Ghana Agricultural Development and Value Chain Enhancement Project (ADVANCE)

Annual Report, Year 1
October 1, 2009 – September 30, 2010

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IMPLEMENTING PARTNERS:

acdep
Association of Church Development Projects

ASSOCIATES FOR SUSTAINABLE RURAL DEVELOPMENT
Motto: "Growing Two Where One Stood Before"

WINROCK INTERNATIONAL
Putting Ideas to Work

TechnoServe
BUSINESS SOLUTIONS TO POVERTY

Opportunity International

This report covers activities under USAID Cooperative Agreement No. 641-A-00-09-0026-00.

LIST OF ACRONYMS

ACDEP	Association of Churches Development Projects
ADB	Agricultural Development Bank
AEA	Agricultural Extension Agent
AfDB	African Development Bank
AGRA	Alliance for a Green Revolution in Africa
ASRuD	Associates for Sustainable Rural Development
ATP	Agribusiness and Trade Promotion
BNARI	Biotechnology and Nuclear Agricultural Research Institute
CAGA	Carrot Grower Association of Ghana
CIGMAG	Citrus Growers and Marketing Association of Ghana
CRI	Crops Research Institutes
DCA	Development Credit Authority
E-ATP	Enhanced-Agribusiness and Trade Promotion
ECOWAS	Economic Community Of West African States
USAID-EG	United States Agency for Development – Economic Growth
EU	European Union
EWB	Engineers without Borders
FASDEP	Food and Agriculture Sector Development Policy
FBO	Farmer Based Organization
FIs	Financial Institutions
FTF	Farmer-to-Farmer
GAFCO	Ghana Agro Food Company
GAP	Good Agricultural Practice
GAPTO	Ghana Agricultural Producers and Trader Organizations
GAVVP	Ghana ACDI/VOCA Volunteers Program
GFSR	Global Food Security Response
GSSP	Ghana Strategic Support Program
GTZ	German Technical Cooperation
IEHA	Initiative to End Hunger in Africa
IFPRI	International Food Policy research Institute
INGO	International Nongovernmental organization
KIP	Kpong Irrigation Project
M&E	Monitoring and Evaluation
MFI	Micro Finance Institution
MiDA	Millennium Investment Development Authority
MIS	Management Information System
MOAP	Market Oriented Agricultural Program
MOFA	Ministry of Food and Agriculture

MOU	Memorandum of Understanding
NAAMSECO	National Association of Mechanization Service Centre Operators
NBFI	Non Banking Financial Institution
NGO	Nongovernmental Organization
NRGP	Northern Rural Growth Program
OACS	Osudoku Agriculture Cooperative Society
OISL	Opportunity International Savings and Loans
P4P	Produce for Purchase
SADA	Savanna Accelerated Development Authority
SARI	Savannah Agricultural Research Institute
SME	Small and Medium Scale Enterprise
SMS	Short Message Service
STTA	Short-Term Technical Assistance
TIPCEE	Trade and Investment Program for Competitive Export Economy
USAID	United States Agency for International Development
USDA	United States Department for Agriculture
VCTF	Venture Capital Trust Fund
WAFF	West Africa Fair Fruits
WFP	World Food Program

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EXECUTIVE SUMMARY

During the first year of implementation, the United States Agency for International Development (USAID)-funded Agricultural Development and Value Chain Enhancement (ADVANCE)program established six offices across the country, recruited and trained personnel and implemented innovative activities aimed at achieving the program's goal of facilitating a transformation of Ghana's agricultural sector. We expect that this transformation will lead to increased incomes, the emergence of a commercial agriculture class and improved services in rural areas and will ultimately contribute to economic growth and poverty reduction. This report presents progress made during the first year of the program's implementation from October 1, 2009 to September 30, 2010.

ADVANCE is an important part of USAID/Ghana's economic growth portfolio and contributes to USAID economic growth targets. It is also aligned with the Initiative to End Hunger in Africa (IEHA), the Global Food Security Response (GFSR) as well as the Ghana Government's Food and Agriculture Sector Development Policy (FASDEP II) objectives. The program is implemented by ACDI/VOCA in partnership with three international partners - TechnoServe, Winrock, Opportunity International, and three local partners - ASRUD, ACDEP and PAB Consult.

During this reporting period, ADVANCE contributed to increasing the competitiveness of Ghana's agriculture by:

(i) Developing a program to address seed quality constraints by training nine (9) maize seed growers and four (4) seed inspectors on the production of hybrid seed to ensure that superior genetic material is made available to farmers to improve productivity.
(ii) Improving access to mechanization services, including the provision of three (3) matching grants for the purchase of various types of planters and simple harvesters to improve productivity and product quality.
(iii) Supporting growth and effectiveness of the input supply system through promotional events.
(iv) Operationalising a GIS system and mapping of 13,186 fields in 15 districts to enable tracking and decision- making on commodities.
(v) Using simple Information, Communication and Technology (ICT) tools such as SMS messaging and radio programs for efficient dissemination of information on commodity prices, agro inputs and usage, market demand for commodities among others.
(vi) Engaging actively various produce buyers and processors and supporting them to develop dedicated and efficient supply chains.
(vii) Supporting the Ghana Grains Council to further develop the Ghanaian grain warehouse receipt system to facilitate storage and access to finance.
(viii) Engaging the financial sector to develop effective monitoring mechanisms to reduce the risk to lending to smallholders.

To date,21,477 farmers have participated and benefitted from the ADVANCE program. A total of 508 FBOs, 85 buyers and processors, 55 input dealers and 39 mechanization service providers have been engaged by the program and are benefiting by either receiving or providing services or being linked to supply chains and markets.

Twenty two financial institutions comprising two industry organizations, four commercial banks, two non-bank financial institutions (NBFIs), four venture capital funds and 10 rural banks were

engaged by the program to provide or develop agric-related financial services to value chain actors. We have signed MOUs and agreements with four banks to develop financing models for the different value chain actors in the selected commodity areas of ADVANCE interventions. These models are designed to minimize the risks associated with lending particularly to small holders.

The Farmer-to-Farmer (FtF) Leader with Associate (LWA) and the associate award (ADVANCE) are fully integrated in a manner that is ensuring complementarity and synergies between the two programs. During the first year, 33 hosts benefitted from the volunteer program with 46 volunteers completing 47 assignments with five assignments on-going as at end of September 2010.

ADVANCE has awarded $165,000 in grants to three companies - Finatrade Company, PEE Farms and Kobbiman Farms – who have capacity to make the most impact on the rice, soybean and maize value chains by working with outgrower schemes ranging from 300 to1,200 farmers. Grants were awarded for the procurement of production and harvesting equipment in the Ashanti, Brong Ahafo, Upper West, and Volta Regions. Grant assistance was further leveraged by the private investment amounting to $100,263 put in by the beneficiaries to purchase two planters and two tractors for their operations in Brong Ahafo and Ashanti Regions. Also, in collaboration with the Expanded Agribusiness and Trade Promotion (E-ATP) Program, ADVANCE provided a grant of $544,000 to the Ghana Grains Council for the warehouse receipts system pilot program to improve competitiveness and efficiency in the grains sector.

To track program implementation progress, the ADVANCE team has put in place a fully operational Monitoring and Evaluation (M&E) system. Baseline studies have been conducted, and the findings were used as a guide in setting targets for the program. The Management Information System (MIS) has been developed, staff trained and data collection and analysis are in progress to track the program's progress against the target indicators. Recognizing that transformation is slow and non-linear process, we have, in addition to the mandatory indicators on which we must report to USAID, developed indicators that enable us to track the transformative process in a systematic way. Integral to our M&E system is the knowledge management component, which is focused on creating and supporting a culture that is open to learning and sharing observations through an effective feedback mechanism. The knowledge management system also helps in tracking both tangible and intangible changes as a way of determining project impact.

ADVANCE has collaborated closely with the USAID-funded Ghana Strategic Support Program (GSSP) and the Northern Rural Growth Program (NRGP) which is implemented through a government loan from the International Fund for Agricultural Development (IFAD) and the African Development Bank (AfDB). We have also collaborated closely with the Ministry of Food and Agriculture (MoFA), both at national and district levels, as well as the GTZ at various levels to complement each other's efforts and ensure synergy among our programs.

The project has established five zonal offices in Tema, Techiman, Nkawkaw, Ho and Tamale in the Greater Accra, Brong Ahafo, Eastern, Volta and Northern Regions respectively. This is in addition to the ADVANCE head office in Accra. These zonal offices are all fully staffed and operational and cover 86 districts out of the 170 districts in Ghana. Also, vehicles and office equipment have been procured for effective and efficient project implementation.

SECTION 1.0 INTRODUCTION

USAID awarded the ADVANCE program in July 2009 to ACDI/VOCA through the FtF LWA mechanism under the Associate Cooperative Agreement No. 641-A-00-09-00026-00. The goal of ADVANCE is to facilitate a transformation of Ghana's agricultural sector in select agricultural industries to achieve increased competitiveness in domestic, regional and international markets.

The ADVANCE program is designed to contribute directly to achieving USAID's Strategic Objective 6 "Increase competitiveness of Ghana's agricultural sector in domestic, regional and International markets" as well as the results of the GFSR program which aims to increase agricultural growth, stability and food security. Activities under ADVANCE Component 1 (Enhanced Value Chain Competitiveness) contribute to GFSR Intermediate Result 1, i.e. 'Enhanced Productivity of Smallholder-based Agriculture'; while activities under ADVANCE Component 2 (Increased Market Access and Development) and Component 3 (Increased Access to Financial Services) contribute to GFSR Intermediate Result 2, i.e. 'Reduced Agricultural Trade and Transport Barriers'. ADVANCE also contributes to IEHA objective of raising rural incomes through agricultural development and to the objectives of the Government of Ghana FASDEP II policy.

This report presents the progress made during the first year of project implementation covering the period October 1, 2009 through September 30, 2010.

In Section 2, we present the overall management structure of the program with the various implementing partners. We also present our strategy on knowledge management within the program, media relations and our collaboration with MoFA and major development projects whose activities have potential to overlap with the ADVANCE program.

In Section3, we present the ADVANCE results framework, our broad strategies and activities that contribute to building the competitiveness of the selected value chains. In this section we also report on activities carried out to increase market access and access to financial services.

In Section 4, we summarize the broad results and achievements in the first year and how they feed into specific intermediate results of USAID's Strategic Objective 6.

Section 5 presents the progress made with each targeted commodity by the project comparing achievements with targets that were set for the year. In Section 6, we report on progress with volunteer assignments whilst section 7 focuses on progress made with the grants program. Section 8 covers our efforts in addressing issues related to the environment and gender, and the last section summarizes our monitoring and evaluation activities.

SECTION 2.0 OVERALL PROJECT MANAGEMENT

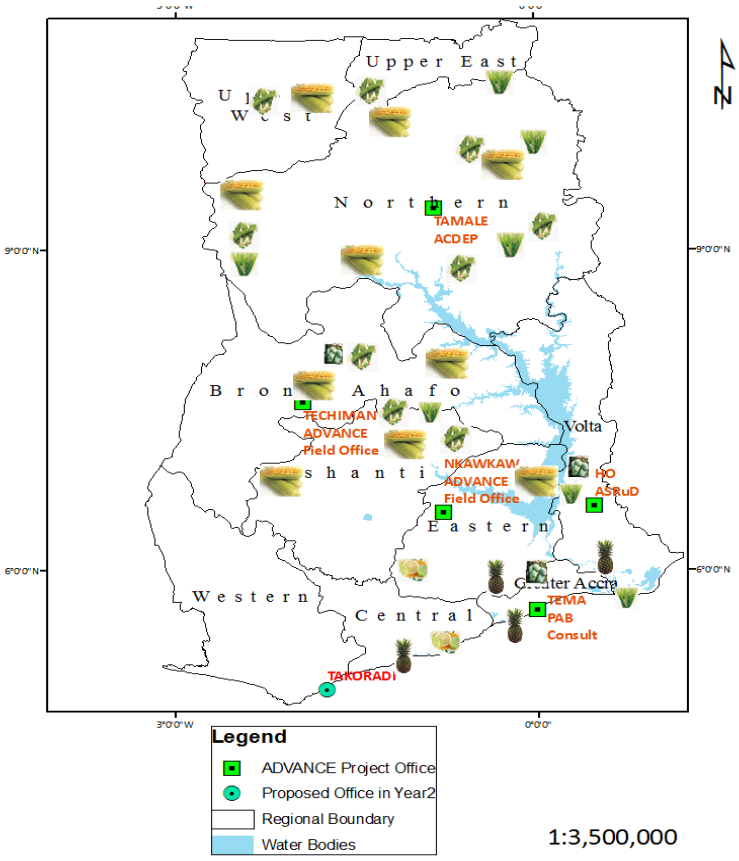
2.1 IMPLEMENTING PARTNERS, OFFICES AND STAFFING

ADVANCE is implemented by a consortium of seven partners with ACDI/VOCA responsible for the overall management of the project. ACDI/VOCA has set up the ADVANCE head office at East Legon in Accra with sub-offices in Techiman, Nkawkaw and Tamale.

ADVANCE Chief of Party (COP) John 'Bick' Riley has responsibility for oversight of project implementation, senior management, consortium member coordination, and relations with the USAID Ghana Mission, the Ministry of Food and Agriculture (MoFA), as well as development partners in the agricultural sector.

The Deputy Chief of Party (DCOP) coordinates and supervises the technical team. He is supported by the Senior Technical Advisor. Details of staffing are shown in Annex 1. The organogram of the ADVANCE head Office in Accra and an overall organizational chart of the ADVANCE Program are in Annexes 2 and 3, respectively.

FIGURE 1: PROJECT OFFICES AND PROMOTED CROPS



Three local partners - PAB Consult, Association of Church Development Projects (ACDEP) and Associates for Sustainable Rural Development (ASRuD) - lead with implementation of field activities in three zonal offices in Ho, Tema and Tamale and are responsible for specific commodities (see Figure 1).

TechnoServe provides both long- and short-term technical assistance and contributes to program planning. Winrock International ha provided specific technical support in gender and will provide STTA in water management in year two.

2.2 STAFF DEVELOPMENT AND KNOWLEDGE MANAGEMENT

Transforming the agricultural sector in Ghana depends on effective implementation of a clear vision on the ground and this is only possible through a management system that harnesses staff strengths and creates a learning and experience sharing environment. ADVANCE has put in place a knowledge management system that facilitates the process of learning, captures and analyses both tacit and explicit information from the field to inform and revise project interventions in a timely manner. Examples of activities include:

- staff and value chain actor learning exchanges,
- shifting implementation management to functional and commodity teams and away from original stove-piped components,
- creation and access to tools and resources enabling staff to share tacit and explicit knowledge,
- embedding volunteers in field offices who have analyzed staff and system effectiveness and provided recommendations for improvements.

Table 2. 1 shows a number of initiatives that were put in place over the course of the year to create a learning culture and support initiative and team-work.

TABLE 2. 1: STAFF DEVELOPMENT ACTIVITIES AND KNOWLEDGE MANAGEMENT

Planned Activity	Accomplishments
Organise orientation sessions for all staff	(i) Initial 5-day orientation for all managers and existing staff in October 2009 with emphasis on understanding the value chain and market facilitation principles, sharing and learning (ii) Five 2-day orientation workshops were held for all field staff that focused on value chain, market facilitation, and building teams that were able to learn from and support each other
Develop a document management system	(i) Created document management system that allows staff to store and access important project information. (ii) Developed innovative methods to share documents and information to and from field offices that have reduced internet access.
Organise learning events including staff-to-staff exchanges	(i) Five staff learning events focusing on the progress of an industry, the challenges and participatory brainstorming to overcome these challenges (ex: inputs industry, radio and outreach). (ii) Interactions that allowed different field teams to learn from and share success, challenges and experiences in different situations and context
Staff training	(i) Organised 27 staff trainings that focus on particular aspects of the project (ex: environment, M&E, contact management) Training staff on the use of photography and success stories in tracking and documenting project progress, success and impact.
Establish functional teams	We have created commodity teams that meet regularly to share important information, refine strategies and build a sense of responsibility towards a common goal and vision.
Share learning notes	Field staff shared quarterly learning notes that describe a situation or challenge on the ground, what they observed and learned from it, why this was important, what it means for the ADVANCE project and what they think ADVANCE should do to take advantage of this learning. A panel of field staff selected the best submission then rewarded through public recognition and a 'communication'-related prize.
Institutionalise weekly/monthly bulletins	We instituted weekly and monthly bulletins such as: (i) Short summaries of events and accomplishments from the field are compiled and redistributed to all staff on a weekly basis. (ii) Monthly internal bulletins inform staff of recent developments on the project, profiling staff, sharing information about upcoming events and providing tips to improve implementation in the field.

As with most new practices, a major challenge that we faced is a relatively low understanding on the importance and role of knowledge management among the team. Over the year, the appreciation of knowledge management across the project

Quote from a Learning Notes competition winner on feedback from her colleagues.

"Thanks Francis. I'm glad you all had something to learn from my story. You can expect even more beautiful and enlightening stories from my colleagues and I in subsequent bulletins, for really, we are getting a lot of lessons on the field, more lessons than we ever got in school." Safia Musah

teams increased, facilitating behaviour changes amongst staff and an improved learning and communication environment.

2.3 COLLABORATION WITH MOFA AND OTHER PARTNERS

ADVANCE has continuously engaged MoFA at all levels to ensure that our programs and activities complement those of the Ministry and contribute to the objective set out in FASDEP II. At the national level, we have kept continuous dialogue with Dr Sam Dapaah, the USAID Adviser to the Minister of Agriculture on MoFA policy direction and areas of mutual interest for ADVANCE and the Ministry.

Specific activities we have carried out in collaboration with MoFA include:

i) Hybrid seed training

ADVANCE, in collaboration with MOFA, CSIR-Crops Research Institute (CRI) and the Grains and Legumes Development Board (GLDB), successfully organized all three-phases of a hybrid maize seed production training workshop for nine seed growers and four seed inspectors. The main goal of the workshop was to develop the capacity and skills of participants (comprising selected seed growers and seed inspector) in hybrid maize seed production (see Figure 2) and to increase the availability and accessibility of the *Mamaba* hybrid seed, which is the most productive hybrid maize variety developed and grown in Ghana but used by very few farmers.

PICTURE 1: PARTICIPANT REMOVES TASSELS IN A HYBRID MAIZE SEED FIELD DURING THE TRAINING

ii) Participation in the Agricultural Sector Working Group

ADVANCE has participated actively in the Agricultural Sector Working Group co-chaired by the Director of the Policy Planning Monitoring and Evaluation Directorate (PPMED) of MoFA and donor representatives. ADVANCE consultant Alan Pieper provided technical support to the DP/MoFA Joint Sector Review. Specifically, he was a contributing member of 'Cluster 1: Sector Performance in 2009 and Achievement of Policy/Program Objectives' team. He compiled an addendum of additional recommendations in support of private sector growth. ADVANCE made two formal presentations, one on the project itself, and the second on the grain warehouse receipting system to share our activities with partners.

iii) GIS mapping

Our GIS program started in 15 districts in the Eastern, Ashanti and Central Regions in collaboration with MoFA. Specific activities included:

a. Training of 30 AEAs who participated in the mapping of citrus farms.
b. Signed MOUs with 12 districts to share the results of the citrus mapping exercise (see details in section 3.2.6).
c. Mapping of 13,186 citrus farms

iv) Training in value chain development

ADVANCE supported a long-term volunteer through Engineers without Borders (EWB) to train seven Agricultural Extension Agents (AEAs) and one District Director in the Bongo District on value chain development to enhance their capacity to link all actors in the chain to make agriculture profitable.

v) Collaboration with the GTZ MOAP project

ADVANCE had a number of meetings with the GTZ-MOAP project to discuss leveraging our programs. As a result, we collaborated with GTZ in their study of appropriate post-harvest techniques and economic feasibility in the Techiman area.

Together with GTZ and SNV we started a process of collaboration in the fruit processing industry with a meeting hosted by GTZ with processors on 25th August, 2010 and with FBOs on 26th August, 2010. The processors and the FBOs listed their challenges/constraints and discussed the way forward. In the coming year, we will continue to work closely with GTZ and SNV to complement each other's efforts in the fruit industry.

vi) Collaboration with the Agriculture and Trade Promotion (ATP)Projects

ADVANCE and ATP have coordinated their efforts to support the creation of a GWRS in Ghana. This included technical assistance, direct logistical support and grant support. ADVANCE has also participated in several forums organized by ATP on rice, sorghum, and poultry.

vii) Collaboration with the Venture Capital Trust Fund and Northern Rural Growth Program

We worked with the Venture Capital Trust Fund (VCTF) and Northern Rural Growth Program (NRGP) to design a unified strategic plan for the development of the soybean industry in Ghana, leading to the establishment of the National Soybean Alliance with membership drawn from representatives from the processors, producers, seed growers' association, producers, the poultry farmers association, the Grains and Legumes Development Board, MoFA and the research institutions (Crop Research Institute, Savannah Agricultural Research Institute and the Food Research Institute). The Soybean Alliance has been registered as a legal body and currently shares an office block at West Legon with the Ghana Grains Council.

viii) The World Fish Center (WFC)

ADVANCE shared the results of its aquaculture value chain assessment with WFC and received significant inputs enhancing the quality of the document. The FAO was consulted at several steps in the development of the assessment scope of work and by the assessment team.

ix) Alliance for a Green Revolution in Africa (AGRA).

