PPSRKP (potato production) and the World Vegetable Center (WVC/AVRDC) that implements NSVTP (vegetable production). The International Center for Maize and Wheat Research (CIMMYT) is field-testing new cereal varieties in Tajikistan from a base in Kazakhstan; FAST plans to collaborate with this research center. Although these centers do not have research stations in Tajikistan, their scientists are involved in the field testing of new varieties and other technologies developed by the centers. Their participation in the Feed the Future Program ensures the flow of improved technologies (i.e., seeds of new varieties), good practices and research information into Tajikistan. USAID BFS, through its Office of Agricultural Research and Policy (BFS/ARP), also supports the Horticulture Innovation Laboratory and until 2013, it funded the Integrated Pest Management Innovation Laboratory (IPM-IL) for nine years in Tajikistan. The IPM-IL introduced, field-tested and promoted IPM technologies and approaches and the training of women and men farmers. Unfortunately, Tajikistan will not be participating in a recently approved follow-on phase of IPM-IL.

#### **FIELD VISITS IN QURGHONTEPPA, KHATLON PROVINCE**

On November 18-20, 2014, I visited some project sites in Qurghonteppa city where Feed the Future and other donors have project sites. There I met with women farmer learning groups in *mahalla* Pushkin in Navovod *jamoat*; local officials in the *jamoat* and Regional DoA Office; private consulting firms; and staff and participants of three Feed the Future projects.

#### **MEETING WITH SUGDAGROSERV CONSULTING FIRM OR NEKSIGOL:**

This is a leading private sector agricultural input supply retailer in Sugd province that provides advisory services to its farmer customers (buyers of imported seeds, pesticides, herbicides and fertilizers). With support from the USAID ProAPT Project, Neksigol has set up a network of six agroshops in Khatlon province serving many donors projects with their farmer groups. I met with the central agroshop manager who was very knowledgeable about imported inputs sold by the agroshop. She said that in the past, Sugdagroserv had received computers and equipment from this USAID project.

Neksigol has facilities for training its farmer customers using their own agronomist consultants or specialists provided by partner commercial firms like Syngenta and Bejo. They also set up demonstration plots to showcase new products like improved varieties of cucumber, tomato and cabbage. The manager also plants the new seeds in her household farm. Farmers (about 80 in 2014) come to the shop to consult with the agronomist. Neksigol also provides information through brochures during training and their free newspaper, *Agroinform*. Neksigol seems to be able to

sustain its advisory service which is paid for by farmer costumers through purchase of agricultural inputs.

**MEETING WITH WOMEN LEARNING GROUPS IN MAHALLA/VILLAGE PUSHKIN, NAVOVOD JAMOAT/SUB-DISTRICT, RUMI RAYON (DISTRICT):**

In the village, we met with group volunteers (farmer leaders) and members of two women farmer learning groups (FLGs) that are piloting the new EAS model. Each group consists of 20-30 women, but many more women in the village would like to participate. The members have just planted their autumn crop of improved carrot variety (Nansky). The women were very active and were happy with the results of their first crop (90 percent of which was sold). The *jamoat* Head suggested that the project introduces greenhouses so the women can harvest early to obtain a better price for their produce. Some farmers in the village are already using greenhouses. The FAST team consisted of a facilitator, a *jamoat* extension coordinator and an agricultural specialist. The Deputy CoP also joined the group.

**MEETING WITH HEAD OF THE REGIONAL DOA ADMINISTRATION OFFICE:**

I met with the Head of the DoA Office for Khatlon Sugd Region in Qurghonteppa city. He was aware of FAST, having participated in a recent seminar where the project outputs were discussed with local stakeholders. His boss, the Deputy Governor of Khatlon province, has visited the FAST field office in Qurghonteppa city and works closely with FAST Project. The DoA head confirmed that the government is not participating in public service provision, but he was willing to collaborate with NGOs and other donor project implementers like FAST. He had met the FAST CoP, who had invited him to meet with the FAST staff at their Queghonteppa project office. He mentioned that there are some government-funded projects but resources are limited. They do have demonstration plots of new crop varieties managed by the heads of *Dehkan* farms. He said that the DoA agriculture staff (agronomist, livestock specialist and economist) can work with the *Jamoat* Extension Coordinators of FAST, and he had sent letters to heads of District DoA Offices requesting them to do so. Building good relationship with DoA officials and extension staff at field level is very important for the sustainability of the FAST initiatives, especially in the next step of scaling-up of the new EAS model using public funds beyond the Feed the Future ZoI areas and after the implementation period of FAST.

