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## **Ghana Agricultural Development and Value Chain Enhancement Project (ADVANCE)**

**A USAID FEED THE FUTURE INITIATIVE**

**Fourth Annual Report  
October 1, 2012 – September 30, 2013**

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## LIST OF ACRONYMS

ACDEP	Association of Churches Development Projects
ADB	Agricultural Development Bank
ADVANCE	Ghana Agricultural Development and Value Chain Enhancement
AEA	Agricultural Extension Agent
AGRA	Alliance for a Green Revolution in Africa
CAADP	Comprehensive Africa Agriculture Development Program
DCA	Development Credit Authority
CRI	Crops Research Institutes
EPA	Environmental Protection Agency
EU	European Union
FASDEP	Food and Agriculture Sector Development Policy
FBO	Farmer Based Organization
FDB	Food and Drugs Board
FIs	Financial Institutions
FtF	Farmer-to-Farmer
FTF	Feed the Future
GAIDA	Ghana Agricultural Input Dealers Association
GAP	Good Agricultural Practice
GFSR	Global Food Security Response
GGC	Ghana Grains Council
GIS	Geographic Information system
GPS	Global positioning system
GRIB	Ghana Rice Inter-professional Body
GSSP	Ghana Strategic Support Program
GIZ	German Agency for Technical Cooperation
ICT	Information and Communications Technology
IFAD	International Fund for Agriculture Development
IFDC	International Fertilizer Development Corporation
IFPRI	International Food Policy research Institute
IITA	International Institute of Tropical Agriculture
LWA	Leader with Associate
M&E	Monitoring and Evaluation
METSS	Monitoring and Evaluation Technical Support Services
MCC	Millennium Challenge Corporation
METASIP	Medium Term Agriculture Sector Investment Plan
MFI	Micro Finance Institution
MiDA	Millennium Investment Development Authority
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning
MOU	Memorandum of Understanding
MSME	Medium, Small and Micro Enterprise
MT	Metric Ton
NADMO	National Disaster Management Organization

NBFI	Non-Banking Financial Institution
NF	Nucleus Farmer
NGO	Nongovernmental Organization
NRGP	Northern Rural Growth Program
OISL	Opportunity International Savings and Loans
P4P	Purchase for Progress
PERSUAP	Pesticide Evaluation Report and Safe Use Action Plan
PMP	Performance Monitoring Plan
PPRSD	Plant Protection and Regulatory Service Division
RAFIP	Rural Agriculture Finance Program
SADA	Savannah Accelerated Development Authority
SARI	Savannah Agricultural Research Institute
SME	Small and Medium Scale Enterprise
SMS	Short Message Service
SRI	System of Rice Intensification
STTA	Short-Term Technical Assistance
ToT	Training of Trainers
TSP	Triple Super Phosphate
USAID	United States Agency for International Development
USAID-EG	United States Agency for Development – Economic Growth
USDA	United States Department for Agriculture
VCA	Value Chain Financing
VCTF	Venture Capital Trust Fund
WACCU	Wa Cooperative Credit Union
WFP	World Food Program
WRP	Warehouse Receipting Program

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## EXECUTIVE SUMMARY

The Ghana Agricultural Development and Value Chain Enhancement (ADVANCE) is the main value chain project of the USAID Ghana Mission's Feed the Future (FTF) program. This report covers the period 1<sup>st</sup> October 2012 to 30<sup>th</sup> September 2013. At USAID's request ADVANCE was extended for eight months at no cost from July 14<sup>th</sup> 2013 to March 13<sup>th</sup> 2014, allowing for a full production program to take place its last year.

The overall goal of the FTF program is to sustainably reduce global poverty and hunger. ADVANCE contributes specifically to Strategic Objectives Three (SO3): improved nutritional status, especially of women and children; and Four (SO4): inclusive agriculture sector growth. The project tracks four key Intermediate Results (IRs) as follows:

- IR 1: Improved Agricultural Productivity
- IR 2: Expanding Markets and Trade
- IR 3: Increased Investment in Agriculture and Nutrition - Related Activities
- IR-5: Increased Resilience of Vulnerable Communities and Households

ADVANCE uses a long-term sustainable approach by working through commercial actors as conduits for reaching large numbers of smallholders, ensuring that improved practices remain in the market system after the end of the project. Results achieved during this reporting year are summarized below:

### *Improved Agricultural Productivity*

During the reporting period, the project worked with 34,121 producers, mostly smallholder maize, rice and soybean farmers, and most of them (about 70%) worked with the project in the previous year. These smallholder producers are linked to 125 nucleus farmers and aggregators and 49% (16,572) of them are members of 312 Farmer Based Organizations (FBOs).

The project trained 19,395 beneficiaries to acquire new skills and knowledge in production technologies, management practices and numeracy skills that will enable them to operate in a more business-like manner. For training in good agricultural practices, the project set up 179 demonstration sites for practical training. Forty-five per cent of the beneficiaries trained were women. Over 63% (19,954) of all the beneficiaries applied some new technology or management practice during the reporting period.

Gross margins for all three commodities exceeded the targets set for the period. Gross margins for maize, rice and soybean were US\$525/ha; US\$624/ha and US\$535/ha compared to targets of US\$350, US\$400 and US\$200 respectively. The high gross margins can be partly attributed to higher yields in the last season: yields for maize, rice and soybean were 2.3mt/ha; 2.7mt/ha and 1.2/ha respectively.

### *Expanding Markets and Trade*

During the reporting period, 13,932 mt of maize, rice and soybean was purchased from smallholder producers with a total value US\$ 4,614,457. Also, 13,128 (representing 88% of the PY 2013 target) value chain actors accessed services that improved their businesses, while loans worth US\$1,292,704 representing 162% of the PY2013 target was disbursed from financial institutions to beneficiaries. The project also supported 9,316 MSMEs (including 63 buyer/processors, 77 input firms, 255 mechanized service providers, 27 financial institutions and 17 radio stations) to improve their business services, over achieving the target set for the year. Also, these actors working with the project invested US\$1,656,559 in farm machinery and agro inputs to support increased productivity and to upgrade quality of produce during the reporting period.

### *For Public Private Partnerships (PPP)*

The project, in partnership with the Centre for Remote Sensing and Geographic Information Systems (CERGIS) launched an online agricultural GIS system that will make data collected by the project available to the general public and businesses. The address for the website is [www.gis4ghagric.net](http://www.gis4ghagric.net). The project also partnered with eleven major input suppliers and MoFA to establish 179 demonstration sites during the reporting year. The objective was to improve farmer's access to improved technologies and demonstrate to the farmers the proper application of these inputs to optimize yields.

### *Increased Resilience of Vulnerable communities and households*

During the reporting period, the project reached out and engaged 31,706 rural households of which 26,209 (83%) had participated in the previous year (PY 2012). Out of these rural households, 1,460 are classified as vulnerable because they live in communities that are prone to drought, flooding, violent conflict and bushfires.

### *Cross cutting programs*

Technical delivery of project activities is supported by the volunteer, gender, environment and grant programs:

**Volunteer program:** During the reporting period, the final volunteer assignments for the overall 4-year program were completed. During the reporting period, the project mobilized 14 volunteers who completed 18 assignments. The volunteers provided 341 days of technical assistance with local host organizations; working directly with over 1,200 beneficiaries (47% women). Volunteer assignments focused on four main topics: business and enterprise development, financial services, organizational development and farm management, and technology transfer

**Gender:** ADVANCE has always made a conscious effort to reach as many women as possible with appreciable success. We ensured that women beneficiaries have access to grants, receive literacy and numeracy training, and participate in nutritional education. During the year, 12,378 (36%) women benefited directly from the project out of 34,121 beneficiaries and 6,238 (50%) of these women received business development services. Also, 8,653 women beneficiaries were

trained in Farming as a Business (FaaB) or other short term training constituting 45% of total beneficiaries trained.

**Environment:** The project addressed three thematic environmental management areas in this reporting period including general compliance with title 22 of the code of federal regulations section 216(22CFR216), promoting safe use of pesticides and improving adaptation and resilience to climate change. Project management also kept track of all indicators for environmental management, and revised the ADVANCE Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP). Details of all these are presented in the environment section of this report.

**Grants:** In the reporting period, 11 new grants were awarded to various organizations, bringing the total number of signed agreements since project inception to 104, with a total obligated amount of US\$2,964,220.15 and US\$2,739,169.75 disbursed. These grants have directly benefited 2,941 smallholder producers, nucleus farmers, input dealers, radio stations and aggregators, and have reached 86,412 people indirectly through family ties and business relationships.

#### *Monitoring and Evaluation*

Management continued to improve the M&E system by reviewing the data collection, storage and retrieval as well as quality assurance standards. The ADVANCE Management Information Systems database captures data on all FTF indicators with their respective disaggregation.

An external data verification exercise was conducted by the Monitoring and Evaluation Technical Support Services (METSS), which focused on the USAID Economic Growth indicators reported in the PY 2012 annual report.

## 1 INTRODUCTION

USAID awarded the ADVANCE project to ACDI/VOCA in July 2009 through the Farmer-to-Farmer Leader with Associates Award under the Associate Cooperative Agreement No. 641-A-00-09-00026-00. The project is implemented by ACDI/VOCA and four partners: two international organizations (TechnoServe and Winrock International) and two local organizations (ACDEP and PAB Consult). ADVANCE contributes to the intermediate results of USAID's FTF Strategic Objective 3 (Improved nutritional status, especially of women and children) and Strategic Objective 4 (Inclusive agriculture sector growth).

At USAID's request ADVANCE was extended for eight months at no cost from July 14<sup>th</sup> 2013 to March 13<sup>th</sup> 2014, allowing for a full production program to take place its last year. The extension also provided the opportunity to assist new projects as they came on line; ATT under IFDC and FINGAP under Carana have both been assisted by the ADVANCE team on the ground as they began their start up process during 2013.

Presented in this report is progress made during the period of October 1<sup>st</sup> 2012 through September 30<sup>th</sup> 2013. The report summarizes the results and achievements (Section 3) for the period and details how they feed into specific intermediate results of USAID's Feed The Future (FTF) Strategic Objectives three (3) and four (4). The report also presents the progress made with each commodity value chain (Section 4), including supporting technical programs for financial services, inputs/equipment and outreach, all leading to enhanced competitiveness of the value chains for maize, rice and soybean.

Progress made under the ADVANCE project volunteer program is presented in Section 5 while efforts related to the grant, environment and gender programs are presented in Section 6. Monitoring and evaluation of project activities are presented in section 7.

All dollar values have been converted from the Ghana Cedi at the rate of GHS1.94 to the US Dollar. This rate represents the average rate from 1<sup>st</sup> October 2012 to 30<sup>th</sup> September 2013.

## **2 PROJECT MANAGEMENT AND COLLABORATIVE EFFORTS**

During the reporting period which included the extension phase that started on July 14th, project management maintained all four field offices to continue working with beneficiaries from the previous year, consolidating achievements to make the three commodity value chains more competitive. Project management also continued to collaborate with various donor-funded projects and local organizations to avoid duplication of efforts and complement each other's project goals.

### **2.1 OFFICE STRUCTURE AND STAFFING**

ADVANCE continues to operate four field offices in four regions; covering 39 districts (see Annex 1 for details), and 54 field staff working on technical delivery and 39 staff performing support and logistics functions (see Annex 2 for details). The Accra office provides financial, administrative, communications, logistical, grants, volunteer and program management support to the field teams. The Chief of Party, based in the Accra office, remains the primary point of contact for communication and interaction with USAID/Ghana. The overall project organogram is attached as Annex 3.

### **2.2 COLLABORATION WITH MOFA**

ADVANCE continues to engage the Ministry of Food and Agriculture (MoFA) at the national, regional, and most actively, at the district levels; and has made efforts to ensure that project activities are in line with the objectives set out in the Food and Agriculture Sector Development Policy II (FASDEP II). At the national level ADVANCE senior management actively participates in the agricultural sector working group (ASWG), and continue to contribute to the Comprehensive Africa Agriculture Development Program (CAADP) and the Medium Term Agriculture Sector Investment Plan (METASIP) working groups.

At the regional and district levels, project staff have consistently interacted and engaged with MoFA Directors on project activities to promote collaboration and avoid duplication of efforts. During the reporting period, ADVANCE continued to work closely with MoFA officers and field agents in target districts to set up and maintain demonstration sites as platforms for training farmers in good agricultural practices (GAPs) and post-harvest handling. ADVANCE also trained 114 MoFA AEAs on the use of GIS for M&E and worked closely with them to collect data and map the location of tractors in 20 districts of the Northern Region. The project again worked closely with MoFA and radio stations in the north to air agricultural programs on radio as an efficient way of disseminating GAPs.

### **2.3 LINKAGE TO OTHER PROGRAMS**

As a policy, ADVANCE makes deliberate efforts to link project activities with those of other projects and programs operating in the same geographic and/or commodity areas. During the reporting period, the project worked with 16 organizations, both governmental and non-governmental including the Northern Rural Growth Project (NRGP) managed by MOFA and funded by IFAD, Savannah Agricultural Research Institute (SARI), International Institute for Tropical Agriculture (IITA), Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), the Ghana Agricultural Insurance Pool (GAIP), the Rural and Agricultural Finance Program (RaFIP)

among others. A full list of the collaborating organizations and the areas of collaboration are presented in [Table 2-1](#).

**Table 2-1 Linkages and Collaboration with Various Projects and Programs**

No.	Name of Public/Private Entity	Areas of Collaboration
1	IFDC	<p>Collaborating and providing technical support to 5 Agribusiness Centers constructed with MCC funding and originally supported by IFDC in the Northern Region. Also, farmers working at 2 irrigation sites that were rehabilitated by MCC (with IFDC as consultants) were provided grants to purchase 50 power tillers, tarpaulin sheets, and other small equipment along with technical support.</p> <p>ADVANCE and IFDC collaborated and organized the 2<sup>nd</sup> Pre-Harvest Forum in October 2012 and the 2<sup>nd</sup> Pre-Season Forum in held in March 2013.</p>
2	Ghana Agricultural Insurance Pool (GAIP); GIZ funded	<p>ADVANCE is collaborating on drought index insurance that GAIP/GIZ is piloting in Northern Ghana including training ADVANCE staff/actors, procuring and installing five automated weather stations and providing GIS/GPS data. 25 policies were sold directly to 179 farmers, with 253 acres insured in 2012.</p> <p>In the 2013 season, 30 policies were sold to 279 farmers to cover 942 acres of maize and soybean fields. The GAIP team collaborates with ADVANCE on outreach activities including sponsoring 16 maize and soybean demonstration plots in the Northern and Upper East Regions, and attending the Pre-Harvest and Pre-Season Forums.</p>
3	Armajaro Cotton Ghana Ltd	<p>Leveraging resources to work with maize farmers in the Northern Region with Armajaro providing the farmers with improved seeds and fertilizer whilst ADVANCE trained them on good agricultural practices together with MoFA agricultural extension agents in the districts. About 1,448 outgrowers received support, of which 388 received certified seed (Etubi variety) and the rest used home-saved seed. There were however issues with late distribution of inputs and poor repayments due to low yields for their cotton crop. Armajaro has ceased to work on cotton and maize in the Northern Region as of August 2013.</p>
4	Ghana Rice Inter-Professional Body (GRIB)	<p>Representatives of GRIB worked with the ADVANCE rice team to establish 15 rice demonstration fields at 3 irrigation sites in Northern Ghana. GRIB trained the farmers on establishing nurseries and transplanting rice as a means of reducing unit cost of production whilst increasing yields and hence profits. To date 750 farmers have been trained under this collaboration.</p>
5	Rural & Agricultural Finance Program	<p>ADVANCE carried out value chain studies on rice, maize and soybean, and shared the report with RaFIP. Collaborating with ARB</p>

	(RaFiP); IFAD funded	Apex Bank and the rural banks to ensure quality training and availability of relevant training materials, including sponsoring four micro-finance and rural bank officers to attend a course on microfinance management and value chain financing in Accra in July 2013.
6	International Institute of Tropical Agriculture (IITA) – N2 Africa Project (SARI)	<p>Collaborating to train smallholder farmers to improve practices soybean production and carried out 23 demonstrations in 2012 and 36 in 2013 – sowing the effect of inoculants, Yara Legume and TSP fertilizer and lime in different treatment combinations. Outcomes from the 2012 demonstrations show that inoculants can produce a 7% increase in yield, which increases by an additional 69.7% when fertilizer is added.</p> <p>Phase I of N2Africa has ended, but Phase II proposals are under review with the Bill and Melinda Gates Foundation.</p>
7	Jaksally Organization, Damongo, N/R	The CEO of Jaksally attended the RaFiP organized microfinance training in Accra. A short term volunteer, under USAID Farmer-to-Farmer program supported the staff of Jaksally to analyze the potential for opening a cooperative credit union office near the communities of the 32 VSAL groups (21,000 members) to reduce risk of theft of savings having lost US\$3,090 through theft previously. They are also working with female farmers on maize demonstration fields to increase techniques and yields.
8	ASI-Arzakinmu Project funded by AGRA	Collaborated in the construction of 17 warehouses (80 mt capacity) with 5 FBOs, 2 aggregators, and 11 nucleus farmers, and training on post-harvest handling for 10,000+ farmers. Through collaboration with the Ghana Grains Council all 17 warehouse owners and operators were trained on proper record keeping, warehouse management and inventory. The Arzakinmu Project has ended but a new GGC AGRA-funded project that began April 2013 is following up from where the Arzakinmu project ended.
9	Centre for Remote Sensing and Geographic Information Services (CERGIS)	Collaborated with CERSGIS to Ghana's first agriculture GIS online portal which was launched April 2013. In August 2013, ADVANCE, in collaboration with CERSGIS, organized a GIS stakeholders' forum in Accra. The forum, with the theme: "Enhancing GIS Application in Agriculture" was attended by individuals from both the private and public sectors.
10	Ecobank	Collaborated with Ekobank on the USAID-DCA agricultural loan guarantee initiative. Ecobank received at least ten loan applications totaling USD \$305,706, and disbursed USD \$139,903.
11	Sinapi Aba Savings and Loans (formerly	Collaborated with SASL on the USAID-DCA agricultural loan guarantee initiative. In early 2013 ADVANCE finance staff trained 10

Trust)	loan officers of the bank on risk assessment, agricultural credit, cost of production, and value chain financing. SASL Sunyani branch met with 12 producers and processors; 8 of whom opened bank accounts. During the period they received about 39 loan applications totaling USD \$518,365 and disbursed USD \$228,096 for production and marketing loans. SASL has also approved another USD \$140,542 for disbursement.
12 WFP/P4P program	Collaborated with the WFP on the P4P program to build the capacity of 10 rice FBOs to improve rice productivity, quality and marketing as well as FBO strengthening. Provided 10 parboiling vessels to the 10 FBOs who received training from the Food Research Institute in February 2012. P4P has not yet bought directly from these farmers because the rice they produce requires parboiling; however, in the 2013 they anticipate to purchase from them.
13 University for Development Studies (Wa, Bolga and Tamale Campuses)	Provided work-study opportunities for over 50 UDS students from the 3 campuses in the ADVANCE field offices between May and August 2013. Their work included practical community attachment with input dealers and nucleus farmers, data collection and entry,.
14. MOU with IITA/USAID Rising Africa program	Collaborative effort on different agricultural practices including both conservation and extensive farming techniques. Sharing demonstration sites and farmer field days in the 2013 season to enhance farmer learning.
15. SNV Project	Collaborating with SNV on activities related to district assembly governance and management of payments to caterers under the School Feeding Program. ADVANCE provided financial training to 25 caterers in the Tolon/Kumbungu districts to analyze catering costs and break-even points.
16. MEDA	Collaborate on soybean production and marketing in 3 districts in UWR to improve service and use of inputs/delivery, product aggregation and sales for female smallholder farmers. Provided copies of soybean handbook for MEDA project staff use, and MEDA will re-publish them in some local languages of UWR.

### 3 SUMMARY OF RESULTS

The ADVANCE project contributes to the overall Feed the Future (FTF) goal of sustainably reducing poverty and hunger, and tracks 16 FTF indicators and four additional ACDI/VOCA-specific indicators. The project contributes to two main FTF objectives: Strategic Objective 4 (SO4) “Inclusive agriculture sector growth”; and Strategic Objective 3 (SO3) “Improved nutritional status, especially of women and children”.

Results contributing to achieving FTF’s SO.3 and SO.4 are tracked through the following Intermediate Results (IRs):

- IR 1: Improved Agricultural Productivity
- IR 2: Expanding Markets and Trade
- IR 3: Increased Investment in Agriculture and Nutrition - Related Activities
- IR-5: Increased Resilience of Vulnerable communities and households

Details of the strategic objectives, results, intermediate results and indicators tracked by the project are presented in the results framework (Figure 3.1).

#### 3.1 ADVANCE’S IMPLEMENTATION STRATEGY

ADVANCE adopts an implementation model in which we train and mentor nucleus farmers and aggregators to provide agricultural services (tractor services, improved seed, fertilizer, post-harvest services like shelling, and credit) to smallholder farmers (out growers) while also acting as a link to larger buyers and processors, thereby creating market channels for the smallholders. The project selects these nucleus farmers and aggregators carefully by assessing their willingness to invest and provide the services mentioned above, and then supports them through training, grants, and technical advice to enable them to manage these outgrower schemes effectively and efficiently.