ADVANCE contributed significant time through its senior advisors providing information and feedback to the development of the AGRA/MoFA "breadbasket" approach. However, not all of ADVANCE's feedback and recommendations were taken into account.

2.4 USE OF SHORT-TERM TECHNICAL ASSISTANCE

In year one, ADVANCE used the services of a number of short-term technical assistance (STTA) assignments to conduct various studies and make recommendations on how best specific interventions could be targeted at specific commodity value chains. Table 2.2 presents a list of the short-term local and international consultants and the nature of their assignment.

TABLE 2. 2: LIST OF CONSULTANCIES PLANNED AND UNDERTAKEN IN THE REPORTING PERIOD

Consultancy	Consultant	Status	Follow Up
To develop farm budget models with various scenarios for maize, rice and soybean	Dr. G.T-M. Kwadzo	Final report submitted	Findings are being used effectively in the commodity teams for various activities including marginal analysis
To undertake baseline study of project areas to set benchmarks against which project performance can be measured.	University of Ghana, Legon, Departments of Agricultural Economics, Agribusiness & Extension	Baseline completed for both quantitative and qualitative assessments. Final report submitted	Findings from studies will be incorporated in setting indicator baselines and targets for year 2
To undertake Initial Environmental Examination	Jeremy Davis	IEE completed and final report	Mitigation plans to be implemented in year 2
To evaluate pesticide regimes in Ghana make recommendations for usage for ADVANCE (PERSUAP)	Prof. K. Afreh-Nuamah	Final report submitted	PERSUAP to be reviewed in May 2011
To develop gender plan for ADVANCE (by Winrock International)	Charity Kabutha	Gender assessment in all ten regions of ADVANCE intervention completed and final report submitted	Recommendations have been incorporated into ADVANCE year 2 activities including M&E
To develop farm budget models with various scenarios for fruit industry (pineapples, mangoes and citrus).	Prof. Anthony Panin	Final report submitted	Findings from study will be incorporated in setting indicator baselines and targets for year 2
To lead the team including ADVANCE staff and members of the Grains Council to establish a warehouse receipt system.	Rick Andrews	Assignment completed in March 2010. Currently on a follow-up assignment to develop a business plan for Ghana Grains Council	Finalize business action plan in November, 2010
To conduct an assessment of Prairie Volta business model and then if appropriate develop a capitalization plan based on a three to five year time frame.	Fred Levitan	Assignment completed in March 2010	Report was presented to Prairie Volta (PV); no clear pathway for ADVANCE intervention; a priori issues as noted in report to be resolved by PV
To study the domestic and Regional Fruit and Vegetable market for possible opportunities to expand into new markets	Michael Brown	Assignment completed in March 2010	Report confirmed ADVANCE selected commodities and provided additional insights for staff and industry
Aquaculture Value Chain Assessment: 1) Cage Culture	Steve McCarthy; Sam Seddoh Jr	Assessment completed; final report was shared with stakeholders	Recommendations will be prioritized and incorporated in year 2 plans for implementation
Aquaculture Value Chain Assessment: Smallholder/small scale production	Sam Seddoh Jr (Technoserve), ACDI/VOCA Staff and KNUST Intern	Assessment completed in June, 2010	
Ghana Oil palm Industry Study	Paul Pascal Therson	Final report submitted in July 2010	Recommendations will be incorporated in year 2 plans for implementation
Ghana Rural Banking survey to explore methods to foster the development of capacity building services for the APEX Bank and/or for financial	Roger Bird	Assignment completed in July 2010 and draft report submitted	Comments from ADVANCE submitted to consultant awaiting final report Final report to be shared with APEX

Consultancy	Consultant	Status	Follow Up
services firms interested in the agricultural sector			for their comments and implementation of recommendation
Joint sector review: MoFA and DP's	Alan Pieper	May 2010	Recommendations incorporated in Aide Memoire and addendum to be followed up by ASWG

2.5 PUBLIC RELATIONS AND COMMUNICATIONS (PR&C)

ADVANCE public relations and communications are integral to the program's success -projecting and promoting the program, its strategy, mandate and its successes internally and externally through information dissemination, while ensuring optimum USAID marking and branding. Notable among the activities undertaken during the reporting period were:

- *Media coverage* of training workshop in hybrid maize seed production in Kumasi in June 2010 to showcase ADVANCE's contribution to building capacity of certified seed producers.
- *Participation in the agri-business fair* in May, where we:
  - shared the ADVANCE mandate, strategy and activities with various stakeholders,
  - projected ADVANCE visibility and highlighted relevant activities in the media,
  - facilitated a presentation by the Ghana Grains Council (GGC) and covered ADVANCE's role in developing the warehouse receipt system, aired on GTV.
- *External newsletter:* A quarterly external newsletter is set for release in October 2010.
- *Publishing success stories:* Three success stories have been published on the ACDI/VOCA home office website during the reporting period.
- *Branding and Marking Plan:* The ADVANCE Branding and Marking plan which had been circulated to all field offices, was also published in the June and July editions of the internal e-information bulletins to enable staff incorporate the requirements in written communications and materials.

As we continue project implementation, we will:

- Publish news stories on ADVANCE activities in the print media.
- Train appropriate spokespersons addressing the media and interviewing.
- Organize photo documentation training sessions for all staff and FBFs using STTA.
- Organize media briefings (to involve print and electronic media) to describe the impact of ADVANCE program in relation to ADVANCE's goal.
- Develop educational videos about demonstration farms, good agricultural practices (GAP), improved storage practices to increase farmers' ability to reduce post-harvest losses and respond to new markets.
- Organize "Press Soiree" events to brief the media on ADVANCE activities, impact, successes, challenges, lessons learned, etc.

SECTION 3.0 INCREASING COMPETITIVENESS OF GHANA'S AGRICULTURAL SECTOR

The ADVANCE Results Framework (Annex 4) is organized around achieving the results of USAID's Strategic Objective 6. Following a series of discussions with USAID, the ADVANCE results framework was revised to reflect causal flow between the activities to be implemented under the three broad program components of ADVANCE and the intermediate and sub-intermediate results of the GSFR and USAID Economic Growth Strategic Objective 6.0. Strategies adopted and progress made under each project component is presented in this section.

3.1 ENHANCED COMPETITIVENESS OF SELECTED COMMODITY VALUE CHAINS

Enhancing the competitiveness of commodity value chains requires improvement in productivity along the specific value chains starting from an effective and efficient input supply system to improved crop productivity and product quality along the chains. The ADVANCE team worked on facilitating linkages and building relationships between core value chain actors and support services including financial services, technical advice and mechanization services to producers.

We have adopted the following strategies: (i) developing quality seed strategy, (ii) promoting simple mechanisation services, (iii) improving input access, and (iv) developing a grain warehouse receipt system for storage and enhanced access to finance.

3.1.1 ENHANCING ACCESS TO QUALITY MAIZE SEED

For significant improvements in yield, using the right seed and other inputs is critical. After consultations with the Plant Protection and Regulatory Services Directorate of MoFA, CRI and the Savannah Agricultural Research Institute (SARI) and some industrial and large buyers of maize, the ADVANCE team developed a maize seed strategy, which includes importation of high yielding hybrid maize varieties for adaptive trials in the minor season of 2010 and major season of 2011.

It is expected that the maize seed strategy will result in the following outcomes by 2013:

(i) 10 seed growers and four MoFA technicians will be trained in hybrid seed production technology.

(ii) A total of 160MT of Mamaba seed valued at $192,000 will be produced within the life of the project by 10 seed growers as shown in Table 3.1.

TABLE 3. 1: PRODUCTION OF MAIZE HYBRID (MAMABA) SEED

Year	Mamaba seed production (Mt)	Value(US$)
2010	30	36,000
2011	30	36,000
2012	50	60,000
2013	50	60,000
Total	**160**	**192,000**

During the reporting period, the project, working in partnership with Wienco and Agriserve, contracted the Crops Research Institute (CRI) to evaluate the performance of seven hybrid maize varieties. These varieties were sourced from Pioneer and Pannar seed companies.

Lack of expertise to produce hybrid seed maize by seed growers has contributed to inadequate supply of certified hybrid seed for dissemination. ADVANCE, in collaboration with CRI, MoFA and the GGLDB, organized a training program for nine seed growers and four seed inspectors. All three phases of the tailor-made training has been completed, and three of the trainees have planted a total of 15 acres of hybrid *mamaba* seed. Also, ADVANCE has funded the production of the male parental line and this will produce at least 30MT of *mamaba* seed for the 2011 season, sufficient for planting 2,500 ha.

3.1.2 Enhancing Access to Mechanized Services

For cereals and soybeans, mechanization is very important for proper land preparation and planting to obtain optimum plant population density. Also for soybean, harvesting and threshing activities must be mechanized to ensure efficiency and assure quality. The cost and accessibility of mechanization at the individual farmer level is dependent on the development of a viable supply chain for equipment, which is a slow and risky proposition. ADVANCE held several discussions with the National Association of Mechanization Service Companies (NAAMSECO) to speed up and expand rapidly the emergence of a market for mechanized services from land preparation to planting through harvesting and threshing.

Under the FtF Leader Program, NAAMSECO was supported with three expert volunteers, one of whom facilitated the development of a business plan which was presented to Stanbic Bank to finance the purchase of farm machinery including tractors, planters, harvesters, threshers and spare parts, as recommended by the volunteer. ADVANCE provided a letter to Stanbic bank supporting NAAMSECO's loan application.

ADVANCE linked several farmers to NAAMSECO members, however the demand for services was higher than what NAAMSECO was able to provide mainly due to delays in the acquisition of new equipment and machinery.

To ensure sustainability, another strategy we adopted to facilitate access to mechanized services focused on supporting the growing private sector. We facilitated links to companies, such as RST and AGRIMAT, to supply and provide after-sale services to all customers leveraged by ADVANCE. During the reporting period, RST supplied 25 manual and five power-tiller–drawn planters whilst AGRIMAT supplied two 5-row tractor drawn planters for maize farmers under three different outgrower schemes.

Facilitating Access to Mechanized Services

Four tractor service providers were linked to 800 farmers in 50 communities in the Techiman area. Service providers were engaged to determine their ability to respond to demand. Farmers were introduced to service providers through their respective aggregators/buyers.

Some aggregators stood surety for payment of the services to the farmers. The price and other agreements reached between tractor service providers and aggregators/farmers were mostly on the cost of plowing.

The linkage of the aggregators, farmers and tractor service providers resulted in the plowing of 1,250 acres of fields at reduced transactional costs..

ADVANCE also engaged NAAMSECO to develop a certification process for operators. This includes developing a code of conduct and a centralized order structure for operators. ADVANCE has agreed to provide technical support to effectively manage its new equipment due to arrive in the coming year.

3.1.3 Working with the Input Industry to Become More Effective

The input industry is important to achieving broader transformation. However, the input industry in Ghana is weak and is defined more by a series of trade relationships as opposed to effectively managing their distribution networks. The result has been an unresponsive industry to the needs of the largest segment of their market – smallholders. Smallholders are risk-averse and not well informed on the range of options available to them or the potential benefits of various input options. Even with these limitations, the smallholder market is growing but remains far from its potential.

In year one, ADVANCE facilitated industry-level changes through targeted interventions with various input firms and service providers to more effectively meet market needs via shifts in their promotional tactics and distribution models. These shifts conform to the characteristics of the smallholder market, including promotional efforts that are more education-based and conducted within key high potential communities. To improve smallholders' access to inputs, we have:

i) Trained input providers on the basics of retailing and various expansion options.
ii) Developed agreements with input firms to support their effort to grow and improve their market position with smallholder farmers.
Supported input firms in:
iii) using radio as a means of increasing their presence in the community as a credible information source and solution provider.
iv) testing SMS technologies to improve customer relations and their inventory management.
v) investigating 'village agent' models to improve their distribution networks and presence in a community.
vi) investigating and testing service links including spraying services as part of their service offering.
vii) safety and environmental management training.

> Over 20 promotional events have been held by input firms in communities across the country generating increased sales of over GH¢133,000 and providing over 9000 farmers with improved access to information, services and agricultural inputs. For instance, Wofa Addo a leading input dealer in Brong-Ahafo Region embarked on a series of promotional events in seven communities and started promoting his products on the local radio station, Classic FM. This program is a medium for educating farmers on agrochemicals and their appropriate application. These promotional events have so far benefitted 472 farmers and generated additional sales of 1960 kg of seed maize, 550bags of NPK fertilizer (27.50Mt) and 145 cartons of herbicide.

The main challenge with implementing the input industry strategy is the systemic nature of the weaknesses of the inputs retail industry. Efficiencies and responsiveness to consumer needs can be driven from the shift towards branded retail networks but substantial vested interests remain. A lesson we have learned is that input firms are, in fact, able to engage smallholder farmers in commercial relationships. This enables the firms to expand into a previously neglected market by using innovative education-based marketing strategies and by shifting their focus to service provision and on the ground problem-solving.

3.1.4 Outreach Strategy

The overall ADVANCE outreach program focuses on supporting various actors design and implement interventions that improve the effectiveness of information flows to actors in their specific commodity value chains. It also aims at assessing and providing information on various

ways that actors receive and process information through improved radio content that is more targeted to multiple levels of the selected value chains actors including farmers, input providers, traders, aggregators/brokers, wholesalers and retailers.

In our first year implementation plan we, focused on three key outreach strategies:

i. Targeting the commercial agricultural sector in the rural areas through community and regional radio.
ii. Using SMS as an information exchange platform.
iii. Facilitating linkages between ICT Firms and lead firms in various value chains to develop effective information management systems for information dissemination to other value chain actors and for decision making.

All the above strategies were used in the reporting period to increase information flow among the actors in a number of supply chains. For instance, we developed strong relationships with multiple radio stations as a way of enriching their agricultural program content and also increasing their understanding of the whole value chain concept in relation to ADVANCE's project goals. We have used the radio stations to form networks, by linking them to sponsors, guest panelists and events in order to improve their content and increase information flow to farmers. Specific activities that ADVANCE has facilitated in the reporting period include:

- SMSGH Solutions Ltd is piloting an Integrated Information Management Application with Rite FM in Somanya. The system allows feedback through a two-way communication flow between the station and its listeners.
- Softribe (an Accra-based ICT company) completed an assessment on the use of SMS as a platform to improve the efficiency of value chain businesses that sell services to smallholders including input firms, service providers, and financial services firms. The report has been submitted to ADVANCE, recommending six companies for the pilot projects.
- E-zwich is deploying their services to Kingdom Fruits and its outgrowers to support mobile banking. Discussions are on-going with other service providers like Tigo and Text N Pay to explore more alternatives for different categories of people within the various value chains.

PICTURE 2: JIM ELLINGER WITH RADIO PRESENTERS AT RITE FM

A learning exchange workshop was held in July to provide five radio stations a forum to share successes, challenges and lessons learned in agricultural programming. The workshop brought together programmers from Rite FM, Lorlonyo FM, Radio Tongu, Nkonim FM and Obuoba FM. A radio consultant Jim Ellinger assisted in

facilitating the discussions and share new ideas with the station managers. The workshop also initiated the formation of a broader agricultural radio network throughout the country.

We adopted a strategy to use festivals as a platform to promote agricultural firms and disseminate information on their services. For instance, Golden Stork, an agro-input company, set-up a booth at the Ohumkan festival to promote their agro chemicals and provide farmers with a forum to ask questions. This event was covered by two newspapers and three radio stations, providing the needed publicity for all stakeholders involved.

Other outreach programs involving radio stations included:

i) A sponsorship deal between Golden Stork and Obuoba Fm in Nkawkaw for a contest on their agricultural program which rewards farmers who correctly answer a series of questions on agricultural topics with inputs. Golden Stork is using Obuoba Fm as a platform to educate farmers on the appropriate use of agro chemicals.

ii) The Board of Directors of Pinora has approved a sponsorship deal with Nkonim Fm to use the station to reach out to citrus farmers to increase their knowledge on GAPS in citrus production.

iii) An informal listenership survey was conducted in Affram Plains to identify what stations the people in that area are listening to for agricultural information. As a result of the survey we were able to make contact and begin the process of developing relationships with those stations.

"My interaction with farmers has yielded results," says Wofa Addo

Mr. Charles Kwadwo Addo, popularly called Wofa Addo, Managing Director of Wofa Addo Agyenkwa Farms and Trading Enterprises, strongly believes his collaboration with ADVANCE has helped him to strengthen his personal relationships with farmers and other clients. Wofa Addo is a major distributor and supplier of agro chemicals and general farm inputs in the Techiman Municipality. He has sales outlets in Sunyani and Nkoranza.

"Moving into the communities for promotional activities and taking part in radio programs has enabled me to forge closer links with my customers. " I also get the chance to educate them on proper usage of inputs during these activities," he states.

Picture 3: Wofa Addo in his agro shop

Wofa Addo has enjoyed an increase in business due to improved relationships with famers and aggregators through community and on-farm demos of agroproducts, which previously were little appreciated by farmers. Product demos have increased farmer knowledge and his sales. An SMS platform under development will extend his outreach through targeted extension messages.

A challenge we faced with our outreach program was that some radio stations we tried to engage were only interested in partnering with ADVANCE to secure sponsorships; therefore we chose not to work with them.

Farmers are generally passive seekers of information on agricultural technology. To increase outreach program success, radio stations were encouraged to involve communities in planning and implementing their agricultural programs to ensure effective listenership and participation. To

determine the listenership trends and patterns, in year two ADVANCE will facilitate focus group discussions in targeted areas to understand how listeners are processing and using new information.

3.1.5 Geographic Information Systems (GIS)

Application of GIS technologies to Ghana's agricultural development remains limited. The ADVANCE program is building on the TIPCEE initiative and broadening the application of geospatial technologies to improve the operations of value chain actors and link smallholders efficiently to services and markets.

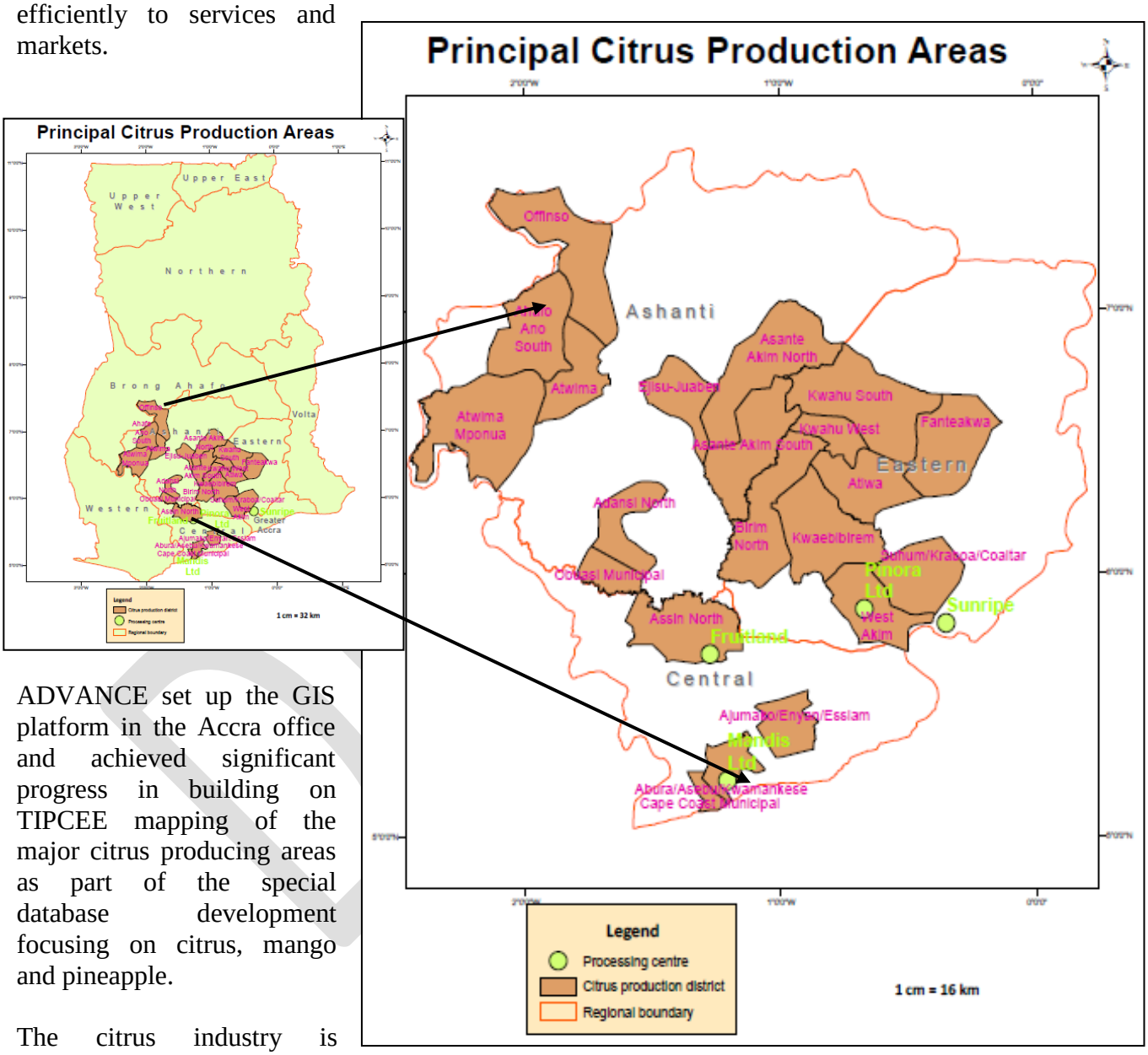


FIGURE 2: THE CITRUS CIRCLE IN GHANA (MARKED BY ARROWS) SHOWING THE COVERAGE OF ADVANCE GIS PROGRAM

ADVANCE set up the GIS platform in the Accra office and achieved significant progress in building on TIPCEE mapping of the major citrus producing areas as part of the special database development focusing on citrus, mango and pineapple.