**MEETING WITH PROJECT STAFF AND PARTICIPANTS OF USAID LRFR PROJECT:**

I met with the Deputy CoP and staff of the LRFRP and project participants: two women lawyers who are heads of Legal Aid Centers (LACs) and three *tashabbuskors* (initiators), also women professionals -- teachers and engineer. They provide assistance to both women and men who consult them about land rights and cases of violence against women and children. The initial consultations are done by *tashabbuskors* who refer people with serious legal problems to the LACs for legal assistance. The LACs then decide on solutions either by negotiation (assisted by *tashabbuskors*) or by legal means through the courts (assisted by lawyers). The approach seems to be working based on the number of successful cases thus far. The LRFR Project has established 12 district LACs in the Feed the Future ZoI. The LAC heads/staff and *tashabbuskors* receive grants from the LRFR Project to pay for transport, office rental, salary and other expenses.

**MEETING WITH FAST PROJECT STAFF IN QURGHONTEPPA:**

I met with the Deputy CoP who is also the extension specialist and FAST staff including: Seven EAS facilitators, seven *jamoat* extension coordinators (JECs) and two agriculture specialists and an

analyst. The project staff is employed by DAM, the lead FAST implementer. I also met with five former DoA staff now employed by FAST. Currently, about 100 staff is employed by the project, including staff of the sub-contractor PO Ruyo. There are 70 staff members in two field offices in the Feed the Future ZoI. There are ten EAS facilitators (all women) who conduct workshops and follow-up activities, participatory rapid appraisal (PRA), and train JECs and learning group volunteers on facilitation and leadership topics. There are eight JECs who assist in organizing and coordinating activities in a *jamoat*, act as liaison with the *jamoat* authorities and hold office at the *jamoat* office building. There are ten agricultural specialists who provide support for the other teams on technical matters, working closely with the JECs at the *jamoat* and *mahalla* levels. FAST is on its fifth quarter of implementation but the recruitment of staff has not been completed because of a shortfall of qualified Tajik professionals with agriculture and extension background, especially women professionals. Tajik society and culture is highly paternalistic and families prefer that women project staff talk to women in the household. There is a need to address agricultural education for women and men, which is a long-term solution but needs to be initiated soon.

#### **MEETING WITH F2F VOLUNTEER SPECIALIST AND PROGRAM COORDINATOR:**

The USA-based international NGO ACDI-VOCA provides volunteer technical specialists from the US through the F2F Project. I met with one of the volunteer experts, an orchard management specialist who also owns an orchard in Oregon State. He was completing his 3-weeks volunteer assignment in Qurghonteppa in collaboration with the FAST Project. He had been training farmers on rehabilitation and management of temperate fruits like apricots and apples in Khatlon province. The F2F Program Coordinator for Tajikistan manages the activities of the ACDI-VOCA volunteer specialists while they are in the country. Three other F2F volunteer experts have worked with FAST Project in 2014 and the project has requested five more volunteer experts in 2015. Using the F2F volunteer experts is an excellent strategy for Tajikistan to access highly qualified volunteer specialists from the US who have farming experience. Trainings done by these specialists were well-received by the farmers because the information provided is relevant to their needs in rehabilitating their own orchards.

#### **STATUS OF MEAS/FAST PROJECT MANAGEMENT**

The MEAS FSA was funded through the MEAS Cooperative Agreement as a buy-in from the USAID Mission. FAST is a separate “associate” cooperative agreement that is implemented by the University (UIUC) through the MEAS Consortium. However, the UIUC is not a recognized legal entity in Tajikistan which caused some implementation problems since no local contracts can be made without such a legal entity or person. To solve this problem, the MEAS FSA and now FAST are structured as two entities. For the MEAS FSA, the CoP and extension specialist were paid as short-term casual employees of UIUC. For FAST, they are regular UIUC visiting (non-tenure track) academic employees. All other project management is carried out through a Tajik subcontractor, the Public Organization (PO) Ruyo, a local development firm. This company has a good reputation and ten-year track record of carrying out similar logistics and accounting support functions for other donor projects in Tajikistan. However, PO Ruyo had not worked with a large USAID project and had not done accounting, procurement and human resources functions for a USAID project. The UIUC system is inflexible and it takes a long time to transfer funds from UIUC to Tajikistan causing delays in payments made by PO Ruyo. Further, UIUC does not have local staff to work with PO Ruyo and the UIUC Program Manager is an extension specialist and not able to do financial oversight for

FAST. UIUC has required PO Ruyo to improve its performance and is doing so with assistance from FAST CoP and UIUC personnel.