This approach ensures sustainability in several ways: (i) the project does not provide any services directly, and thus does not leave a services gap post-project; (ii) the relationships between all the actors are purely businesslike and will continue as long as it remains profitable. Project management continues to strengthen the robustness of the model by constantly reviewing it and providing additional capacity to the nucleus farmers to better manage their out grower schemes.

Using the strategy described, the project is currently working with 34,121 producers of maize, rice and soybean (Table 3.1).

Figure 3-1: ADVANCE Results Framework

<b>Goal</b>	Sustainably reduce poverty and hunger			
<b>Indicators</b>	<ul style="list-style-type: none"> <li>% of people living on less than \$1.25/day in target regions</li> </ul>			
<b>1<sup>st</sup> Level Objectives</b>	Inclusive agriculture sector growth		Improved nutritional status especially of women and children	
<b>Indicators</b>	<ul style="list-style-type: none"> <li>Per capita expenditures (as a proxy for income) of USG targeted beneficiaries</li> </ul>			
<b>2<sup>nd</sup> Level Objectives</b>	Improved agriculture productivity	Expanding markets and trade I	Increased investment in agriculture and nutrition activities	Increased resilience of vulnerable communities and households
<b>Indicators</b>	<ul style="list-style-type: none"> <li>Gross margins per hectare of land of selected product</li> </ul>	<ul style="list-style-type: none"> <li>Value of incremental sales (collected at farm level) attributed to FTF implementation</li> </ul>	<ul style="list-style-type: none"> <li>Value of new private sector investment in agriculture sector or value chain</li> </ul>	<ul style="list-style-type: none"> <li># of rural households benefiting directly from USG interventions</li> <li># of vulnerable households benefiting directly from USG interventions</li> </ul>
<b>3<sup>rd</sup> Level Objectives</b>	Enhanced human and institutional capacity development for increased sustainable agricultural sector productivity	Enhanced technology development, dissemination management and innovation	Improved access to business development and sound and affordable financial and risk management services	
<b>Indicators</b>	<ul style="list-style-type: none"> <li># of farmers and others who have applied new technologies or management practices as a result of USG assistance</li> <li># of individuals who have received USG supported short term agricultural sector productivity or food security training</li> <li># of private enterprises (for profit), POs, WUAs, women's groups, trade and business associations, and CBOs receiving USG assistance</li> <li># of members of POs and community based organizations receiving USG assistance</li> <li># of private enterprises, POs, WUAs, trade &amp; business association, and CBOs that applied new technologies or management practices as a result of USG assistance</li> <li>Crop yield</li> <li># of beneficiaries trained in Farming as a Business or other business skills</li> </ul>	<ul style="list-style-type: none"> <li># of hectares under improved technologies or management practices as a result of USG assistance</li> <li># of new technologies or management practices researched, field tested, or made available</li> <li># of demonstration sites created</li> </ul>	<ul style="list-style-type: none"> <li># of public-private partnerships formed as a result of FTF assistance</li> <li>Value of Agricultural and Rural Loans</li> <li># of MSMEs receiving USG assistance to access bank loans</li> <li>Number of MSMEs receiving business development services from USG assisted sources</li> <li># of beneficiaries accessing business development services</li> </ul>	

Out of the 34,121 mostly smallholder farmers and outgrowers for 125 nucleus farmers and aggregators, 16,572 (49%) are smallholder farmers affiliated to 312 Farmer Based Organizations (FBOs). The nucleus farmers, along with aggregators, outgrowers and FBOs, are linked to 73 Buyers/

*Table 3- 1 Number of producers reached by crop*

Crop	PY 3013 Annual Status
Maize	23,402
Rice	5,209
Soybean	6,365
Total	34,121 <sup>1</sup>

Processors for a total of 67 different supply chains. The smallholders are also linked to 77 agricultural input firms, 255 mechanized service providers, 27 financial institutions and 17 radio stations. Progress under each intermediate result is presented in the rest of this section of the report.

### 3.2 IMPROVED AGRICULTURAL PRODUCTIVITY

Progress towards achieving this strategic objective is presented in **Table 3-2**. The results contribute to FTF:

- (i) Sub-IR 1.1: Enhanced human and institutional capacity development for increased sustainable agricultural sector productivity, and
- (ii) Sub-IR 1.2: Enhanced technology development, dissemination management and innovation.

#### *Yields and Gross Margins*

The Gross Margin (GM) targets for maize (US\$350), rice (US\$400) and soybean (US\$200) were exceeded by at least 50% during the reporting period. The GMs for maize, rice and soybean were US\$525/ha; US\$624/ha and US\$535/ha respectively. Yields achieved; 2.3mt/ha; 2.7mt/ha and 1.2/ha for maize, rice and soybean respectively, were below the targets of 3.5, 3 and 2 mt/ha respectively but were significantly higher by between 30 and 90% of the previous year's yields of 1.6, 1.4 and 0.8 mt/ha for maize rice and soybean respectively. The higher gross margins recorded for all three commodities can be attributed to a significant increase in yield as a result of a successful collaborative effort with private sector firms, favorable weather, and an aggressive ADVANCE program intervention. These improvements in gross margins are an indication that project beneficiaries are accessing inputs more readily, engaging in improved production practices, and their linkages to relatively reliable markets is having a positive impact.

#### *Adoption of New Technologies*

During the reporting period, 19,954 smallholders (249% of target) applied new technologies and/or management practices as a result of project interventions. Most rice farmers in irrigated areas continue to adopt new varieties including Togo Marshal, Jasmine 85 and IR841 (introduced in the last crop season). These varieties are in high demand in markets in southern Ghana and compete directly with imported rice. For maize, many farmers adopted the PAN12 and PAN53 (from Pannar) and the 30Y87 and 30F32 (from Pioneer) varieties. Also, the total area under improved technologies was 21,581ha over the target of 10,500ha (206% of target). Linkages to input dealers and the establishment of demonstration sites contributed greatly to the application of improved technology by project beneficiaries.

<sup>1</sup> 855 Soybean Producers are also Maize Producers

*Producer Organizations and Food Security Enterprises Receiving FTF Assistance*

A total of 741 (247% of the PY 2013 target) food security private enterprises (432), producer organizations (211, with membership of 13,375), women's groups (88) CBOs (5), Trade and Business Associations (3) and Water User Associations (2) received USG assistance through training, links to finance, inputs, markets and grants during the reporting period. The target was exceeded because the project supported nucleus farmers to develop more efficient ways of managing their outgrower schemes, and also, many of the outgrowers organized themselves into FBOs during the reporting period.

**Table 3- 2 Results of Sub IRs 1.1 and 1.2**

Indicator	Commodity	PY 2013 Results	PY 2013 Target	% PY 2013 Target achieved
4.5(4) Gross margins per hectare (US\$/ha)	Maize	525.57	350	150%
	Rice	624.49	400	156%
	Soya	535.02	200	268%
4.5.2(5) # of farmers and others who have applied new technologies or management practices as a result of USG assistance.		19954	8000	249%
4.5.2.(2) # of hectares under improved technologies or management practices as a result of USG assistance (ha)		21581	10500	206%
4.5.2(11) Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations(CBOs) receiving UCG assistance		741	300	247%
4.5.2.(27) Number of members of producer organizations and community based organizations receiving USG assistance		13375	3000	446%
4.5.2.(7) Number of individuals who have received USG supported short term agricultural sector productivity or food security training		19395	3250	597%
4.5.2(42) # of private enterprises, producer organizations, water user associations, trade and businesses associations and CBOs that applied new technology or management practices as a result of USG assistance		557	280	199%
1. Crop yield (mt/ha)	Maize	2.3	3.5	66%
	Rice	2.7	3	90%
	Soya	1.2	2	60%
2 # of beneficiaries trained in Farming as a Business (FaaB) or other business skills)		9867	8500	116%
3. # of demonstration sites created.		179	142	126%

### *Capacity Building of Beneficiaries*

During the reporting period, 19,395 beneficiaries (almost 97% of the target) were trained to acquire new skills and knowledge in production technologies as well as management practices that enable them to operate in a more business-like manner. Forty- four per cent (8,653) of beneficiaries trained were women. Ninety-eight per cent of all trainees (19,000) were producers, 1.83% were from agricultural MSMEs, and less than one per cent from MoFA and other government agencies. Of the 19,395 beneficiaries trained, 11,969 (61.71%) of them were trained in numeracy, “Farming as a Business (FaaB)” and FBO strengthening whilst 7,270 was in agricultural productivity and business development training (see further details in Table 3.3).

**Table 3- 3: Types of training and number of beneficiaries trained during the period**

Type of Training	Number of Training Beneficiaries		
	Male	Female	Total
Farming as a Business (FaaB)	5,034	3,690	8,724
Numeracy Training	43	2,059	2,102
FBO Strengthening	638	505	1,143
Agricultural Productivity and Business Development Training	4,871	2,399	7,270
No Disaggregation			156
<b>Total</b>	<b>10,586</b>	<b>8,653</b>	<b>19,395</b>

### *Technology Demonstration*

A successful strategy for making technology available to smallholders is the use of demonstration farm sites for training. For the 2013 crop season, a total of 179 demonstration sites were established across the project implementation areas. This number is 126% above the PY 2013 target of 142. Out of the 179 demonstrations established, 100, 44 and 35 were for maize, rice and soybean respectively.

## **3.3 EXPANDING MARKETS AND TRADE**

Results achieved contribute to FTF Sub IR 2.4: improved access to business development services and sound and affordable financial and risk management services. Output targets and achievements are presented in Table 3-4.

### *Value of Incremental Sales*

During the reporting period, 37,774mt of maize, rice and soybean (26,022mt, 6,017mt, and 5,735mt respectively) were sold by project beneficiaries. The total quantity exceeded the PY2013 target of 30,837MT by 22 %. The value of maize, rice and soybean purchased from smallholders at farm gate was estimated to be \$8,058,519, \$1,104,748, and \$1,847,619 respectively and exceeded the total target value (see Table 3.4). The value for soybean fell short of the target because farmers reduced the area under cultivation in 2012 after facing challenges selling their 2011 crop due to price interference by the national buffer stock company (NAFCO).

**Table 3- 4 Results of Sub IR2.4**

Indicator	Commodity	PY 2013 Results	PY 2013 Target	% PY 2013
4.5.2.(23) Value of incremental sales (collected at farm level) attributed to FTF implementation.(US\$)	Maize	\$8,058,519.41	\$1,682,068.00	479%
		26,021.56mt	16,960mt	153%
	Rice	\$1,850,600.75	\$1,164,276.00	159%
		6,017.19mt	3,084mt	195%
	Soya	\$1,847,619.76	\$3,818,520.00	48%
		5,735.01mt	10,793mt	53%
	Total Value of Sales	\$11,756,739.92	\$6,664,864.00	176%
	Total Volume of Sales	37,773.76mt	30,837.00mt	122%
4.5.2.(29) Value of Agricultural and Rural Loans		\$1,292,704	\$800,000.00	162%
4.5.2 (30) Number of MSMEs(including farmers) receiving USG assistance to access bank loans (US\$)		9,316	9,500	98%
4.5.2 (37) Number of MSMEs (including farmers) receiving business development services from USG assisted sources		13,128	15,000	88%

#### *MSMEs Receiving BDS and Assistance to Access Bank Loans*

During the reporting period, 13,128 (representing 88% of the PY 2013 target) value chain actors' accessed services that improved their businesses. Loans disbursed from financial institutions to project beneficiaries were US\$1,138,407 representing 276% of the PY2013 target of \$800,000. To increase lending to the agricultural sector, the project collaborated with various financial institutions to create strategic alliances with nucleus farmers, buyers/aggregators, processors and input firms. As a result, 9,316 MSMEs, including smallholder farmers, accessed loans and invested them in their businesses.

The project also supported 63 buyers/processors, 77 input firms, 255 mechanized service providers, 27 financial institutions and 17 radio stations to improve their business services thereby achieving 88% of targets for the year. Some BDS providers supported by the project include mechanized service providers who were taught record keeping and how to increase patronage of their services through linkages with value chain actors participating in the program. Input dealers were also trained to improve provision of services and how to organize promotional events to increase outreach and their customer base. Radio stations were provided with technical assistance to improve the content of their agricultural programs, create linkages with sponsors and participate in stakeholder fora.

### **3.4 INCREASED INVESTMENT IN AGRICULTURE ACTIVITIES**

Intermediate result three (IR 3) of FTF tracks investments by individuals, micro, small and

medium enterprises (MSMEs) and government agencies as a result of project activities and support. Progress towards achieving this IR is presented in [Table 3-5](#).

#### *Investment in New Technology*

Actors invested a total of US\$1,656,559 in farm machinery and agro inputs to support increased productivity and to upgrade quality of produce. This amount represents 276% of the PY 2013 target and was achieved mainly as a result of the linkages created within the value chains, especially the grants program with 30% leverage from beneficiaries, which encouraged investments in post-harvest farm machinery.

**Table 3- 5: Results of IR3**

Indicator	PY 2013 Results	PY 2013 Target	% PY 2013 Target achieved
4.5.2 (38) Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation.	1,656,559	600,000	276.09%
4.5.2.(12) Number of public-private partnerships formed as a result of FTF assistance	11	1	1100%

#### *Public-Private Partnership*

The project partnered with eleven major input suppliers (*Bentronics, Candle, Yara, Wienco, Chemico, Dizengoff, Golden Stock, Grow Green, Matasm Agam, Saro Agro Services and Louis Derryfus*) and MoFA to establish 179 demonstration sites during the reporting year. The objective was to improve farmer's access to improved technologies and demonstrate to the farmers the proper application of these inputs to optimize yields. This effort contributed greatly to the high number of farmers that applied improved technologies as a result of USG assistance in the reporting period. The input dealers have also found the partnership worthy of continuation as it provides an effective way of reaching out to small holders with improved technologies.

### **3.5 INCREASED RESILIENCE OF VULNERABLE COMMUNITIES & HOUSEHOLDS**

Progress towards achieving the FTF objective of improving nutritional status especially of women and children, and sub IR 5 is presented in [Table 3-6](#). The project contributes to sub IR5 by working with rural and vulnerable households.

During the reporting period, the project reached out directly to 31,706 rural households who benefited from one or more project interventions including training, grants, links to inputs and finance sources, and markets. This achievement is 159% of the target. Of the total number of households, 26,209 (83%) continued from PY 2012 while 5,497 (17%) joined in the current reporting year. [Table 3-7](#) shows the gendered household type of the rural households.

**Table 3- 6: Rural and Vulnerable HH Benefitting from FTF Assistance**

Indicator	PY 2013 Results	PY 2013 Target	% PY 2013 Target achieved
4.5.2.(13) # of rural HH benefitting directly from USG interventions(FTF/EG)	31,706	20,000	159%
4.5.2.(14) # of vulnerable HH benefitting directly from USG interventions (FTF/EG)	3,222	3,000	107%

*Vulnerable Households*

Out of the 31,706 rural HH that participated in project activities in the reporting period, 1,460 households are classified as vulnerable. These are smallholders, single-headed households living in rural communities that are prone to drought, flooding, violent conflict and bush fires.

**Table 3- 7: Gendered Household Type Reached by Project**

Indicator	PY 2013 Results	Percent
Adult Male no adult Female(MNF)	594	2%
Adult Female no Adult Male (FNM)	1313	4%
Adult Male and Adult female (M&F)	29799	94%

## 4 PROGRESS WITH COMMODITIES AND MARKET SUPPORT SERVICES

### 4.1 MAIZE VALUE CHAIN

Under the maize program, the project continued to support investments to improve productivity, production and marketing of the commodity in the project's operational area. In 2012, maize production from the four regions in the operational area rose to 50% of the national total, from 47% in 2011. This increase was achieved with a 1% increase in area cropped to the commodity and a 20% increase in yield. End-of-season yields of 2.2 – 3.1 mt/ha were achieved on about 60% of smallholder beneficiary land reached by the project, with the highest percentage change occurring in the UWR where actors in the maize supply chains of the project made the greatest investments. These achievements were realized through collaboration with private sector stakeholders who were motivated to invest in the adoption of better agricultural production techniques by smallholder farmers as well as by participating in activities leading to the strengthening of relationships in their supply chains.

#### Maize at a Glance

Total amount of seed (MT)	82.2
Total area cultivated (Ha)	16,778
Production (MT)	36,912
Yield (MT/Ha)	2.3
# of Nucleus Farmers	69
# of Outgrowers	23,402
# of Large Buyers	32
# of Aggregators	27
Gross Margin (US\$/Ha)	526

#### 4.1.1 Productivity and production improved

Ninety-one lead farmers took part in setting up 160 community-based demonstrations at which innovative seed varieties contributed by five private companies were used. During the 231 Field Days organized in 2013 at the demonstrations sites, more than 10,000 farmers observed features including tolerance to drought, vigor in germination, how to apply fertilizers and weedicides and other agronomic practices the lead to the best results. Seed contributed to such demonstrations as hybrid varieties: Pan 53 and Pan 12 (from Pannar), 30Y87 and 30F74 (from Dupon/Pioneer) and *Mamaba* (from CSIR); the high-protein content *Obaatanpa*, and the early-maturing *Etubi* and *Aburohema* varieties (all from CSIR). Over 50 mt of improved seed, worth \$50,000, was sold by agents of seed companies and growers who contributed seed for these demonstrations. At more than 72% of the locations, agents reported more than a 3-fold increase in the total sales of certified seed over their previous year's sales.

This reporting period coincided with the harvest of demonstrations set up in 2012 (harvest starts in November). Maize demos at all 87 locations were harvested, with their yield results collated, and farmer's reactions documented. Three fertilizer companies, six seed dealers, six dealers in weedicides, and one dealer in seed dressing contributed inputs towards setting up the maize demonstrations in 2012. A central forum for national managers of participating input companies, as well as six forums at regional and community levels, were held to share and discuss the results of the demonstration harvest. Some highlights of the results for the 2012 maize demonstrations include the following:

1. More than 50% (80 out of 139) of the demo plots reported yields above 3 mt/ha. The top 20 plots had yields ranging from 5.86 - 9.48 mt/ha. The highest yield of 9.48 mt/ha was obtained using Pan 53 seed, Activa (NPK 23-10-10-S) fertilizer together with Rival and Lumax weedicides all from Wenco.
2. Almost 80% (111 out of 139) of the demos recorded yields above the national average of 2.0 mt/ha as shown in Table 4-1 below
3. One hundred percent of all demos in the UER had yields of at least 3 mt/ha whilst UWR and NR had 54% and 67% respectively. None of the demos in the northern part of BAR had yields up to 3 mt/ha.

**Table 4-1: Maize varieties with yields over 3 mt/ha at demonstration sites**

Variety	Top 80, (yields above 3.0 mt)	Total # of Plots	Percentage with yield above 3mt
ProSeed,	9	9	100%
Pan 12, (Yellow)	9	9	100%
Pan 53 or	8	10	80%
Mamaba	24	38	63%
Atubie	7	14	50%
Obaatanpa	17	39	44%
Farmers' 'mixed varieties'	6	14	43%
	80	139	58%

The key lesson from the results of the demos is that farmers are capable of achieving much higher yields than they are currently getting if they are motivated or have the incentives to invest, such as assurances of a market, supported with inputs on credit, or provided with a reduced risk to try innovations.

More than 1500 smallholders who participated in field days on demo sites established in 2012 have been observed to be applying at least one of the new knowledge/skills acquired in 2012 on their farms in the 2013 season. The technologies being adopted include zero tillage (108 farmers), purchase and use of Pan 53 and Pan 12 seed (300), planting at one seed per stand (500) and covering of basal fertilizer applied (500). For greater emphasis, all the demonstrations in 2012 using high yielding seed are being repeated in 2013 at the same locations in collaboration with the farmers who led the process in 2012.

The 160 demos setup in 2013 are being used to introduce new technologies to more than 130 farmer leaders and smallholders in their communities and to demonstrate the importance of using good seed. Technologies being disseminated this year include two newly introduced hybrid seeds, two maize-specific fertilizers, four weedicide brands and four foliar-applied fertilizers. All inputs used, estimated at US\$10,000, were contributed by private sector input dealers, who also lead the training on their proper use, and aggregators who want to increase volumes of produce in their supply chains.

Over 800 nucleus farmers, farmer leaders and operators of 17 community-based warehouses were trained to adopt the use of grades, standards and appropriate storage practices to enhance their post-harvest handling techniques. These warehouses have had a through-put of over 12,000 mt of maize worth \$255,000 to more than 26 end-markets between January and July 2013. In addition to providing maize shellers and tarpaulins, these trainings have led to improvements in the quality of produce sold at the community warehouses.

#### 4.1.2 Value-chains strengthened

Seventy-seven NFs were supported in preparing and analyzing their annual farm/crop budgets, calculating gross margins and conducting profit and loss analysis for strategic decision making on their enterprises.