The citrus industry is estimated to involve some 10,000 farmers, mainly smallholders with very few medium to large-scale farms. The sheer size of the industry coupled with a general lack of effective data collection in the agricultural sector present many challenges including:

- Inadequate and reliable data on producers, production and acreages under citrus production.
- Poor infrastructural support due, partly, to lack of data showing the spatial distribution of major citrus farms.
- Uncoordinated marketing activities.
- Weak knowledge base of farmers on citrus.
- Inadequate research on diseases, pest control and planting materials, processing and marketing constraints and poor farm maintenance.

ADVANCE citrus mapping began with a detailed study of the previous work done by ADRA and the TIPCEE project to avoid double-mapping. In collaboration with 12 MoFA district offices in the Eastern, Ashanti and Central Regions, all the TIPCEE and ADRA mapped farms were identified and the existing data on them updated. ADVANCE trained a total of 70 GIS surveyors. Fifty out of the 70 were the MoFA extension staffs, who work directly with the citrus farmers, while 20 were students pursuing various agricultural development programs from the University of Ghana, KNUST and UDS. The participants learned the concepts of farm mapping using handheld GPS receivers. They were then deployed to 15 citrus producing districts in the country (see Figure 4). Prior to mapping, the targeted communities were sensitized on the need to have their farms mapped.

While ADVANCE mapped a total of 10,000 farms in 15 citrus producing districts, data on an additional 3,186 (of 5,323 farms mapped by ADRA and TIPCEE) were updated by ADVANCE (see Table 3.2 below). We added new data on crop variety, age, plant population, accessibility. Also farms that have been expanded since the last mapping were re-mapped to capture the added area. Those that have been abandoned have been noted. GTZ/MOAP has indicated their willingness to update and share data on the areas they have mapped.

The mapped farms were delineated by plot type, crop variety, spacing regime, flowering frequency, productive stage (age), production forecasts (using the flowering frequency, variety, age and plant population data), accessibility to farms etc. These digital maps will form the core of our planned online GIS database. The online GIS is an interactive system allowing industry and stakeholders to track the spatial-temporal dimensions of project implementation across all commodity chains. It is expected to resolve the challenges of GIS data sharing and sustainability issues. It will also assist the development of GIS toolkits which will enable us to share the GIS data with our local partners especially the various MoFA district offices.

As the project advances, new data from mango, pineapple and other value chain commodities will be integrated into the online GIS database.

TABLE 3. 2: ACTIVITIES IMPLEMENTED BY THE GIS COMPONENT AND RESULTS

Planne Activity, Expected Outputs & Outcomes	Achievements
Set up ADVANCE GIS platform	GIS and image processing software's purchased, 40 GPS receivers procured, Plotter from the TIPCEE project available.
Identify citrus fields mapped by TIPCEE, ADRA and other organizations	Completed for TIPCEE and ADRA mapping programs, GTZ/MOAP project has also agreed to share their data on citrus fields mapped in some parts of the central region.
Train of 55 people drawn from MoFA Extension and agricultural graduates as GIS surveyors	70 people trained: 50 from MoFA and 20 students from the universities.
Updating of 5,323 fields mapped by ADRA, TIPCEE and GTZ-MOAP	A total of 3,186 fields were updated. The remaining 40% fall within the operational area of GTZ who has promised to share updated data with ADVANCE.
Map 8,000 new fields in 13 citrus producing district	A total of 9,607 fields were mapped in 15 districts.
Map the total of 10,600farms (both updated and new ones)	Mapped 13,186 farms(both updated and new ones).
Process data on mapped fields to generate area under cultivation, variety, age, etc.	Completed.
Develop of ADVANCE online GIS database	To be done by end of March 2011 when the entire database is created.

Challenges

The major challenge faced during the mapping of the citrus farms was low cooperation from some beneficiary farmers with little interest in the absence of significant market opportunities. Some farmers have abandoned their farms in recent years. This provided a window of opportunity for the survey team to explain to the farmers how mapping and other ADVANCE work can facilitate linking them to processors and other buyers. Accurate data on citrus production levels and farmers will enable industry leaders to develop effective supply chains. Farmers were also educated to adhere to good agricultural practices.

Lessons Learned

For a GIS mapping program to be successful, community sensitization is critical. In areas where there were low sensitization programs, the survey team found it very difficult to have the cooperation of farmers. Also, farmers in communities where the two former projects, ADRA's Food Security and TIPCEE, have operated were much less willing to cooperate with the field surveyors. Farmers in these areas asserted that similar mapping exercises by the earlier projects did not bring any results, especially relating to marketing.

On the other hand, the presence of the GIS surveyors in previously unmapped communities provided some motivation for farmers to rehabilitate their abandoned farms. One farmer at Afosu in the Birim North district simply could not hide his feelings when he said that " I am very happy now to know that at least one organization has recognized our plight and is now ready to help us to find a market for our rotting fruits through this mapping''.

In the coming year, major activities to be implemented include:

- Development of ADVANCE Interactive Online GIS database.
- Development of GIS toolkits and training of MoFA MIS officers on GIS data exploration and usage.
- Mapping of Mango and Pineapple plantations.

- Selective mapping of other commodity chains involved in different outgrower models.
- Support to partner financial institutions (e.g. ADB) to establish GIS program.
- Mapping of select irrigation sites and potential irrigation areas using remote sensing imagery.
- Development of crop suitability maps for ADVANCE operational areas.

3.2 INCREASED MARKET ACCESS AND DEVELOPMENT OF LOCAL AND REGIONAL MARKETS

To understand current market interactions, ADVANCE assessed buyers, aggregators and processors during year one, and 23 buyers and processors were assessed for their commodity areas, contacts, current production levels and installed capacities. Product specifications and prices were collected to guide ADVANCE business facilitators in their work with producers. Fourteen MOUs have been signed with various business firms. Six MOUs were signed with fruit juice processors (Kingdom Premium Fruits, Sunripe, Coastal Groves, Mandis, Bio-Tropical and Pinora) while the rest were with soybean processors (UWAI, Golden Web, 3K&A, Ghana Nuts) buyers (e.g. UT Logistics) and nucleus farmers/service providers (Pee farms, Kobiman Farms, and NAAMSECO).

The selected partners have been assisted to: a) improve their raw material supply chains, b) build capacity in business management, c) access working capital or processing equipment, and d) assess local or regional markets for their products. Assessments were conducted on a number of processors (Prairie Volta, Vestor Oil Mills, Upper West Agro Ltd, SFMC, Darko Farms, Sunripe) to establish technical, management and/or financial parameters for interventions.

We held extensive discussions with the World Food Program (WFP) on collaboration to roll out the Purchase for Progress (P4P) program. The WFP evaluation team consulted the ADVANCE Techiman office on maize and rice smallholder suppliers in Brong Ahafo Region. WFP agreed to share draft modalities of the P4P with ADVANCE before implementation.

Leveraging WFP regional purchases, ADVANCE introduced a maize trader, Apstar Ltd, to farmers in the Afram area. Maize samples sent to the Ghana Standards Board (GSB) passed quality tests enabling Apstar Ltd to meet tender requirements for WFP. ADVANCE facilitated price negotiations between Apstar Ltd and 1,500 farmers leading to delivery of 1,300Mt of **maize** to the company's warehouse at Nkawkaw for WFP. Farmers received a peak market price, but Apstar encountered many difficulties lifting the maize from farms and transporting to Nkawkaw. Payments were made directly to the farmers' lender, Afram Rural Bank, for disbursement to the farmers. ADVANCE continues to work with these value chain actors to solidify long-term business relationships.

To ensure adequate raw material supply to processors, ADVANCE initiated a strategy for the production and aggregation of smooth cayenne **pineapple** for supply to fruit processing companies and traders (Fruittiland, Sunripe, GAPTO members and the Agbogbloshie fruit traders) for the next harvest season. Fruittiland, a fruit processing company in the Assin North District of the Central Region, requires 400Mt/day of pineapple. ADVANCE facilitated successful price and supply negotiation between citrus grower associations in the Assin Fosu area with Fruittiland.(see details in fruit section) ADVANCE is developing a contract for a consultant to analyze the aggregation structure of Fruittiland and to recommend the most effective model.

The U.S. multinational corporation Coca-Cola held meetings with ADVANCE to support fruit processors to supply **fruit** concentrate as raw material for production of fruit juice blends by the

company for the West African market. ADVANCE is conducting the technical audit of existing equipment to select suitable fruit processors to participate in the program. Selected processors will be assisted to improve their management systems, quality standards and processing efficiencies.

An outcome of forums organized by ADVANCE indicated that current varieties of **mango** (Kent, Keitt) and citrus (Late Valencia, Red Blood, Mediterranean Red) were suitable for processing but supplies were inadequate.

ADVANCE linked PRAWORD, an 80-member female fruit trading group from Accra, to orange producers in the Nkawkaw area to supply **oranges** for export to the regional market. 72Mt of oranges have been purchased from farmers in Nkwarteng, Birim North and Suhum-Kraboa-Coaltar districts for exports to Lagos. Also, ADVANCE assisted the trading group to access credit of GH¢250,000 from the Micro Finance & Small Loans Center (MASLOC) of the Ministry of Trade and Industries to improve their efficiency and expand their operations into that market.

ADVANCE also conducted an assessment of **rice** mills in southern Ghana to identify existing mills in good working condition with the capacity to mill rice to the standards and requirements of buyers, and also to identify any possible upgrading potential. The outcome and recommendations from the assessment were shared with various buyers (CCTC, RHEMA House and WFP) and other actors in the rice industry and also options discussed for upgrading those that have the potential to mill rice that meet buyers specifications. Consequently, we have initiated a competitive process to select grantees for the award of matching grants (see details in the section on Grants).to upgrade the mills.

ADVANCE supported the Ghana Grains Council to lead the development of grades and standards for **cereals** with assistance from the Ghana Standards Board (GSB). As a first step in the collaboration, the GSB has submitted a budget for development of standards for soybeans to the Council. Cereal commodity prices collected weekly presented as linear graphs on a monthly basis and circulated to enable managers and field facilitators to keep track of price trends and to provide advice to value chain actors. We will extend this initiative to the other ADVANCE operational zones to enable compilation of more comprehensive price trend analysis.

3.3 Increased Access to Financial Services

During year one, the ADVANCE team focused on identifying opportunities to lower risk and thus increase the comfort levels of banks to enter the agribusiness market. At the same time, the project identified financial institutions that are committed to working with us to increase access to financial services among value chain actors. Our strategy has been to put in place innovative ways to minimize the credit risks associated with the agricultural sector, and facilitate sustainable business linkages of sector players and financial institutions.

MOUs

ADVANCE signed an MOU with **ARB Apex Bank** that is focused on collaboration and building the bank's capacity to provide training to rural banks in agricultural lending.

MOUs signed with the **Agricultural Development Bank, Ecobank and Stanbic** are designed to build the capacity of each of these institutions to increase access to finance in the agricultural sector.

ADVANCE signed MOUs with several financial institutions that have confirmed their willingness to collaborate with the project to provide financial services to the agricultural sector. In our work with rural banks, our approach has been to develop strategic plans, and provide appropriate technical support in collaboration with ARB Apex Bank. Currently, we have 22 partner financial institutions, and will continue to identify others as we move forward.

Building industry capacity

ADVANCE is working with and through ARB Apex Bank to build the capacity of the banking sector. Following multiple discussions, we signed an MOU regarding our collaboration to develop ARB Apex Bank's capacity to research, design and develop a range of courses on how to effectively deliver financial services to the agricultural sector. To build the capacity of the sector, ADVANCE will also work with ARB Apex Bank to enhance the capacity of rural banks through training and technical assistance to their bank clients. This approach is appropriate to the structure of Ghana's banking system, and will ensure sustainability of activities. A survey of rural banks in the early part of year two will inform the direction of ongoing activities.

The Realities of Agricultural Financing in Rural Ghana

In our interactions with farmers and aggregators we have learnt several new things about agricultural financing, but a particularly exciting one has been the discovery of the central importance of aggregators in sustaining relationships in maize value chain. With delays, difficulties and absence of the formal financial sector in most production areas, informal sectors, including money-lenders and large to medium scale aggregators, are the main financiers of maize production by farmers in rural communities. We can describe the aggregators as the 'hub actors' because of their central role as links between the often urban/city-based processors and the rural/remotely-located producers. The importance of aggregators lies in their readiness to invest in the smallholder farmer, when they have good contractual supply agreements. They provide farmers with the needed cash, seed, weedicides, sacks and other farming-related as well as social support services to ensure that farmers can produce to meet the quantities and qualities of their contractual agreements. Quality standards and quantities may be determined by the Processors and buyers but effective transmission through the Aggregator is key to meeting specifications in places like this.

It is interesting to note that aggregators, with little formal education, are able to recover loans from farmers effectively while the formal banking sector continue to experiences high loan default rates. We will explore and learn more from these in our search for innovative ways of financing the transformation process.

Targeting lower risk opportunities

ADVANCE developed a model for buying down risk through monitoring loan facilities in the field, and shared it with several financial institutions, including Stanbic Bank, ADB, Sinapi Aba and First Allied Savings and Loans. The model lays out a coordinated arrangement between a financial institution and various value chain actors, with key benchmarks designed to lead to full repayment. This involves monitoring input selection and delivery, service delivery, crop management, harvest and post-harvest management, transport, processing and payments. The benchmarks serve as the foundation for a monitoring plan and can also be used by a bank to engage other actors.

ADVANCE will continue to offer this model to partner institutions, including rural banks, and will develop criteria for participation in collaboration with ARB Apex Bank. As the model will require appropriate bank staffing of field facilitators, we are exploring the possibility of attracting interns through our volunteer program, and then assisting the banks to develop a more permanent and sustainable staff development process to undertake this task. The project will provide training on an ongoing basis, such as savings mobilization and customer care.

Facilitating engagement in financial services among rural communities
ADVANCE encouraged value chain actors to open accounts and make payments through the banking system. As these actors familiarize themselves with banking operations, we expect that they will transact more business through the banks, and this will in turn facilitate access to loans.

During year one, the program has collaborated with a number of financial institutions, including the ACDEP financial services program, Sissala Rural Bank, Agriculture Development Bank, First National Bank, Afram Rural Bank, West Mamprusi Rural Bank, BESSFA Rural Bank, South Akim Rural Bank, Atiwa Rural Bank, Enyan Rural Bank, Kwaebibirim Rural Bank and Mponua Rural Bank to provide credit to farmers.

Some farmer groups have also received production inputs support through nucleus farmers while others received production credit through aggregators. The project also encouraged FBOs to cultivate the habit of savings through financial institutions to develop banking relations which will enable them access production credit eventually. Some examples of results from year one activities in the financial sector include:

- 40 rural women mango aggregators from the Yilo Krobo Fruit and Vegetable Farming Cooperative Society opened an account with HFC Bank, eventually accessing credit.
- Onomabu citrus growers opened an account with South Akim Rural Bank.
- Farmers working through an aggregator opened an account with Otuasekan Rural Bank in Mampong, which has since approved a loan for the group.
- 8 FBOs and two nucleus farmers in Upper West Region opened accounts with ADB and First National Bank respectively to mobilize savings against 2011 production season.
- 23 FBOs in the Bunkpurugu/Yunyoo and West Mamprusi Districts in Northern Region opened savings accounts with West Mamprusi Rural Bank.
- 3 female aggregator groups in the Choboi area opened savings accounts with First Allied Savings and Loans Limited and received credit through the bank.

Facilitating sustainable linkages among agricultural sector players and financial institutions
To achieve transformation, it is critical that ADVANCE cultivates linkages between value chain actors and financial institutions that will continue sustainably long after the project ends. Examples of these linkages are listed below:

ADVANCE facilitated a linkage between Sissala Rural Bank, agro-dealers, input suppliers and FBOs, through which 36 FBOs accessed production credit from the bank. In this arrangement, the aggregator buys soya and maize from producers, the bank advances credit to FBOs that is paid directly to the service providers after the FBOs receive services and the aggregator deposits funds into the respective FBO bank accounts after purchasing the product. The project also facilitated linkages in Weta and Ho between input dealers, aggregators and farmers enabling 17 loans to be given out through input credit in Weta and eight to individual seed maize growers in Ho.

In Upper West, ADVANCE facilitated linkages between FBOs and Savanna Farmers Marketing Company (SFMC), resulting in three FBOs receiving production credit for soya. Through project organized fora in Kumasi and Nkoranza, ADVANCE linked aggregators and FBOs, resulting in 1,500 farmers receiving fertilizers, seeds and cash for tractor services. ADVANCE also linked rice farmers at Okyereko and a rice aggregator at Asutuare to input dealers who supplied inputs on

credit, and aggregators to rice mills with the capacity to produce rice that meets quality requirements of commercial buyers such as CCTC and Ghana Made.

Identifying appropriate interventions in mobile money
During the year, ADVANCE explored possible pilots in mobile banking with various electronic payment companies to leverage their existing mobile money and e-zwich platforms. We have launched a pilot with SMSGH and Pinora for an SMS system that will facilitate more effective communication internally among Pinora staff and field agents, as well as externally with outgrowers. An additional pilot with e-zwich and Fruttiland is currently in the design phase. Groundwork has been laid for a linkage between SoftTribe and various firms for an information platform that could be turned into a payment and electronic transaction platform. Discussions are also ongoing with Ecobank to leverage their platform for contract/outgrower schemes to include input firms and service providers into their agent network.

Warehouse receipts program
ADVANCE, working in collaboration with E-ATP, which is providing some operational support for the GGC, put in place the necessary structures for implementation of the warehouse receipts program. GGC was registered in January 2010, the office set up and key staff recruited. Additional staff will be funded through the ADVANCE grant. Seven board members are in place, and the process is underway to fill the remaining eight slots. In terms of outreach, the promotion plan is ongoing, and GGC participated in an UNCTAD conference to network with stakeholders. Going forward, we will continue to engage with government at all levels and bring more stakeholders on board.

Six warehouses have been selected and three others have volunteered to participate in the warehouse receipts system. Initial training has begun, and plans are underway to train a variety of stakeholders including warehouse operators, banks, insurance companies and off-takers. Discussions are ongoing regarding the type of receipt that should be used, and procurement of equipment for upgrading will start shortly. The first draft of regulations for the receipt has been completed by the contracted legal team, and there will be a stakeholders meeting to finalize and adopt the regulations. The Securities and Exchange Commission (SEC) has agreed to study the draft as they develop the law for warehouse receipts and the commodity exchange.

Creating interest of venture capital funds in the agricultural sector
ADVANCE continued to hold discussions with local and international venture capital firms including Root Capital, Constant Capital, Acumen Fund and Venture Capital Trust Fund about investing in viable projects. Constant Capital is investing in Kingdom Fruits, and ADVANCE is determining how we can support this with technical assistance. In the Northern Region, Venture Capital Trust Fund evaluators conducted an assessment of PEE Farms and were impressed with ADVANCE beneficiary farmers' fields and soya demonstration plots at Savelugu. As a result, Venture Capital approved a loan facility to PEE Farms, which was facilitated by ADVANCE.

Challenges
- Inadequate long-term funding to cover production cycles.
- Some banks are not interested in collaboration with ADVANCE without us making any financial commitment.

- Alternative financial services such as mobile banking, investment banking, leasing, private debt issuance, equity, etc. are too limited to put competitive pressure on the financial industry to innovate in servicing challenging markets such as agriculture.
- Partner financial institutions are moving cautiously, gauging the viability of ADVANCE-facilitated transactions between producers and buyers. We expect that the pace will pick up, and more financial institutions will engage when introduced linkages are sustained through the farming season.

TABLE 3. 3: PROGRESS UNDER COMPONENT 3: INCREASED ACCESS TO FINANCIAL SERVICES

Indicator	Status	Comment
# of firms that invest in improved technologies	2	Kobbiman Farms, PEE Farms
Value of firms' investment in new technologies	US$68,000	US$34,000 each from Kobbiman and PEE Farms
# of loans to beneficiaries	1,649	Credit from financial institutions, and input credit from input dealers
Value of loans to beneficiaries	US$413,627	Cash and inputs
# of beneficiaries with improved access to financial services	4,099	Savings accounts, input credit, group loans, aggregators
# of financial sector professionals trained on financial products	0	Discussions are on-going with financial institutions
# of financial services introduced	4	Savings, group loans and input credit

Lessons Learned:

Some of the important lessons we have learnt in the reporting period include the following:

- The need for us to intensify the "buying down risk" strategy of assured market, timely supply of inputs and mechanized service and technical assistance to both lenders and borrowers as an alternative to dependence on donor funding for agricultural lending.
- The majority of financial institutions and input dealers prefer dealing with aggregators who buy from farmers and in many situations finance farming activities.
- The challenge accessing finance in the agriculture sector requires hands-on engagement in the rural areas. In response, ADVANCE is recruiting five Financial Services Facilitators; one for each sub-office. The staff will join the project early in year two.