## **RASP-MEAS CROSS-CUTTING EVALUATION ISSUES**

### **GENDER ISSUES:**

Gender issues are very important in Tajikistan because of the highly paternalistic nature of Tajik society and the constraints that imposes on women. Women are important in the agriculture sector because they manage the small household farms on which families rely for subsistence and livelihood. Many men have migrated to Russia and neighboring countries to seek employment so women are the mainstay of the household. However, they do not receive extension support from the government or most donors, even if they produce a significant portion of the food in the country. The FAST Project has a gender specialist on its staff that is monitoring the implementation of a gender plan. She also provides training for project staff and learning group volunteers. Recruitment of women staff has been a challenge because there are no available women agronomists and the competition among donor projects is keen.

### **NUTRITION AND HEALTH ISSUES:**

Under-nutrition among women and children is a serious public health problem in Tajikistan contributing significantly to maternal and child morbidity and mortality. Stunting, iodine deficiency and maternal and child anemia represent the largest burden of under-nutrition in the country. Khatlon province, where the Feed the Future activities are concentrated, has the highest rate of malnutrition (30 percent of children under five are stunted) and the highest mortality rates for infants and children under five. Overall, diets are poorly balanced, with little diversity and lacking adequate proteins, fats, vitamins and minerals. There is overconsumption of low-nutrient value carbohydrates and inadequate amounts of animal or vegetable protein, especially by women and children. Two new Feed the Future projects, the Tajikistan Nutrition-Sensitive Vegetable Technologies Project (implemented by WVC/AVRDC) and the Potato Production Support and Research to Improve Food Security in Kathlon Project (implemented by CIP) have key nutrition-related activities. For example, CIP is breeding new potato varieties that have higher iron and zinc contents, while WVC is increasing production and consumption of nutritious vegetables by families. Training of women on nutritional aspects is critical input from these projects including FAST.

### **NATURAL RESOURCES ISSUES:**

Only some seven percent of the total land area in Tajikistan is arable land, resulting in it having the smallest endowment of arable land (0.1 hectare/capita) among the Central Asian countries. Most agricultural land is irrigated and planted to cotton. Natural resource management issues are important in Tajikistan where land degradation, soil conservation and improved water management need to be addressed. Tajikistan is extremely vulnerable to climate change. For example, the annual average temperatures have risen by 0.8 degree Celsius since 1940. As a result of melting glaciers, river flows are expected to rise in the near term but then sharply drop. Agriculture is seriously affected by these changes.

### **INFORMATION AND COMMUNICATION TECHNOLOGY (ICT):**

ICT tools are not yet in use in FAST, but these tools have potential to make the EAS system more market-oriented and improve communications. For example, Tajikistan can benefit from the ICT strategies and tools that are being utilized in many Feed the Future countries such as Bangladesh,

where private sector ICT firms are actively developing and piloting ICT tools for use by farmers. Using radios and video/TV are some examples. UC-Davis is assisting FAST staff on ICT-related activities. Tajikistan can learn from the successful experiences of other host countries in using ICT tools such as Farmbook, a farm management application developed by the Catholic Relief Services (CRS), MEAS's NGO partner.

#### **MEAS TECHNICAL SUPPORT AND GLOBAL EXPERIENCES IN EAS SYSTEMS:**

MEAS Technical Support and Global Experiences in EAS Systems have been valuable in designing and piloting a new EAS model for Tajikistan (through the FSA and FAST). More effort has to be done by MEAS implementers to transfer to Tajikistan some successful EAS tools such as Farmbook (ICT) and Five Skill Set, etc., for testing by FAST in 2015. There may be some conflict with the expectation that FAST has to reach 40,000 households affected by the EAS by 2018 as indicated in the Feed the Future strategy. The project plan is to modify the FAST EAS activities to reduce group building and to refocus on training to meet the targets.