Subsequently, 30 beneficiary NFs have cut down their acreage and are adopting improved practices such as optimum plant populations and using higher yielding varieties to cut down costs while increasing or maintaining the same level of production. The trained NFs have used this analysis for decision making, especially for bargaining on prices.

All 17 end market linkages established in 2012 between farmers in the north and buyers/processors in the south were maintained and 14 new ones established during the reporting period. The project continued to support and facilitate these market linkages resulting in deals for more than 3,000 mt of maize to processing companies such as PFL, Richam Farms and the Poultry Farmers Associations worth over US\$720,000. Premium Foods was assisted by project staff in recovering more than 82% of their investments in inputs for 240 smallholders in the UWR by facilitating formal contracts between PFL and six NFs and their out-growers. As a result, PFL has increased the number of NFs to nine and has invested inputs worth \$70,905 to cultivate 393 ha through them.

#### Strengthening Supply Chains

The annual pre-season and pre-harvest business fora continued to be a major avenue for deals between prospective buyers from different parts of Ghana and farmers. Contracts to supply over 15,000 mt of maize were reported to have been initiated at the annual pre-harvest agribusiness meeting which took place in November 2012. This included a supply of about 8,000 mt to Premium Food Ltd. by 3,000 smallholder farmers through their community warehouses and the Gundaa Produce Company; 1000 mt from nucleus farmers to the same source from farmers in the UWR and 4,800 mt to nine other end-markets in the Techiman operational area.

Five other smaller business fora were organized in the regions where purchase agreements were signed between buyers and sellers. One of the fora organized for 300 small-holder farmers, was sponsored by Agnes Boatema, an aggregator in Techiman. Aggregators sponsoring such events is excellent for sustainability beyond the project

Sixty nucleus farmers and 300 of their out-growers participated in various training programs on how to manage out-grower schemes during the reporting period. Topics at these training included record keeping, effective communication within supply chains, pros and cons of business services provision, the aggregation function and its inter-dependence on NFs and out-growers. Three nucleus farmers, Zakaria Iddrisu, Iddrisu MacAdams, John Mulniye, and two aggregators, Kojo Fosu and Agnes Boatema, who attended these training have since organized and recognized high performing out-growers at various meetings by providing them with incentives such as mobile phones, bicycles and cash rewards. Also as a result of

these training, more than 2,500 formal contracts, including 2,000 by 8 NFs with more than 2,000 out-growers in the UWR, were signed between farmers and processors/buyers. These formal contracts have, in most cases, required that the processor/buyer/aggregator invest in input packages in return for in-kind repayment.

In some parts of the north, transportation of produce to the south remains a challenge and the project has tried to intervene. In the UWR, stakeholder meetings were held with members of the Ghana Private Road Transport owners Union (GPRTU) resulting in agreements for more efficient and timely transportation of produce for 12 NFs. Consequently, over 232 mt of maize has been transported by these transport owners with the farmers saving \$2,050 over previous arrangements.

A key element for building trust among NFs and aggregators and smallholders is to create transparency by using standard weights and grades in transactions. After training beneficiaries on using weighing scales and adhering to agreed moisture levels of grains, more than 100 aggregators and NFs are using these standard weights and packaging maize in 50kg bags at 13-14% moisture levels and assigning identification numbers to enable traceability. These developments, especially among smallholder farmers, are new for most farmers in the maize trade. Monitoring product flow of maize worth \$2,189,495 sold through at least 31 supply chains, starting at the farm gates of project beneficiaries, showed great improvements in quality compared to produce bought from other farmers. Although most of these sales at farm gates are not formally graded, large buyers such as Premium Foods, Royal Golden Egg Farms and InterGrow testified to the substantial improvement in the quality of produce bought from farmers trained by the project.

Another element of establishing dedicated supply chains is creating win-win situations regarding product pricing. Arriving at the right price point for produce at the farm-gate has become less controversial with market price alerts through SMS as part of the outreach program. Details of the SMS price information are further described in the outreach section of this report (see section 4.6).

Another important activity undertaken to improve supply chain contracting mechanisms was the training of 10 buyers on inventory management using Quickbooks software. The beneficiaries have since been using this software to manage the inventory of their stores. This should improve the efficiency and effectiveness of their stock management and strengthen the supply chains in which they are involved.

#### **4.1.3 Development of a warehouse receipt program**

During the reporting period the project continued to support the Ghana Grains Council (GGC) to develop and launch the Warehouse Receipt Program (WRP) in Ghana. The project provided GGC with a grant of US\$302,820 to support technical and administrative functions. A major milestone during the reporting period was the development of the software for the warehouse receipt program and the issuance of the first grain warehouse receipt in Ghana for 304 mt of maize by one of Weinco's warehouses in Tamale. Six warehouses, with a total of capacity of 22,000 mt, were certified to implement the WRP in 2013. These include the warehouses of Grain Leaders Company (500 mt) in Nkoranza, Weinco (18,000 mt) in Tamale, Savanna Farmers Marketing Company Limited (1,000 mt) in Tamale, African Connections warehouses at Bonyo (1,000 mt) and Aframso (1000 mt). These warehouses

have all been equipped with the requisite facilities to manage the warehouses and issue receipts. Twenty-one warehouse operators and staff have been trained in warehouse receipts management and fire and safety measures. The total amount quantity of maize receipted at each certified location is presented in Table 4-2. To establish a robust market information system under the GCC contracted Esoko to disseminate prices for graded and ungraded grains from selected markets to GGC members.

**Table 4-2: Summary of receipted grains in warehouses**

	<b>Warehouse Operator</b>	<b>Warehouse Location</b>	<b>No of Warehouse Receipts Issued</b>	<b>Quantity of maize (mt)</b>
1	Wienco	Tamale	76	28,175
2	Gundaa	Datoyili	5	793
3	African Connections	Bonyon	2	194
4	African Connections	Aframso	3	256
	<b>TOTAL</b>		<b>86</b>	<b>29,418</b>

At the beginning of the period under review, GGC had 31 members, however, with various promotional programs and participation in various trade fora, the membership has increased to 54 (see Table 4-3).

**Table 4-3: GGC membership categories and numbers**

<b>Membership Type</b>	<b>Component of VC</b>	<b># of Actors</b>
Platinum	Warehouse operators, aggregators and processors	2
	Agricultural input dealer	1
	Collateral management	1
	Financial institution	3
<b>Sub-total</b>		<b>7</b>
Gold	Warehouse operators, aggregators and processors	3
	Agricultural input dealer	1
	Financial institutions	3
<b>Sub-total</b>		<b>7</b>
Regular	Farmers/ Farmer groups	25
	Warehouse operators, aggregators and processors	6
	Agricultural input dealers	2
	Collateral management services	2
	IT and Insurance firms	4
	Pest management firm	1
<b>Sub-total</b>		<b>40</b>
<b>TOTAL</b>		<b>54</b>



**USAID**  
FROM THE AMERICAN PEOPLE

**GHANA**

## SUCCESS STORY

### From Illegal Mining to Farming – Thanks to USAID



Photo credit: Desmond Twumasi

*“My family, particularly my children are happy to see me back home after many years of absence from home and making it in farming. Now galamsey is a thing of the past,”* says Issahaku Nodau.

#### Telling Our Story

U.S. Agency for International Development  
Washington, DC 20523-1000  
<http://stories.usaid.gov>

#### CHALLENGE

Thinking that illegal mining was a quick way to make money, Issahaku Nodau, a 29 year old man from Jang, in the Nadowli West District of the Upper West Region of Ghana abandoned his farming business. It was difficult to obtain production inputs, credit, tractor services and access to reliable markets. However, after an unsuccessful attempt at the illegal mining business for five years where his incomes of less than US\$400 per annum could not support his family coupled with the dangers associated with the business, Issahaku decided to return home after a friend told him about USAID/Ghana’s Feed the Future agricultural value chain program. He learnt that the program supports farmers through nucleus farmers and Farmer Based Organizations to access production inputs, tractor services, finance and training. Issahaku joined the Benlunuma Farmers Group (BFG) which operates under a nucleus farmer working with USAID/Ghana’s Feed the Future agricultural value chain program in Jang, Benlo Isdor.

#### INTERVENTION

With support from USAID/Ghana’s Feed the Future agricultural value chain program, the Benlunuma Farmers Group accessed a credit facility of US\$12,600 from the Wa Credit Union. They used the credit to hire timely tractor services, purchase seeds, and fertilizers. Being a member of the group, Issahaku received US\$175 worth of inputs from Antika Co. Ltd and plowing services from Plantation Development Limited to produce two acres of maize. At harvest, Issahaku had his maize shelled using a sheller procured through the program’s small equipment grant facility. He has been linked to a poultry farm in Wa to sell his produce.

#### RESULTS

Just a year after benefiting from this program intervention, Issahaku obtained 56 bags of maize (2.8 mt) at a total value of US\$810. An excited Issahaku said, *“I will repay my loan with six bags of maize, keep four bags to feed the family and sell the rest to meet my children’s school needs and other social concerns. I will save part of the money to expand my production to six acres in the next season.”*

## 4.2 RICE VALUE CHAIN

Competition from imported rice continued to drive investment in upgrading Ghana's domestic rice value chain. Even though most investments were in the south of Ghana, where access to arable and irrigated land is better than the north, millers and other processors were supported by the project to invest in smallholder farms in the north to secure reliable and dedicated supply of rice varieties with high market demand. The project partnered with private companies and nucleus farmers to set up on-farm demonstration plots to showcase good agricultural practices and the benefits of using improved seed varieties.

During the reporting period, the project worked with 17 rice nucleus farmers with a total of 5,209 out-growers. Project beneficiaries cultivated about 3,146 ha of rice with average yields 2.7 mt/ha, and total production of 8,180 mt. At an average price of \$322.4/mt, estimated revenue of \$2,637,232 was realized.

### Rice at a Glance

Total amount of seed (mt)	1.17
Total area cultivated (ha)	3,146
Production (mt)	8,180
Yield (mt/ha)	2.7
# of Nucleus Farmers	17
# of Outgrowers	5,209
# of Large Buyers/Processors	20
# of Aggregators	17
Gross Margin (US\$/ha)	624

### 4.2.1 Rice productivity and product quality improved

The project continues to facilitate investments in the production and distribution of quality seed and worked closely with Premium Foods Co Ltd (PFL) who acquired 1.17 mt of foundation seed of IR841 from the Crop Research Institute and contracted 12 farmers in Tono to produce seed on 17.66 ha during the main 2012 cropping season. Over 69 mt of seed was realized and has been planted by 100 farmers on 126.56 ha in the current crop season. For the 2013 crop season, 94 farmers are growing the same variety for seed on 99.23 ha under a second contract with Premium Foods.

During the reporting period, the project also collaborated with the Ghana Seed Inspection Unit of MoFA to organise refresher courses for over 800 farmers. The topics covered rogueing techniques, handling of certified seeds, conducting germination and purity tests. Farmers attending these trainings purchased more than 120 mt of high yielding seed varieties from the seed unit of MoFA.

### 4.2.2 Increase rice yields and production volumes

Although average yields of all beneficiary rice farmers was 2.7 mt/ha, at the irrigated sites of ICOUR yields increased from 3.2 mt/ha to 4.5 mt/ha.

Management of the irrigation scheme attributed this increase to timely land preparation, extensive use of quality seeds and other inputs, increased number of demos to train farmers on good agronomic practices as well as extension support from MoFA.

Another factor is the motivation to increase farm holdings because of the ready markets offered by value chain actors/investors like PFL and other Southern-Ghana based buyers. During the reporting period, more than 1500 ha of new land was put under cultivation by about 1000 additional farmers at the irrigated sites at Tono, Bontanga, Golinga and the lowland production areas in Dawadawa, Cheranda and surrounding communities, as a result of commitments/investments to buy the produce and the provision of tools to farmers by processors/buyers such as Sadia Awuni and PFL. These farmers produced about 2,000 mt of paddy for sale to their investors. Significantly, abandoned rice producing areas in the depressions at Cheranda and Lemu in the northern half of the Brong-Ahafo Region are being re-juvenated due to the assured markets being offered and the familiarity with rice production by farmers.

The project established 44 rice demonstration plots to train and to sustain the interest of farmers using recommended agro-inputs and adoption of GAPs.

Agro-inputs (seed, fertiliser and weedicide) for these demonstrations were contributed by major input dealers to market specific brands, or by buyers/aggregators/processors to increase volumes of purchases at or near the locations. More than 1,200 farmers have participated in 130 field days to learn or observe the impact of

“For the past forty years that I have been in Dawadawa, I have never seen such dramatic increase in acreage and interest in rice cultivation like this year. The results of the demonstrations and ready markets are the main reason”.

*Jarick Laari- a farmer at Dawadawa No.2*

applied inputs and agronomic practices. Participants have observed, discussed and compared farmers’ practice of random planting which uses not less than 40kg of seed per acre, and compared it with the practice of nursing and transplanting which uses only 8kg/acre of seed. Other benefits include more than twice the number of tillers per stand, better health and growth of plants and cost savings due to ease of weed control, and reduced seed and water requirements.

Another effort to increase yield and volume of rice is the formation and equipping of 25 transplanting labour groups comprising 400 individuals, mostly women (85% women). The formation and training of such groups enabled the dissemination and adoption of transplanting as well as the development of women groups

### Farmer learning exchanges

A 3-day exchange program for actors from Brong-Ahafo and Northern Regions was organised to ICOUR in the Upper East Region to interact and share knowledge of best farming and management practices. Eighty-five (53 male and 32 female) farmers participated and shared knowledge on seed selection, nursery preparation and management, agro chemicals handling and usage, land preparation using power tillers, and transplanting techniques. This exchange enabled farmers from Brong-Ahafo Region to receive hands-on training on rotovating with a power tiller.

Actors from Northern Region on the other hand, learnt about more effective ways of transplanting rice by engaging the services of transplanting gangs. Feedback from farmers indicates that contacts exchanged between them are being used for further direct discussions and business transactions.

(who normally provide the service) into trained and paid service providers. More than \$12,000 has been earned in 2013 by these organised groups for transplanting 600 ha.

#### **4.2.3 Increase access and safe use of inputs and equipment**

Input firms working in partnership with the project were supported to form 'spraying gangs' to administer pesticide application on farmers crops for a fee. In such organised groups it is easier to rally groups to pass on new information or education on pesticides. This has enabled a more effective education on available pesticides and their safe/responsible usage. Spraying gangs are charging between \$2.5 and \$4 for spraying an acre.

To facilitate access to inputs and mechanised service provision, smallholder farmers were linked to various input suppliers and sources of farm machinery. As a result of project intervention, combine harvesting services were provided at Tono and Savelugu to harvest over 1200 ha to ensure that the harvested produce meets market demands for quality. Also, the project used the grant facility to support farmers to purchase small equipment including 60 power tillers, 5 reapers, 74 donkey carts, 5 rice reapers and 11 threshers at the Tono and Botanga irrigation facilities. Vendors of these machines were tasked to provide after-sales services and have since conducted 4 trainings for over 178 farmers on the use of the reapers, power tillers and threshers.

#### **4.2.4 Supply chain relationships strengthened**

Fifteen south-Ghana based aggregators, including two new ones (Elijah Boniba, and Baah Acheampong) made 56 separate trade missions to ICOUR and Botanga to procure paddy, resolve conflicts and/or discuss future purchases. Project staff were actively engaged in convening and moderating most of these missions. Over 2,000 mt of paddy worth \$927,000 was procured as part of these buyer missions.

A key limitation to the incorporation of small-holder farmers into formal trade systems is the lack of understanding of the pros and cons of forward contracts. Project staff were engaged in the explanations and write-up of major purchase agreements between PFL and TICFU/TIP to procure 1,275 mt of paddy from ICOUR; and a Memorandum of Understanding (MOU) between Sadia and farmers at Dawadawa for a \$5,100 support-loan to harvest their paddy that was paid back in-kind.

To strengthen business relations and avoid conflicts, 239 individuals and 59 FBO leaders were trained on budget preparation, pricing, good record keeping, inventory management, grades and standards in support of better management of their organisations. In addition to enhancing negotiations with buyers, many of trained FBO leaders attracted the attention of banks including Ecobank, Kintampo Rural Bank and Yabra Rural Bank and Amanten Kasei Rural Bank to support them with working capital to expand their business. Over \$8,500 was disbursed to the Aframso FBO and the Asontagba Rice Farmers Association in Dawadawa, two of the beneficiaries of such training, to improve their businesses.

Project staff monitored and provided assistance in the use of weighing scales and moisture meters, some of which were provided under the grants scheme. It was observed that buying centres where aggregators used scales were more attractive to farmers compared to those using traditional methods.

#### **4.2.5 Improve rice processing capacity**

During the reporting period, the upgrading process of Sadia's rice mill in Kumasi was completed to bring the number of project supported mill upgrades to three. All the installed mills have capacities of 1.5mt/hr. combined with de-stoning, hulling, polishing and grading capacities. A dryer and a moisture meter for testing moisture content of the grains before milling were also provided to the aggregators. As a result more than 590 mt of paddy rice was procured by the three mill operators from smallholders in the north during the reporting period.

Also, in collaboration with WFP's/P4P project, 10 women groups, (with 286 members), engaged in selling milled-parboiled rice received 8 parboiling vessels and moisture meters under the grants scheme while WFP provided the same facilities to the remaining two groups. The women groups were trained on better parboiling techniques (effective cleaning of paddy, boiling, steaming, drying and milling) and the use of grades and standards to produce and market their products.



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## SNAPSHOT

### USAID Supports Female Entrepreneur



Photo credit: USAID/ADVANCE Techiman office

Sadia (with white headgear) briefing some outgrowers about the capacity of the milling machine

*“With these proper management structures in place, I am looking at doubling production capacity. Formalizing the appointment of my employees has boosted their morale and they now go the extra mile in meeting daily production targets”, says Sadia Awuni*

#### Telling Our Story

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The majority of small and medium scale agro processing enterprises in Ghana are faced with weak institutional capacity, inadequate management skills and obsolete equipment. Sadawin Milling Enterprise, owned by Sadia Alimatu Awuni, was no exception. The enterprise, located in Kumasi in the Ashanti Region, is engaged in rice aggregation, processing and sale of processed rice. Although it had been operating for more than 20 years, it had no long-term strategic plan to guide its activities and grow the business. No proper financial records were kept, making it difficult to understand the company's financial status. The mill was using just 30 percent of its capacity per day.

In 2010, with USAID/ADVANCE support, Sadia was trained to manage her business, work efficiently with her outgrowers and keep proper records of her business transactions. She benefitted from a grant facility from the program which enabled her to upgrade the mill to 1.5 MT per hour and also to acquire a destoner.

Following the program intervention, the company now keeps records on all business transactions and engages outgrowers with formal contracts before supporting them with credit and provision of agro inputs. After less than two years of working with USAID/ADVANCE, the company mills over 18 MT of paddy a day with the newly installed rice mill equipment. The company has invested more than US\$13,000 in the production of rice in northern Ghana by providing agro inputs, harvesting equipment and incentives to smallholder farmers for maintaining quality standards. Supporting her to acquire a destoner has enabled her expand her business to the north – something she could not do previously as her old mill could not remove foreign materials. Sadia has also purchased approximately 721.8 MM of rice valued at US\$274,000 from northern Ghana during this period.

Sadawin Milling Enterprise is an example of a woman-owned enterprise being supported by the program. This support has improved Sadia's quality of life: she can send her children to school, meet medical expenses as well as other household needs, and reinvest in her business. USAID/ADVANCE support has also trickled down to benefit the female smallholder farmers with whom she works (around 40% of the total) to improve their farming

### 4.3 SOYBEAN VALUE CHAIN

During the reporting period, the ADVANCE Project worked with 44 soybean nucleus farmers with a total of 6,365 out-growers. ADVANCE's strategy is to improve soybean productivity and production levels to reduce importation of soy grains and cake which negatively impact local market opportunities. To achieve these objectives, activities undertaken during the reporting period and their outcomes are reported in this section.

#### 4.3.1 Market outlook

In the 2012 crop season, farmers working directly with ADVANCE planted 4,897 ha of soybean. At an average yield of 1.2 mt/ha, 5,876 mt of soybean was produced. At an average price of \$361/mt, estimated revenue of US\$2,121,236 was realized. The average price of soybean on the world market is \$549/mt

which has positively increased demand for locally produced soybean grain and cake. At the time of reporting, no imports of soybean grain had been recorded for the year but poultry farmers still buy imported cake because of the favorable payment terms.

Nutrient analysis of locally produced soybean grain showed an average of 36% protein and 19% fat content. These nutrient levels meet world standards for processing which are 35% protein and 19% fat. However, the most critical factor in processing soybean is the high foreign matter content which has been a major concern for local processors, and the project continues to work on helping producers to address this challenge and to improve on quality.