Planned Activities for the Upcoming Reporting Period

In the second year some of the key activities we will carry out include:

- Continue to facilitate the development of sustainable linkages between value chain actors and financial institutions, to include providing technical assistance to all parties.
- Continue and expand interventions in areas such as mobile money for transactions.
- Work with interested FIs to develop innovative financial products for actors in commodity chains.
- Investigate new areas of intervention, including leasing, the potential to integrate insurance and micro-insurance into outgrower schemes and the viability of crop insurance.
- Move forward with warehouse receipts through the Ghana Grains Council, to include scaling up public outreach, completing procurement of equipment for warehouses and conducting training.

SECTION 4.0 SUMMARY OF RESULTS TO DATE

A summary of our overall results to date is presented in this section. The details showing contribution to IEHA, GFSR and EG objectives are presented in Annex 6.

ADVANCE Program Goal: Increase competitiveness of Ghana's Agricultural Sector in Domestic and Regional Markets

The overall goal of ADVANCE is to increase the competitiveness of Ghana's agricultural sector in domestic and regional markets. Progress towards achievement of this goal is presented in Table 4. 1. Results achieved contribute to GFSR overall objective of Increasing Agricultural Growth, Stability and Food Security and to IEHA IR 3 and IEHA output indicators.

TABLE 4. 1: PROGRAM GOAL RESULTS

Indicator	Achievement	Target
% rural household income increase	TBD	n/a
Volume of purchases from smallholders of targeted commodities (Mt)	7,460	9,500
Value of purchases from smallholders of targeted commodities ($US)	1,325,820	2,292,500
# of individuals benefiting directly from project activities	21,477	11,000
# of rural households benefiting directly from intervention	16,730	2,500
# of vulnerable households benefiting directly from intervention	TBD	2,500
# of assisted producer organizations, trade and business associations	218	150
# of women's organizations assisted	26	20
# of agriculture related firms benefiting directly from project activities	104	10

During the reporting period, **23,748 farmers** were organized into supply chains for specific aggregators, buyers and processors or their supplies chains were improved by ADVANCE interventions. This number comprises **10,582 maize farmers**, **1,889 rice farmers**, **7,232 soya bean farmers**, **230 mango** farmers, **367 pineapple farmers** and **3,448 citrus farmers**. Of this total number, 42 are large-scale farmers and 40 are nucleus farmers. Other value chain actors and providers of support services participating in the program include **508 FBOs**, **191 aggregators**, **85 buyers/processors**, **55 input dealers**, **39 mechanized service providers** and **43 financial service providers**.

Out of the total number of farmers engaged, *21,477 farmers have benefitted directly* from ADVANCE interventions such as increased agricultural productivity and business development training, linkages to input suppliers, land preparation service providers and sources of credit. This exceeds the set target by 95 percent and is attributed to the program receiving a greater interest from farmers than was originally anticipated for the first year. A total of *16,730 rural households benefitted from the program* by having at least one member of the household being a beneficiary of the ADVANCE program. This is 6.7 times over the target of 2,500 rural households for the first year of ADVANCE.

A total of 218 FBOs, including 26 women's organizations, have benefitted from one or more technical assistance activities including group formation, organizational development, linkage to markets, land preparation services and input supply. Similarly, 104 agriculture related firms i.e., processors, buying companies, input dealers, mechanized service providers, also benefitted from program interventions such as supply chain development, promotional events to increase their customer base, strategic/business plan development, and conflict resolution.

Demand from buyers and processors of respective target commodities for 2010 are presented in Table 4.2 below. To date, 7,460 Mt of produce has been purchased from farmers.

TABLE 4. 2: DEMAND FOR TARGET COMMODITIES (2010)

Commodity	Demand for FY 2010 (Mt)	Quantity purchased from farmers to date (Mt)	Value of purchases to date ($)
Maize	106,927	5,603	971,862
Rice	38,139	136	56,015
Soya	107,240	0	0
Mango	5,480	0	0
Pineapple	143,839	1,600	248,314
Citrus	288,330	121	11,701

The value of purchases for all crops to date is $1,325,820 which is 58 percent of the target for 2010. The total purchase volumes and corresponding values for the 2010 farming season will be determined following the minor season harvest.

Data on changes in household incomes is not yet available as crops have not yet been harvested. Indicative figures will be calculated at the end of the farming season. Similarly, assessment of household vulnerability status will take place during a data collection exercise to be undertaken during the first quarter of FY 2011. Vulnerable households are defined as those in condition 1 below plus meeting any other one of the following criteria:

1. household head is a smallholder producer of food crops as the main source of livelihood, with less than 2 hectares of cultivated land
2. household head makes a daily income below the poverty threshold (USD 1.00)
3. household head does not have any education
4. children of primary school age are not attending school
5. household head is a woman
6. household is located in rural Ghana.

ADVANCE Component 1: Enhanced Value Chain Competitiveness

Table 4. 3 below presents progress towards achieving Component 1 of ADVANCE i.e. Enhanced Value Chain Competitiveness. Results achieved contribute to GFSR IR1, sub IRs 1.1, 1.2 and 1.3 and to IEHA IR1, IR3 and IEHA output indicators.

TABLE 4. 3: COMPONENT 1RESULTS: ENHANCED VALUE CHAIN COMPETITIVENESS

Indicator	Achievement	Target
Gross margin per hectare ($)		
Maize	TBD	305
Rice	TBD	1,263
Soya	TBD	112
Mango	TBD	3,450
Pineapple	TBD	11,000
Citrus	TBD	140
Crop yield (Mt/ha)		
Maize	TBD	2.5
Rice	TBD	2.5
Soya	TBD	1.2
Mango	TBD	11
Pineapple	TBD	50

Citrus	TBD	6.5
# of additional hectares under improved technologies or management practices	TBD	1,500
# of beneficiaries adopting new technologies or management practices	TBD	2,000
# of beneficiaries adopting ISO and Global GAP standards	TBD	n/a
# of agricultural technologies made available	8	5
# of demonstration sites created	10	25
# of new technologies or management practice under research	0	0
# of new technologies or management practices under field testing	0	2
# of beneficiaries trained in new technologies or management practices	2,644	5,000
# of beneficiaries trained on international quality control, environmental and other standards and regulations	651	n/a
# of beneficiaries trained in Farming as a Business or other entrepreneurship and business skills	2,878	n/a

In the ADVANCE direct intervention areas, farmland already under cultivation or to be cultivated is 19,339 ha for maize, 1,576 ha for rice, 6,475 ha for soya bean, 960 ha for mangoes, 282 ha for pineapple and 7,738 ha for citrus. This adds up to a total of 36,371 ha of farmland under cultivation for 2010. Compared to acreages of the respective crops cultivated in the 2009 farming season this comes to a total additional acreage of 6,220 ha under cultivation during the current farming season. Of this additional area, 99 percent is due to expansion for maize, rice and soya bean. Eight technologies and management practices were introduced to farmers during the year. These comprised planting technology, improved planting material, soil fertility improvement material, land preparation methods and agrochemical handling practices. Ten demonstrations sites were developed to show the application of the respective technologies. The area of land actually cultivated or managed using these technologies and management practices by beneficiaries will be determined during the next quarter and reported in the next progress report. Targets for crop yields and gross margins have been set and will be analyzed after the harvest season and presented in the next progress report. Crop budgets for each commodity have been developed and will provide input for calculation of gross margins.

A total of 2,644 beneficiaries (1,912 males and 732 females) received agricultural productivity training. Training focused on GAPs in relation to site selection, land preparation, fertilizer application, weed and pest control, harvest and post harvest handling of produce, integrated nutrient management and hybrid seed production. This is 53 percent of the target set for agricultural productivity training for year one. In addition, 651 beneficiaries received training on environmental standards such as the safe usage, handling and disposal of agrochemicals. 2,878 beneficiaries received training in farming as a business covering topics such as business planning, business promotion, records keeping, basic banking principles, savings mobilization and marketing.

ADVANCE Component 2: Increased Market Access and Development of Local and Regional Markets

Progress towards achieving ADVANCE Component 2 is presented in Table 4. 4 below. Results achieved contribute to GFSR IR2, IEHA IR3 and IEHA output indicators.

TABLE 4. 4: COMPONENT 2 RESULTS: INCREASED MARKET ACCESS AND DEVELOPMENT OF LOCAL AND REGIONAL MARKETS

Indicator	Achievement	Target
# of private public partnerships established	1	2
# of beneficiaries reporting using market information	TBD	2,000
# of beneficiaries adopting a more market oriented attitude	TBD	n/a
Volume of commodities sold to WFP by beneficiaries	3,275	n/a
Value of commodities sold to WFP by beneficiaries	971,862	n/a
# of marketing, commercial and technical information systems made available	2	2
# of business service providers receiving project assistance	46	50
# of beneficiaries accessing BDS services	6,422	5,000

ADVANCE has established a public-private partnership with the GGC, to accelerate the development of the grains industry in Ghana through the establishment of a warehouse receipts program. Under this program, eight warehouses are participating in a training program after which they will receive certification to operate under the warehouse receipts scheme.

ADVANCE has supported the development of business services (BDS) for market information and mechanized services for farmers. Two market information systems, one based on SMS messaging and the other a weekly collation of prices from major markets, are in the pilot phases. The former is being piloted with Pinora Ltd a fruit processing company and used to share information on farm production, harvest and post-harvest practices to farmers. At least 2,000 farmers will benefit from the SMS messaging pilot by the end of the first quarter of FY 2011. ADVANCE also compiles weekly commodity price information from selected markets in the Techiman and Nkawkaw zones. This price information is currently used mainly by the ADVANCE office; we are exploring ways to make this information available to value chain actors. All supply chain participants have used market information such as location of buyers and producers, buyer specifications, input and produce prices provided by the ADVANCE program.

Forty-six business development service providers have received various forms of assistance including technical support for promotional activities to expand their customer base, provision of opportunities for interaction with farmers and other value chain actors (e.g. during stakeholder fora organized by ADVANCE) and training in retail business management. A total of 6,422 beneficiaries have accessed business development services such as input supply, training, tractor services and linkages to markets through dedicated supply chains.

Program beneficiaries have begun to demonstrate behavior that indicates a change in their orientation towards a market-led approach. A major change is buyers sourcing and farmers selling through dedicated supply chains rather than through the open market. To date, 81 supply chains have been improved involving 23,749 farmers, 191 aggregators, 85 buyers/processors and 137 input dealers and service providers. Each of these individuals and/or firms can be described as beginning to demonstrate applying a market-oriented approach to their business. Other examples of market-oriented behaviour include input dealers using promotional events to reach out to farmers and to increase sales, nucleus farmers using SMS technology to disseminate information to their outgrowers, farmers using bulk orders to access inputs from input dealers thus reducing transaction costs, aggregators financing demonstration plots for promotion of improved agricultural technology

among farmers, buyers and processors interacting directly with farmers to provide their quality and quantity specifications and to negotiate prices prior to the farming season.

Program interventions to increase market access for farmers through sales to the World Food program resulted in sales of 3,285 Mt of maize valued at $971,862 from 2,621 farmers.

ADVANCE Component 3: Increased Access to Financial Services

Progress towards achieving ADVANCE Component 3, i.e. Increased Access to Financial Services is presented in Table 4. 5 below. Results achieved contribute to GFSR IR2 and IEHA IR3.

TABLE 4. 5: COMPONENT 3 RESULTS: INCREASED ACCESS TO FINANCIAL SERVICES

Indicator	Achievement	Target
# of firms that invest in improved technologies	3	5
Value of firms' investment in new technologies	$100,263	n/a
# of loans to beneficiaries	1,650	2,000
# of beneficiaries who received loans	2,432	2,000
Value of loans to beneficiaries	$409,815	$500,000
# of beneficiaries with improved access to financial services	4,074	2,000
# of financial sector professionals trained on financial products	0	n/a
# of financial services introduced	2	2

Twenty-two financial institutions were engaged through ADVANCE interventions during year one. These included two industry organizations, four commercial banks, two non-bank financial institutions (NBFIs), four venture capital funds and 10 rural banks. MOUs have been signed with four financial institutions ARB Apex Bank, Agricultural Development Bank, Ecobank and Stanbic Bank. The focus of these MOUs is to build the capacity of the banking sector to increase access to finance for the agricultural sector.

To date, 4,074 beneficiaries have had access to financial services such as opening of savings accounts, credit facilities and financial management training. Also 2,432 beneficiaries, of whom three were nucleus farmers, received a total of $407,053 credit in cash and kind (inputs) for the major farming season. Of this amount, 64 percent was provided by aggregators, 26 percent by financial institutions and 10 percent by GOG and NGO finance schemes.

Two new financial services based on electronic payment platforms e-zwich and mobile money are being designed for piloting during year two. They are designed to facilitate payments to farmers from buyers or processors. ADVANCE is collaborating with the ARB Apex bank to develop a staff capacity building program for rural banks and this will be rolled out during the coming year.

SECTION 5.0 PROGRESS MADE WITH SPECIFIC COMMODITIES

In this section, we report on the progress made to-date for the commodities targeted by the program, including maize, rice, soybean, pineapple, mango and citrus.

5.1 MAIZE

Maize is one of the commodities recognized as a 'high-potential commodity' to be leveraged, catalyzing the broader agricultural sector transformation. Maize has a ready domestic market and potential to spur both economic growth and poverty reduction. National agricultural statistics in 2009 indicate a general improvement for maize on all indices as compared to 2008 (see Table 5.1)

TABLE 5. 1: SELECTED NATIONAL STATISTICS ON MAIZE FOR 2009

Indices	2009	2008
Total domestic production (Mt)	1,620,000	1,470,000
Available Total Domestic Production for Human Consumption (Mt)	1,134,000	853,000
Estimated Net Consumption (Mt)	1,052,100	971,000
Net Surplus (Mt)	115,750	118,000
Total Imports (Mt)	34,000	250,000
Total Exports (Mt)	150	
Average Yield (Mt/ha)	1.7	

(*Source: SRID of MOFA, April 2010*)

Even though the official national statistics for the first-half of 2010 are not available, there are indications from comparative price drops, market trends, on- and off-farm storage, that there will be improvements over 2009. The general observation is that the needs of the domestic maize market, especially for human consumption, appear to be sufficiently met by traditional networks and there is not much incentive for investment in improved quality and efficiency. Many farmers argued that successfully increasing efficiency and supply in maize could lead to significant over supply and unsold stocks with the consequent massive losses in storage, if external trade or some form of secure warehousing are not found. This perception supports ADVANCE's focus on supporting actors in the maize value chain to build the necessary infrastructure to 1) promote effective communication of market requirements, and 2) aid the establishment of a warehouse receipt program allowing the creation of a commodity exchange.

In year one, ADVANCE identified innovative value chain participants with the incentives, resources and market power to drive the desired change in the supply systems and worked with them to ensure this change happens. To promote the inclusion of smallholder farmers to benefit from the competitive supply chains, lead firms and nucleus farmers that share the ADVANCE vision and whose business model includes smallholders, were identified at the targeted major production sites as key points of leverage. ADVANCE worked with these lead firms to improve their management capacities for handling their farm enterprise and outgrower scheme.

Based on indications from the field, the ADVANCE targeted total marginal increased production of 5,000Mt from 5,000 farmers in the maize program in the first year is likely to be exceeded. An added production of 12,109Mt by farmers as a result of ADVANCE's intervention is expected. This additional production is a result of working with 10,582 farmers to cultivate an additional 2,663Ha of maize with an expected yield exceeding 4Mt/Ha compared with the baseline situation of 2Mt/Ha.

The key constraints that we tried to address in the first year of project implementation include:

- limited availability of quality/certified seeds,
- disconnected and poorly formed value chain relationships,
- poor adherence to Good Agricultural Practices(GAP) and post harvest practices,
- limited and untimely access to appropriate machinery and equipment (tractors, shellers, dryers, and cleaners) and services such as land preparation, pest and weed management etc. and
- limited access to finance.

Below we discuss the activities aimed at addressing the constraints:

Limited availability of quality seed

Year one activities focused on identification of seed varieties available to farmers in relation to preferred varieties for industrial and domestic use. Standards and requirements of poultry feed manufacturers and poultry farmers, the World Food Program, UT logistics and GAFCO were assessed.

To address the constraints with quality seed, ADVANCE, in collaboration with the Crops Research Institute (CRI), the Grains and Legumes Development Board (GLDB), and the Ministry of Food and Agriculture (MoFA) initiated a program that will lead to increased production of high yielding hybrid seed maize (see section 3.1.1 for details).

Disconnected and poorly formed value chains

In year one, ADVANCE focused on the identification of knowledge gaps (lack and or insufficient knowledge) and knowledge nodes (centers of knowledge) in the maize value chain. Key actors that have the incentives to push the knowledge to other actors that need that knowledge were identified. This was followed by an assessment exercise - Manageable Steps - to understand the current inter-relationships and challenges between and among the maize value chain participants.A total of 7,702 actors (7388 farmers, 135 FBOs, 11 commercial farmers, 21 buyers, 5 input firms, 2 financial service providers, 7 processors and 128 aggregators) at various operational areas have been engaged, profiled and linked into a number of maize supply chains using a number of strategies (see Section 3). These activities have resulted in building relationships among participants, however, these relationships are yet to result in formalised ‘contracted’ ones as some participants feel the need to let the relationship ‘mature’ first.

Aggregators were engaged as important change drivers in the maize supply chain especially in the Brong Ahafo and Ashanti Regions. They provide farmers with cash, certified seed, weedicides, sacks and other farming-related as well as social support services to ensure that farmers can produce to meet the quantities and qualities of their contractual agreements. Quality standards and quantities may be determined by the processor/end-user but the effective transmission through the aggregator is key to meeting buyer’s specifications.

Poor adherence to good agricultural practices and post harvest practices

The third constraint to the maize value chain is limited access to and/or adherence to GAPs and post-harvest practices. This is mainly due to a number of factors including:

- low extension agent: producer ratios of 1: 2500,

- limited use of innovative and modern techniques/methods of reaching out to farmers,
- non availability and unaffordable costs of inputs,
- absence of any regular source of market information to actors in the supply chain.

FBFs at field offices designed and managed training of value chain actors in cases where the mandated actors (e.g. agricultural extension agents), were unavailable or unable to deliver the knowledge effectively. Training material produced by previous projects (TIPCEE, NAEP etc), were particularly useful reference materials for such GAP training.

Limited access to appropriate machinery and equipment
To address limited access to mechanization services, ADVANCE leveraged specialized services providers and nucleus farmers, aggregators and processors, who can afford and have the management capacity to reach out to smallholders. Using the ADVANCE grant facility, two nucleus maize farmers, PEE and Kobbiman Farms, were supported to acquire tractors, planters and combine harvesters to provide land preparation, seeding and harvesting services to themselves and their outgrowers for maize and other cereals/grains.

ADVANCE built upon earlier FtF support to NAAMSECO in business planning. With the linkages provided by ADVANCE, NAAMSECO expanded commercial mechanized land preparation services to farmers. In the Nkawkaw and Techiman areas, about 400 and 800 farmers respectively benefited from NAAMSECO's services. In the Upper West Region, staff facilitated mechanized services to 190 farmers planting 220ha of yellow maize whilst in the Northern Region, 200 farmers were linked to NAAMSECO members who ploughed 200 acres of their land.

Limited access to finance
Access to finance from the formal sector continued to be a major challenge to key participants in the maize value chain. Some nucleus farmers and outgrowers cut back on the acreages they intended to cultivate and reduced their support for the outgrowers because of their inability to access credit from the banks. In Techiman, there are positive examples of aggregators playing a role in financing, especially for smallholder production activities, which we will further leverage in year two.

Overall progress and achievements relative to maize targets set in the implementation plan are presented in Table 5. 2 below.

TABLE 5. 2: SUMMARY OF EXPECTED OUTPUTS/OUTCOMES AND ACHIEVEMENTS

Constraints in Value Chain	Expected outputs/outcomes as a result of project interventions	Achievement in reporting period
Limited availability of quality seeds	250Mt of quality seeds, 10% of contracted growers producing for industrial buyers using hybrid seeds 10% increase in certified seed sales	Planned assessment on preferred seed varieties from various VC actors completed, Work with 30 Seed Growers and Research stations to multiply Mamaba hybrid seed on-going,
Netted and poorly formed value chain relationships	2,000 farmers with formal contracts and 3,000 with informal agreements 10 aggregators involved in formal contracts with buyers and farmers	2690 farmers in the Sissala East district and the northern region have unwritten/ informal contract with 2 Aggregator/Processors; (UWAI and Gundaa Co. Ltd) aggregators for InterGrow Ltd and Premier Foods.