#### **USAID/TJ FUNDING FOR EAS ACTIVITY AND FUND LEVERAGING:**

After MEAS provided core funds to initiate EAS activities in Tajikistan in 2011, USAID has funded a six-months Field Support Activity (\$500,000 buy-in) to design a suitable EAS model, and then, in 2013, funded FAST (\$8.0 million) to pilot test and refine the newly designed EAS model in 12 districts in the Feed the Future ZoI. Thus, there is significant leveraging of USAID funding for EAS in Tajikistan, an indication of the USAID/TJ's commitment to support the development of a pluralistic EAS system in the country. A stronger participation of the GoTJ's agricultural extension departments is needed to ensure that a balanced and sustainable EAS system is developed in the near future.

#### **CONCLUSIONS**

Funding of RASP and MEAS by USAID BFS has confirmed the need for strengthening and modernizing EAS systems and for more active participation of government extension organizations in many host countries, including Tajikistan. It also showed the conflict of short-term funding strategy of many donors and the need for long-term and sustained commitment and support for institutional and human resources capacity building in these countries. The USAID BFS funding and buy-in from USAID Missions will also leverage both public and private financing of EAS through public-private partnerships.

Focus of the new EAS model being piloted by MEAS in Tajikistan, through FAST, is based on the needs of the large number of small-scale household farmers since they have not received extension services from the GoTJ and donors until recently. These farms are critical in providing about 60 percent of the food in the country and are mainly managed by women who lack resources and farming skills and knowledge. By providing them with extension services, they have a big opportunity to increase their role in improving food security, nutrition, and gender equality in Tajikistan, which are also the overarching goals of the Feed the Future initiatives.

Currently, the GoTJ/MoA still has a developing EAS system. As per design, the public sector's focus on the small-scale household farms and small commercial (*Dehkan*) farms would ensure that a sustainable and effective EAS system would reach the poorest farmers, especially in vulnerable, high-risk areas. The pluralistic EAS system that is being piloted by FAST could provide the GoTJ with a working model designed and fine-tuned for the specific needs of Tajikistan. USAID BFS and

the USAID/TJ and other donors have an opportunity to assist the GoTJ to develop a pluralistic, innovative, farmer-driven and market-oriented EAS system in the country and to build capacity of agriculture staff on critical areas of expertise in agricultural extension including policy.

MEAS and FAST have done an excellent job of analyzing and documenting the EAS activities in Tajikistan, with detailed description of the new EAS model that is being piloted. In 2015, FAST has to evaluate the process and draw lessons from the pilot effort to prepare for the roll-out to the rest of the Feed the Future areas and beyond.

## **RECOMMENDATIONS**

### **SHORT-TERM RECOMMENDATIONS:**

- USAID/TJ to consider in the design of the follow-on project to FAST a better balance in the development of a pluralistic EAS system which is currently strongly biased towards the non-government sector (NGOs and private firms); this would require a stronger participation of the government (MoA and DoA) with funding for training of the current staff at the district and sub-district levels where the FAST Project is already working.
- GoTJ to ensure collaboration by MoA and DoA with non-government EAS providers (NGOs, private firms), through public-private partnerships, in providing EAS to small-scale household farms and small commercial farms including appropriate policy support.
- MEAS to facilitate the access of Tajikistan, through FAST, to relevant MEAS and other documents that would be useful in developing a more balanced, sustainable farmer-driven and market-oriented EAS system.
- FAST to develop a repository of EAS documents (hard copy and digital forms) from donors and implementers of development projects and other sources within Tajikistan and from host countries through MEAS and international partner organizations (NGOs, IARCs, FAO, UNDP, consulting firms, etc.)

### **MEDIUM-TERM RECOMMENDATIONS:**

- USAID/TJ to facilitate and provide co-financing for institutional and human resources capacity building of agricultural extension, research and education (AKS) institutions in Tajikistan, and ensure stronger linkages between them and with similar international AKS institutions already working in the country. In February 2015, a team from the USAID-funded InnovATE Activity will visit Tajikistan to discuss with USAID/TJ strategies for strengthening agricultural research and education.
- GoTJ to strengthen its pluralistic, decentralized, farmer-driven and market-oriented EAS system for Tajikistan based on the successful model piloted by FAST in the Feed the Future ZoI in collaboration with donors and EAS providers (NGOs, private sector firms, international partners) through public-private partnerships.