Twenty-two nucleus farmers and their out-growers were encouraged to adopt simple practices by using tarpaulins to reduce post-harvest losses, especially those that had benefited from project-supported tarpaulin sheets provided in 2012. Monitoring during the year showed that 16 NFs who received a total of 73 tarpaulins made them available to 1,098 out-growers for threshing and drying their harvested produce which improved the quality of the grain sold to the buyers and processors. With such improvements in quality, locally produced soybean will be able to compete not only on price but also in quality with imported soybeans. Nine soybean processors (Ghana Nuts, Royal Danemac, Golden Web, Vestor Oils, 3K& A, Yedent, Intergrow, SFMC and Nkoranza Oil Mills) purchased 10,280 mt of soybean valued at US\$3,711,080 from producers in Northern Ghana during the reporting period. About 20% of these purchases were directly from ADVANCE NFs, outgrowers and aggregators.

#### 4.3.2 Promote the production of soybean seed

Eight seed growers, including Big Ajar and Mashood Dori (Wa East and Wa Metropolitan in the Upper West Region), Zakaria Iddrisu and Abednego Abosore (Tamale Metropolitan and Yendi Districts of the Northern Region) and Martin Pwayidi and Janet Nyabase (Kasena Nankena and Builsa Districts in the Upper East Region) were trained in seed handling, marketing and gross margin analysis to improve efficiency in the seed delivery system resulting in the use of better packaging and promotional tools for marketing. Two nucleus

#### Soybean at a Glance

Total amount of seed (mt)	117
Total area cultivated (ha)	4,897
Production (mt)	5,876
Yield (mt/ha)	1.2
# of Nucleus Farmers	44
# of Outgrowers	6,365
# of Large Buyers	11
Gross Margin (US\$/ha)	535

farmers acquired soybean threshers through ADVANCE's small equipment grant facility to enhance their operations and improve seed quality.

Seventeen seed growers supported by the project planted 147 ha of soybean seed during the 2012 growing season and produced 117 mt of certified soybean seed which they sold to farmers during the 2013 growing season. This quantity of seed was used for cultivating an estimated 2,340 ha of soybean. Over 60% of soybean planted this season is the Jenguma variety which is preferred because of its high yielding and shatter-resistance qualities. Anidaso constitutes 34% of the seed while Quarshie and Salintuya make up 6%. Unavailability of Jenguma foundation seed made it impossible for some seed growers to produce this variety.

During the 2013 growing season, soybean growers supported by the project planted 102 ha of foundation seed estimated to yield 102 mt of certified seed. This quantity of seed will be distributed in 2014 to plant an estimated 2,040 ha of soybean. The dry weather condition prior to the 2013 planting season reduced the area under seed production because many farmers could not prepare their fields in time. Meanwhile, foundation seed (enough to plant a quarter of an acre each) of four new soybean varieties (Afayak, Sond, Suong-pon and TGS 1904-6F) were supplied by the Ghana Seed Inspection Service Division of MoFA for multiplication into certified seed by Heritage seed, an ADVANCE-assisted seed grower.

The government's seed subsidy program continued in the 2013 season and 8 designated dealers including Antika, 18 April and Senyan Enterprise (Upper West) and Simple Prince (Upper East) participated in the program. The dealers sold certified seed at a 25% subsidized rate to only small scale farmers with farm holdings not exceeding 1ha. Under the subsidy program, registered seed growers sold certified seed to government designated seed dealers at US\$31 per bag of 45kg and these were in turn sold to smallholder farmers at US\$23 per 45kg bag and the government reimbursed dealers with the subsidy element. The seed subsidy has its challenges. For instance, during the reporting period, community seed promotion programs were organized by Antika in 10 communities in the Upper West Region. Within these communities, 5 NFs and agents were selected and sensitized to distribute seed on commission basis for Antika. However, these agents could not operate because of the seed subsidy program which made it difficult to negotiate decent margins with the seed dealers.

### **4.3.3 Improve yields through technology promotion**

The project established 23 soybean demonstration sites during the 2012 crop season to introduce smallholder farmers to improved technologies including the use of inoculant and application of phosphorus-based fertilizers such as YARA legume and Triple Super phosphate (TSP). Results from the demonstrations show that soybean yield increased with the addition of inoculants and the phosphorus based fertilizers. Application of fertilizer alone resulted in 74.6% increase in yield whilst a combination of fertilizer and inoculant increased yield by 74.9%. In general, an average yield of 1.5 mt was recorded at the 23 demonstration locations. The lowest yield of 0.6 mt/ha was recorded on plots without fertilizer and inoculant whilst the highest yield of 2.9 mt/ha was obtained from plots treated with a combination of phosphorus-based fertilizer and inoculant.

Economic analysis showed that it is more profitable to grow soybean using a combination of fertilizers and inoculant. The application of fertilizer alone gave a margin of US\$410/ha, while a combination of fertilizer and inoculant gave a margin of US\$444/ha. Further, the results showed that for all treatments in the demonstration, the Upper West Region recorded the best performance ranging from 1.5 mt/ha without fertilizer and inoculant to 2.9 mt/ha with a combination of fertilizer and inoculant. The application of Triple Super Phosphate (TSP) and good weather conditions may have contributed to the high performance in the UWR. In addition, adoption of good agronomic practices was demonstrated to play a significant role in yield increases. Results from these demonstrations have been shared with all stakeholders, and private sector practitioners who provided support in various forms and participated in the conduct of the demonstrations. However, using inoculant and phosphorus based fertilizer by farmers depends largely on their ability to invest in these inputs.

In the 2013 crop season, 36 more soybean demonstration farms were planted in 36 communities of 23 districts in the three northern regions. The objectives are to expose farmers to productivity enhancing technologies including the use of certified seed, inoculant, TSP, application of lime to raise soil pH to appreciable levels to enhance efficacy of inoculants as well as using soil conservation techniques.

Public and private sector companies such as N2Africa, MOFA, Chemico Ghana Ltd. Candel, Makhateshim, Agan and seed dealers and NFs partnered ADVANCE and contributed various inputs to set up the demonstrations. Over 600 farmers have been trained at the demonstration sites as at the time reporting and 1,800 more are expected to be trained by the end of the 2013 season.

#### **4.3.4 Strengthen soybean supply chain relationships**

Twenty-eight weighing scales were distributed to 18 NFs/aggregators through the grant program to ensure trust, transparency and to eschew conflicts among NFs/aggregators and their out-growers during purchasing of produce. Monitoring in the 2013 purchasing period indicated that 12 of the NFs/aggregators used the weighing scales to purchase produce from out-growers. Using the weighing scales enables NFs and aggregators to buy at a standard weight of 100kg instead of buying and selling in bowls or bags of variable weights. Also, 23 NFs/aggregators were trained during the period to enable them to track produce they sold or supplied to buyers. As a result of the tracking system 1,851 mt of soybean was delivered to 7 buyers/processors in the south. These actors and their agents were taken through the various steps of using the ADVANCE sales and volumes tracking forms.

Furthermore, the 2nd pre-season business networking event was held in Tamale on March 14, 2013. The event created a platform for business firms such as input companies, mechanized equipment dealers, financial Institutions, end-buyers, aggregators, and NFs to interact and build business relationships. Twenty-five soybean NFs participated in the event.

#### **Strengthening business relations through Business Fora**

The Pre-Harvest Business Forum, organized in October 2012, brought processors based in the south to interact with various actors in the supply chains and other development partners in northern Ghana. Twenty-nine NFs/aggregators and FBOs in the soybean supply chains participated. These events deepened relationships between existing actors while new ones were established.

### 4.3 INPUTS AND EQUIPMENT

The focus of activities during the reporting period was the promotion and use of post-harvest handling equipment during the harvest period between November 2012 and January 2013, pre-season training and monitoring the use of agro-inputs and new equipment between February and September 2013.

#### 4.4.1 Increasing access to mechanization services

The project assisted nucleus farmers, aggregators and tractor mechanization service providers to upgrade their equipment and offer efficient services to smallholder farmers. The gradual drive towards agricultural mechanization has improved the business of mechanized service providers as well as access to services by smallholders.

In early 2013 ten Massey Ferguson tractors were purchased under the grants program for 10 nucleus farmers who had defined supply chains linking smallholder farmers in project areas with end-markets such as Premium Foods Ltd and Integrow. Arrangements were, in some cases, made with the end-market buyer covering the 30% leveraging payment on behalf of the nucleus farmer and in December/January receiving payment in-kind at harvest. Other nucleus farmers paid cash or arranged for bank loans to cover their payment up front. The project linked private sector company Agro Africa Ltd to 13 farmers/service providers to sell 13 Massey Ferguson and Landini tractors with a 50% down payment made towards the entire cost of US\$414,443. This shows that at some level farmers can invest in their businesses without any grant or supportive financial arrangement except for a bank loan or making use of business savings and such farmers should be supported in this way.

To ensure effective and efficient use of farm machinery the project collaborated with the MoFA-engineering unit and Mechanical Lloyd to provide a three-day refresher training course for tractor operators/owners in the Upper West Region. A total of 159 tractor operators/owners attended the training which covered topics such as maintaining and operating equipment safely and appropriately. The training helped operators to minimize equipment breakdown this season, serve smallholder farmers better, and generate more income in spite of a late start of rains this year. Mechanical Lloyd also offered after-sales service and supply of spare parts for the tractor operators.

To ensure timely access to mechanized services, the project continues to build and strengthen linkages between mechanized service providers and farmers. The project facilitated links to plowing services for farmers at the Botanga Irrigation Cooperative Farmers Association in the Northern Region and ICOUR in the Upper East Region, both of which previously did not have adequate tractor or plowing services to cultivate their land. Two tractor service providers/nucleus farmers, ZoccoFams and Gundaa Produce Company, used tractors they acquired with support from the ADVANCE grants program to plow 130 hectares of land and the farmers will pay for this service in-kind after harvest.

#### Private sector companies provide after-sales services to clients

Mechanical Lloyd Company provided training in tractor operations, procedures, technical and management skills, servicing and maintenance and simple tasks such as hitching and unhitching implements to tractor operators and owners.

Eight equipment manufacturers and importers who are based in the north provided 111 farmers with after-sales services on proper use and maintenance of equipment bought, including power tillers, shellers, threshers and dibblers. Farmers appreciate the relationship they are building with the vendors and repeat-sales have increased as a result.

The project's small equipment grant (SEG) program successfully placed affordable small equipment up to the value of USD \$5,000 with nucleus farmers, FBO members and outgrowers across Northern Ghana. Forty-one shellers and threshers for maize, soybean and rice were procured under the SEG for 41 mechanization service providers and nucleus farmers offering post-harvesting services to their outgrowers. With the grant fund, 6,353 mt of maize was shelled by 33 nucleus farmers and mechanized service providers for 1,496 farmers across project locations with an estimated value of UD\$144,850. It is estimated that this investment has reduced post-harvest losses from about 15% of normal traditional shelling by beating, to a 5% loss using the shellers/threshers and tarpaulins.

The approach adopted by the project to link farmers to equipment dealers using the grants as leverage has had positive impacts on equipment sales by vendors and promoted opportunities to reach out to farmers. For example MaxBaff General Works in Nkoranza increased its sales by 100% (US\$21,762 to US\$45,337) within a six month period after the company was introduced to farmers through the small equipment program.

Building on a previous volunteer assignment to the tractor service providers' association (SATO, Upper West Region with 71 members) to improve the efficiency of their services and keep proper records, another volunteer trained the associations' 36 executives and operators on organizational development, strategic management, and planning to further improve the running of their business operations as well as optimize returns on their investment. SATO membership has increased three-fold, to 150 members, since the association had its first volunteer assignment. With only 15 shellers SATO provided services to 383 farmers shelling a total of 4,861mt of maize; an average of 12 mt per farmer. The timely shelling has reduced post-harvest losses though there is not adequate data to determine the exact impact.

In the previous reporting period, the project distributed ten new parboiling vessels to ten FBOs in the Tolon/Kumbungu Districts of the Northern Region in collaboration with the WFP/P4P program. During this reporting period, 450 women farmers were trained to use the equipment properly. The groups supply paddy to Lolandi Rice Processing Center and AMSIG Resources. The project studied the impact of the vessels on the FBOs' costs and determined that the new equipment reduced their operating costs for parboiling rice from US\$4.88 to US\$2.51 per 100 kg/bag of paddy, allowing them to parboil between 80 and 100 kg each day.

#### **4.4.2 Improving business links between service providers and farmers**

To enhance cooperation, effective networking and healthy working relationships along the agricultural value chains, ADVANCE, in collaboration with IFDC, GAIDA, and other development partners, organized a pre-season event with the theme "*Quality Inputs, Better Yields, More Profits*" which was a one day forum bringing together actors in the agricultural sector. Ten equipment and 12 agro-input dealers showcased equipment and agro-inputs for the 2013 cropping season. The forum created opportunities for business interaction, networking and working relationship building between dealers and farmers to improve access to agricultural machinery and agro products. Over 500 farmers and private sector companies attended the forum, held at UDS Conference Center in Tamale.

During the forum, some input dealers expressed their desire to establish themselves in the north. B. Kaakyire Agro Chemicals (an input importer) plans to establish a local agricultural mechanization training center in the Northern and Upper West Regions when he realized the business potential after attending the forum. They also demonstrated their new bicycle-operated irrigation pump at the exhibition which attracted the interest of many farmers.

#### **4.4.3 Increased productivity through effective use of inputs**

During the reporting period, three new community-based agents were linked to input suppliers in addition to the existing 23 community agents (managed by one of the four major distributors), bringing the total to 26 community agro-retailing linkages established in the Northern Region.

Some new products, including foliar fertilizers, were also introduced in the regions by an input dealer who worked with the project for the first time this year. Over 400 maize farmers used foliar fertilizer 19-19-19 (poly feed) on their farms. Farmers stated that the foliar fertilizer helped them reduce production costs by 40% to 60%. Additionally, agribusiness firms such as Chemicco, Antika Company, Saroagrosiences, Grow Green, Marktshim Agan, Wienco and Dori Farms Limited now fully appreciate the benefit of donating inputs (improved seed, herbicides, insecticides and fertilizers) to support actor-led 2013 demonstrations as a learning tool for farmers to observe the benefits of new technology. The collaboration with farmers, developing wider distribution networks and creating more farmer relationships are worthwhile to the agribusiness firms.

##### **Input dealers create new outlets**

Input retailers continued to invest in the districts by opening new retailing outlets and exploring new sales strategies in the remote communities. For example, in Gaa in the Gushiegu District one input retailer sold 240 cartons of pesticides and 1,000 bags of fertilizer in less than three months from his newly set up outlet. This new outlet is linked to the training of SSPs of the input retailer, Ganye Enterprise. These communities are important for maize production in the Northern Region, with several of the nucleus farmers with whom the project works located there.



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## SUCCESS STORY

### Private Sector Firms Invest in Technology Transfer in Northern Ghana



*One of the maize Demonstration Plots*

Photo credit: Kweku Koranteng

*"The demonstration plots served as a very good platform to promote our products especially new ones to the farmers. Propagold (2,4-D 200g/l +Propanil 360g/l), a new product was introduced during the demonstrations and as a new product, I was amazed at the response of the farmers to the product. We sold more than 1,200 litres. Areas where I was physically not present, our products were there. Following the demand, we have decided to increase the demos by 50% in 2013," says Emmanuel Wandaat, Devt/Sales Agronomist, Louis Dreyfus*

#### Telling Our Story

U.S. Agency for International Development  
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USAID/ADVANCE uses demonstration sites to promote innovations and introduce management practices to smallholder farmers. Private sector input dealers impart required knowledge and skills on the efficient use of identified high quality or more efficient agricultural inputs and/or methods. This approach ensures that questions about availability and access as well as feedback for product improvement reach those who need it on time.

In the northern regions of Ghana, more than 20,000 smallholder farmers learnt about various products for achieving higher productivity through demonstrations led by vendors and/or agents of the product. High yielding seed varieties, seed dressers, fertilizers, weedicides and inoculants for growing maize, rice and soybean were among these products. Education and practical demonstrations on nursery and water management as well as efficient transplanting methods for rice cultivation were also done through these demonstrations. More than 800 farmers are applying knowledge acquired from such demonstrations in their farming operations at irrigated sites. Many more are expected to use such new knowledge in the coming cropping season. This is due to the observed increase of 3mt/ha from 1.5mt/ha and 3.8mt/ha from 1.7mt/ha, yields obtained for maize and rice respectively, by some farmers using these recommendations.

Some of the private sector agricultural firms that worked with USAID/ADVANCE on these demonstrations are; Yara Ghana Ltd., Makteshim Agan, Louis Dreyfus, Chemico, Dizengoff, CANDEL and Heritage Seed. In 2012, 186 demonstration sites were established with agro inputs and under supervision by these firms to support the adoption and use of recommended agro-inputs. Following such investments, significant returns on sales have been reported by Yara Ghana Ltd., (increased sale of Actyva fertilizers from US\$1,900 in 2011 to US\$2,100 in 2012) and Louis Dreyfus, (increase in sale of weedicide from US\$2,333 in 2011 to US\$3,000 in 2012) at some outlets in Tamale and Wa. Other firms are opening sales outlets or seeking agents at locations where demonstrations were carried out to get their inputs closer to farmers who are making increased demand for the products.

With support from USAID/ADVANCE, linkages to input dealers and the establishment of demonstration sites have contributed greatly to the adoption of new technology and improved productivity by project beneficiaries. In addition, this has been a sustainable approach.

#### 4.4 FINANCIAL SERVICES

During PY 2013 the project continued to work closely with commercial and rural banks to link them to the nucleus farmers, aggregators and processors in Northern Ghana. Of the 27 partner financial institutions that have received either training or international volunteers, a core group of eight have disbursed the most loans in the value chains (see Figure 1. The project also monitors the farmers' progress to repay loans on time and any repeat loan applicants. Through facilitation by ADVANCE, financial institutions have disbursed approximately USD \$1,292,704 to actors for marketing and production activities in the past twelve months. This represents 162% of the FY2013 target of US\$800,000.

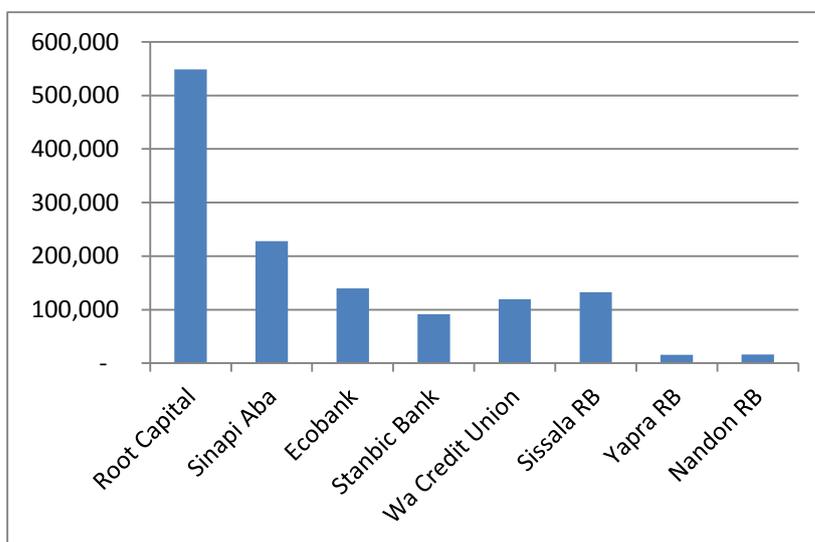


Figure 1: Loans disbursed (US\$) from Oct 2012 to Sept. 2013

##### 4.5.1 Development Credit Authority

As part of ADVANCE's partnership with the Development Credit Authority (DCA), the project supported Sinapi Aba Savings and Loans (SASL) (formerly Sinapi Aba Trust) and Ecobank, to increase their agricultural financing to actors in the past ten months. Details of loan disbursements by Ecobank and SASL as a result of ADVANCE's facilitation are presented in Annex 4 and Annex 5.

Ecobank received at least ten loan applications totaling USD \$305,706, and disbursed USD \$139,903. They (Ecobank) are exploring the option of financing warehouses in the future. By contrast SASL received more than 39 loan applications totaling USD \$518,365 and disbursed USD \$228,096 for production and marketing loans. SASL has also approved another USD \$140,542 for disbursement.

One important lesson learned with regard to access to financial services is that where training is provided directly to the bank loan officers there is an increased comfort-level when they assess the risk of a client, resulting in increased lending. There is a learning process for both the financial institutions, which had had limited experience lending to agriculture, and value chain actors who had limited experience accessing credit. Both have better understanding of the costs involved, the scheduling and impact of repayments on the business cash-flow projections, and the appropriateness of the size of loan. ADVANCE is helping financial institutions to buy down risk by facilitating linkages to value chain actors to assist in screening, disbursement, monitoring and loan repayment intermediation functions. There are several examples of this: loans for aggregation and marketing are secured through tri-partite agreements with buyers; equipment and production loans are typically disbursed in-kind through input suppliers; and nucleus farms, cooperatives and aggregators

play active roles in providing technical support, character references, and monitoring use of the loans. ADVANCE's role as facilitator has included linking banks to promising actors, demonstrating where there is mutual commercial incentive, and providing capacity building so actors can play these roles on a sustainable basis.