Constraints in Value Chain	Expected outputs/outcomes as a result of project interventions	Achievement in reporting period
	At least one buyer-aggregator channel applies performance incentives At least 2,000 farmers accessing high quality inputs through contracted 75% of farmers remain in contract scheme after year 1	An assessment of the progress of these contracts would be made with the onset of the farming season in April 2011 to determine how many contracts will last to the next season
Poor adherence to Good Agricultural Practices(GAP) and post harvest practices	An average of 3Mt/ha for the 5000 farmers involved in some kind of contract farming At least 60% of the produce of farmers meet quality standards 5000 farmers receive Technical Assistance in maize production	An expected increase in yield to 1.9Mt/ha from the 37,059 farmers engaged in PY1 Quality standards of produce to be monitored after harvest
Limited access to appropriate machinery and equipment and services such as land preparation, pest and weed management	2000 farmers have access to mechanized land preparation services 30 private (pest control) Service providers linked to input providers, trained and delivering services 2000 farmers have access to harvest and post harvest services	1390 farmers had access to mechanized land preparation with support from ADVANCE The process is still ongoing to support two input dealers who have expressed interest to set up the system described Access to harvest and post-harvest services to be monitored in November 2010
Limited access to finance	2,000 farmers access input finance 10 firms receive equipment loans	2995 out-growers received production credit for Maize production this year through the efforts of staff at the ACDEP operational area 2 Nucleus Farmers received a grant from ADVANCE to purchase tractors, planters and combined harvesters.

The ***main challenges*** we have faced with our maize program include:

- Access to credit by maize value chain participants remains limited in the reporting year. Although the financial institutions currently engaged with ADVANCE have committed to the model that guarantees financial/input credit and/or farm maintenance credit to interested farmers, actual credit flow has been slow. The expectation is that with positive results in the first year, financial institutions will hasten credit facilities to the value chain actors and farmers in subsequent seasons.
- Visits to most nucleus farmers' revealed that their outgrowers were not in well-organized FBOs or production units to facilitate coordinated support services. Most did not have cooperative structures to enable them engage other actors in the value chains and pursue competitive markets. ADVANCE will focus on organizational development activities in year two onwards.
- Another challenge some nucleus farmers currently face is their inability to procure all the produce of their outgrowers because they do not have firm supply agreements with end-market players. Sometimes nucleus farmers have resorted to collecting only the required quantities of produce from their outgrowers to cover the production credit they extended to them leaving outgrowers frustrated with marketing the remaining production. We will support these nucleus

farmers to develop supply chain models that will enable them synchronize the demand and supply situation of their end markets and producers.

- An input dealer (Wofa Addo) in Techiman who was being assisted to promote his products on radio and educate farmers on agrochemicals purchased from him received an upward adjustment on his tax assessments from the IRS. The reason was that promoting his business and educating farmers on radio meant the firm is making more profit. This nearly discouraged the dealer from continuing his radio outreach program to farmers. ADVANCE is making efforts to meet the district revenue officer together with Wofa Addo to discuss the issue and find an amicable solution.
- There is a lack of market information for all value chain actors. Agricultural extension agents, the primary source of information for most farmers, do not provide market information and tend to concentrate on agronomic practices. ADVANCE will seek to provide actors with the tools and contacts through the supply chain relationships to gain access to market information

Lessons learned: We learned from our interactions with aggregators that, contrary to expectations, most of them do not have any specific end markets. They buy volumes of maize from farmers and send them to Accra, Techiman, Sunyani and Kumasi in anticipation of higher prices from the open market. These aggregators sometimes make losses and need to be supported to link up to end-users.

5.2 SOYBEAN

ADVANCE focused on supporting various participants in the soybean value chain to improve their productivity and business relationships. The key objective was to support a local competitive industry to the imported soybean and its products. As with other targeted crops, the 'commodity strategy' for intervention in the soybean industry involved the identification of innovative value chain participants and service markets with the incentives, resources and market power to drive the desired change in the supply systems and working with them to ensure this change happens. To ensure that smallholder farmers, who currently form the bulk of producers of the soybean value chain, are included in and benefit from the production process, we worked with lead firms and nucleus farmers who recognized that significant expansion in production can be best achieved through a combination of improving their own farm productivity and embracing outgrower models as key points of leverage. ADVANCE worked with these lead firms to increase their own and support outgrowers' farm management capacities.

ADVANCE targeted additional production of 5,000Mt of soybean from 5,000 farmers in the first year and we are certain that we will come close to achieving this target. Data from the field indicate that more than 4,500 farmers have been engaged and have cultivated over 2,560Ha of soybean. At an expected average yield of 1.5Mt/ha, an estimated 3,840Mt of grain is expected.

In the reporting year, ADVANCE targeted specific causes of low productivity including poor quality seed, poor agronomic practices, lack of mechanization and inadequate funding to the sector.

Inadequate supply of good quality seed:
To address the issue of poor seed quality, we worked together with the National Soybean Alliance (NSA) which includes the Northern Rural Growth Project, Venture Capital Trust Fund and IFAD among others to assess the demand and availability of seed for production. In April 2010, the NSA assessed the soybean seed availability in the soy production belt as 347Mt (see Table 5.3). Given a rate of 0.04Mt/ha, the available seed could plant a total of 8,647Ha to produce about 10,380Mt

assuming an average yield of 1.2Mt Ha. This is only 14% of the combined production target of 75,000Mt by ADVANCE, NRGP and the FAMAR Project.

TABLE 5. 3: SOYBEAN SEED AVAILABILITY 2010

Location	Variety and quantity available (Mt)			Total
	Jenguma	Quarshie	Anidaso	
Northern Region	230.00	18.00	54.00	**302.00**
Upper East Region	2.25	-	29.25	**31.50**
Upper West Region	-	-	13.50	**13.50**
Total	**232.25**	**18.00**	**96.75**	**347.00**

We are continuing our collaboration with other members of the NSA to improve the national seed situation in the coming year. In this regard, all the major actors were requested to provide the quantity of seed they will require for 2011 season to enable the seed growers association (who are members of the NSA) to plan and produce to meet the demand.

Poor agronomic practices:
Most our field activities have been in support of nucleus farmers and their outgrowers on improvement of their management practices especially agronomic practices. During the year, the program engaged over 7,200 farmers to cultivate soybean. Altogether these farmers are cultivating an extra 3,135 ha of soybean from which a total production of 4,995Mt is expected.

PICTURE 4: THE CEO OF THE UWAI DEMONSTRATING THE USE OF ONE OF THE MANUAL PLANTERS

ADVANCE has directly implemented or facilitated the training of farmers. For example, Field Business Facilitators in the north trained field representatives of PEE farms and their outgrowers on GAPs and appropriate use of weedicides. The 171(male=140, female=31) farmers that benefitted from this particular training planted a total of 2,345acres at Nyekro, Kparigu, Wapuli and Nasia communities in the Northern region. Also, in collaboration with MoFA, we trained farmers under the outgrower scheme of Royal Danemac (a small scale processor with capacity of 4 tons per day). ADVANCE is now collaborating with MoFA to provide technical oversight to their 500 acre soybean farms at Atwima Nwabiagya Offinso North and Sekyere Afram Plains Districts with 500 farmers from 10 communities.

The seed for the farms of Royal Danemac was also arranged through an ADVANCE facilitated link to the Upper West Agricultural Industry (UWAI), in Wa as part of our Actor-to-Actor learning strategy.

Lack of mechanization:
A key limitation to increasing soybean production is the lack of the required equipment for carrying out some of the critical farm operations such as planting, harvesting and threshing for increased efficiencies. Through our grant facility, ADVANCE has supported this critical stage through three

nucleus farmers in the middle and northern belt.PEE and Kobbiman Farms, located at Ejura and Nkoranza respectively, have received two tractors and two 5-row mechanized planters to upgrade their soybean cultivation technique sand support their outgrower schemes. The outgrowers of the Upper West Agro Industries, the Upper West Agriculture and Rural Development farmers, (UpWARD), received 25 manual planters in July 2010 to enable them improve their plant population density improving yields (see details in section 7). Seventeen communities and over 2,000 farmers in the Upper West Region have directly benefited from this grant support.

Our *overall performance against planned activities* is presented in Table 5. 4.

TABLE 5. 4: SUMMARY TABLE ON EXPECTED OUTPUTS/OUTCOMES AND ACHIEVEMENTS TO DATE.

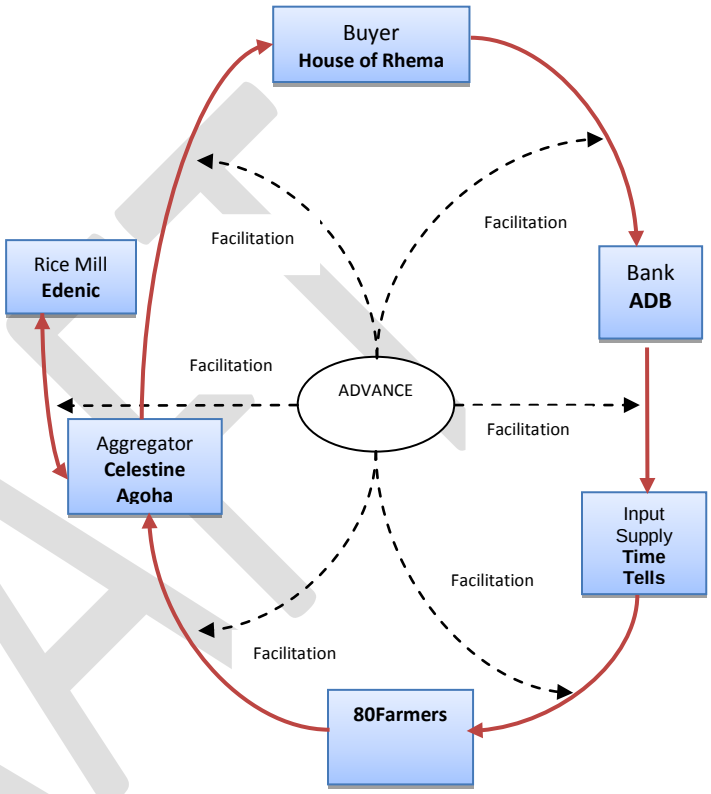
Constraints in VC	Expected outputs and outcomes	Achievement in reporting period
1.Limited access to certified seed	3,000 farmers access improved high quality soybean seed	Some industrial users of soybean, who are working with ADVANCE e.g. Ghana Nuts imported some seed for their own use this year Discussions for an assessment in collaboration with the National Soybean Alliance on the possibility of seed multiplication in country is on-going
2.Poor yield due to the lack of mechanisation (planters) to realise the optimum plant population density Poor quality and low yield of soybeans due to manual harvesting and threshing	5,000 farmers producing 5,000Mt of soybean in year one	A total of 10,582 farmers were engaged in ADVANCE facilitated supply chains. A slight improvement in yield over the national average (1.5Mt/ha) for farmers working with ADVANCE is expected. A yield of 1.6Mt/ha is expected from the additional 3,135Ha cultivated and will result in 4995Mt from the in PY1. Grants were provided to three nucleus farmers to support their purchase of machinery to improve production practices whilst acquisition of harvesters and threshers will be supported in the coming year
3.Poor agronomic practices	Yields increase from 0.8 to 1.2Mt/ha on average	An average yield of 1.6Mt/ha is expected however, this will be confirmed after harvest
4.Limited access to finance	2,000 farmers access financial service	About 1000 out-growers received production credit for soybean production through the efforts of staff at the ACDEP operational area

A major challenge with the soybean industry is that data is minimal or not available hindering new investments. ADVANCE will continue to study the sector, particularly focusing on the structure of the soybean market: number and size of suppliers, key players in the marketplace, current market offerings of products and services, change drivers for the market: what business opportunities are regarded as most desirable, scope for innovation and for expanding the market's current capacity and capability, demands currently being placed on the relevant supply chains and barriers to entry in the market. Another challenge is our inability to get proposed leverages in mechanization of certain operations on time. This was due to our vigorous procedures in carrying out assessment and due diligence checks of proposed beneficiaries for the matching grants. In year two, we will complete the profiling assessment of all actors focusing on their mechanization needs in relation to procurement process that ADVANCE follows.

5.3 RICE

Activities in the rice sector began with scoping studies to analyze the situation in the rice industry, followed by several stakeholders' forums. Five rice value chain meetings were organized in the southern zone, bringing together 410 participants. Among the participants were farmers, input dealers, service providers, bankers, rice aggregators, millers, and extension officers. The objectives of these meetings were to discuss opportunities, challenges and what strategies to adopt for actors to work together and build trusted relationships to move the rice industry forward. Having understood the various issues in the industry, ADVANCE concentrated on mapping out existing supply chains, identifying the gaps, constraints and inefficiencies and providing specific interventions to mitigate these constraints. These individual supply chains (see figure 3 for an example of a supply chain in Afife in Volta Region) enabled ADVANCE to zero in on specific problems in various areas of operation. In total, 25 supply chains have been mapped out in Afife in the Volta Region, Asutuare in the Eastern Region, Ashiaman and Dawhenya in the Greater Accra Region, Okyereko in the Central Region, Fakwasi in the Ashanti Region and the Fumbisi Valley in the Upper East Region. Each of the 25 supply chains have specific target end-markets, and in situations where there are gaps or missing linkages such as no end market, no access to inputs/mechanization or financial services, ADVANCE has identified appropriate actors and linked them to the supply chains.

FIGURE 3: RICE SUPPLY CHAIN AT AFIFE



We are scaling up our activities with the rice value chain actors, especially aggregators and commercial end-buyers who expressed interest in the program. Supply chains around these actors were mapped out and further assessment undertaken to identify constraints and opportunities for upgrading within the supply chains. In the Greater Accra and central Regions, 17supply chains have been facilitated and two major buyers (CCTC and Ghana Made) have been identified for bulk rice purchases. There are a total of four FBOs and 649 rice farmers in the three rice zones. Farmers and aggregators are being serviced by six input dealers, three mechanized service providers and three financial institutions. All of the above interactions between the actors have been facilitated by ADVANCE.

The farmers in these 17 supply chains cultivated 577Ha (Asutuare 500Ha, Dawhenya 22Ha, Ashaiman 10Ha and Okyereko 45Ha). Cropped area in Dawhenya increased by 11Ha due to ADVANCE intervention, however in Ashaiman there was a 10Ha reduction in cropped area due to floods in June. Total expected output from all these supply chains is 3,212Mt compared to 3,151Mt before ADVANCE intervention. CCTC and Ghana Made, the major buyers, indicated their demand to be 6,048MT thus the supply will not meet the demand.

In the Volta Region, five supply chains have been mapped out in Afife, Biakoye and Dabala Agbakope. CCTC and House of Rhema are among the buyers within these supply chains. There are also two processors, five aggregators, a nucleus rice farmer, nine FBOs and 1,023 rice farmers who received support services from four input dealers, seven mechanization services providers and four financial institutions as a result of ADVANCE interventions (see Annex 5 for details of all supply chains). The total area under cultivation for farmers within these supply chains have increased to 633 ha from 290 ha cultivated last season. At an estimated yield of 5.5MT/ha, total output is therefore expected to increase by 2,031.5MT.

Strengthening rice supply chains at Afife

At Afife, Celestine an aggregator was assisted to bring together for the first time, all the 80 farmers she buys paddy from, the operators of Edenic and Ataborah Rice Mills. Time Tells Agro Inputs who has been engaged to supply inputs to the 80 farmers and IDA officers who provide extension services to the farmers. Issues discussed at the meeting led by the aggregator with support from the ADVANCE included demand and standards required by House of Rhema, production constraints facing the farmers and upgrading needs of the rice mills.

At Fakwasi in the Atebubu Amantin District of the Ashanti Region, we facilitated the supply chain consisting of Famsakat Ventures, a buyer whose preferred variety of rice is Jasmine, a processor, five aggregators and an FBO made up of a hundred farmers and FABBY Farms which provided the farmers with mechanization services. These farmers, who did not have a regular source of input supply, were linked to Sefa and Jane to provide them with various of inputs. As a result, 80 ha of rice has been cultivated and the expected output is 161.6Mt.

In the Upper East Region, we worked to strengthen two supply chains: Single Mothers Association as an aggregator and processor and Dolan Ayana Enterprise as another aggregator. There are 26 FBOs within these chains made up of 117 farmers. The area cultivated during the reporting period is285.6 ha and with yields at 2.4MT/ha, the expected output is 685.4 MT.

At the Dawhenya irrigation site, 14 farmers from the Dawhenya Food Farming Cooperative have been assisted to increase their total land area under cultivation by 9Ha representing a 69 percent increase. These farmers, although at the irrigation site, had inadequate access to water limiting the area cultivated to 13 ha. Through several discussions with the farmers, it was determined that water pumping services would enable the farmers to access more water thereby increasing the area under cultivation. ADVANCE identified water pumping service provider Nelson and Sons, and facilitated the linkage with the farmers resulting in the total cropped area increasing to 22Ha.

At Kpong Irrigation Project (KIP), where the potential yield is 6.3Mt/ha but actual average yield is 5.5Mt/ha, we worked with the supply chain actors to set up a one-acre demonstration plot to train farmers on Integrated Nutrient Management (INM). Yield from this demonstration is expected to increase by 15 percent and results are expected by the end of October. 160 farmers participated in the demonstration.

PICTURE 5: A FARMER APPLYING THE COMPOST TO THE DEMONSTRATION PLOT

Upgrading rice mills has been identified as essential to meet market requirements of commercial buyers such as CCTC, Ghana Made and House of Rhema. An initial assessment of rice mills within the rice value chain has been undertaken and the owners of these mills are being encouraged to upgrade their mills. Three of the mills submitted applications for matching grants to buy threshers, driers and mill graders to increase productivity and upgrade the quality of rice that is processed. Achievements in relation to planned activities are presented in Table 5.5.

TABLE 5. 5: PLANNED ACTIVITIES AND STATUS

Limited availability of quality seeds	165Mt of quality seeds 85% of contracted growers producing for buyers using certified seed	1.2MT of certified rice seeds (Jasmine variety) were purchased by farmers through ADVANCE facilitation Reason for the low percentage could be unavailability. Farmers prefer to use their won seed. A rice seed program is planned for the coming year to address this situation
Disconnected and poorly formed value chain relationships	2,000 farmers with formal contracts and 3,000 with informal agreements 10 aggregators involved in formal contracts with buyers and farmers At least one buyer-aggregator channel applies performance incentives At least 2,000 farmers accessing high quality inputs through contracted services 75% of farmers remain in contract scheme after year 1	In the 25 Supply chains, 1,889farmers have informal contracts with aggregators. None has been formalized. All 1,890 farmers are linked to input dealers within the supply chains. 139 farmers have received inputs on credit from 3input dealers Three formal contracts signed between 3 aggregators and 3buyers (Ghana Made, CCTC and FABBY Farms). Percentage of farmers remaining in contract scheme after year 1 to be determined in year 2
Poor yield due to non-adherence to Good Agricultural Practices(GAP) and post-harvest practices	An average of 2Mt/ha for the 5000 farmers involved in some kind of contract farming At least 60% of the produce of farmers meet quality standards 5000 farmers receive Technical	Yield from production to be determined in after harvest 260farmers have received technical assistance in rice production (Training in GAPs and soil nutrient management) from ADVANCE staff and also in collaboration with MoFA Percentage of farmers meeting quality standards to be determined in year 2

	Assistance in rice production	
Limited access to appropriate machinery and equipment and services such as land preparation, pest and weed management etc	At least 2000 farmers have access to mechanized land preparation, harvesting and threshing services 10 private (pest control) Service providers linked to input providers trained and delivering services to farmers.	All 1,890 farmers within the rice supply chains have been linked to mechanized land preparation services mainly and 729 farmers in the irrigated areas have access to harvesting and threshing services. We are still in the process of supporting the private sector to develop robust business plans to provide such services
		250farmers linked to ADB for input financing out of which 40 farmers got a sum total of Gh ¢67,840 approved and disbursed. This first tranche is on trial subject to repayment by the farmers. 7 aggregators linked to Ghana Made and CCTC receive Gh ¢20,000 input financing from FASL

Supply chain meetings facilitated by ADVANCE and led by lead actors within the chains have begun to yield positive results in terms of relationship building and identifying appropriate interventions to mitigate endemic constraints. Actors are observed to be communicating more with each other and others especially service providers such as input suppliers are taking steps to take advantage of market and retailing opportunities which otherwise would not have been known to them. For instance, two input dealers (Abians Agrochemicals and Altimate Agrochemicals) working within the supply chain of an aggregator (Agnes Yankey) agreed and supplied inputs worth GH¢15,770.526 to 39 rice farmers who supply her with paddy. This arrangement was on credit and the aggregator is expected to pay back after harvest. Similar business arrangements have been made at Okyereko and Afife in the Central and Volta Regions, respectively. Some of these actors, through meetings and consultation with FBFs, have become aware of the need to improve and therefore have begun to take steps in that direction. The Okyereko Rice Irrigation Cooperative, for example, has submitted a proposal to the ADVANCE office to access a grant to upgrade their rice mill. Although the process is slow, these are early signs of the change and transformation in attitude and approach to business in agriculture that ADVANCE is stimulating.

Two major challenges we faced in our work in the rice sector are:

- Mechanized services are inadequate and are also poorly managed in most project intervention areas. This affected farmer's timely access to mechanized services to till their fields.
- The rice value chain in the northern zone faces a huge challenge with markets because the varieties cultivated are not preferred ones keeping the demand low. Parboiling is also peculiar to this region because it is the only way to get uniform moisture content for the paddy after harvest. An initial scoping exercise identified very few buyers such as ICOUR, small scale local traders and Single Mothers Association. An extensive and detailed study will be undertaken in year two to identify the opportunities that exist for parboiled rice in the West Africa Sub region.