## ANNEX VIII. I

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## ANNEX VIII.2

**SUMMARY OF FEED THE FUTURE PROJECTS IN TAJIKISTAN, NOVEMBER 2014**

<b>Project Title</b>	<b>Implementers</b>	<b>Goals</b>	<b>Activities</b>	<b>Some Achievements to 2014</b>
Farmer Advisory Services in Tajikistan (FAST) Aug. 2013 to Apr. 2017	University of Illinois at Urbana-Champaign	Goal: To improve the nutrition and family income of smallholder commercial and subsistence farmers in Tajikistan by developing and supporting an agricultural.	<ul style="list-style-type: none"> <li>*Piloting and documenting an agricultural and advisory service (EAS) system in the Feed the Future zone;</li> <li>*Organizing farmer learning groups and identifying learning group volunteers in pilot sites;</li> <li>*Training of learning group members and group volunteers;</li> <li>*Training of FAST field facilitators, extension coordinators and agricultural specialists;</li> <li>*Public advice, policy development and capacity to assist the government in implementing agrarian reform.</li> </ul>	<ul style="list-style-type: none"> <li>*Mahallas and jamoats in 9 districts of Khatlon prov. were identified and pilot testing the EAS model was initiated;</li> <li>*Farmer learning groups were organized (mostly women) and group members and volunteers were trained by FAST;</li> <li>*Farmers successfully completed large demonstration plots of CIP's improved potato varieties with assistance from FAST staff;</li> <li>*Farmer groups have harvested their first crop (vegetables like carrots, potato, etc.) with good results.</li> </ul>

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**SUMMARY OF FEED THE FUTURE PROJECTS IN TAJIKISTAN, NOVEMBER 2014**

<b>Project Title</b>	<b>Implementers</b>	<b>Goals</b>	<b>Activities</b>	<b>Some Achievements to 2014</b>
Farmer-to-Farmer Project (F2FP) Oct. 2013 to Sept. 2018	ACDI-VOCA	Goal: To generate rapid, sustained and broad-based economic growth through short-term technical assistance in the agriculture sector.	*US agricultural, business specialists carry out 2-3 weeks assignments in Tajikistan; *Farmers training, workshops, provision of technical advice, etc.	*In 2014, 15 F2F experts completed assignments; *Worked with 1,408 male and 429 female farmers.
Potato Production Support and Research to Improve Food Security in Khatlon Project (PPSROFSP) Sept. 2014 to Dec. 2016	International Potato Center (CIP)	Goal: To improve the welfare of smallholder potato farmers through increased income and food security.	*Setting up demonstration plots under smallholder conditions; Conducting field days; *Collaborating with FAST on piloting of new EAS model.	*CIP heat- and pest-resistant potato varieties produced twice the yield of commercial variety; * Trained 160 local advisors, master farmers and women; *Distributed 500 booklets on potato production to farmers and agric. specialists.

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**SUMMARY OF FEED THE FUTURE PROJECTS IN TAJIKISTAN, NOVEMBER 2014**

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Tajikistan Nutrition-Sensitive Vegetable Technologies Project Oct. 2014 to Dec, 2016	World Vegetable Center (WVC/AVRDC)	Goal: To improve nutrition outcomes by introducing improved production methods such as use of greenhouses and introducing improved, nutritious vegetable varieties.	*Collaboration with FAST, local NGOs and Institute of Horticulture to increase consumption of vegetables among children and women; *Disseminating improved greenhouse technologies; *Training farmers to improve their knowledge and skills.	*Introduced improved varieties of hot pepper, eggplant and tomato; *Erected new greenhouses specifically for women farmers' use; *Collaborated with two seedling producers in each of 12 Feed the Future districts to ensure farmers' access to good seedlings.

## ANNEX VIII.2

**SUMMARY OF FEED THE FUTURE PROJECTS IN TAJIKISTAN, NOVEMBER 2014**

<b>Project Title</b>	<b>Implementers</b>	<b>Goals</b>	<b>Activities</b>	<b>Some Achievements to 2014</b>
USAID Family Farming Program (FFP) Sept. 2010- Sept. 2014	Development Alternative Initiative (DAI)	Goal: To increase food security by helping farmers to better manage their irrigation systems through the creation of water users associations that rehabilitate irrigation structures, canals and drainage.	<ul style="list-style-type: none"> <li>*Intensive training for rural communities;</li> <li>*Providing engineering support and financial resources to WUAs to complete repairs of irrigation systems;</li> <li>*Experts assistance to WUAs to carry out their maintenance work;</li> <li>*Setting up demonstration sites;</li> <li>*Developing and distributing communication materials.</li> </ul>	<ul style="list-style-type: none"> <li>*In 2010-2013, project trained 3,443 farmers on irrigation, nutrition education, crop and livestock extension;</li> <li>*Established 33 WUAs;</li> <li>*Provided grants to WUAs to install 155 water control gates and maintain canals and drainage ditches;</li> <li>*Maintained demonstration sites: 76 nutrition gardens, 42 fodder crops, 61 crops;</li> <li>*Developed 17 extension materials and guides.</li> </ul>