ADVANCE worked closely with SASL to develop their skills and knowledge in risk assessment, agricultural credit and understanding costs of production and harvesting for 10 loan officers of the bank. This training prompted SASL officers to work in the field where they directly trained 384 farmers and agro-chemical input dealers on credit management and pre-disbursement. Furthermore, interacting with the Ghana Agricultural Insurance Pool (GAIP) to explore drought weather index insurance for farmers in associations who were potential borrowers, SASL purchased insurance premium worth USD \$3,410 for 147 acres of maize production for two maize associations in the Brong Ahafo Region. The project provided GPS coordinates of farm locations for the insurance and the loan officers could follow up with the farmers to observe the crops in the field. To conclude, ADVANCE also trained the loan officers on PERSUAP compliance and environmental factors for consideration when evaluating a loan application. As a result SASL has designed an environmental form to be used in their loan application process.

#### 4.5.2 Improved relationships and knowledge amongst value chain actors

The project has supported several forums to bring together value chain actors and financial institutions to better understand financial products, especially for the agricultural sector. At the 2013 Pre-Season event nine financial institutions participated (Ecobank, Sinapi Aba Trust, Stanbic Bank, Commodity Clearing House, Bonzali Rural Bank, Yapra Rural Bank, Kintampo Rural Bank, Injaro Agricultural Capital Holdings, Wa Credit Union) and shared information on their financial products with interested actors. ADVANCE has also sponsored visits by financial institutions, including Stanbic, Ecobank and Sinapi Aba Trust (SAT), to see the operations of actors throughout the regions. This helped them to better understand the businesses of their loan applicants and also strengthened the relationships between the two parties. Twenty of these actors (NR: 9, UER: 3, BA: 8) have in turn opened bank accounts and are transacting business through these accounts which will make it easier for them to meet requirements for future borrowing.

Also, the project sponsored a representative from Jaksally Village Savings and Loans Scheme, an NGO based in the Northern Region with which ADVANCE has a MOU, along with representatives from Toende Rural Bank, Wa Cooperative Credit Union (WACCU), and Zabugu Rural Bank, to attend the Sustainable Microenterprise Development Program (SMDP) conference and learn principles of microfinance management and value chain finance.

#### **Making a difference in rural communities**

Jaksally Village Savings and Loans is an NGO based in the Northern Region. The objective of Jaksally is to determine how best to support their existing VSLA groups (up to 21,000 members) to evolve operations, access additional financial services and invest in value chain opportunities. Twenty-four of the Jaksally groups received their cooperative operating certificates, and are planning to establish an Apex Savings Center in the Damongo, West Gonja district, based on recommendations from a Farmer-to-Farmer volunteer assignment this year. ADVANCE supports local NGOs like Jaksally to reach out to the remote areas of northern Ghana and provide them opportunities to access credit for

### 4.5.3 Improved capacity of financial institutions to provide value chain financing

Over the past twelve-months the project has emphasized collaboration between financial institutions and aggregators/nucleus farmers and buyers, to provide the needed capital for them to aggregate produce and supply them to larger buyers and processors. This was a critical constraint which limits market access in many areas. Having the market linkages and finance to off-take greater volumes creates confidence within the chain to expand and intensify investment, which in turn creates series of new financing opportunities. In order to get this mechanism to work, the project organized multiple site visits for financial institutions to appreciate the market opportunity. This in turn convinced them that there was real value in supplier contracts, and that they could use these to secure lines of credit. In the UWR, ADVANCE facilitated a visit by the Wa Community Credit Union to Royal Danamac and Yedent. Based on a tripartite agreement, WACCU provided a US\$22,798 loan for Yahaya Iddrisu, which he supplemented with his own business's capital to supply over 300 mt of soya and 130 mt of maize worth over US\$181,347 to two buyers.

Further up the value chain, the project worked with processors to access working capital. In the Brong Ahafo Region, ADVANCE facilitated a total of US\$311,917 in loans from Root Capital, a US venture capital fund, to two borrowers: Royal Danamac Ltd, a soybean processor in Kumasi, and Royal Golden Egg, a poultry farm and feed mill processor in Dormaa. Royal Danamac Ltd received US\$73,196<sup>2</sup> to purchase soybean from smallholder farmers in the three Northern regions; Royal Golden Egg received US\$237,113<sup>3</sup> to purchase maize from two ADVANCE-supported aggregators, Peter Okrah (representing 350 outgrowers in Badu) and Kwadwo Matu (representing 450 smallholders in Kwabia).

During April and May the project shifted focus towards supporting financing for investment in equipment and working capital to inputs for production. The project trained and worked closely with staff of Sinapi Aba Savings and Loans in their Tamale, Salaga, Wa, Techiman, Jirapa, Atebubu and Sunyani branches, as well as WACCU on financing agriculture with minimum risk. The focus was on helping loan officers evaluate farm business plans, financing needs, assess and mitigate risks related to agriculture, and structure appropriate production loan products. ADVANCE also provided crop budgets as well as "Doing Business with Maize, Rice or Soybean" handbooks to some branches and engaged key branches in crop demonstrations and other knowledge-sharing sessions. As a result, the SASL Atebubu branch disbursed US\$34,949 to 47 smallholder maize farmers, whilst the same bank is working on approving a loan for US\$95,360 to the Sekyere Odiasempa Cooperative Farming and Marketing in Ejura, who have a contract with WFP to supply maize. The cooperative is aggregating maize from 10 communities in the Northern Region as a consequence of ADVANCE market facilitation.

With close collaboration, many rural banks – Kintampo Rural Bank, Yapra Rural Bank, Sissala Rural Bank, Nandom Rural Bank, and Wa Credit Community Union - have become prominent sources of financing for nucleus farmers and aggregators. In total these rural banks disbursed US\$296,809 for production, marketing and investment (in equipment) loans during the year.

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<sup>2</sup> Exchange rate adjustment to Ghc 1.94/USD in comparison to previous semi-annual report figure

<sup>3</sup> Ditto above

It is worth noting that there are two emerging models of interest for production lending. The first is the *direct lending model* to the farmer or farmer groups. This model typically features in-kind disbursement through an input dealer, an aggregator or nucleus farmer as a buyer reference, and a moral guarantee from members of the group. Many rural banks, MFIs and credit unions, which are positioned in rural areas, are launching into this model. ADVANCE is providing support this season to help these and other institutions, Sinapi Aba Trust in particular, to streamline and systematize their credit processes to make the production loan process more analytical, reliable and timely.

The alternative *production loan model* is building off of a trend which is gaining momentum with nucleus farmers. There is a profit incentive for nucleus farmers if their outgrowers realize good yields because it improves repayment of tractor services and provides access to greater volumes of produce within the supply chain for supply to the market. Some nucleus farmers are providing inputs on credit to their outgrowers and the ADVANCE model advocates that all NFs should eventually do this (though in some cases there is substantial capacity building that must occur in order to make this feasible). To help continue and expand this trend, the project in April provided tailored assistance to NFs on nucleus farmer-outgrower management, financial planning and credit risk management. In cases where there is a financing need by the NF, the project links these actors to financial institutions.

#### **4.5.4 Improve credit analysis and use of financial tools**

Project staff continued to monitor use of the risk credit scoring tool developed last year and rolled out to four rural banks in the UER and five in the UWR to assist with loan assessments for the 2013 season. Also, an Excel-based cash flow tool was developed for seven branches of Sinapi Aba Trust as well as the Wa Credit Union and Yabra Rural Bank. The tool has embedded crop budgets for maize, rice and soya and allows for a systematic process of evaluating financing requests based on crop, inputs, acreage, timing, price and yield sensitivities. The objective is to help financial institutions establish a benchmark for analyzing crop budgets submitted by loan applicants and create confidence by managers in evaluating cash flow-based loan analysis. The tool, which is handed over to financial institutions, becomes a critical element of their agricultural credit analysis process.

#### **4.5.5 Improve financial management for value chain actors**

ADVANCE supported 27 actors to improve their record keeping (6 in UER, 10 Brong Ahafo, 4 in UWR, and 7 in Northern Region). This has helped to improve the quality of information used to develop balance sheets, profit and loss statements and cash flows to support loan applications. As an example, based on records kept, ADVANCE supported Martin Ariku to develop financial statements and apply for a US\$19,700 loan facility from Ecobank for maize aggregation. Also, seven businesses were officially registered as companies including 1 in UER, 4 in Brong Ahafo, and 2 in Northern Region. This is an important step in formalization of businesses which should help them continue to secure financing in future. ADVANCE is also assisting 10 actors to adopt Quickbooks accounting software for keeping their records and inventory. The shift from paper to electronic accounting is critical as businesses manage increasingly complex transactions. Moreover, it provides a platform to help these businesses to manage accruals, which is becoming challenging as firms start to conduct greater volumes of transactions on credit basis. The accounting system fits fairly seamlessly with input dealers provided they can maintain accounting staff to operate it. It is hoped that this will be a tool for informed management decisions based on real-time business performance.

The project developed a financial planning guide and helped nucleus farmers analyze the different aspects of their business to determine strengths, weaknesses and growth opportunities. They also used this tool to draw up budgets for the 2013 crop season. Twelve aggregators were guided through the same exercise and cash-flow projections done for the 2013 marketing season. This helped the finance team to estimate that for 10 of them they would need a total US\$61,650 from their financial institutions for aggregation this season.

ADVANCE also facilitated the legal business registration of four female beneficiaries to transact business with institutions. The actors paid US\$144 each for processing the registration forms at the Registrar General Department. A few nucleus farmers are re-registering their businesses with the Registrar General Department to help facilitate loan applications with Ecobank, or to register as limited liability companies instead of enterprise.

#### 4.5.6 Access multi-party financing options improved

The project facilitated production loans through various lending models depending on the context. For instance, loans were facilitated through SASL and Kintampo Rural Bank using the *lending by buyer reference* model.

This involves direct lending to the farmer or farmer groups and typically features in-kind disbursement by an input dealer, a buyer reference from an aggregator or nucleus farmer, and a moral guarantee from the members of the farmer group. Purchase agreements were signed between the aggregators and the farmer groups, with the group being an off-taker of maize and rice to repay the loan. One example was 47 smallholder farmers who received US\$34,950 worth of maize seeds and fertilizer from an input dealer (Allah is Able Agrochemicals) cultivated 124 ha using the in-kind investment, and will pay this off at harvest. Similar arrangements have occurred with other agro-chemical companies providing fertilizer to rice farmers' association in collaboration with the end market rice aggregator and a rural bank.

#### Examples of Facilitated Trade Finance

A total of ten maize and rice aggregators in Brong Ahafo region supported 220 smallholder farmers (70% women) with US\$28,170 to cultivate 232 acres of maize and 100 acres of rice during the minor season. The aggregators invested in improved rice or maize seed, agro-chemicals and fertilizers. At harvest the smallholder farmers will supply their produce to the aggregators in repayment.

Ten nucleus farmers and aggregators and Premium Foods Ltd provided trade credit valued at US\$198,378 to 1,622 smallholder farmers in the Upper East Region this year (at a value of US\$122 per smallholder farmer for inputs and plowing services).

The main form of "trade finance" is *outgrower credit* facilitated through the nucleus farmer/outgrower model with tractor services and inputs on credit. An interesting case worth noting on the marketing side is that of Yapra Rural Bank and aggregator Grace Manu. Through an expansion of the pilot of reverse factoring arrangement, described in the 2012 annual report, Yapra Rural Bank extended a US\$15,544 line of credit for the purchase of an additional 25 mt from 55 smallholder farmers in Kwame Danso and surrounding villages. The loan was paid in full over six months, together with the interest of 2.8%/month. ADVANCE has supported the bank and the aggregator to develop a chit system called the purchase

receipt which is issued to smallholder farmers upon purchase of maize which they present at the bank for payment.

These sorts of structured mechanisms are helpful to cover credit risk by the lender, and there is increasing interest among financial partners. These mechanisms are expected to grow to scale with the expansion of the warehouse receipt system. The Commodity Clearing House is looking to enter into similar arrangements using receipts as collateral to structured credit facilities.

**Table 4-4: Multi party financing options amongst value chain actors**

Buyer	Premium Foods	Vestor Oils	Intergrow	Royal Danemac	Premium Foods	18th April	Premium Foods & JOKASS
NF / Aggregator	Gundaa Produce	Muyo Farmers	Martin Ariku	Yahaya Iddrisu	Malik Nabie	Anbotimah Augustine	Grace Manu
Amount (USD)	51,813	36,269	19,689	22,798	15,544	15,544	7,732
FI	Stanbic Bank	Ecobank	Ecobank	WACCU	Sissala Rural Bank	Sinapi Aba Trust	Yapra Rural Bank

Examples of tri-partite agreements established between processors, aggregators/nucleus farmers and financial institutions which have resulted in loan disbursements for aggregation during the reporting period are presented in Table 4-4.

Our analysis in the Northern Region indicates that 12 NFs have invested an average of US\$33-40 per outgrower depending on the package provided. The project advised nucleus farmers to make equipment investments through purchase arrangements, resulting in five nucleus farmers purchasing three home-used<sup>4</sup> Massey Ferguson tractors, one used Ford 5000 tractor, and a maize sheller at a total value of US\$59,020. The other three regions have similar equipment investments amounting to over US\$300,000. External investors, such as AgDevCo, have assessed several (ADVANCE) actors for credit potential, and have awarded one loan for a rice combine harvester worth US\$151,546, expected in-country in time for harvesting this season.

#### 4.5 OUTREACH AND TRAINING

During the period under review, 18 radio stations continued to receive support from the project to produce agricultural programs. Also, various SMS/ voicemail and mobile money pilot programs were implemented in a bid to improve communication and business transactions among value chain actors. The project trained 11,969 smallholder rice, maize and soybean farmers in the three Northern Regions on FBO dynamics, numeracy skills and “farming as a business” to enable them to improve their productivity and efficiency.

<sup>4</sup> Home-used is the local term used to refer to second-hand equipment

#### 4.6.1 Disseminating agricultural information through radio

Fifteen radio station programmers and their marketers from the three Northern Regions were trained on how to write proposals to attract sponsorship for their agricultural programs. The project collaborated with MoFA to train these radio station representatives on the production calendar to enable them to design relevant programs that will benefit their 200,000 listeners. As a result of these trainings, eight of the programmers/marketers attracted airtime sponsorship packages from the private sector. In the UWR, RADFORD, Upper West Radio, and PROGRESS raised US\$14,072 in sponsorship for their agricultural programs for a period ranging from two months to one year from Farm Radio International, Sissala Rural Bank and Antika Enterprise.

Nabiina Radio received sponsorship of US\$14,716 for a period of 40 weeks to broadcast agricultural information to 3,000 farmers in the Kasena Nankena and Builsa Districts of the UER. ADVANCE, in collaboration with eight radio stations including Radford, FREED, UPPER WEST and PROGRESS, Nabiina, Builsa Radio, North Star and Radio Justice, formed 120 Listenership Clubs to encourage group learning, provide feedback to radio stations, access and share agricultural information.

#### **Notable Quotes**

*“Our community participation now is very intense and we come in contact with the farmers to know their challenges so that we can address them using the power of radio“ Abu, a presenter for Radford radio, said.*

*“I have learnt through our weekly listenership club meetings every Friday between 7- 8 pm how to do row plant and the correct method of fertilizer application; my maize farm is looking very good, I expect good harvest this year” Matthew Tiitaabu from Duong said.*

As a result of project intervention, Radio Upper West, in partnership with Markteshim, ANTIKA, and the Ambambaah Listenership Club, set up a one acre maize demonstration field in Busa to demonstrate zero tillage technology on soy. This demonstration plot is used to help the local women translate the messages they receive on GAPs from the agricultural radio programming, and to encourage group and individual application of the methods. This demonstration is also serving to improve relationships between listeners, radio station and sponsors. Additionally ANTIKA signed a promotion contract worth US\$825 with Radio Progress and Upper West Radio to promote the use of improved soya seed through project intervention. The promotional messages ran for two to three months prior to the planting season.

Builsa Radio in Sandema in the UER, engaged the Builsa Community Bank in a financial literacy talk show. Topics discussed were banking services and products, cultivating the habit of savings for advance payments, loan products and processes, and credit management.

#### 4.6.2 Use of communication and ICT tools by businesses

The project promoted the use of various ICT tools to disseminate information between value chain actors, among these, SMS and voice messaging.

**Voice messaging:** Farmerline Ltd was contracted to introduce SMS automated alerts for voice messages to 500 farmers in the UWR. Farmerline also trained three nucleus farmers, Maclog, Felix Bazing and Yahaya Iddrisu, as well as the Wa Credit Union, to develop their own voice messages and has encouraged them to initiate and execute the messages independently by the end of December. The messages are pre-recorded and delivered in their local languages. Content of messages includes tips on weeding, planting processes, spraying information, fertilizer sales and application. As a result, outgrower farmers of NFs, Mashood Dori and Maclog, were able to access timely spraying services through these messages. The Wa Credit Union is also using the same system to send out messages on loan repayment, financial management and loan utilization to smallholders as well as due dates for repayment.

**SMS:** ADVANCE, working through Esoko, is reaching 2,000 farmers with market prices and agronomic and weather information on a weekly basis because of a pilot program that started in October 2012. A phone monitoring report on the pilot program was done in July 2013 and included 40 respondents randomly selected from the three northern regions and BAR. The report indicated that 92% of these respondents found the information they received useful, while 8% said the information received was not useful. The 8% who said they did not find the information useful indicated that they could not read the messages received. This suggests that voice messaging can have better impact on rural farmers than text messaging and would be recommended for future projects. Reasons reported for the usefulness of the information included knowledge of better markets to sell produce and agricultural production tips that helped the respondents follow good agricultural practices on their farms with the belief that they will lead to better yields.

In order to reach more farmers with the information, 16 radio stations rebroadcast the Esoko market and weather information to their listeners throughout the three northern regions.

*“Through the ESOKO alert, I am able to make informed decisions and to negotiate for better prices when I am about to sell my soy and maize; a situation which I did not have previously”;* Big Ajar an NF from Busa said

**Mobile Money Pilots:** Forty-one actors (3 nucleus farmers; 7 input retailers, 2 aggregators and 29 outgrowers) have signed onto the MTN Mobile Money pilot. These actors are using the MTN mobile money for standard business transactions such as paying for tractor parts, inputs, plowing costs, and aggregation. Total transactions using this system amounted to US\$8,737 during this reporting period. Hakeem, an input retailer of Antika Enterprise and a mobile money merchant said, *“People come to me to collect money for one thing or the other. It is a new business I have discovered thanks to ADVANCE and MTN; I can now bring relief to my people through mobile money”.*

### **SMS improved bank's loan recovery**

The Sissala Rural Bank has reduced its cost of operations in communications as a result of the use of SMS technology to send messages to clients. The bank now spends US\$52 per month instead of spending between US\$103 and US\$1.55 on sending messages to clients on loans, board meetings, salaries and others helping in improved relationships with clients.

*“Loan recovery has improved because when the FBO leaders get the information on loans they meet their groups quickly and act on the information” Mr Alhassan of the loans department said*

Two Tigo Mobile Money agents have been set up at Wenchiki and Mayama in the Chereponi District of the Northern Region to provide services to 1,000 women farmers belonging to the Kukunansor Women Association to encourage savings after selling their produce. This was facilitated by the project to promote easy payment for various transactions.

#### **4.6.3 Project-related documents for training developed**

A production manual on soya cultivation, *“Doing Business with Soya”*, was produced for use by NFs and out growers to improve their knowledge and practice, and ultimately leading to higher yields. Also, a manual on finance, *“Financial Planner for Nucleus Farmers”*, was developed to assist NFs to better plan and manage their farms. The manual will enable NFs to better understand the cost implications of services and practices adopted as compared to their returns, especially their impact on profit margins.

#### **4.6.4 Effective education of FBOs and smallholder farmers**

During the reporting period, the project trained 19,239 outgrowers (10,586 males, 8,653 females) of 109 nucleus farmers /aggregators. Of the trainees, 1,143 (638 male, 505 female) were trained on group dynamics, drafting a group constitution, group record keeping, business planning, group income generation and savings mobilization and group marketing. Ten of the groups have subsequently officially registered as cooperative societies.

A total of 8,724 smallholders (5,034 men and 3,690 women) were trained in farming as a business which focused on helping farmers to improve crop budgeting, reduce the cost of production per unit, use improved seed and apply modern technologies to increase yields and ultimately increase profit margins. Farmers who benefited from this training are expected to use the knowledge to plan effectively for the 2013 season, analyze farm related risks and adopt best farming and financial management practices. The project translated the farming as business beneficiary’s handbook into Chokosi and distributed 1,000 copies to the Kukunansor Women Group at Chereponi. Approximately 2,102 beneficiaries (43 male, 2,059 Female) were trained to acquire basic numeracy skills. The number of farmers trained in the various subject areas are summarized in Figure 2.