The lesson we have learned is that facilitation requires perseverance, especially in areas where other projects, such as MIDA, are operating. Smallholders have the perception that all projects have the same approach. Other projects have, for example, given out starter packs, and, in some cases, gave cash to

Three Aggregators Receive GH¢26,000 with Support from ADVANCE

The Kpong Irrigation Project (KIP) is one of the largest Ghana Irrigation Development Authority schemes. The project covers a total area of about 3,028 ha, of which 2,102 ha is cropped to rice. ADVANCE is currently working in 6 supply chains in Asutuare with CCTC and Ghana Made as end-market buyers.

The assessment of the constraints faced by aggregators within the supply chains showed that access to finance to purchase paddy was the most ranked problem. The ADVANCE FBF working in that area therefore approached the risk manager (Mr. Yaw Korankye) of First Allied Savings and Loans Ltd and discussed the supply chains mapped out in Asutuare and ADVANCE's strategy to upgrade the chains. The after the discussion Mr. Yaw Korankye became very interested to meet the actors within the supply chains to learn more about their activities and major constraint.

Mr. Yaw Korankye met 6 groups of aggregators and assessed their profiles and agreed to have a field officer conduct further evaluations. Mr. NiiAryee took time to undertake the evaluations and obtained satisfactory results for 2 groups out of the six. He explained to the aggregators that FASL felt comfortable giving out small loans since it is the beginning of their relationship.

Credit worth GH¢ 6,000 was given to the first group led by Mrs. Margaret Assumeng and Christiana Kreponi and GH¢14,000 given to the second group led by Mrs. Agnes Yankey.

After receiving the loan from FASL, Mrs. Assumeng remarked "As first born of this loan facility, we have to be good children so that our mum and dad will be happy with us and bless us with more loans as we repay on time."

farmers for attending training. The ADVANCE market facilitation approach requires actors to self-select and own the process of transformation, and since some actors are not used to this approach, it requires a bit more time and perseverance to get the desired change.

During the next reporting period, activities to be undertaken in the rice value chain will include but not be limited to the following:

- Develop a rice manual on GAP to support cropping cycles for rice farmers.
- Undertake study to identify market opportunities in the region (Burkina Faso, Mali, Sierra Leone etc.) for parboiled rice.
- Extend activities in rice value chains to the eastern part of the Ashanti Region.
- Map out supply chains in Worawora, Biakoye and Jasikan Districts in Volta.
- Support upgrading of rice mills.
- Strengthen supply chains that have been formed in year one.

5.4 FRUITS

In year one, ADVANCE worked on developing fruit commodity supply chains for the domestic market focusing on pineapple, citrus and mango. Attention was given to the aggregation of fruits for local processers and supporting them to build their own viable and robust supply chains with producers and aggregators. ADVANCE fostered links between the inputs industry so that it can effectively support the pineapple, mango and citrus value chains. ADVANCE also fostered stronger links with support services, such as finance and ICT, to reduce transaction costs in these commodity value chains.

Scoping studies were conducted in the fruit commodity value chains to identify specific constraints as well as the aggregation structures of identified processing firms. With an understanding of the opportunities and constraints in the industry, specific interventions were designed to strengthen each commodity value chain.

The ADVANCE team identified a total of 14 supply chains. At the end-market level, 11 fruit buyers, 17 processors and 18 aggregators were identified. A total of 76 FBOs, 24 large scale farmers, 3,994 smallholders were engaged in the fruit value chains at the producer level in the year under review. At the input level, 16 input dealers were engaged in various activities with ADVANCE whilst 13 financial institutions were engaged.

5.4.1 PINEAPPLE

In the pineapple value chain, four supply chains were identified and strengthened. At the end-market level, 11 processors along with 16 aggregators, nine FBOs, five large scale farmers, 335 smallholders and two financial institutions are working with the ADVANCE program in the Central and Eastern Regions. Also six input dealers were engaged with the ADVANCE program in the pineapple commodity value chain.

Activities in the pineapple value chain started with the scoping of all pineapple producing areas to assess the status of the industry and identify opportunities that can be harnessed to address the project overall goal of transforming the pineapple industry. The scoping identified major actors in the industry who had loosely operating groups with weak linkages and therefore ADVANCE introduced strategies to strengthen them. In total, 141 Value Chain actors were present at the

pineapple industry networking event to strengthen relationships and start addressing the industry constraints. The outcomes of the networking event resulted in the linkage of six business associations.

Two pineapple demonstration sites were established as technology development and diffusion centers. The first demonstrates the viability of smooth cayenne crowns as alternative planting material. The second focused on the economics of using compost to cultivate pineapple and mainstream compost use to reduce production cost thus improving smallholder profitability at the farm enterprise level. Akuapim South Agro-Processors Association (ASAPA) members were assisted to increase the tonnage of fruits processed by 20 percent from 1,350 in 2009 to 1,600 metric tons by 31st August 2010. ADVANCE is also assisting to Kasoa Association of Pineapple Aggregators (KAPA) members to increase the aggregation of fruits from 1,885 to 2,660 metric tons by the end of December 2010.

An assessment of the production, viability and demand for various varieties of pineapple suitable for processing was carried out, and the results indicated that processors preferred smooth cayenne (SC) over the other varieties (Sugar loaf and MD2). ADVANCE arranged a meeting with Coca Cola Company and six processors (Pinora, Kingdom Fruits, Blue Skies, Coastal Groves and Sunripe) to discuss the possibility of buying pineapple, citrus and mango juice concentrates from them. With the unavailability of smooth cayenne for processing, this will feed back into the SC project to revamp the pineapple industry.

The Akuapim South Input Dealers Association (ASIDA), were asked to broaden their scope of operations to reach more farmers in the district. Nicoster Agrochemicals, for example, opened four new branches in the Nsawam area to reduce the time and resources spent by farmers in traveling long distances to purchase agro inputs.

Agrogate Agrochemicals in Nsawam joined the ADVANCE team on field visits to pineapple farms to strengthen ties that exist between Agrogate's pineapple farmers. As a result, the company decided to increase its stock of agrochemicals with additional imports from the Far-East. Between January and September 2009, their stock purchases was GH¢145,000 and for the same period this year they stocked up to the tune of GH¢ 180,000 as a result of ADVANCE interventions.

Meetings were held with various value chain actors such as Sinapi Aba Trust, Kurama Co. Ltd, an input dealer at Weija, Emasa Rural Bank and three pineapple FBOs; Okyereko Pineapple, Awutu Horticultural and Bontrase Associations on modalities to supply the FBOs with inputs on credit. A repayment system where buyers pay for fruits purchased through FBOs accounts at their banks was proposed. A pilot scheme has been put in place to test the system.

ADVANCE facilitated technical support in pineapple production and group formation for almost 500 farmers in Assin North District. To date, 45 farmers in Assin Nyankumasi have been trained in basic skills on pineapple production for processing. They also acquired skills such as record keeping, group dynamics and marketing to enhance their farming business.

5.4.2 MANGO

A total of 33 actors (representing three mango FBOs - YiloKrobo, Dangbe West and Upper Manya mango farmers association, input dealers, rural traders and processors) participated in workshops to

deliberate and form networks to address industry wide challenges. Also, formal relationships were established through signing MOUs between ADVANCE and some of the fruit processors including Sunripe, Pinora, Kingdom Fruits, Fruittiland, Coastal Grove, Mandis Ltd, and Bio-Tropical. These MOUs generally seek to encourage a more cost effective and reliable supply chain that provide consistently greater volumes of product and improving revenues at all levels of the value chain.

In the last minor season (December – April) a total of 1,741 metric tons of fresh mangoes were sourced from the three (3) mango FBOs by processors, exporters, traders and super markets in Accra. It was estimated that nearly 60% of the minor season mangoes were aggregated by small traders for the local market. ADVANCE therefore facilitated the organization of aggregators; strengthened the Somanya into Yilo Krobo Fruit and Vegetable Farming Cooperative Society with membership strength of forty (40). They have also been assisted to present to the Accra Metropolitan Assembly market coordinator a request for market stall allocation as a trading post for mangoes and have been linked up to HFC Bank to access credit in anticipation of the upcoming fruiting season starting from November 2010 to April 2011.

We linked Minor Weir & Willis (MWW) Ltd, a major importer and supplier of fresh produce in the UK to the executive committee members of the three mango FBOs who are excited about the marketing opportunities in the EU and have pledged to work hard to meet the MWW export specifications and demand of 300 metric tons per week at peak seasons.

Using STTAs, ADVANCE provided technical backstopping to the three mango FBOs for GAP, coaching for Global GAP certification among others. This will form the basis for the second year's work plan to be developed for mango. Preceding the work plan, a technical audit of mango orchards for farmers in the Dodowa, Somanya, Odumase, Juapong, Kpando and Hohoe areas have been conducted to assess their needs and inform action plans to upgrade farmers' skills in orchard management and meeting third party quality assurance protocols set out in GLOBALGAP.

5.4.3 CITRUS

The ADVANCE team identified and supported seven supply chains in the citrus industry. These supply chains consist of two buyers, four processors and one aggregator. The total of 64 FBOs,nine nucleus farmers and 3,439 smallholders are working with the ADVANCE program.

ADVANCE collaborated with MoFA through District Agricultural Directorates in 15 citrus growing districts to map citrus farms and assess the state of plantations and enable us understand the production levels and potentials in the short and medium term (see Section 3 for details). The GIS data is being processed after which it will be shared with processors and buyers and other allied citrus agribusiness entities to assist in establishing linkages among producers and processors to ease supply of citrus varieties.

ADVANCE, in association with Citrus Growers and Marketing Association of Ghana (CIGMA), facilitated the mobilization, strengthening and sensitization of 40 citrus-growing communities to manage their supply chain with Fruittiland (a citrus processing company with installed capacity of 500MT of citrus and 400MT of pineapple/day). Out of 40 communities, 20 have now elected executives and are putting together constitutions to govern their groups. ADVANCE facilitated discussions at a forum where two representatives from 36 CIGMA citrus producing communities finalised their MOU with Fruittiland. CIGMA has, in principle, accepted a supply agreement with

Fruittiland, and the two parties have successfully negotiated a price per tonne of oranges (GH¢108.00) valid to the end of 2010. A price review and negotiation will be done at the end of 2010 to take effect for another year.

ADVANCE linked PRAWORD, a women citrus exporting group, who were previously buying only from the Abura Kwamankese district in the Central Region and some parts of the Ashanti region to citrus FBOs in Suhum Kraboa Coaltar and West Akim Districts in the Eastern Region. With this new supply chain, PRAWORD reduced their transportation cost. ADVANCE assisted PRAWORD to access a GH¢25,000 loan facility from MASLOC which enabled them increase their purchasing capacity from 19mt to 53mt per trip to Nigeria. PRAWORD made two trips to Nigeria during the two citrus seasons in 2010.

Currently, 1,248 citrus farmers are benefitting from the ADVANCE project in the Ashanti, Eastern and Brong Ahafo Regions. This compares favourably with the expected 1,000 citrus farmers targeted in the first year. The good response is attributable to our market-led approach since the biggest challenge facing citrus farmers is lack of reliable markets. A total of 266 citrus farmers in the Eastern and Ashanti regions have been trained to acquire new skills in farming as a business. These include skills in record keeping and marketing to enhance their farming activities. Also, 174 citrus farmers from 10 FBOs have been trained in organizational development.

Most of the FBOs currently make monthly contributions to their group accounts to qualify for credit facilities. Twenty citrus FBOs, representing 700 farmers were introduced to Mponua Rural Bank at a workshop in Nkawkaw. The bank plans to conduct a two-week intensive training for the farmer groups prior to appraisal and loan disbursement in the coming year. Also, Onomabu citrus growers were linked to South Akim Rural Bank and the members are making monthly deposits into the account.

TABLE 5. 6: SUMMARY OF EXPECTED OUTPUTS/OUTCOMES AND ACHIEVEMENTS IN FRUITS

Constraints in Value Chain	Expected outputs/	Achievement in reporting period for Pineapple, mango and citrus (combined figures)
1. Disconnected and poorly formed value chain relationships	Formal Contracts signed between processors and 1,000 farmers Informal supply contracts agreed between processors and 1,000 farmers	Formal contracts were signed between three processors and 1,212 farmers (312 mango farmers and 900 citrus farmers). 1,986 farmers linked to 3 processors through informal supply contracts for citrus, mango and pineapple fruits (Citrus, 1500; Pineapple 386 and mango 100 farmers)
2. Limited access to appropriate machinery and equipment	1,000 farmers under contract have access to agricultural services 15 service providers participating in the program increase sales and services to smallholders 500 farmers access land preparation services	1986 farmers under contract have access to agricultural services 16 input dealers are providing services and 13 financial institutions have been linked to various supply chains. To date input dealers support participating farmers have increased their sales by GH¢5,000 There was no new land under cultivation.
3. Poor yields due to non-adherence to GAPs and post harvest practices	Based on analysis set yield and quality targets with industry players	Yield targets have been set as follows: i) Citrus-10Mt /ha (minimum brix of 10; colour – yellow ii) Pineapple-60.0Mt/ha (weight 1 kg minimum; Brix – minimum of 13; colour – M2/C2) iii) Mango- 5.0Mt/acre

Constraints in Value Chain	Expected outputs/	Achievement in reporting period for Pineapple, mango and citrus (combined figures)
4. Limited access to market and finance	1,000 farmers under contract have access to financial services At least 2 processors access financial services under the program	40 rural traders of mango in Somanya belonging to Yilo Krobo Fruit and Vegetable Cooperative Society have opened saving accounts with HFC Bank Boafo Pa Scheme and 80 members of PRAWORD accessed credit from MASLOC.

Some of the *challenges* encountered in the fruit sector include: the slow pace in building trust among actors; ensuring sustainable markets for farmers and processors; getting banks to provide timely credits; resolving conflicts among actors, and poor management systems among FBO, etc. Actors are slow in investing in services and into programs that require cost-sharing with ADVANCE. Also, farmers (for instance in Afram plains) are getting a lot of free support from other projects and this situation poses a challenge to our strategy that centers on cost-sharing and sustainability.

The main *lesson learned* in year one is that, although financial institutions and input dealers did not perceive farmers as credit worthy and were generally unwilling to extend credit to them, they are relatively comfortable dealing with aggregators, who, in turn, finance farming activities of their clients.

In year two, ADVANCE will continue to support value chain actors improving their capacity to increase and sustain yields and productivity, improve quality, reduce post-harvest losses and to deliver produce on schedule. We will also organize fora for value chain actors to assist with familiarization, interactions and joint actions to meet the objective of fostering trust among actors and getting them do business together to upgrade the industry as a whole.

5.5 AQUACULTURE, POULTRY AND OIL PALM

Although aquaculture, poultry and oil palm were not priority commodities for year one, activities were initiated during the reporting period to provide the basic analyses of the industries.

5.5.1 AQUACULTURE

Two studies were conducted on the aquaculture industry to identify key opportunities and threats, recommend appropriate interventions and identify actors, development partners and private sector investments which could be leveraged by possible interventions. The first study, led by Steve McCarthy, was an assessment of the aquaculture value chain with a focus on production areas of the Volta Lake and downstream tributaries around Akuse and Kpong as well as terminal markets in Accra and Tema. It detailed the present capacity of the industry, its current requirements and made recommendations on strategies for intervention, especially linking maize and soybean production to demands for fish feed formulations for farmers. The second study,led by Samuel Seddoh,focused on smallholder fish farming in the Volta, Eastern, Upper West, Upper East, Northern, Ashanti, Western and Brong Ahafo Regions. The study identified different production systems and active industry dynamics.

The aquaculture value chain assessments demonstrated the following:

- There is currently an estimated 400,000Mt deficit in catch and farmed fish production in Ghana.

- Cage culture contributes 80 percent of the total grown fish production at 5,330Mt while ponds and reservoirs contribute 20 percent.
- Cage production is increasing and projected to grow at 30 percent per annum. It is estimated to reach 25,000Mt by 2015.
- Developing the supply chain for raw product for the fish feed sector provides the largest opportunity for ADVANCE intervention in aquaculture

The studies recommended that ADVANCE should: 1) develop viable local partners to build capacity in production of quality floating feed pellets, 2) facilitate development of a reliable marketing program that anticipates demand, identifies supply nodes and builds business relations among actors, 3) promote outreach programs involving fisheries extension, research, finance and farmer associations to build technical and financial capacity of actors, and 4) focus interventions on the Ashanti, Brong Ahafo, Western, Eastern and Volta regions; promotion of polyculture of Tilapia and Catfish; monoculture of Catfish; monoculture of Tilapia (only in cages) and support systems which include earthen ponds and low cost cages.

Discussions were held with Mr. Kofi Sefa Boakye, business partner to RAANAN, an Israeli firm supplying feed to local supplier Dizengoff. RAANAN is setting up a fish feed factory at Prampram to produce floating feed for the aquaculture industry end of 2010. The company is interested in working with ADVANCE to build their supply chain for raw materials. ADVANCE subsequently held discussions with a representative of the company on specifications needed for maize and soybean supplies, factory installed capacity and quantities needed for production.

As ADVANCE continued to explore participation in the fish industry, it attended the national aquaculture development strategy workshop organized by the FAO and MoFA and shared the results of ADVANCE aquaculture value chain study with the stakeholders. The forum developed the basis for development of the industry in Ghana to address the following constraints:

- High cost of imported feed at more than 50 percent of production cost.
- Heavy reliance on imported ingredients for feed and hormones for growing fish.
- Lack of established user rights and ownership structures for water bodies.
- Lack of effective Market Information System.
- Inadequate access to capital.
- Lack of access to quality feed and production technologies.
- Weak extension services from GoG and NGOs.

5.5.2 POULTRY

ADVANCE is collaborating with MoFA to develop the national strategy for the poultry sector, based on the actors' willingness to invest, upgrade the industry and link with maize and soybean suppliers of poultry feed. The scope of work for the study was developed and sent to MoFA for inclusion of a nominee to conduct the assessment with a consultant from ADVANCE.

ADVANCE held discussions with members of a National Poultry Farmers Association in Brong Ahafo Region on issues affecting production and their related purchases of maize and soybean as raw material for feed. Discussions demonstrated production inefficiencies resulting in increased cost of production and competition from imports from the region pushing down egg prices.

5.5.3 OIL PALM

Ghana has an annual demand gap of 60,000MTfor palm oil. Smallholders account for 85 percent of land under oil palm cultivation but contribute only 55 percent of palm oil. To develop strategic direction for oil palm activities under ADVANCE, the draft concept paper on potential activities in oil palm value chain was developed by a consultant on SME producers in six oil palm production regions. The study recommends to:

- Provide assistance to nursery operators to increase supply of improved tenera seedlings.
- Facilitate access to processing equipment by SME processors to increase palm oil extraction rates and supply.
- Promote RSPO certification for SME palm oil producers to enable access to regional markets.

ADVANCE attended a number of forums on development of environmental and natural resources criteria for the RSPO standards and a World Bank Group consultation workshop to develop strategies to provide assistance to the oil palm industry in producing countries.

Challenges in the oil palm sector include:

- Limited MoFA extension support to oil palm producers; limited knowledge on oil palm GAP.
- Smallholder post-harvest handling techniques result in high free fatty acids build-up in palm fruit.
- Small-scale processing mills have low extraction rate of 12 percent against 18 to 22 percent for large mills.

Planned activities in the oil palm industry for the coming year include:

- Development of a strategic plan for ADVANCE interventions in the industry.
- Solicit USAID input for the planned activities.
- Implement interventions, as approved.

SECTION 6.0 VOLUNTEER ASSIGNMENTS

The ACDI/VOCA Volunteer program fielded 49 volunteers this year. Volunteers came from six countries and worked in 18 districts in six regions in Ghana. Majority of volunteers (87%) percent of the volunteers came from the United States of America whiles the rest came from Canada, Australia, Uganda, Ethiopia and Bangladesh. The total number of hosts for year one were 33. Forty-seven assignments were completed during the reporting period. Thirty assignments were from the FtF program and 17 from the ADVANCE program. Four of the completed assignments were long-term assignments (two to six months) and 42 were short-term assignments (two to four weeks). There are two ongoing long-term assignments focusing on knowledge management and outreach as well as two short-term assignments under ADVANCE.

TABLE 6. 1: VOLUNTEER PROGRAM SUMMARY

	Total	ADVANCE	FtF
No. of Assignments Completed	47	17	30
No. of Hosts	33	12	21
No of multiple assignments	10	4	6
No. of Volunteers	46	17	27
No of on-going assignments	5	4	1

For the Ghana-based Internship program the target for the year was to:

1. Utilize Ghana-based resources to buy-down the risk of firms, farms, and organizations to transform their way of doing business as a key starting point of industry and then sector wide.
2. Build mid-level capacity within firms, civil society, and public sector service organizations critical to agricultural transformation that is based on modern management practice in retail distribution, supply chain management, public sector service offering, research, analysis, and advocacy functions.
3. Build more direct links between the agricultural sector's management requirements and the universities that have to be responsive to these requirements if transformation is to lead to sustainable competitiveness (e.g., ongoing upgrading)

As a result of our collaboration with the University of Ghana, Legon and the University of Development Studies, we had 31 interns working with the ADVANCE program. Twenty interns participated in mapping of the citrus farms in 15 citrus producing districts in the Central, Ashanti, Eastern and Brong Ahafo Regions of Ghana (See Section 3). Another intern is currently assisting the GIS team in processing the information gathered in the field from the Citrus mapping exercise.
One ADVANCE intern, with background in aquaculture, and hatchery management practices assisted in conducting the Smallholder Aquaculture study in Ghana. With the complimentary effort of this student the study was able to highlight the biological aspects of fish farming to inform the project intervention. Seven interns were placed to work with some firms (CALTECH, Kobbiman farms, Selassie Farms, Obuoba FM, Rite FM, CAGA, and Tuobodom Tomato Farmers).