## ANNEX VIII.2

**SUMMARY OF FEED THE FUTURE PROJECTS IN TAJIKISTAN, NOVEMBER 2014**

<b>Project Title</b>	<b>Implementers</b>	<b>Goals</b>	<b>Activities</b>	<b>Some Achievements to 2014</b>
USAID Land Reform and Farm Restructuring Project (LRFRP) Oct. 2013 to Sept. 2016	Chemonics International Inc.	Goal: To support the continuing progress of <i>dehkan</i> farm restructuring and recognition of property rights leading to a market in land-use rights.	*Establishing Legal Aid Centers where people with land rights problems can get help; *Training of state boards, farmers, heads of <i>dehkan</i> farms, women leaders; *Training of staff of Legal Aid Centers (LACs), lawyers, judges, tashabuskors, *Carrying out seminars, awareness campaigns in rural communities	*Established 12 LACs in the Feed the Future zone of influence to assist people with their legal rights to land; *Trained lawyers, judges, tashabuskors (initiators) to provide assistance to communities.

# UGANDA

## BACKGROUND

Feed the Future activities support an innovative agricultural development portfolio based on the analysis and use of data, policy formation and implementation, value chain focused education, research & extension, and entrepreneurship for production, trade, and agribusiness. Feed the Future programs are implemented at USAID Missions abroad and supported by the Bureau for Food Security (BFS), USAID, and Washington, D.C. Within eastern and southern Africa, Feed the Future activities reflect and strengthen regional and national priorities as described by the Comprehensive African Agricultural Development Program (CAADP). CAADP goals include both broad based goals and commodity specific objectives for the agriculture sector that are critical to fostering food security and poverty reduction, in tandem with production plans for specific commodities and investment targets for national governments. The dynamic interactions and synergies of a combined public and private sector investment and agro-economic landscape are key to the success of both Feed the Future programs and the CAADP.

To provide additional depth to a more comprehensive evaluation by Feed the Future extension-related program investments, a series of country specific studies exploring Feed the Future activities and outcomes in extension, information and advisory services, as well as an assessment of issues and consideration of future strategies to ensure the adoption and scale-up of research and innovation has been done. Of particular interest to BFS in this context is the USAID centrally funded, Modernizing Extension and Advisory Services (MEAS) project, a leader with associate award based at the University of Illinois in Champagne. The consortium focuses on three mechanisms believed to be transformational for the development of extension services:

- Mainstreaming of modern approaches to extension through training to promote new strategies and delivery systems; improved access to user-friendly materials and up-to-date information; and application of cutting edge informational and communication technologies.
- Documenting and sharing “lessons learned” and “good practice” through case studies, evaluation, pilot projects, and research.
- Designing modern extension and advisory services through assistance to governments, the private sector, and farmers.

A full description of MEAS objectives, activities, and accomplishments can be viewed at: <http://www.meas-extension.org/>.

This discussion provides an assessment of current MEAS activities in Uganda, how they support Feed the Future goals and objectives, lessons learned, and recommended next steps. This comes at a critical time for producers and consumers alike, as the Government of Uganda (GOU) undertakes a major reorganization within the Ministry of Agriculture, Animal Husbandry & Fisheries (MAAHF) National Agricultural Advisory Service (NARS), and the department responsible for the delivery of

public extension services. One crucial element of this, the replacement of career extension agents with military personnel transitioning into civilian life, is likely to have a number of as yet unknown effects on both the extension service and the agriculture sector both in the near future and over time. In this context, the role of MEAS, nongovernmental organizations (NGO), and donor supported extension services continues to be important to growth in the sector and the national food security.

The MEAS portfolio in Uganda is valued at \$164,000 and includes two activities:

- An evaluation of farmer-to-farmer videos. This was completed in July 2013.
- Ongoing evaluation of the Grameen Foundation's Community Knowledge Worker extension program.