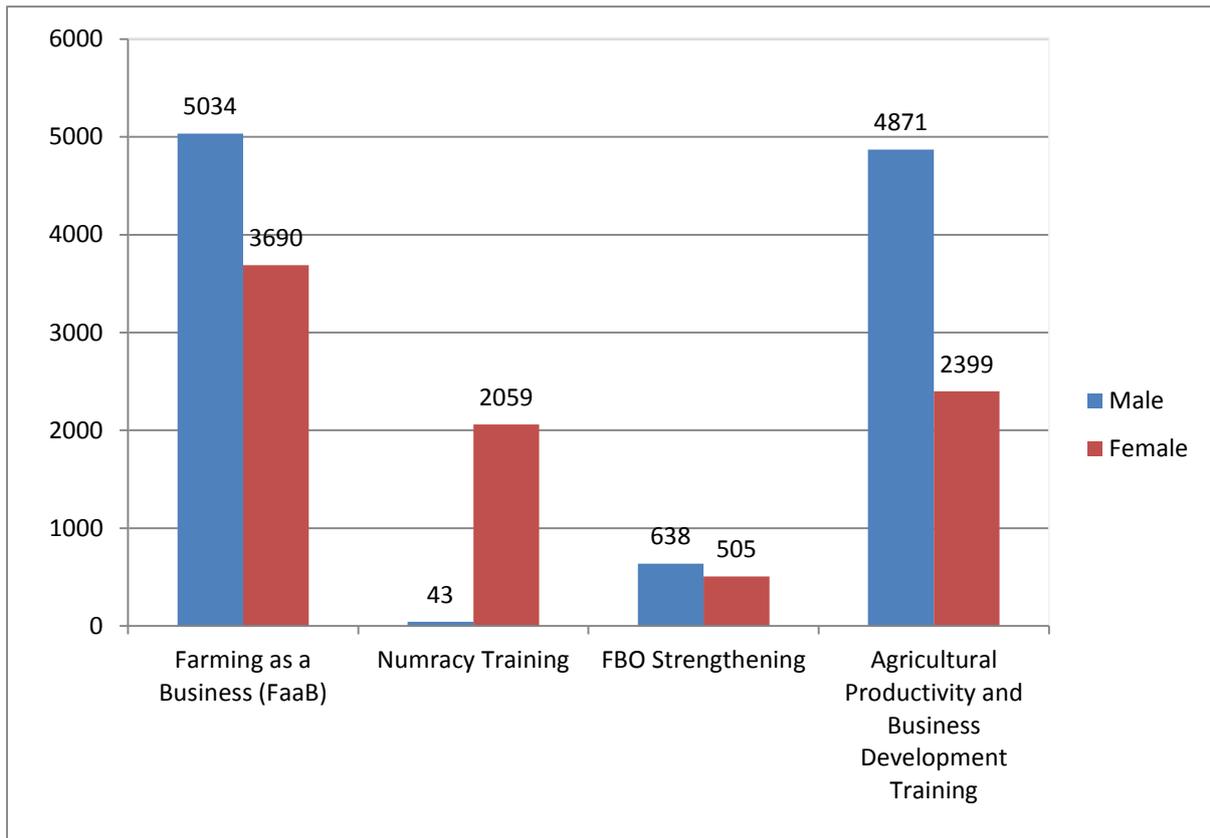


Figure 2: Farmers trained in various subjects



**USAID**  
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**GHANA**

## SUCCESS STORY

### Female Smallholder Farmers Gain Skills and Knowledge to Transact Business Efficiently



One of the participants reading out figures during a numeracy training session

*“Now I am able to understand simple transactions when I go to the market. I can add and subtract and know the correct change to give or receive when I am selling at the market”, says Ajara Pogbanaa, an outgrower in Duccie.*

#### Telling Our Story

U.S. Agency for International Development  
Washington, DC 20523-1000  
<http://stories.usaid.gov>

Many women in northern Ghana have low to non-existent basic skills in numeracy. This puts them at a disadvantage economically and socially. Many lack the confidence to negotiate for good prices for their produce. In some cases, they have difficulty identifying currency notes and their value. As a result, they can be cheated when selling their produce, leading to loss of income. A lack of business knowledge puts them at a further disadvantage.

In response to this, in 2012 USAID/ADVANCE developed two training programs. The first trained more than 4,000 women farmers on basic numeracy with the aid of simple and easy to understand pictorial materials. Beyond successful marketing, the women are applying the skills in other areas such as identifying their savings passbooks and account numbers, recognizing and transacting business in the new Ghanaian currency and assisting their primary school children to do their arithmetic homework.

The second program trained 5000 women farmers on Farming as a Family Business, to empower them to transact business efficiently. This provided many of them with the basics skills and knowledge to begin treating their farms as businesses, measuring their inputs and outputs and helping them become more independent as business people. The business skills are helping the women improve on crop budgeting to reduce cost of production; use improved seeds; and apply modern technology to increase yields.

The women from both trainings have been supported by the project to form Listenership Clubs, an initiative facilitated by USAID/ADVANCE to encourage group listening and increase knowledge sharing among smallholder farmers, especially women's groups. This provides women with a platform to share experiences and knowledge in the skills they have acquired, and to continue learning.

*“Through the Farming as Family Business training, I learned the benefits of using certified seeds; row planting; and fertilizer application. I adopted what I learnt by using hybrid seeds (Pan53), practiced row planting and right way of fertilizer application. At the end of the season I had 25 maxi bags of maize; now some of the women in my community come to me to learn these practices”* remarked Esther Mulnye, a smallholder farmer at Gindabour.

## 5 ADVANCE VOLUNTEER PROGRAM

During the reporting period ADVANCE completed the final volunteer assignments for the program. During the period, the project mobilized 14 volunteers to complete a total of 18 assignments (16 short-term and 2 long-term) who provided 341 days of technical assistance to local host organizations and working directly with over 1,200 beneficiaries, 47% of whom are women. From project inception, ADVANCE has fielded 113 volunteers who completed 6,252 days of technical assistance. This exceeds the life of project targets of 80 volunteers and 5,983 days. Volunteer assignments focused on four main topics: Business and Enterprise Development, Financial Services, Organizational Development and Farm Management, and Technology Transfer.

**Business and Enterprise Development:** Under this objective, there were 4 assignments and they focused on human resource management and development as well as business management training to help strengthen the organizations. One processor and one finance house received assistance in human resource management and development while two input dealers received assistance in inventory management.

**Financial Services:** A long-term volunteer, Duston Richards, assisted three rural banks in the Upper West Regions to develop a credit manual and templates for assessing the risk associated with agricultural lending. The volunteer trained 14 members of staff of these banks including credit officers, managers, and other bank staff on various methods of risk quantification and analyses. Following the assignment, 8 out of the 13 banks that received volunteer assistance have developed their own credit manuals and guidelines on how to conduct effective credit risk assessments. They have developed programs to sensitize farmers on loan acquisitions and repayments and also developed credit monitoring schedules to monitor their creditors effectively and efficiently. The banks also acquired, and are using, knowledge of crop budgeting to determine loan size. This has improved their loan disbursements, recovery rates, customer base and deposit rate.

**Organizational Development and Farm Management:** Volunteer assignments under this objective focused on record keeping, farm management training, and training on farming as a business. Nine Volunteers trained and mentored 12 nucleus farmers to develop and maintain basic business records and track production costs and income using simple templates. The trained farmers are now keeping records of their revenue and expenses of their operations including their outgrowers. They are able to track their investment, analyze their profit and make informed decisions based on the performance of their businesses.

Farmers who were trained to develop business plans are also able to update their business plan and have used them to support applications for loan from banks to finance their operations as well as grants from other organizations.

**Technology Transfer:** Ralph Stonerock, a poultry nutrition and management specialist, worked with Royal Golden EGG Enterprises Limited to develop a feed formula for the farm and taught the management how to improve sanitation and ensure optimum growth of the birds. The feed formulations used by the company over the years did not give good results hence the assignment. Through the knowledge acquired from the volunteer, the company has improved sanitation in the poultry house and using the new feed formulation.

### **Farmer to Farmer Leader Award**

In the current reporting period, ACDI/VOCA also fielded an additional 39 volunteers in Ghana to complete 45 assignments under the Farmer-to-Farmer Leader Award. Twenty of the 45 volunteer assignments were attached to ADVANCE project beneficiaries.

### **Beneficiary assessment**

During the reporting period a consultant was hired to conduct a beneficiary assessment for both the Leader (Farmer to Farmer) and the Associate Awards (ADVANCE). A total of 152 beneficiaries were contacted and some of the preliminary findings show that:

- Beneficiaries of the volunteer assignments have begun implementing what they learned from the trainings and the recommendations provided
- Farmers who benefited from record keeping and crop budgeting training have begun keeping records of their farming operations. The farmers attested that the trainings have been very beneficial and they were able to determine their income, expenditure and profits at the end of the 2012 farming season, as well as budgeting for the subsequent season
- Training on outgrower management have enhanced the capacity of the nucleus farmers to properly assess their outgrower operations and that has helped some of the farmers to improve upon their repayments from the outgrowers. This has enabled them to expand their operations to reach out to more farmers in other communities
- Financial Institutions that were trained on value chain financing, credit manual development and on various methods of risk quantification and analysis have appreciated agricultural lending and are expanding on them in their loans portfolio. Some of the banks have developed other agro loan schemes for farmers and have put measures in place to ensure efficient client monitoring and timely disbursement of loans.
- Many banks reported that they have expanded the portion of agricultural loans allocated to agriculture as a result a better understanding of the necessary risk mitigating strategies. For instance, the Kintampo and Yapra Rural Banks have expanded their loan portfolios for farmers by 5.5% and 8% respectively. Before the volunteer assignments, Kintampo and Yapra had only 10% and 13% of their loans allocated to farmers but presently they allocate 15.5% and 21% percent respectively to farmers.

## 6 CROSS CUTTING PROGRAM SERVICES

Cross-cutting programs including gender, grants, environment, and public relations provide support to all the technical sectors of the project.

### 6.1 ADVANCE GENDER PROGRAM

To increase the impact of the program on women, and female smallholder farmers in particular, ADVANCE continues to follow its gender mainstreaming strategy that stresses proactive inclusivity of women in all program activities. ADVANCE pays close attention to the needs of women farmer groups, women aggregators and women owned businesses and provides services that fit those needs. In the reporting period, ADVANCE focused on ensuring equity through various activities and also conducted an assessment of the gender program of the project.

#### 6.1.1 Ensuring gender equity and benefits from project assistance

ADVANCE's gender approach has been to mainstream gender within the project to ensure that all gender categories were given equitable access to project resources and capacity building along the target value chains. The project continued to build the capacity of women processors and aggregators to better manage their finances and keep better records as a means of reducing the constraints they face with accessing credit. The project also trained women in farmer-based organizations to enable them participate effectively in group activities and also take up leadership positions. Community leaders and land owners were also sensitized to appreciate the important role women play in developing their communities when they have access to resources to address cultural and traditional constraints to accessing suitable land such as land size, level of fertility, and proximity to the community.

During the current reporting period 12,378 (36%) women benefited directly from the project out of 34,121 beneficiaries and 6,238 (50%) of these women received business development services. Women played active roles in FBOs with 4,978 (37%) of them receiving project assistance out of 13,375. Also, 8,653 women beneficiaries were trained in Farming as a Business (FaaB) or other short term training constituting 45% of the 19,395 beneficiaries trained.

#### Changing traditions slowly

More than 40 women farmers from Gindabuor have been given more land closer to their home for cultivation – a rare practice in the Upper West Region. These women were part of 100 smallholders who participated in establishing and being trained at a demonstration site established in the community by Nucleus Farmer, John Mulnye, in collaboration with ADVANCE and 4 private companies. Participants learnt fertilizer and weedicides applications, row planting and post-harvest handling. The women, who adopted the practices, doubled their yields from an average of 1.8 mt/ha to 3.6 mt/ha.

With this result, the custodians of the land allocated to 40 of the women, land close to their homes. These women no longer have to walk long distances to their farms. They are now able to combine household activities and farming effectively. This is a result of 2 years of sensitization work in the community about giving women access to fertile land that is also close to the communities.

### 6.1.2 Gender impact assessment

The project conducted an assessment to evaluate performance especially in reaching and including women and to identify both impact and challenges that needed to be addressed as the project entered its final year. Findings of the assessment were encouraging and positive, although the data is primarily qualitative. The assessment showed that project activities have helped women participate fully in economic activities, contributed to improved food security and decreased household level conflict. A summary of the key findings are:

- Interventions that were tailored to specifically benefit women, such as the numeracy training, listenership clubs and leverage relief in the grants program, allowed the project to reach and positively impact more women.
- The project supported existing farmer groups with both mixed and primarily female membership. Both are viable options with pros and cons for women. For example, women may have access to more resources in a mixed group as the male members are well connected. However, women are less likely to take on leadership roles in mixed groups for a number of reasons including less time to take on more work and stereotyped perceptions of men and women's roles held by both sexes.
- The assessment revealed that women are more likely to apply technologies recommended and as a result their yields increased more than men's. Gross margin data analysis confirms this finding when comparing men and women. More information is required to understand this finding and how it should drive implementation of similar programs in the future.
- With increased production, women who previously had little to sell are now realizing new marketing opportunities and require additional support on when to sell their produce, develop relationships with buyers and enhance their negotiating skills.
- Both financial institutions and other sources of credit such as aggregators and nucleus farmers are learning that women's repayment rates tend to be higher than men's, and are becoming less reluctant to work with them despite their lack of collateral and smaller needs.
- Women report that increased economic security enables them to educate their children and feed their families, and also reduces conflicts between spouses.

### 6.1.3 Gross margins and yield of women

As mentioned in the previous paragraph on the findings of the gender assessment, women beneficiaries in certain instances, benefitted more than their male counterparts obtaining better yields than the men. From gross margin analysis, women smallholder maize and rice farmers generally had higher gross margins than the men. The gross margins per hectare for women were US\$593 for maize; US\$651 for rice and US\$ 481 for soybean while that for the men was US\$515 for maize; US\$617 for rice and US\$556 for soybean.

The women had higher yields in all the three commodities. The yields for women were: maize 2.6mt/ha), rice 2.9mt/ha and soybean 1.3mt/ha while the yields/ha for men were 2.2, 2.6 and 1.1 for maize, rice and soybean respectively. The higher yields and gross margins recorded amongst women can be attributed mainly to rigorous capacity building and small equipment grant support which reduced some of the drudgery faced by smallholders, especially women. Although the women had higher yields in soybean than the men, their gross margins were lower because of higher production costs than men, and sales at a

slightly lower price as well. Also for soybean, the women are beginning to keep relatively larger portions for home consumption having realized the nutritional benefits after being trained to make various dishes from soy.

#### **6.1.4 Women access to small equipment grants**

ADVANCE provided 432 outgrowers (278 females and 154 males) with tarpaulins for field use, and the project is in the process of procuring another 100 to be distributed before the 2013 crop harvest. This has resulted in an upgrade of the quality of produce by outgrowers to NFs and subsequently to end markets. ADVANCE also supported women in the Kukulansor Women Group in four communities with 13 donkey carts to ease transportation of produce from the farms to markets, creating an additional income generating venture. The women hire these carts out to members of their community to convey their wares from their farms to the house or from their homes to the nearest market centers. In Techiman the project supported five women aggregators with multi-crop shellers valued at US\$12,887 to upgrade grain quality which hitherto was a major challenge.

There has also been widespread use of weighing scales by women facilitated through the equipment grants. Outgrowers in Funsu for instance insisted on scale use or they were not going to sell to the NF because of the benefits they stood to gain.

#### **6.1.5 Celebration of International Women's Day**

ADVANCE organized this year's International Women's Day celebration at Gindabuor, a community in the Sawla-Tuna-Kalba District in the Northern Region on March 8, 2013. The event showcased how women can improve their lives by adopting Farming as a Business (FaaB) and good agricultural practices that improve their productivity.

The celebration was sponsored by MTN, ANTIKA Enterprise and Premium Food Ltd. The companies provided three mobile phones, five Knapsack spraying machines, 41kg of maize hybrid seeds, T-shirts and ten bags of fertilizer worth a total of US\$620 as prizes for a cooking competition and for three best female outgrowers linked to John Mulnye, the nucleus farmer who hosted the program. The gathering was addressed by the District Director of MoFA who was the guest speaker, the Chief of Gindabuor, an out grower to John Mulnye, the Regional Coordinator of the ADVANCE Program in the Upper West Region, and the Mennonite Development Associate (MEDA) project coordinator. There was a drama display by selected outgrowers on the need to ensure equal access to inputs, mechanization services and training on FaaB because of the impact yields leading to improved family livelihoods.



**Women smallholders receive prizes during Women's day Celebration**

Three female out growers who actively participated in establishing demonstration plots during the 2012 cropping season and who subsequently adopted good practices doubling

their yields from an average of 1.3 to 2.6 mt, were awarded mobile phones from MTN as prizes. The best three groups from the cooking competition using local food ingredients incorporating soybeans received farming inputs to establish a one-acre group demonstration farm in the coming season. The event was attended by over 300 farmers from Gindabuor and surrounding communities. Nyine Duku, one of the women who won a mobile phone remarked *“This award will motivate me to do more in the coming years and also encourage others to see farming as a business”*



**USAID**  
FROM THE AMERICAN PEOPLE

**GHANA**

## SUCCESS STORY

### Good Yields at First Attempt Give Hope – The story of Puoyi Yuotaa



Photo credit: USAID/ADVANCE Wa Office

*“With the support I got from USAID/ADVANCE and MacAdams, I am not afraid to go into maize cultivation again. I will get an additional acre of land during the next planting season,”*  
says Puoyi Tuotaa

#### Telling Our Story

U.S. Agency for International Development  
Washington, DC 20523-1000  
<http://stories.usaid.gov>

Thirty five year old Puoyi Tuotaa from Binting, a deprived farming community in Wa, always feared cultivating maize. All through her farming life, she stuck to cultivating cowpeas and groundnuts. With limited access to information and improved technologies, she found that those crops yielded better results than maize, soybean or rice.

In 2012, nucleus farmer Iddrisu MacAdams identified and registered Puoyi as an outgrower. She and 92 other farmers were trained on good agricultural practices by staff from the Ministry of Food and Agriculture through a demonstration site established by USAID/ADVANCE. USAID/ADVANCE uses such demonstration sites to introduce management practices, technology and innovations to farmers. Following the training, she decided to try maize cultivation. In the 2012 planting season, Iddrisu ploughed her one acre field (previously used for cultivating groundnuts) and supported her with seed and fertilizer. She applied the knowledge she acquired on good agricultural practices during the demonstration. She practiced dibbling, appropriate planting distances and fertilizer application.

During the harvesting season, Puoyi realized 1.1 mt/acre (11 bags of 100 kg) maize as compared to a maximum yield of 0.3 mt/acre she would have realized without program support. To maintain the good quality of her harvested maize, Puoyi stored her maize in an 80-metric ton community warehouse constructed by USAID/ADVANCE and the Arzankinmu projects.

For keeping quality standards – storing her maize in the community warehouse, adopting good agricultural practices and repaying her credit - Puoyi was rewarded by Iddrisu in February 2013 during a community celebration held to honor outstanding farmers.

One of USAID’s approaches to competitive value chain development is to reach out and strengthen the capacity of smallholder farmers to participate in trade through nucleus farmers/aggregators such as Iddrisu. Puoyi is one of over 8,000 women whom the project has helped to increase the efficiency of their farm businesses and improve their economic security.

## 6.2 ENVIRONMENTAL COMPLIANCE

The project addressed three thematic environmental management areas in this reporting period: general compliance with title 22 of the code of federal regulations section 216(22CFR216); promoting safe use of pesticides; and improving adaptation and resilience to climate change.

### 6.2.1 General compliance with USAID environmental regulations

Safe use and handling of agrochemicals remains a major challenge with smallholders. Reuse of empty agrochemical containers and lack of attention to safeguards by applicators is a widespread practice. To address these issues, a mitigation and monitoring plan, outlined in the Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP), was developed for implementation at the start of the project and has been revised during the reporting period in view of a new approved list of pesticides by the Environmental Protection Agency (EPA). The ADVANCE management team has ensured that all project activities have remained consistent with the Initial Environmental Evaluation (IEE) conditions for the period under review. Also, project management ensured compliance with recommendations contained in the Environmental and Safety Plans (ESP) that were developed by the project for all enterprises that have received direct grant assistance from the project.

### 6.2.2 Promoting safe use of pesticides through Spraying Service Providers

The project recognizes the serious risks associated with pesticide use to both human health and the environment, and therefore designed a pesticide management plan to minimize these risks. In conjunction with the private sector, the project must train participating smallholder farmers to adopt the best practices required for safe pesticide use, while acknowledging that it is not economically feasible for most smallholders to invest their meager resources in knapsack sprayers and the required protective clothing.



Members of SSPs at a training session

The solution to the problem lies in the formation of commercial Spraying Service Providers (SSP) who meet the three-fold objectives of the ADVANCE pesticide management program: (i) to ensure compliance with Title 22 of the Code of Federal Regulations section 216, (ii) promote safe use of agrochemicals and (iii) prevent environmental pollution as a result of improper pesticide applications and disposal. In addition to training farmers on safe use of pesticides, ADVANCE has worked hand-in-hand with private chemical companies to facilitate the formation and training of Spraying Service Providers (SSP) to provide commercial pesticide application services to farmers. The SSP concept has the potential to maximize safe application and minimize the number of untrained people that are exposed to pesticides.