The year one target for the volunteer program under FtF Leader Award and ADVANCE was 52 assignments in seven commodity value chains, including maize, soybean, rice, pineapple, mango, citrus and vegetables. However, 47 assignments (representing 90 percent of the total target)

assignments have been completed. Four ADVANCE assignments are still ongoing which were completed will result in 21 assignment total for year one. ADVANCE had a target of 20 volunteers for the reporting year. Seventeen assignments were completed as at end of September 2010. Of the 32 FtF target, 30 was completed as at end of September and one is in progress and the other rescheduled to start in October 2010 (Please see Table 6.2for details on the volunteer assignments for the year under review). Thirty five out of the total number of completed assignments were related to the six targeted commodity value chains that the ADVANCE program is focusing on (maize, soybean, rice pineapple, citrus and mango).

TABLE 6. 2: VOLUNTEER SUMMARIES FOR IMPLEMENTATION PERIOD (OCTOBER 2009-SEPTEMBER 2010

	Total	ADVANCE	FtF
No. Completed	47	17	30
No. of assignments in progress/volunteers in country	5	4	1
No. of volunteers recruited but yet to serve	6	2	4
No. of volunteers yet to be recruited	14	6	8
Total	**72**	**29**	**43**
September 30, 2010 Target	**52**	**20**	**32**
Difference	**18**	**6**	**12**

The categories of assistance under the volunteer program are technology transfer, organizational development, business/enterprise development, financial services and environmental conservation. Three out of five technical assistance types were requested. These were technology transfer, organizational development and business development. Majority (54 percent) of volunteer requests were for organizational development while the rest (23 percent each) focused on business development and technology transfer. FBOs and individual producers requested for assistance in organizational development which generally involved training in group dynamics and strategic management. Most individual producers and farmer groups requested for some form of technology transfer mainly in good agronomic and postharvest handling practices especially with the soybean and vegetable commodity value chains. (See Table 6.3)

TABLE 6. 3:TYPE OF VOLUNTEER ASSISTANCE REQUESTED BY INDUSTRY PLAYERS

Industry Players	Type of Volunteer Assistance			
	Organizational Development	Business/Enterprise Development	Technology Transfer	Total
FBOs	11	4	5	20
Producer	5	1	0	6
Processor	0	0	1	1
Non-governmental Organizations(NGOs)	1	1	3	5
Advocacy	2	2	1	5
Private Businesses	2	2	1	5
Sales and Marketing	1	0	1	2

Industry Players	Type of Volunteer Assistance			
	Organizational Development	Business/Enterprise Development	Technology Transfer	Total
Goods and Services	0	1	0	1
Communication	1	0	0	1
Total	23	11	12	46

Challenges

Most of the farmer groups who were assisted through the volunteer program, especially the ones that went through the group dynamics training sections, found it difficult to meet the leveraging requirements with the program. These groups were not organised enough to make contributions through their dues to make contributions towards Volunteer expenses. We have tried to encourage in-kind contributions (such as lodging and meals for volunteers) in such cases.

At the FBO level, the internationally recruited volunteers are experiencing language barriers in communicating with farmers in ADVANCE intervention areas. We are considering an arrangement to blend local volunteers or interns with expatriates.

Lessons Learned

With an internship program, we are getting a lot of requests from firms who are asking for about four to nine personnel for their firms. This will stimulate greater linkages between the firms and the tertiary institutions. However, the requests from the different firms tend to be on the high-side as some are trying to recruit for the empty staff positions in their organizations. We have, however, instituted a leveraging mechanism allowing them to be interested in a more results oriented and motivated workforce.

Planned activities for the next reporting period:

- Review of the volunteer recruitment process with field staff. In the coming year a total of 50 volunteers will be fielded (20 for ADVANCE and 30 for the FtF Leader Award).
- Assess and improve recruitment and monitoring of hosts processes.
- Conduct commodity value chain analysis of the industry specific needs for the internship programme to streamline the requests from our host organizations.
- General scoping for host and monitoring of the hosts to assess impact of volunteer interventions on their activities.
- Team up with the knowledge management team to ascertain whether there will be the need to develop generic tools for use by field business facilitators for the highly demanded technical assistance areas especially in business development and organizational development using the recommendations given by other volunteers.

ADVANCE Works with MiDA to assist GSID in Seed Machinery Assessment

With the support of ADVANCE and MiDA, GSID, Tamale will be able to supply certified maize and soybean seeds to farmers

Seed processing machine currently installed at GSID Warehouse in Tamale

"I am able to advise that MIDA shall be able to make available ……. To purchase the urgently needed parts for the repair of the equipment in tamale"

Martin Eson Benjamin CEO, MIDA

The Ghana Seed Inspection Division (GSID) of the Ministry of Food and Agriculture (MoFA) is a governmental organization mandated to carry out seed certification (i.e. facilitate seed production, conditioning, laboratory analysis of seed and seed storage) in Ghana. The GSID has regional offices one of which is located in Tamale in the Northern Regional capital. The office conducts inspection of seed farms, undertake seed conditioning, seed quality assessment, seed certification and seed storage for the numerous registered seed producers which serves the Northern Region.

In the mid 1980's, a seed and grain cleaning machine **(Clipper super 68-D by the Oliver Manufacturing company in Rocky Ford, Colorado)** was installed at the Ghana Seed Inspection warehouse in Tamale. Due to the absence of technical expertise to start and operate the seed processing plant (Clipper Super 68-D), the machine had been lying idle since its installation. The enormous work load on the only other machine they were using made the parts wear out. The lack of spare parts to replace worn out posed a problem for the institution since they could not get the parts in Ghana. GSID planned to restore the facility to its functional state and asked ACDI/VOCA for assistance. In line with the ADVANCE program's objective of promoting the use of improved seeds to increase the productivity of maize and soybean farmers, **Robert Cooperrider**, a volunteer consultant was recruited (from **June 7 -26, 2010**) to conduct an assessment of the seed machine.

Bob provided detailed cost analysis of restoring the facility and worked with GSID and MiDA to arrange for spare parts for replacement of the worn out units for possible re-installed processing machine. The volunteer also provided cost details of a new model of the seed cleaning machine since the manufacturing of the 68-D machine is no longer producing it. He also linked the GSID to a reliable supplier of the recommended seed machine. Bob is due to arrive in November 2010 to assist GSID to replace the worn out parts of the currently installed seed processing machine.

SECTION 7.0 GRANTS PROGRAM

At the beginning of year one, ADVANCE designed the grants program and introduced the grants manual to guide the process of identification and selection of recipients, as well as effective evaluation of recipients' financial and technical proposals. The Grants Manager organized informational sessions for all managers and field facilitators on the grants program at each field office to discuss possible areas of intervention within our overall strategy. Grants staff were assigned to become an integrated part of the commodity groups with designated regional oversight for the grant program implementation. This approach has enabled closer interaction and support to the field business facilitators in each region while allowing grant program staff to better understand field conditions and tailor specific strategies for grant program assistance in those areas. All grant awards were closely coordinated with technical staff and, once awarded, business facilitators responsible for the area/activity together with grant program staff have been monitoring the progress of the activity and the use of grant assistance for the intended purpose to ensure that specific programmatic results are met as outlined in each grant agreement.

During this reporting period, commodity group interventions have been supported by the grants program, in which individual entities working with outgrower schemes between 300-1200 farmers received production and harvesting equipment grants for rice, soybean and maize to increase productivity and reduce post harvest losses. Additional funding was provided for upgrading of warehouses as part of the pilot warehouse receipts program in the country.

In the Hohoe District (Volta Region), Finatrade has been investing its own resources in developing domestic sources of rice under the brand name "Ghana Pride" to compete with long grain jasmine and other varieties of rice that Finatrade imports. Finatrade is presently purchasing about 1,000 tons of locally produced rice from aggregators, small and medium sized farm enterprises. As a pilot activity with Finatrade to introduce mechanized services to farmers to increase productivity, reduce breakage and increase quality of rice, ADVANCE and Finatrade leveraged the procurement of a rice combine harvester, a transplanter and seeding trays. The equipment was introduced to rice growers in the Hohoe District and will serve to increase purchases of rice to the benefit of over 1,000 small scale farmers, with farm size between 1-60 acres. Finatrade will continue to assist aggregators purchase this equipment as part of a progressive incentive scheme.

In Ejura (Ashanti Region), PEE Farms, a farm enterprise undertaking production and aggregation of soybean and maize and working with outgrowers in 8 districts in the Northern Regions and the Ejura Sekyedumase District in the Ashanti Region provides services to 5,000 farmers. With grant assistance received from ADVANCE, PEE Farms acquired a planter, tractor and a combine harvester for soybean and maize. With the additional equipment PEE Farms is expected to expand their outgrower scheme to include an additional 2,000 farmers and increase cultivated acreage from about 10,000 to 20,000 for soybean and 1,000 for maize. The total additional production over the previous year will be 600 metric tons for maize and to 4,000 metric tons for soybean.

In a similar arrangement, ADVANCE also provided grant funding for procurement of a planter, tractor and a combine harvester to Kobbiman Farms which is working with a network of outgrowers in the Brong Ahafo Region. The equipment is being used to cultivate an additional 240Ha in 2010 involving 200 new outgrowers and producing 360 Mt. This will increase to 1,800Ha by 2013 and a

production of 3,600Mt of soybeans. The expected increase in crop yields will be improve from about 1.2 to 1.5Mt/ha in 2010 and increase to about 2.0Mt/ha by 2013.

In the Upper West Region, ADVANCE has been collaborating with Upper West Agro Industries, UWAI the only processing company that has already established its own supply base with 1,200 farmers and aims to expand the number of participating farmers to 3,500. The company works through the outgrower scheme where all produce received from farmers is processed at the company's facilities. ADVANCE has procured manual seeders, power-drawn planters and rotary tillers to be awarded to 25 farmer groups with 15 farmers in each group for demonstration of technology to increase yield through correct planting spaces, reduce labor costs, increase supply of soybean and maize to UWAI and other buyers and stimulate the investment by small holder farmers into purchase of additional equipment from the local vendors.

To promote the warehouse receipt program as a private sector-led initiative, ADVANCE has supported registration of the Ghana Grains Council as a body to champion the development of the grains industry. With a $544,000 ADVANCE funding, the Ghana Grains Council will manage a warehouse receipts pilot project and upgrade warehouses to meet international certification standards to improve competitiveness and efficiency in the grains sector. The Council has selected six (6) warehouses to be upgraded as part of the warehouse receipts system pilot program. By July 2011, up to six warehouses will be upgraded and certified. The expected outcomes of this pilot activity include:

1. 5,000 metric tons of maize will run through the certified warehousing system by April 2011
2. 15,000 farmers will have access to the certified warehouses through various aggregators
3. 20,000 farmers will be selling into the certified grain market

To further support the development of the soybean and maize value chains, ADVANCE has announced a competitive process to award several grants to upgrade production and processing capacity of small and medium scale farmers and private sector companies. The examples of upgrades include planters, shellers, harvesters, oil extractors, grain dryers, various types of mills, among others. For production, targeted beneficiaries are farmers with holdings of minimum 5 hectares of own farmland producing for domestic market and aggregating produce at minimum commercial volume of 100 Mt. For upgrading of processing capacity, targeted beneficiaries are existing small or medium sized processors with annual installed processing capacity of 1500-5000Mt of soybean and/or maize and purchasing at least 30 percent of required soybean and/or maize from local producers.

In the rice value chain, ADVANCE advertised a competitive process to award several grants to upgrade rice milling facilities. The objectives of this assistance are to increase efficiency, improve quality, increase output and raise standards for the rice market. The grant assistance targeted existing mills across Ghana with proven record of running the business for at least two years. ADVANCE has reviewed the applications in response to the advertisement and is completing due diligence process to make awards to the potential beneficiaries.

SECTION 8.0 ENVIRONMENT AND GENDER

8.1 ENVIRONMENTAL COMPLIANCE

ADVANCE has adopted an environmental strategy that strives for efficiency in resource utilization. The strategy incorporates natural resource management considerations into the Environmental Monitoring and Mitigation Plan (EMMP), based on the findings of the Initial Environmental Evaluation (IEE). As contained in the IEE, ADVANCE project activities in year one has been consistent with the submissions in the IEE and will present no significant adverse environmental effects. Implementation of the proposed mitigation and monitoring measures are on course and no changes have occurred as at the time of preparing this report.

ADVANCE prepared and submitted a PERSUAP in accordance with pesticide procedures in 22 CFR 216.3(b) (I) (i) (a through I) as an amendment to the IEE, to ensure compliance with USAID's pesticide procedures. The PERSUAP identified safer alternatives of available pesticides and opportunities for integrated pest management (IPM) options. Also, the PERSUAP addressed issues of environmental, human health and risk reduction. Assessment of pesticides for each commodity chain according to their registration status and toxicity classifications by the WHO, USEPA and the Ghana EPA resulted in the proposed list of pesticides submitted to USAID for approval.

The PERSUAP has been distributed throughout the ADVANCE consortium and staff trained on its use. Orientation workshops have been organised for all our partners and sub offices. The main objectives of the workshop were to ensure that:

- there is a good understanding of the ADVANCE thinking on environment,
- the ADVANCE PERSUAP is well understood,
- environmental conditions are intrinsic part of the facilitation process,
- implementation and monitoring of the ADVANCE EMMP is everyone's responsibility.

Field Facilitators recognized the past and current impacts of agriculture expansion on natural resources, health and safety of farmers and appreciated that in principle, we can increase production without environmental degradation. A key strategy is to discourage the conversion of new land for agriculture and rather facilitate the adoption of agronomic practices such as establishing the right crop densities that can result in significant increase in yields.

Screening of grant applications

During the reporting period, Environmental Review Forms were used to asses' six shortlisted beneficiaries of the grant component of the program through the GGC for the upgrading of selected warehouses. The assessments were based on the suitability of the selected warehouses for the proposed upgrading program, the environmental issues that could arise as a result of the intervention and the scope for further assessment if need be. In all, none of the warehouses were found to have any significant environmental impact except for two whose final assessment will be carried out when the final plans for construction become available. As all completed forms were determined to have no significant impact on the environment, there was no need for further environmental reviews.

Challenges

- Some mechanization service providers have difficulties with obtaining licenses for illiterate tractor operators, as they need to take a written exam in order to get a license.
- Difficulties in aligning the PERSUAP with EU recommended pesticide list (end market for most processors, list of chemicals, which are not on the ADVANCE PERSUAP such as Propiconazol).
- Enforcement of government legislation on environment is poor hence actors tend to be more unwilling to incorporate these into business.

Lessons Learned

Lessons learned from the first year of implementation cover technical and programmatic issues and include the following.

- During year one, it was evident that when the topic of environmental regulation and interventions are being discussed, beneficiaries are initially not interested, as they perceive any intervention as being an added cost. Beneficiaries, however, become more interested in the topic when they are aware of the benefits such as cost cutting, improved yields, etc. that may accrue to them in the long and short term and tend to enrich discussions with their experiences. Subsequent environmental interventions in year two will, therefore, dwell on the benefits of environmental compliance rather than the sanctions that could arise from non-compliance.
- Implementation in year one has shown that most beneficiaries are not well informed about environmental regulations and their bearing on the agricultural sector. In year two, we will involve key field officers of the EPA and Forestry commission in facilitating meetings to speak about environmental regulation, biodiversity, environmentally sensitive areas and the practices in agriculture that could have a negative impact if not managed properly.
- In meetings, language barriers and translation of environmental information tends to distort the message being sent across when the person doing the translation is on their own not able to conceptualize the message. The development of simple visual Environmental Education material such as laminated posters will be invaluable in helping FBFs communicate with beneficiaries as well as form a reference that can be over the life of project and beyond.

In year two, we will focus our attention on the following activities:

- Review ADVANCE recommended Pesticides and PERSUAP to reflect realities on the field, because some beneficiaries are already complaining about accessibility of some of the recommended pesticides on the field.
- Assess level of Environmental Compliance for all ADVANCE activities.
- Conduct evaluation of ADVANCE Environmental Mitigation plan to determine the scope and extent of additional evaluation.
- Conduct Environmental Evaluation for all additional value chains in Year 2.
- Facilitate orientation for Lead firms and beneficiaries in all applicable legislation and ADVANCE PERSUAPS by collaborating with all relevant regulatory bodies to disseminate information on the legal framework on beneficiary activities.
- Work in partnership with beneficiaries and lead actors to develop Environmental Education (EE) material to reinforce the message of Environmental sustainability.
- Utilize Volunteer Consultants to build the capacity of beneficiaries/lead firms in HSE.

8.2 GENDER

In year two, ADVANCE conducted a gender assessment study which focused on:

- Gender based constraints to input and post- harvest service access;
- Differences in women's and men's livelihood strategies and how ADVANCE can ensure equity in reaching both sexes.
- Access and control over resources among project beneficiaries.

The program team consciously made efforts to bridge gender gaps in the various value chains. Groups such as Single Mothers Association (SMA) who process rice, PRAWORD (women citrus group), Kasoa Association of Pineapple Aggregators (KAPA), Hajia Salamatu (an aggregator) and individual actors were encouraged and supported in various ways to play their roles effectively in various value chains.

Out of 73 FBOs that received production credit through the program's support, 17 (157 producers) were female FBOs and the rest of the 56 FBOs (527 producers) were mixed (men and women) for in the Northern operational area (nine for soya and eight for rice).

Of the 1,193 farmers trained on various technologies, 270 (22.6 percent) were women with the rest being males in the Techiman operational areas. For soya alone, 889 females (representing 31.1 percent) out of 2,855 soya farmers were identified as beneficiaries of ADVANCE due to FBF sensitization effort and training to update farmers' knowledge on cultivation of soya bean.

Strengthening of Aggregator – Input Dealer Relationship

As part of our market-oriented approach, the role of the aggregators and the input dealers are major contributing factors to success. The role of women is prominent in certain value chains, and the program team took a special interest in supporting such roles. For instance, in the Akuse- Asutsuare area, it was observed that the female aggregators – "market queens" - provide credit for land preparation, agrochemicals, hand picking, scaring and harvesting, etc. to the farmers who supply them with paddy. To support the aggregators, a meeting was held with Abians Agrochemicals limited (Mrs. Ansere) and Altimate Agrochemicals (Mr. Julius Ofosu) to discuss the potential in supplying inputs to farmers linked to interested female aggregators. As a result of this meeting, Mrs. Ansere agreed to supply inputs to an aggregator (Mrs. Agnes Yankey) on credit for two months and Mr. Julius Ofosu agreed to supply inputs to the aggregators for the cropping season.

In year two, our activities will focus on the following:

- Assess the degree to which "market queens" will support investments in upgrading smallholder quality and productivity.
- Establish a strong co-ordinating mechanism for integration of gender in the ADVANCE program so as to mainstream gender.
- Strengthen technical gender capacity for all partners and technical staff by holding skills trainings for staff to make gender an integral part of their agenda; make gender materials and modules for training and reference available to staff.
- Build networks for women in areas that can influence and enhance their activities and business training will be another focus for the project.
- Target activities in value chains operations where women's activities are currently concentrated, such as processing and marketing.

Building Capacity of Women: Kasoa Association of Pineapple Aggregators (KAPA)

The birth ofKAPAwas the result of an initiative to improve the economic well-being of women's groups. A pineapple forum organized at the inception of the ADVANCE program attracted two aggregators, Ajara Osman and Abiba Yakubu, from the Kasoa market. An interaction with them brought to the fore the existence of a loose association of many aggregators at the Kasoa Market. The nature of the association was characterized by much competition and very little cooperation.

PAB-ADVANCE took an initiative to bring the aggregators under one umbrella. The idea was sold to them. They reacted positively to it and embraced it.

KAPA with thirteen members, all females, was inaugurated on 26th May 2010. Four executive members were elected; Abiba Yakubu (President), Cynthia Nortey (Secretary), Rebecca Atsu (Treasurer) and Dela Osei (Organizer). The objective of bringing the aggregators together is to enable them engage other actors with a common marketing strategy and to grow the association into a formidable one. The association meets twice a month, usually on Fridays at the Kasoa Market. They have their own constitution and members have also begun paying dues.

Dela Osei, one of the aggregators remarked, "We thank ADVANCE for their intervention by uniting us again; we will do our best to sustain the association".

Cynthia Nortey remarked, "Now we can also determine when pineapple should be forced since we will now be buying in group but not individually". Now the membership has increased from 13 to 16 giving an indication of how well the association is doing.



The association has been introduced to the use of scales and conducting purchases by weight instead of grading. It has also been linked to a fruit processor, a number of pineapple FBOs, and a financial institution (Sinapi Aba Trust).

9.0 MONITORING AND EVALUATION

The focus of monitoring and evaluation (M&E) during the year was on (i) assessing the project baseline status, (ii) establishing, testing and implementing systems for tracking and assessing the results of the ADVANCE program interventions, and (iii) building staff capacity to effectively implement the M&E activities. Two key issues emerging during the period were the possible inclusion of nutritional indicators as mandatory indicators to be reported on by ADVANCE in response to identification of nutrition as a priority area for USAID, and addressing questions concerning the compatibility of the current set of performance monitoring indicators with the program focus of transforming Ghana's agricultural system. As a result, we explored alternate and/or additional indicators to be tracked to demonstrate program impact on gender equity, household nutritional status and system wide change.