## **INTRODUCTION**

The agriculture sector in Uganda makes a considerably smaller contribution to overall GDP, only 25%, in comparison to many of its neighbors across the African continent. Nevertheless, the sector employed 77% of the total labor force during 2103, dedicating 2 million hectares of cultivation for national consumption and an additional 1 million hectares to export crops. The participation of men and women in the agricultural labor force is balanced, with 51% of farmers being male and 49% female. Traditional exports of coffee, tea, tobacco, cotton, and livestock, forestry, and fisheries products captured almost 10% of total agricultural GDP, while wheat, rice, and cocoa experienced export growth rates exceeding 15%.

Green banana—"motoke"—comprises the staple of the Ugandan diet. Maize, sorghum, millet, root crops, and groundnut are also popular. Households producing livestock fared better than those producing other crops, with 20.7% and 33.5 % living below the poverty line respectively. Annual per capita income remains low throughout the country at \$510. As reported by the World Bank and the Food and Agricultural Organization (FAO), 15% of the population of Uganda experiences a chronic caloric deficit. The national average for stunting rates among children less than five years of age is high at 38%, with 44% stunting levels in the middle wealth quintile, 43% in the lowest quintile, and 25% the highest income quintile. Micro- nutritional deficiencies, particularly Vitamin A and iron, persist among women and children. In 2013, 46% of school age children and 41% of pregnant women were classified as anemic. Zinc and folate deficiencies also persist. As a landlocked country, Uganda continues to experience iodine deficiencies among pockets of rural dwellers where iodized salt is not being consumed. Uganda was ranked 157th out of 182 countries on the 2009 United Nations Development Program (UNDP) Human Development Index.

## **MEAS IN UGANDA**

### **THE GRAMEEN FOUNDATION EVALUATION:**

In the traditional extension model, whether public, private, or NGO-supported, a relatively small number of highly educated and trained agronomists serve as extension agents. They are often assigned to cover vast geographical distances with limited transportation and monetary resources. While the advent of farmers' associations, savings clubs, and farm field days offer more efficient delivery of information through a group setting, coverage remains scant in countries like Uganda. Often the most marginalized farmers and neediest households, isolated by challenging terrain and long distances, are excluded. The adoption of Internet and cellular technologies (ICT) as a medium

for the delivery of numerous segments of the extension system has been a breakthrough, moving providers into a significantly more cost effective and program efficient mode worldwide. Nevertheless, there are few low income countries that are adequately equipped to furnish high quality extension services with an adequately large workforce of qualified agents.

To address these issues, the Grameen Foundation launched the Community Knowledge Worker (CKW) program in Uganda in 2009. Beneficiaries are small farmers residing in remote communities. CKWs are selected by their peers to participate in a six-week-long comprehensive training session before returning to their communities. Here they provided basic information on the agronomics of crop and livestock production, on methods to educate other farmers to facilitate new technology uptake, on how to connect farmers with service and input providers, and on how to advise to farmers on market and weather conditions.

The foundation accurately identified several critical barriers to the success of ICT initiatives:

- Although the penetration of cellular phones throughout many rural communities is generally high, it is neither complete nor reliable in Uganda.
- The delivery of information in isolation, that is without providing farmers an informed dialogue with a trained extension agent, is often ineffective.
- Literacy rates within the most disadvantaged communities are low, creating barriers to accessing, understanding, and applying information in isolation.
- Farmers need real time "troubleshooting" as problems occur, and cannot wait for the next rotation of an infrequently appearing extension agent.

Following their training, CKWs are given a smart phone which from which they can access databases on agricultural information. The databases are managed by Grameen in Kampala and elsewhere to ensure the timely delivery of the best information. CKWs also serve as troubleshooters when a farmer has a specific problem with some aspect of his/her production, post-harvest handling, or marketing. The use of the CKW as a go between from databases to farmers addresses many of the problems that the foundation had identified as barriers to serving the poorest and most remote farming communities in Uganda and elsewhere.

At the inception of the program there were no specifically targeted crops, livestock products, or value chains and CKWs were encouraged to extend their coverage net as wide as possible. However, earlier evaluations of this approach indicated that the CKWs were overextended. Since that time, they have narrowed their focus to specific value chains, primarily coffee, dairy, bananas, and maize. Their target audience is now approximately 50 fellow producers. Under this new model, Grameen has estimated that they are able to reach into the "last kilometer" villages at a cost up to 15 times less than the relatively more expensive face-to-face farmer field schools run by other NGO and donor-funded extension providers. To address sustainability challenges faced as grant funding support ends for these projects, Grameen trained the CKWs as data collectors and enumerators. They proved to be high effective, as the CKWs were familiar with each household in their area, and were not regarded with suspicion, enabling them to collect accurate and abundant data. Revenues generated from these exercises continue to support 57% of the recurrent cost of the project.