The project supported the formation of SSPs, trained the SSP team members, and assisted them with grants. Each SSP received US\$334 worth of basic Personal Protective Equipment (PPE) to enable them to provide safe and effective services to NFs and their outgrowers. Members of SSPs were identified by NFs and input dealers and trained by resource persons

from the *Ghana Environmental Protection Agency (EPA)* with support from the *Plant Protection and Regulatory Services Directorate (PPRSD)* of the *Ministry of Food and Agriculture (MoFA)*, and in collaboration with major input dealers. The EPA designed the curriculum, and topics covered included:

- The effect of pesticides on health,
- hazard levels of pesticides,
- label advice,
- using personal protective equipment,
- transporting pesticides,
- storing pesticides,
- preparation and rate of application, optimum conditions for application,
- disposal of containers and obsolete products,
- administering first aid.

The project collaborated with several local radio stations, agro-input importers, retailers and the EPA who served as a technical resource on radio programs that were organized to educate farmers on proper practices and safe handling of agro-chemicals. This ensured widespread awareness of the hazards of using agrochemicals and the fact that anyone could be exposed unintentionally after application. It also served as a medium to market the services of the SSPs.

With this effort, 26 SSPs have been set up in the last year and 122 sprayer operators were trained in 19 districts of the project's operational areas in the Brong-Ahafo, Northern, Upper West and Upper East Regions. To date, a total of 2,068 smallholders who are linked to 11 NFs and four aggregators have paid about \$11,000 for spraying services from the SSPs, covering 3,610 acres.



A Member of an SSP applying pesticides on a soybean field

The more widespread and popular SSPs become, the less likely it will be for untrained smallholder farmers to apply agro-chemicals themselves, reducing the likelihood that women and children will come in direct contact with agro-chemicals. Input importers and retailers are also starting to collect unused chemical containers for recycling at a central location, taking the containers out of circulation in the rural communities.

The SSP program has demonstrated its worth and it will continue to grow. However, there are several challenges that require further attention if the program is to move into mainstream adoption:

- The EPA doesn't provide immediate certification following its training course. Low level of education and other stringent registration requirements including tax clearance certification makes EPA certification a challenge for most SSP members.

- Continuous training is required with annual refresher courses as a requirement. Post-training monitoring showed that some members of the SSPs could not always differentiate between types of chemicals after two months of the initial training.
- Record keeping for the business side of the SSP needs to be scaled up to track profitability, potential commercial growth, and client management.

### 6.2.3 Tracking environmental indicators

The environmental performance indicators as stipulated in the IEE have been tracked over the life of the project and [Table 2-1](#) summarizes the results as of the end of the reporting period.

**Table 6-1 ADVANCE PERSUAP Implementation and monitoring**

Issues	Necessary ADVANCE Action	Progress to date
<p><b>Reduced reliance on pesticides</b> To produce maize, rice and soybean, it is necessary to use agrochemicals to some extent to combat pests and diseases of these commodities as well as in land preparation.</p>	<p>The choice of pest control method and products available will start from the selection of appropriate planting material based on levels of resistance and tolerance to major pests. The program will therefore promote planting materials that have a high tolerance to pests with limited reliance on pesticides through collaborations with research institutions.</p>	<p>ADVANCE project management has collaborated with the Crop Research Institute (CRI) to conduct trials on new varieties of seeds that have not yet been released. In collaboration with major input dealers the program has also made available certified seeds and seed dressings as a preventive measure to farmers for this planting season. The project will continue its efforts in ensuring that farmers have access to improved certified seeds that are pest resistant to minimize pesticide reliance.</p>
<p><b>Access and utilization of Personal Protective Equipment</b> Smallholder farmers in the northern regions do not view the use of personal protective equipment (PPE) as an essential practice. Farmers are aware of the potential hazards when spraying pesticides but usually chose not to wear protective clothing.</p>	<p>To address the issue of poor use of PPE field officers will recommend and promote the use of PPE specifically designed for the hot weather conditions which is the main cause of poor or little use of PPE. Additionally the program will work with local service providers to develop a service market for certified pesticide applicators to reduce the number of untrained persons exposed to pesticides</p>	<p>The project set up a group of 26 trained Spraying Service Providers. These service providers were trained in pesticide handling safeguards and spray service provisioning and have provided services to over 2,000 small holder farmers this cropping season. By these trained professionals providing services to smallholder farmers the incidence of misapplication and wearing improper clothing during spraying is reduced.</p> <p>Prior to this period, ADVANCE field officers demonstrated the use of PPE during all field days in collaboration with MOFA, EPA and major input dealers. Input dealers collaborating with the ADVANCE program have promoted PPE for purchase by small holder farmers.</p>
<p><b>Avoiding reuse of pesticide containers</b> Smallholder farming communities generally reuse</p>	<p>ADVANCE field officers will make recommendations for the destruction and burial of used containers on the farm and</p>	<p>ADVANCE field officers demonstrated the methods of disposal of used pesticide containers during 15 field days</p>

Issues	Necessary ADVANCE Action	Progress to date
pesticide containers for the storage of food items and do not believe any harm can come to them if the containers are cleaned.	avoid bringing them back to the homestead to prevent the temptation of reuse. ADVANCE will also maintain regular programs of public awareness, education and training programs for smallholder farmers.	and training sessions last year. Smallholder farmers have also been advised by MOFA extension agents on the importance of destruction and burial of the used containers. During the current reporting period, the project continued to educate farmers on proper disposal of pesticide containers and encouraged NFs and the outgrowers (OGs) to use the services of the SSPs.
<p><b>Pre-harvest and storage chemical interval violations</b></p> <p>The risk of high levels of pesticide residue in harvested produce has been identified throughout the operational areas.</p>	The ADVANCE outreach team will maintain regular public awareness programs on the effects of chemical residues. Pesticide training programs will also cover handling practices that reduce unacceptably high levels of residue.	ADVANCE continues to maintain awareness through the electronic and print media on the hazards of chemical residues on crops. The project has trained farmers on post-harvest handling, especially on storage of grains using safe methods; including using the right chemicals, correct doses as well proper application methods.
<p><b>Unsafe storage, transport and handling</b></p> <p>Poor storage, transport and handling of agrochemicals can pose high risk to those directly handling the chemical and other passers-by.</p>	The program will support the training of input retailers and smallholder farmers on precautionary measures when transporting, storing and handling agrochemicals.	Eighty three (83) input retailers have been trained on storage, transportation and handling of agrochemicals and the project has continued to monitor how the knowledge is being applied and transferred. Also, environmental, health and safety procedures have been developed for two agro-input retailers, Antika and 18 <sup>th</sup> April. Monitoring of these retailers has shown that they continue to abide by these procedures.
<p><b>Applications by women and children</b></p> <p>Minors that support parents on the farm are often saddled with the task of pesticide application. Women sometimes also apply pesticides, oblivious of the health implications to them and to potential unborn children.</p>	ADVANCE will develop outreach programs that promote the exclusion of women and children in pesticide application programs while encouraging their involvement in other aspects of the farm that do not deal with pesticides.	There has not been an instance in which women and children have been allowed to apply agrochemicals. However, to avoid I any such situation from occurring, the project has introduced the concept of SSPs to provide professional spraying services.
<p><b>Potential for using pesticides more than necessary</b></p> <p>Farmers generally apply agrochemicals at certain times during the calendar year without actually encountering the threat of a pest invasion, leading sometimes to an avoidable</p>	Through training programs, farmers will be encouraged to practice good agronomic practices to avoid the over-utilization of pesticides. A cost benefit analysis tool will be used to discourage over-utilization while integrated pest management methods will be encouraged.	Good Agronomic Practices (GAPS) have been the major focus of ADVANCE demonstration plots. With the support of a volunteer consultant, small holder farmers were also introduced to pest scouting prior to pesticide application to avoid over-application of pesticides. Also

<b>Issues</b>	<b>Necessary ADVANCE Action</b>	<b>Progress to date</b>
high cost of agrochemicals and over application of pesticides.		the SSPs were trained on effective application methods as well as the correct dosage.
<b>Use of lower-toxicity products</b> Farmers often use pesticides recommended by other users and retailers without necessarily considering toxicity levels.	ADVANCE will implement awareness campaigns targeted at smallholder farmers and retailers to use agrochemicals in Toxicity Class III whenever possible and Toxicity Class II will be used under very strict safety measures.	The program has continued to use the PERSUAP-recommended agrochemicals as a guide for farmers to choose the least toxic products available on the market. All ADVANCE demonstration plots used the PERSUAP-recommended agrochemicals and also encouraged input dealers working with the project to sell only pesticides approved by the EPA.
<b>Avoid contamination of water resources</b> Smallholder farmers tend to have farms close to the homestead and water resources that most often serve as their drinking source as well as that of livestock.	Through outreach and awareness programs farmers will be encouraged to avoid spraying around the home and bodies of water.	This activity has been incorporated in the 15 minute farmer's digest supported by the ADVANCE program on 14 radio stations across the three Northern regions. Farmers have been trained on appropriate disposal of used agro-chemical containers including the destruction of containers before burying them, and also avoiding farming close to streams and other bodies of water.
<b>Safer use of pesticides</b>	Paramount in the routine actions of ADVANCE will be the establishment of a monitoring program for safe and effective use of pesticides.	The program continues to demonstrate safe and effective use of agrochemicals during all field days at demonstration sites and through on-going training programs on GAPs.

#### 6.2.4 Improved adaptation and resilience to climate change

The Project pursued two interventions to address or mitigate the effects of climate change. First, the continued collaboration with the Ghana Agricultural Insurance pool (GAIP) on promoting drought index insurance and second, with Ignitia Ltd to broadcast rainfall forecasts through SMS messages to farmers.

During the reporting period, GAIP paid insurance claims of US\$1,920 to 90 maize and soybean farmers in Northern Ghana as compensation for losses due to a shortfall in rain affecting a total of 115 acres of crops. The payments were triggered by a dry spell of at least 20 days during the current crop season. GAIP provides crop insurance for smallholder farmers, as well as commercial farmers for maize and soybean farms. To improve access to the products during the 2013 season, a training program was organized by GAIP to sensitize nucleus farmers on the importance of and reasons why they and their out-growers should purchase the product.

ADVANCE worked closely with Ignitia Ltd on a pilot program to broadcast rainfall forecasting messages through SMS. Through this program these messages were sent to 340 farmers, input dealers, MoFA AEA, banks and ADVANCE staff during 2013. The text message

indicates what the weather, in terms of rainfall, might be on the day of the text message and the day after the text message. The participating farmers and other participants were trained on how to interpret the symbols in the SMS text messages and plan their farming activities such as application of fertilizer and other agrochemicals around these forecasts.

The messages are delivered 5 times a week (not on Fridays and Sundays) and cost as little as \$6 for the nine-month growing season. The feedback from farmers is that they are impressed with the accuracy of the messages and find value in the service. When asked would they purchase it themselves many of them responded “yes”.

#### Highlights of achievements

- US\$2,964,220 obligated
- 2,941 direct beneficiaries
- 86,412 indirect beneficiaries
  - 103 FBOs
  - 16 NGOs
  - 17 firms
  - 5 Processors
  - 18 Aggregators
  - 45 Nucleus farmers

### 6.3 GRANTS PROGRAM

A limited number of awards was made during the reporting period, allowing the team to consolidate the gains made in previous years. Grants were made to 2,941 direct beneficiaries to enable them to adopt new innovations and improve their productivity, improve post-harvest practices and storage facilities, as well as to introduce uniform standards in the quality of produce traded. The Ghana Rice Inter-professional Body (GRIB) and the Ghana Grains Council (GGC), both major stakeholders in the grain industry, were given grants to strengthen their institutional capacity and to facilitate the introduction of the warehouse receipt system into the Ghanaian grain industry.

During the reporting period, 11 new grants were awarded to various organizations, bringing the total number of signed agreements since project inception to 104, with a total obligated amount of \$2,964,220.15 and \$2,739,169.75 disbursed

### 12.1 Completed and near-completion activities during the reporting period.

Grant Beneficiary	Nature of Grant	Grant Purpose	Total Value / Budget USD
<b>CERSGIS</b>	Provision of software and hardware for GIS activities	To support CERSGIS to become a repository of reliable and convenient geospatial data in the agricultural sector and to ensure sustainability in making available such data and the application of GIS in agri-business.	32,500
<b>Various beneficiaries in the selected value chains</b>	Provision of outreach messages on GAPs through community radio to farmers	To provide market information for smallholder, commercially-oriented farmers to integrate them into the maize, rice and soybean value chains and improve their productivity and supply of products	21,120

<b>Grant Beneficiary</b>	<b>Nature of Grant</b>	<b>Grant Purpose</b>	<b>Total Value / Budget USD</b>
<b>Gundaa Produce Company</b>	Support for additional cost of construction of warehouse and provision of basic equipment for operational activities	Create, through a warehouse receipt system, an operating environment that has uniform standards and grades that are accepted by buyers, transparent and reliable prices, and warehousing services that are consistently of high quality to insure against major losses and maintain defined quality.	61,759
<b>Ghana Grains Council (GGC)</b>	Provision of grant to cover administrative and operational activities	To support the Ghana Grains Council as a private sector-led initiative to promote the warehouse receipt program as a way to develop the grains industry in Ghana.	209,133
<b>11 Warehouses of 80 Mt capacity each</b>	Provision of 11 moisture meters	To improve both quality and standardization in the maize, rice and soy value chains	5,445
<b>Ghana Rice Inter-professional Body (GRIB)</b>	Provision of basic office equipment to support the operations of GRIB	Assist GRIB to upgrade their capacity to achieve their objectives of improving production efficiency, increase output and improving quality of rice for the local market.	3,426
<b>100 Nucleus farmers</b>	Provision of short messaging services through ESOKO	To improve efficiency and reduce costs for stakeholders to exchange information with their smallholder farmers; to empower nucleus farmers with targeted market information on prices, offers and weather.	37,800
<b>325 Farmers (90 nucleus farmers, 15 FBOs, 13 aggregators and 79 smallholder farmers)</b>	Various small grant equipment e.g. threshers, shellers, power tillers, seeders, manual planters	To support beneficiaries with small to medium mechanized equipment/new technology to enable them to increase productivity, add value and increase efficiency in ADVANCE targeted supply chains.	177,979
<b>AMSIG</b>	Computer hardware and software	To facilitate better management of their financial transactions which should result in increased production through improved yields, increased markets, and cultivation of more acreage?	4,716
<b>24 Spray gang providers</b>	Spray gang equipment	To introduce spraying services into the mainstream sales of agro-input to farmers, with a focus on safe use and handling of chemicals, calibration, environmental requirements for safe chemical use, and proper disposal practices.	4,716

The Grants Program undertook an assessment to evaluate impact on the production, harvesting and processing equipment provided to farmers for the various commodities, and document relevant experiences for the future. The report has just been submitted and is currently under review. The grants team is working to close out all the grants and ensure their proper documentation before the final close out of the project in March 2014.

#### 6.4 PUBLIC RELATIONS AND COMMUNICATION

Through its Public Relations & Communications Unit, the project continued to promote and highlight the activities, progress, impact and success of ADVANCE and USAID's contribution to agricultural development in Ghana especially regarding the Feed the Future initiative. This was achieved through documenting and sharing various stories, weekly bullets, and photos, publishing quarterly newsletters and publicizing events.

##### **Weekly Feed the Future Bullets**

A total of 68 weekly bullets were submitted to USAID during the reporting period. The bullets highlighted various field activities: transfer of knowledge through demonstrations and field days, farmers' access to inputs, equipment, and credit, increases in smallholder farmers yields and income, value chain actors' forums, issuing of regulated warehouse receipts and opening of community warehouses.

USAID published five of the project's weekly bullets in its February to June 2013 editions of "E-Wire Telling our Story" (Visit [www.usaid.gov/gh](http://www.usaid.gov/gh)). The February edition featured: *"The Distribution of Parboiling Vessels to Farmers in Northern Ghana"* and *"The Issue of First Regulated Warehouse Receipt."*

The published bullets for the March edition were: *"Inauguration of 13 Listenership Clubs"; "Access to Credit by a Maize Aggregator" and "Nucleus Farmer Rewards Smallholder Farmers for Upholding Quality Standards in their Farming Activities."*

In the April edition bullets featured included: *"Farmers Share Best Practices; Success Story of Grace Manu; SMS Technology leads to improved crop-to-market; and Launch of 500 mt Certified Warehouse in Tamale."*

The May edition featured: *"Ambassador Cretz Visit to Premium Food Limited"; "Capacity Building of Tractor Operators in Mechanization Services"; and "Financial Institutions Improving Finance Capacity."*

Bullets featured in the June edition included the Ambassador's visit to Tamale under the heading *"Ambassador Cretz visit to Tamale"*. Also featured in the same edition was the story on warehouse receipt financing by Stanbic Bank under the heading *"US\$36,000 grains financed under Ghana Grains Council."*



5<sup>th</sup> runner up, Photo credit: Sahanoon Alhassan

### Quarterly Newsletter

Three editions of the project's "Quarterly Newsletter" were published and distributed to more than 1,200 recipients including partners, clients and actors involved in the project, in both electronic and printed form.

### Contribution to ACDI/VOCA publications and Photo Contest

The project participated in the 2012 Annual Photo Contest organized by ACDI/VOCA. Two of the project's photos submitted for the contest were among 134 photos submitted from other ACDI/VOCA projects worldwide. One of the photos won the fifth runner up position and the other received an 'honorable mention'.

ACDI/VOCA published on its website seven stories on the project's impact in the field. These were:

- Innovative Technologies in Northern Ghana Increase Yields.
- Issue of First Regulated Warehouse Receipt in Ghana.
- In Northern Ghana, a Paradigm Shift in Women's Roles – For Smallholder Women's Group, Business Skills Increase Status.
- Working Tractor Makes a Big Difference – a story on Augustine Sandow.
- Feed the Future Empowers Ghanaian Women's group to increase income – a story on how training has helped the Sorugu women to access new opportunities.
- Woman Farmer Adopts New Technology in Northern Ghana – a story on Tasari Bamuo.
- First Agricultural Insurance Claims Paid to Farmers in Ghana.



Honorable mention, Photo credit: Emmanuel Gyarteng

### Media Coverage of Activities

The following events were covered and reported on in the media during the reporting period:

- Pre-harvest event in October, 2012 (The Ghanaian Times, October 30, 2012).
- Presentation of Agricultural Equipment to eight Nucleus Farmers in Wa (Daily Graphic, November 2012).
- Distribution of 10 Parboiling Vessels to 10 FBOs (Daily Graphic, January 17, 2013).
- Issue of First Regulated Warehouse Receipt (Business & Financial Times, January 18, 2013).
- Opening of USAID-Supported Warehouse (Business & Financial Times, February 18, 2013).
- Celebration of International Women's Day (ghananewslink.com).
- Visit of U.S. Ambassador to Tamale (Daily Graphic, May 31, 2013).

## Features on Project Actors and Activities

The Finder and Ghanaian Observer, both private newspapers featured articles on two of the project's actors.

- The Finder in its November 7, 2012 edition captioned “*ADVANCE – Pillar of agri-business in N/R,*” featured a success story of Issah Abukari, a rice farmer in the Kumbungu District of the Northern Region who won the Best Rice Farmer award at the 2012 Farmers’ Day Celebrations.
- On November 30, 2012, the Ghanaian Observer carried a feature on Memunatu Alhassan, Lolandi Processing on “*Local Rice now Gaining Patronage due to Improved Quality Processing.*”

Additional media coverage on project activities during the year can be found in the links below:

- <http://ghananewsagency.org/science/ten-farmer-based-groups-in-northern-region-receive-agricultural-boost-55031>
- <http://www.ghanabusinessnews.com/2013/03/14/small-holder-farmers-asked-to-perceive-farming-as-business-venture/>
- <http://ghananewsagency.org/science/six-communities-in-tamale-to-benefit-from-a-500-metric-tons-warehouse-57572>
- <http://www.ghana.gov.gh/index.php/news/regional-news/northern/20587-six-communities-in-tamale-to-benefit-from-a-500-metric-tons-warehouse->
- <http://www.ghanabusinessnews.com/2013/04/04/online-platform-to-provide-data-on-ghana’s-agric-sector-launched>
- <http://www.ghananewsagency.org/social/northern-farmers-trained-in-modern-farming-62626>

## 7 MONITORING AND EVALUATION

Monitoring and evaluation of project activities during the reporting period included data collection on all project indicators, support for the USAID commissioned assessment of the ADVANCE program, revision of data quality strategy, analysis of indicator tracking tools, design of weekly data collection tracking tool, development of a database reporting interface, and internal and external data verification exercises. These activities have further strengthened the monitoring and evaluation (M&E) system and improved data quality for reporting.

### 7.1 DATA COLLECTION, ANALYSIS AND REPORTING

During the reporting period project management reviewed the systems for data collection, storage and retrieval as well as quality assurance standards. The data collection instruments were revised to incorporate data quality checks and ensure that appropriate updates, especially the required FTF indicator data elements, were adequately and properly captured. Also, a weekly data collection tracking tool was designed and operationalized to further enhance timeliness of data submission from the field. In addition, Specific Standard Operating Procedures (SOPs) for data collection, documentation, processing and management, was also designed and implemented to enhance the integrity of the data for reporting and decision making.