In 2012, the foundation invited MEAS to conduct an impact assessment of the CKW program in Uganda. Three MEAS researchers proceeded to design a controlled randomized trail (CRT)

framework for the Masaka region where Grameen was poised to expand the CKW program in cooperation with the East Africa Dairy Development (EADD) organization. To date, MEAS has established the baseline consisting of 1,200 farmers in 12 different areas comprising 100 dairy hubs, and collected four waves of data. The last wave was collected in April 2014. Since then, however, Grameen has shifted its program focus, requiring that the search team reformat its assessment. However, the baseline data is still valid for the revised study design. A full description of engagement between the Grameen Foundation and the MEAS research team can be found at: <http://www.meas-extension.org/meas-offers/program-evaluation/grameen-uganda>.

**MUD ON THEIR LEGS: EVALUATING FARMER-TO-FARMER VIDEOS IN UGANDA:**

In 2011, 7,500 copies of the video series “Rice Advice” were translated into five Ugandan local languages under a small grant from the UK supported Kilimo Trust, (<http://www.gatsby.org.uk/en/Africa/Projects/Kilimo-Trust.aspx>). These were subsequently distributed across Uganda by a young journalist to 18 different organizations, including the NARS, the World Food Programme (WFP), the United Nations Food & Agricultural Organization (FAO), farmers’ associations, private sector input vendors, and several NGOs.

In November 2012, a MEAS team visited organizations and farmers who had viewed these videos to determine what impacts, if any, they had. The team was operating under the hypothesis that the effectiveness of the videos was compromised due to their delivery without supplementary extension services from live agents, and that the presentation of information by non-Ugandan farmers was a constraint in the uptake of information. But these assumptions proved to be wrong. In fact, a majority of the farms interviewed indicated that, on the basis of watching the video only, they had successfully increased their yields and applied new natural resource management practices to their cultivation and harvesting practices. Furthermore, they indicated they actually enjoyed seeing fellow farmers from other countries who were facing similar challenges. These were the general conclusions of the evaluation team:

- Farmers did learn from the video and were able to put the new information into practice.
- Ugandan farmers related to farmers in the videos because they were small holders who were also producing under the same non-mechanized conditions.
- Translations into local languages proved to be most important for women producers who had not benefited from learning English in school.
- Future videos should include more women and youth.
- Creative camera techniques can effectively substitute for face-to-face communications.
- More research is needed on the best community setting in which to show the videos.
- The inclusion of value chain actors, such as millers and input vendors, was effective to widen distribution.

The evaluation is well written and cleverly staged, and one feels as though they are in a travel documentary on a journey through the hills and rice lands of rural Uganda. Most importantly, the evaluation dispels some of the conventional wisdom about video and extension which may be helpful as the use of ICTs expands as an extension tool.

## **CONCLUSIONS**

The MEAS participation and support of the Uganda program exemplifies the value added of their expertise in a number of areas:

- As elsewhere in the countries reviewed by this tri-country assessment, the MEAS teams demonstrated an outstanding ability to support Feed the Future implementing partners with a stellar quality of methodologically sound analysis, something that can occasionally become lost in the haste of responding to the shorter-term pressures of meeting Feed the Future program objectives. This can be attributed to a well-balanced combination of combination of good planning and the collective wisdom of a laudable group of dedicated individuals within the associate award consortium.
- The MEAS products and services are delivered in a highly cost effective manner. Coupled with widespread disseminating through numerous publications networks, Feed the Future receives a high return on its investment in MEAS.
- The decision of MEAS leadership at the beginning of the project to be strategic in the selection activities was wise. As a result of this they have accumulated a robust body of knowledge on the modernization of extension and advisory services that can guide future decision-making for USAID. Additionally, there is a legacy of knowledge now available to the development community that fills in gaps that may easily have been missed had MEAS chosen not to be “demand driven” by its field-based clientele.
- MEAS has been successful in achieving a substantial level of engagement throughout all of the USAID geographical regions. This is helpful in identifying commonalities for both the positives and the negatives that Feed the Future strategies and programs need to consider as the strategic vision and accompanying programs are designed.