Project staff continued to collect data regularly on all project indicators. For determining gross margins (GM), incremental sales, hectares under improved technology and number of farmers that applied improved technology, we adopt a two-tier approach which requires at least two visits to each randomly selected farm location – the first visit occurs immediately after planting to determine actual farm size, as farms may change location, crop and size every year in the North. The entire farm is mapped using a GPS instrument, the farmer's profile data is updated, and farm production costs up to the time of the visit is recorded on a data collection form. The second visit is made at harvest where the crop is harvested, weighed and further production/harvest costs are recorded.

Using this approach, data was collected from 1,091 smallholders for the 2012 production season based on which the GMs for the 2013 crop season have been given in this report. For the 2013 crop season, 1,214 farmers were randomly sampled from the project's M&E database for the exercise. Adjustments were made for the season since the project will close down prior to harvest. Therefore, 'crop cut' areas were demarcated during the farm mapping exercise and the produce will be harvested and weighed from the cut during the second visit in November. The total harvest will then be extrapolated for the entire farm. To estimate value of sales, the farmer is asked what percentage will be consumed and what will be sold.

For these surveys, the sample size is calculated using the electronic sample size calculator from [www.raosoft.com](http://www.raosoft.com) with at least 95% confidence level (5% margin of error) to meet USAID standards. After the determination of the sample size, 10% of the calculated sample size was added to compensate for non-response (i.e. respondents that may not be available at the time of data collection).

## 7.2 ASSESSMENT OF THE ADVANCE PROGRAM

USAID commissioned an assessment of the ADVANCE program during the reporting period. The assessment team was made up of Dr Jeff Dorsey, President of Agriculture, Business Credit and Development LLC-USA; Mr Matthew Armah, Chief Operating Officer of Millennium Development Authority (MiDA)-Ghana and Dr. Obeng Mensah, a lecturer at the University of Cape Coast. The objective of the assessment was to provide evidence based information that will impact the design of future USAID agricultural programs.

The assessment team was accompanied in their 9-day fieldwork by the Deputy Chief of Party and the M&E Manager of the ADVANCE Program. The team visited all the four ADVANCE operational regions (i.e. Brong Ahafo, Northern, Upper East and Upper West regions) and held Focus Group Discussions (FGDs), in-depth interviews (IDIs) and Key Informants Interviews (KIIs) with ADVANCE beneficiaries, collaborators and other development partners and businesses: The World Food Program (WFP), Ministry of Food and Agriculture (MOFA), Mennonite Economic Development Associates (MEDA), Savannah Accelerated Development Authority (SADA), Ecobank, Wa Credit Union, Sinapi Aba Trust, Yapra Rural Bank, Kintampo Rural Bank, Radio Upper West, Irrigation Company of Upper Regions (ICOUR), Tractor Service Operators (SATO), etc.

The team also visited and held key informant interviews with end-markets of ADVANCE beneficiaries such as Premium Foods Limited, Royal Golden Eggs, Vester Oil Mills Limited and Royal Danamec which are located in the southern part of Ghana but serve as end-markets for producers in the north. The assessment team submitted their report to USAID.

## 7.3 STAFF CAPACITY DEVELOPMENT FOR MONITORING AND EVALUATION

As part of efforts to strengthen the monitoring and evaluation system, the project developed a database which can automatically generate reports on project indicators. The consultant who developed the database also held a four day training workshop to train the Regional Coordinators, the Regional Monitoring and Evaluation Officers, the Technical Leads, the Monitoring and Evaluation Manager and the Deputy Chief of Party.

The Deputy Chief of Party and the Monitoring and Evaluation Manager also participated in a two day workshop organized by Monitoring and Evaluation Technical Support Services (METSS) for all USAID/Ghana Economic Growth (EG) office Implementing Partners. The workshop aimed to build the capacity of Implementing Partners and strengthen and harmonize the M&E systems to improve data quality.

## 7.4 GEOGRAPHIC INFORMATION SYSTEM (GIS)

The project uses Geographical Information System (GIS) tools to gather accurate and reliable spatial data to improve the efficiency of specific supply chains and improve competitiveness of the respective commodity value chains. GIS has also been used as an M&E tool for the project. Major GIS activities undertaken during the reporting period under review include mapping of sampled farms for GM determination (see section 7.1 for details); launching a GIS online platform; organizing a GIS stakeholders' forum; and conducting a Census of Tractors in northern Ghana.

#### 7.4.1 Launch of the online platform and GIS stakeholders forum

During the period under review, the project successfully completed and launched the GIS Online Platform in collaboration with the Centre for Remote Sensing and GIS Services (CERSGIS) to operate and manage data uploaded on the website.

On the 14<sup>th</sup> of August 2013, the program, in collaboration with CERSGIS, organized the first GIS stakeholders' forum in Accra. The forum, with the theme: "Enhancing GIS Application in Agriculture" was attended by individuals from both the private and public sectors. Presentations were made at the forum by representatives from the USAID, the Northern Regional Planning & Coordinating Unit, the Veterinary Services Directorate/Ministry of Food & Agriculture and CERSGIS.

#### 7.4.2 Census of tractors in northern Ghana

The project completed the mapping and development of a dataset of mechanized service providers across the Northern Region. Locations for 1,972 tractors were mapped in 15 out of the 21 districts in the Northern Region. Information collected includes ownership of the tractor, district, community, make, model, horse power, the working condition of the tractor and source of acquisition, i.e., with the assistance of a project or self-financed. This information will be used by tractor dealers to assess the economic viability of establishing service centres in the Northern Region. Farmers can also use this information to identify available mechanized service providers within reasonable distance from their communities. Figure 2 shows the distribution of the tractors.

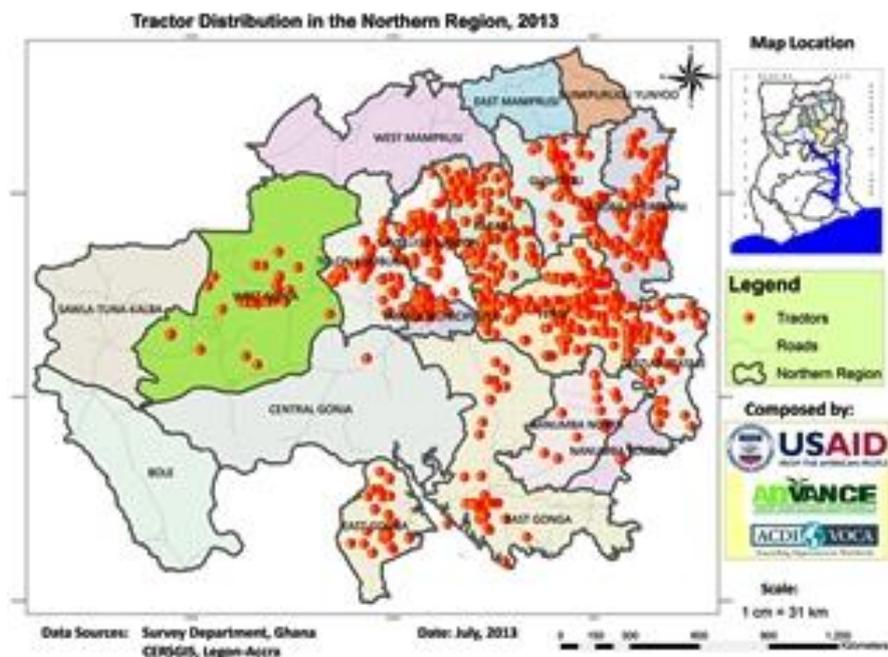


Figure 3: Tractor Distribution in the Northern Region

The census shows that Massey Ferguson tractors dominate (54%), followed by FARMTRAC (17%), then Ford and John Deere with 5% (see Figure 4)

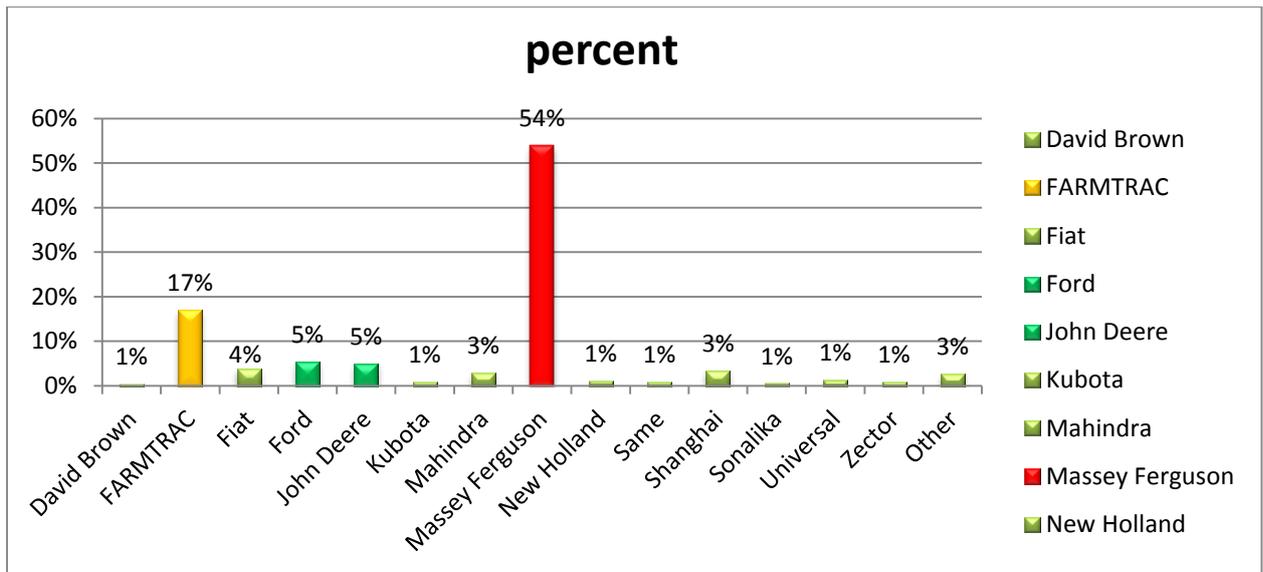


Figure 4: Prevalence of the various make of tractors in the Northern Region

## ANNEXES

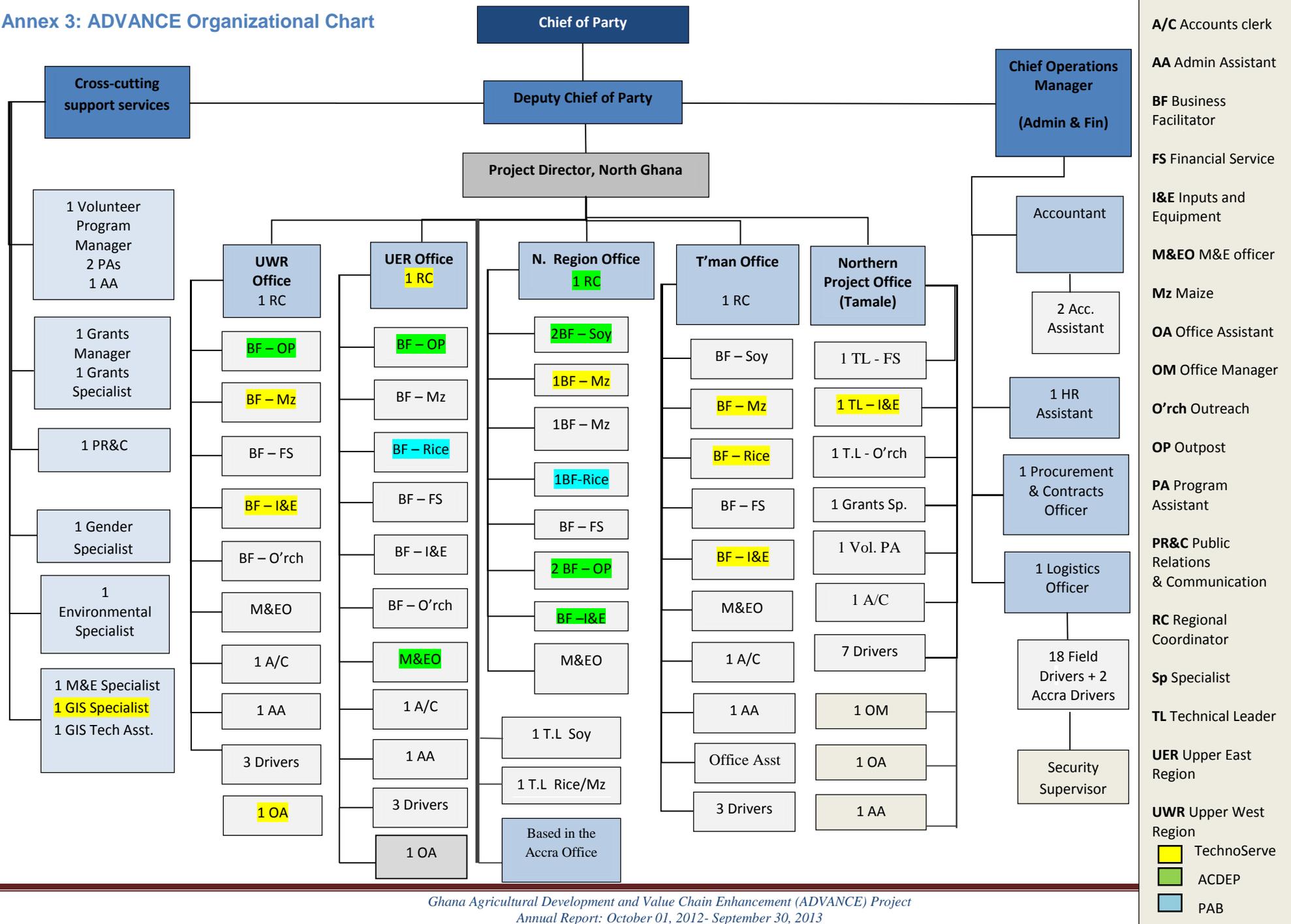
### Annex 1: ADVANCE operational districts and commodities

Region	District	Commodity
Northern	Tamale Metropolitan	Maize, rice
	East Mamprusi	Maize and soybean
	Gusheigu	Maize, Soybean, Rice
	West Gonja	Maize
	Nanumba North	Maize/Soybean/Rice
	Nanumba South	Maize
	Savelugu/Nanton	Maize
	Central Gonja	Maize, Soybean
	Tolon Kumbungu	Maize, Rice
	East Gonja	Maize, Soybean, Rice
	Yendi	Maize, Soybean, Rice
	Karaga	Maize, Rice And Soybean
	Zabzugu/ Tatala	Rice, Soybean
	Chereponi	Soybean
	Saboba	Soybean
	West Mamprusi	Soybean/maize
Bunkpurugu Yunnyo	Maize and Soy	
Upper East	Builsa	Rice and Soy
	Kassena Nankana	Rice
	Sawla/Tulna/Kalba	Maize
	Bongo	Soy
	Bolgatanga	Rice, maize and Soy
	Bawku West	Maize and Soy
	Garu - Tempene	Maize and Soy
	Bawku Municipal	Maize and Soy
	Talensi - Nabdan	Maize
Upper West	Wa West	Maize/Soya
	Wa East	Maize/Soya
	Wa Municipal	Maize/Soya
	Jirapa	Maize
	Sissala East	Maize/Soya
	Sissala West	Maize/Soya
	Sawla-Tuna-Kalba	Maize and Soybean
	Nadowli	Maize/Soya
Brong Ahafo	Kintampo North	Maize/Rice
	Kintampo South	Maize
	Pru	Maize/Rice
	Sene	Maize//Rice
	Tain	Maize

### Annex 2: ADVANCE staffing

Staff Category	Number
<b>Technical Staff:</b>	
<ul style="list-style-type: none"> <li>• COP</li> <li>• DCOP</li> <li>• Project Director(PD)</li> </ul>	
Technical Leads and Regional Coordinators	9
M&E Manager and M&E Officers	5
Business Facilitators(BFs)	26
Program Services(Gender, Environment, Grants, PR&C)	11
<b>Support Staff</b>	
Accounts	5
Administration & Logistics	12
Drivers	18
Security	4

### Annex 3: ADVANCE Organizational Chart



Key	
A/C	Accounts clerk
AA	Admin Assistant
BF	Business Facilitator
FS	Financial Service
I&E	Inputs and Equipment
M&EO	M&E officer
Mz	Maize
OA	Office Assistant
OM	Office Manager
O'rch	Outreach
OP	Outpost
PA	Program Assistant
PR&C	Public Relations & Communication
RC	Regional Coordinator
Sp	Specialist
TL	Technical Leader
UER	Upper East Region
UWR	Upper West Region
<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	TechnoServe
<span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	ACDEP
<span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	PAB

#### Annex 4: Ecobank/ADVANCE- loans facilitated and disbursed

Region	Actor	USD	Purpose	Status
Upper East	Amokwa Glory Enterprise	15,544	Input Supply	Submitted
Upper East	Ben Awuni	20,725	Equipment	Submitted
Brong Ahafo	Peter Okrah	51,813	Marketing	Submitted
Brong Ahafo	Allah is Able Agrochemicals	18,135	Investment	Submitted
Brong Ahafo	Kate Achiaa	33,679	Investment	Submitted
Northern	Yelimangli Enterprise	25,907	Input Supply	Rejected <sup>5</sup>
Upper East	Martin Ariku	19,588	Marketing	Disbursed
Brong Ahafo	Kwadwo Fosu	32,500	Marketing	Disbursed
Northern	Ganye Enterprise	51,546	Input Supply	Disbursed
Northern	Muyo Farmers	36,269	Marketing	Disbursed
	<b>TOTAL</b>	<b>305,706</b>		

#### Annex 5; SASL/ADVANCE- loans facilitated and disbursed

Region	Actor Name	USD	Purpose	Status
Northern	Peasant Farmers Association	2,591	Equipment	Submitted
Northern	Lolandi Rice Processing Center	25,907	Marketing	Submitted
Upper East	Biu FBOs	36,269	Production	Submitted
Upper East	Moru Azure	2,591	Equipment+ Marketing	Submitted
Upper East	Biu FBOs	36,269	Production	Submitted
Northern	Adam Abukari	7,732	Production	Submitted
Northern	Kukunator Womens Group	7,732	Production	Submitted
Northern	Anoshe Womens Group	7,732	Production	Submitted
Northern	Abukari Tindana	2,332	Production	Submitted
Upper West	Imoro Abdulai Salia	13,020	Marketing	Submitted
Northern	Bakur-Samakuse Company Limited	29,534	Production	Approved <sup>6</sup>
Upper East	Daniel Atigsi	2,591	Marketing	Approved
Upper East	Daniel Atigsi	2,591	Marketing	Approved
Brong Ahafo	Sekyere Odiasempa Society	95,722	Marketing	Approved
Upper West	Busa Group (Suntaa-Nuntaa, Taakaamali)	10,104	Production	Approved
Upper West	Tankanzu Group (Mwinisumbo,Sungback)	7,552	Production	Approved
Upper East	Awintuma Akande	5,155	Marketing	Disbursed
Upper East	Ben Awuni	18,041	Equipment	Disbursed
Upper East	Martin Ariku	10,881	Production	Disbursed
Upper East	74 outgrowers of Martin Ariku	8,703	Production	Disbursed
Upper East	Awintuma Akande	10,363	Marketing	Disbursed
Brong Ahafo	On the cross maize farmers	1,804	Production	Disbursed

<sup>5</sup> Yelimangli Enterprise application was rejected due to lack of collateral

<sup>6</sup> This NF, based in Salaga, was murdered in July 2013. His OGs were affected by the outcome and did not have the inputs necessary for this year's season.

Brong Ahafo	Wisdom rice farmers Association	12,804	Production	Disbursed
Brong Ahafo	God is Able Farmers Assoc	2,691	Production	Disbursed
Brong Ahafo	Lemu Maize Farmers Assoc	2,088	Production	Disbursed
Brong Ahafo	Believers Maize Farmers	719	Production	Disbursed
Northern	Zocoffams Enterprise	5,181	Production	Disbursed
Northern	Muyo OGs	8,873	Production	Disbursed
Northern	Alhassan Seidu	7,732	Equipment	Disbursed
Northern	Ibrahim Mahama (Kibos Farm)	5,181	Production	Disbursed
Northern	Yong Dakpemyili	7,732	Equipment	Disbursed
Northern	Germinal Company Limited	5,155	Marketing	Disbursed
Upper West	Mashood Dori	20,619	Marketing	Disbursed
Upper West	Anbotimah Augustine	15,464	Marketing	Disbursed
Upper West	Kojokperi Group	35,134	Marketing	Disbursed
Upper West	Ullokuu Group	3,090	Production	Disbursed
Upper West	Funsi Group	18,063	Production	Disbursed
Upper West	Langullo Group	2,004	Production	Disbursed
Upper West	Felix Basing	20,619	Marketing	Disbursed
	<b>Total</b>	<b>518,365</b>		