9.1 REVISION OF RESULTS FRAMEWORK AND PERFORMANCE MONITORING INDICATORS

Following a series of discussions with USAID, the ADVANCE results framework was revised to reflect the causal flow between the activities to be implemented under the three components of ADVANCE and the intermediate and sub-intermediate results of the GFSR and USAID economic Growth Strategic Objective 6.0. The revised results framework is attached in Annex (4)

The ADVANCE draft M&E Plan was revised to incorporate feedback from USAID, reflect the modifications to the performance indicators and to incorporate data from the baseline survey. The program has a core set of 28 performance monitoring indicators, 18 of which correspond to IEHA/GFSR indicators. A supplementary set of indicators (Table 9.1) was developed to track those elements of transformation (e.g. value chain relationships, competitive service industry) that are not covered by the original set of indicators. These indicators will be tested and rolled out in FY 2011.

Discussions were held on how ADVANCE program interventions contribute to improvements in household nutritional status. Specific indicators are yet to be agreed upon but these may focus among others on the increased consumption of soy by children and women in beneficiary households and our planned interventions in aquaculture. Also, our gender assessment proposed a number of indicators for tracking changes in gender equity resulting from the ADVANCE gender strategy and these will be tested and incorporated in the M&E plan.

9.2 DATA COLLECTION AND ANALYSIS

A number of activities were undertaken during the year to ensure effective and efficient data collection, analysis and use. These include the development of a database, data collection formats and harmonisation of all kinds of data collected under the program.

Development of MIS Database

A web-based MIS database was developed with technical support from Dale Key, the Director of Information Technology (ACDI/VOCA, Washington DC). All five ADVANCE M&E officers received an orientation on the use of the MIS database, with installation of the required software on their respective laptops.The MIS database stores data on project beneficiary profiles, training activities and training participant data, project performance indicators, project grants and financial data among others. Some modifications were made to the database in response to feedback from the field on its utility.

TABLE 9. 1: ADVANCE SUPPLEMENTARY PERFORMANCE MONITORING INDICATORS

Goal: Increased competitiveness of Ghana's agricultural sector in domestic and regional markets
% of buyer demand supplied by domestic market
Component 1: Enhanced Value Chain Competitiveness
# of nucleus farmer outgrower schemes
Level of post harvest losses
Component 2: Increased market access and development of local and regional markets
# of fulfilled contracts
# of repeat contracts
# of dedicated supply chains established without ADVANCE facilitation
Incidence of supply chain conflict
Level of farmer satisfaction with relationship with value chain actors
# of new entrants into agriculture input/service provision industry
# of promotional activities undertaken by input/service providers
# of visits to farmers by input/service providers
% of input/service providers with embedded services
% of input/service providers with performance incentives for farmers
Quality of records keeping by beneficiaries
Most trusted information source for farmers
and quality of agric related programs on radio stations
Component 3: Increased access to Financial Services
% of beneficiaries satisfied with financial services received
Source of financial service (Financial Institution, Value Chain Actor, Other)
# of financial institutions with agri-finance products

The database was also updated to show data by sub-office and to include a report section to provide a tabular summary of data entered which is exportable to excel for analysis. The MIS system is operational and data entry is ongoing. To date, orientation on the use of the database and access to the same has been limited to the M&E staff. In year two, we will demonstrate the use of the database to other staff and establish procedures to allow them access to the database in order to observe their respective progress and to use the information contained as a management tool for decision making.

Development of ADVANCE data collection forms

A key component of our M&E activities during the year was the design and roll out of forms for collection of data to track project progress and assess impact. Data collection forms for recording profiles of value chain actors and for reporting on training attendance are currently in use in the field. Additional forms for data collection on production and sales, gross margins, technology adoption, access to financial services have also been developed and are being used. The use of this latter set of forms will be assessed and necessary revisions made during the next quarter (October – December 2010). Data collection on gross margins will be informed by the output from two crop budget studies on cereals and fruits respectively carried out during the year. Targeted training on

crop yields and gross margin data collection drawing form the methodology and templates used for the crop budget studies will be conducted for field staff during the next quarter.

Harmonization of Environment and GIS data collection

There are some overlaps between the data elements to be tracked by ADVANCE Performance Monitoring Plan, Environmental Monitoring Plan and GIS system. To avoid duplication of data collection efforts and to ensure of synergies between these three systems, we started to harmonize data collection activities of the three units. A comparison of the ADVANCE M&E performance indicators and those of the environmental monitoring plan was undertaken and common indicators identified. A separate exercise will be undertaken to collect baseline data for those indicators not covered by the M&E plan and worked into the overall M&E system. Similarly, data collection forms designed for collection of data on farmer profiles were incorporated into the data collection instruments used in value chain mapping exercises carried out by the GIS Unit to map citrus farms. We are exploring how best to link project MIS and GIS databases.

9.3 IMPACT ASSESSMENT

The ADVANCE baseline study was started in January 2010 to establish the prevailing conditions relating to the maize, rice, soya bean, mango, pineapple and citrus value chains and smallholder producer economic status in the ADVANCE project areas. The baseline was also to capture and establish the initial status of all ADVANCE performance monitoring indicators against which subsequent data collected over the project lifespan would be compared to track and evaluate the progress and impact of the project. The baseline covered 22 districts and comprised a survey of 1,229 households and 6 focus group discussions within the project operational area. The final reports have been submitted and have informed the revision of performance indicators and targets for the life of the program. Some key findings from the baseline study are presented in Table 9.2

TABLE 9. 2. FINDINGS FROM BASELINE HOUSEHOLD SURVEY

Commodity	Maize	Rice	Soya	Mango	Pineapple	Citrus
Household crop production						
Gross margin ($/ha)	305	1,263	11	209	3,348	263
Crop Yield (Mt/ha)	1.97	3.66	0.84	4.35	56.62	6.1
Volume of sales (Mt)	2.8	3.3	0.8	21.0	52.0	15.0
Adoption of Agricultural Technology (% of sample)						
Full adopters	36.0	53.9	14.7	40.7	34.2	0.0
Partial adopters	54.3	42.0	75.8	46.2	64.8	81.5
Non adopters	3.1	1.9	9.2	0.0	0.0	13.3
Access to market information (% of sample)						
Input prices	61.0					
Product prices	55.3					
Consumer preference	34.0					
Access to Agricultural Services (% of sample)						
Inputs Supply	71.4					
Access to financial services (% of sample)						
Credit	30.7					
Savings	61.8					
Remittances	20.1					
Insurance	0.4					
Financial literacy	44.2					
Household income						
Household income from commodity ($)	1,029.96	1,827.57	212.93	4,372.94	6,410.71	792.62

Household per capita expenditure($)	629.33	767.33	441.33	1,154.00	816.67	757.33

Household income from the respective commodities ranged from $213 to $6,411, with the highest income recorded for pineapple and mango farmers and the lowest for soybean farmers. A similar trend was recorded for household per capita expenditure, which ranged from $441 to $1,154, with the highest per capita expenditure for mango farmer households and the lowest for soybean farmer households. The study also showed that non-farm income is important for all households: the average income from our target commodities was $1,774 compared to an average non-farm income of $1,517.

Crop yields ranged from 0.8 Mt/ha for soya to 56.6Mt/ha for mango. Compared to national figures, crop baseline yields for soya, mango and citrus were lower than the respective national averages of 1.5Mt/ha, 2.4Mt/ha and 35Mt/ha respectively, while maize, rice and pineapple had baseline yields higher than the national averages of 1.7Mt/ha, 2.4Mt/ha and 50Mt/ha respectively. Volumes of produce sold ranged from 0.8 Mt for soya farmers to 52 Mt for mango farmers. Gross margins ranged from $11/ha for soya farmers to $3,348 for pineapple farmers. Pineapple and rice farming appear to be the most profitable and soya farming the least profitable.

For adoption of technology, with the exception of rice, relatively few farmers were full adopters of technology; that is those who use improved planting material together with fertilizer and agrochemicals. Most farmers were partial adopters of technology, that is, they used one or two of the improved technologies but not all. Very few farmers did not use any improved technology at all. For mango and pineapple, all the farmers in the sample were either full adopters or partial adopters.

Over 50 percent of the persons sampled had access to market information concerning input and product prices. Access to information on consumer preferences was however relatively low, with about 34 percent of the sample reporting access to information about consumer preferences on product size, taste and appeal.

Overall, 71 percent of farmers had access to farming inputs. For financial services, access was highest in the case of savings and lowest for insurance. Access to credit was relatively low, with 30 percent of the sample having accessed credit during the last farming season. Use of insurance services was practically non-existent, one of the reasons being that there waslimited knowledge about farm and crop insurance. For additional information, please see the full report.

During year two, we will contract an external consultant to conduct a survey of the value chain actors currently participating in the program to provide data on selected indicators for all nucleus and large scale farmers, processors, buyers, input dealers, and a sample of smallholder farmers and FBOs. The survey will provide an indication of outcome level results of the ADVANCE program.

Table 9.3 provides a summary of key planned activities and their respective status of completion.

TABLE 9. 3: TABLE X: YEAR ONE MONITORING AND EVALUATION ACTIVITIES

Planned Activity	Target	Status
1. Data collection and analysis		
Establish MIS database	MIS database fully operational by	Database established and in operation.

Planned Activity	Target	Status
	September 2010	
Establishment of data collection procedures to capture both explicit and tacit data	Protocol for data collection developed	Outstanding. Guidelines for data collection shared verbally during orientation but yet to be documented
Develop data collection forms	Data collection toolkit developed	Data collection forms developed for performance indicators but yet to be packaged into a toolkit. Additional forms will be developed for supplementary indicators.
Test and roll out data collection process	Project staff familiar with data collection procedures and able to collect quality data	Staff have collected data on beneficiary profiles and training attendance. Data collection on production, sales, access to financial services, technology adoption in early stages. Data collection will be intensified during the first quarter of FY2011
Develop data quality review strategy	Data quality strategy document produced	Presentation on data quality from USAID and review of data quality guidelines from USAID done. To be developed into ADVANCE data quality review strategy
Conduct data quality assessment	One data quality assessment completed	Informal data quality checks have been performed throughout the year by contacting field offices to verify data submitted and to make corrections where inaccuracies have been detected. A formal quality assessment is scheduled for the second quarter of FY2011
Data collection and entry into MIS database	MIS database contains complete set of Year 1 data	Data on beneficiary profiles and training entered on database. Entry of data on production, sales, technology adoption and financial service access is in progress.
Quarterly data compilation and analysis	Quarterly status of project progress documented	Data compiled from sub office quarterly reports
Bi – annual data compilation and analysis	Six-month status of project documented	Data compiled and analyzed for semi annual report and submitted to USAID
Annual data compilation and analysis	End of year one status of project documented	Data compiled and analyzed for FY2010 annual report
M&E team monitoring visits	M&E team well informed about project progress	Several monitoring trips have been undertaken by all M&E officers, who are well informed about progress.
2. Documentation and Reporting		
Preparation and submission of six-month report	Six-month report submitted to USAID	Done
Preparation and submission of annual progress report	Annual progress report submitted to USAID	Done
Preparation and submission of annual GFSR/IEHA indicators report	Annual GFSR/IEHA reports submitted to USAID by October 30	To be done in October
Preparation and submission of annual Economic Growth Objective Indicators report	Annual report on EG indicators submitted to USAID by October 30	To be done in October
3. Impact Assessment		
Baseline survey	Baseline completed and report submitted	Baseline completed and the reports have been submitted
Review and revision of ADVANCE performance indicators	Revised list of project indicators developed and shared with project	Supplementary list of indicators have been developed to track elements of

Planned Activity	Target	Status
	team	transformation not covered by original PMP.
Revision of project targets	Project targets for life of project set	Done
Revision of Project performance monitoring plan	Revised PMP document produced	Done
Annual data collection exercise for project outcome assessment	Progress towards achievement of project outcomes assessed and documented	Scheduled for FY2011 first quarter
4. Staff Capacity Development		
Monitoring and Evaluation orientation workshop	All project staff with basic understanding of principles of M&E in ADVANCE context	All Project staff have been trained and have basic understanding of ADVANCE M&E framework but indicators not fully understood.
Orientation on use of data collection forms	Field staff able to collect data using data collection forms	Field staff able to collect data on beneficiary profiles and training. Use of data collection forms on technology adoption, production, sales, financial service access has just begun.
Orientation on use of MIS database	M&E officers and Component Managers know how to input and retrieve information from database	All M&E officers are able to enter and retrieve data from database. Orientation for Component Managers yet to take place. In the coming year, M&E officers will also receive additional orientation on how to generate reports from the database.
Build staff capacity to observe, assess, and communicate knowledge learned from interventions	Staff observation and communication skills enhanced	Done during M&E orientation and review meetings. On-going activity to be carried out throughout the year
Staff training on non-indicator based documentation e.g. human interest stories, most significant change stories	Field offices produce at least 3 human interest stories each by the end of year one	Orientation on use of success stories and photos done for sub office team leaders and M&E officers. A total of 3 stories have been produced and submitted.

TABLE 9. 4: IEHA/GFSR INDICATORS TO BE TRACKED BY ADVANCE

Initiative to End Hunger in Africa		FY 2010						FY 2011					
		Maize	Rice	Soya	Mango	Pineapple	Citrus	Maize	Rice	Soya	Mango	Pineapple	Citrus
1	Gross margin per hectare/animal for commodities targeted by USG assistance ($/ha)	305	1,263	112	3450	11,000	140	305	1,263	112	3,450	11,000	140
2	Adoption of technologies targeted by USG assistance	1,000	200	400	200	100	100	1,500	300	600	300	150	150
3	Additional area under new technology	800	200	500				5,600	5,000	6,250	130	200	100
4	Volume (MT) and value ($) of purchases from smallholders of agricultural commodities targeted by USG assistance	4,000 800,000	1,200 514,800	2,700 720,900	0 0	0 0	0 0	16,000 4,800,000	8,000 3,432,000	9,000 2,403,000	1,800 300,600	9,000 603,000	3,600 226,800

		FY 2010	FY 2011
5	Value of credit disbursed to targeted beneficiaries as a result of USG assistance ($)	500,000	1,000,000
6	Number of targeted enterprises accessing business development services through USG assistance	10	30
7	Number of rural households that benefited directly in this reporting year from USG assistance	2500	5000
8	Number of vulnerable households benefiting directly in this reporting year as a result of USG assistance	2500	5000
9	Number of agriculture-related firms benefiting directly in this reporting year as a result of USG assistance	10	140
10	Number of producers' organizations, water user associations, trade and business associations, and CBOs that received USG assistance in this reporting year	150	500
11	Number of women's organizations/associations that received USG assistance in this reporting year	20	40
12	Number of public-private partnerships formed in this reporting year as a result of USG assistance	2	0
13	Number of new technologies or management practices under research in this reporting year as a result of USG assistance	0	0
14	Number of new technologies or management practices under field testing in this reporting year as a result of USG assistance	2	4
15	Number of technologies made available for transfer this reporting year as a result of USG assistance	5	20
16	Male attendance at short term agricultural sector productivity training	3500	7000
17	Female attendance at short term agricultural sector productivity training	1500	3000
Global Food Security Response Indicators			
18	Usage of price and market information systems as a result of USG assistance	2000	5000

Below are the ***challenges*** we faced when implementing M&E activities:

- Synchronizing ADVANCE indicators with those of the USAID/GFSR/IEHA remains a challenge. While significant progress has been made in linking ADVANCE and USAID/GFSR/IEHA indicators, there still remain a few indicators for which there is no confirmation of whether ADVANCE is required to report on them. These include the indicator measuring intra regional exports and food aid procurement by WFP.
- Documenting adequately the baseline status of direct program beneficiaries posed some challenges initially. Though a baseline was undertaken to provide this information, for purposes of attribution of results to direct ADVANCE intervention, it is necessary that baseline information be collected for the actual beneficiaries of the program. This is being done by providing orientation for staff on the importance of documenting the initial status of beneficiaries as well as designing data collection and reporting formats that require documenting the baseline status of beneficiaries.
- Another challenge has to do with measuring systemic change due to the ADVANCE program interventions. The overall goal of ADVANCE is to transform Ghana's agricultural sector. It was observed that the current set of performance monitoring indicators do not address the key aspect of transformation, specifically establishment of robust value chain relationships, a competitive service sector and the associated behaviour change. This is being addressed by the development of a supplementary set of indicators referred to in Section 9.2 above.

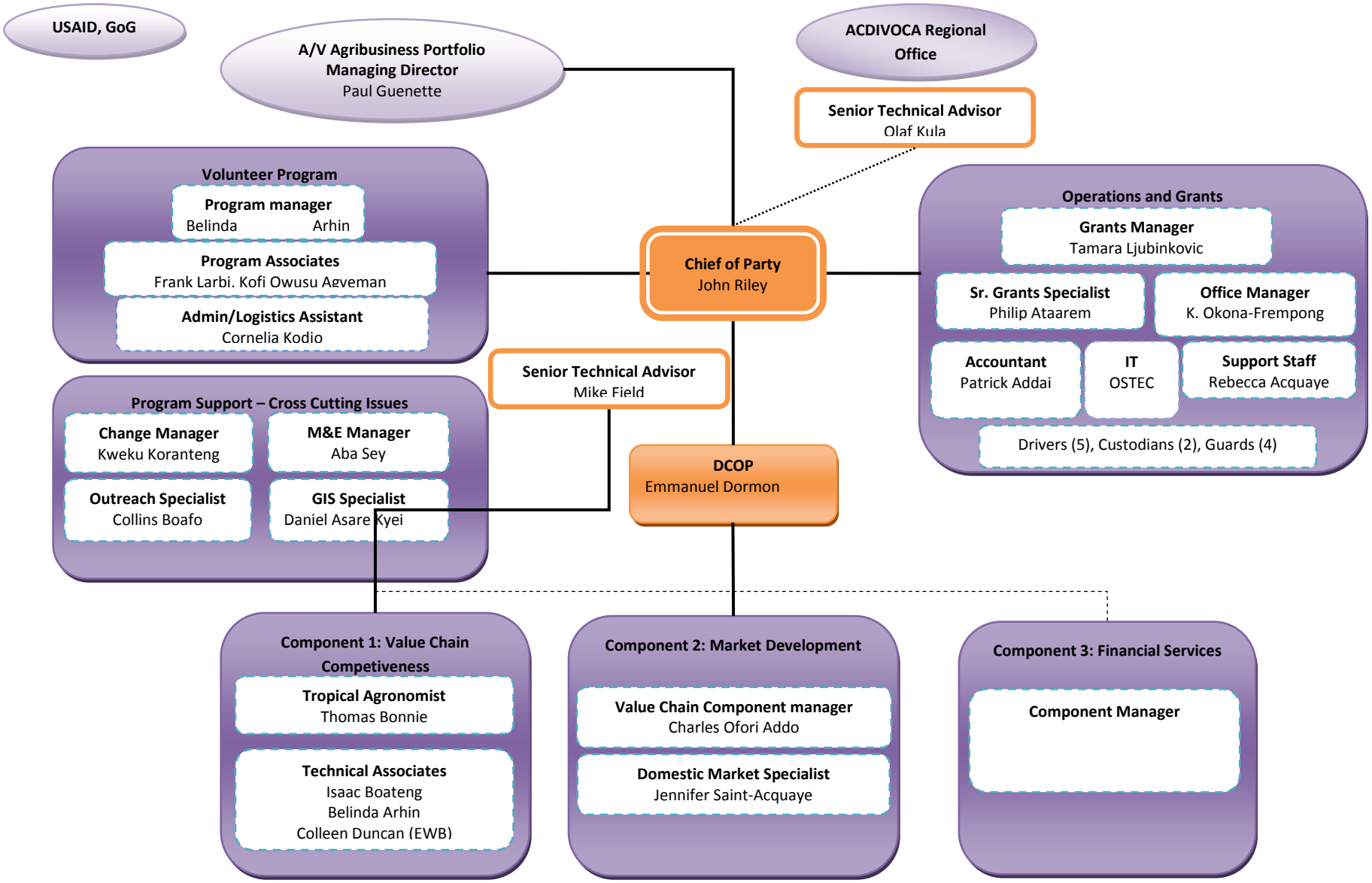
We have planned the following ***year two activities***:

- Perform extensive check on quality of data being collected, entered into the MIS database and provided in progress reports.
- Develop data quality review strategy and organize annual data quality assessment to be undertaken by an external resource person.
- Provide orientation for M&E staff on how to process and perform analysis of data entered on the MIS database.
- Provide orientation for all non M&E staff on the use of the MIS database.
- Develop and roll out data collection forms for collection of data on supplementary indicators.
- Complete process of recruitment of data entry assistants and assign to respective sub offices.
- Trainfield staff on how to collect data for and calculate crop yields and gross margins.
- Organize training on non-indicator based documentation e.g. human interest stories, most significant change stories for FBFs.
- Identify suitable contractor to outsource data collection as and when necessary.
- Organize annual data collection exercise for assessment of project outcomes.
- Liaise with GIS specialist for mapping of farms of maize, soya, rice, pineapple and mango farmers.
- Liaise with environmental specialist for collection of baseline data on environmental management indicators.
- Undertake M&E team monitoring visit to program locations.
- Prepare and submit IEHA/GFHSI/Economic Growth Objective indicator reports.

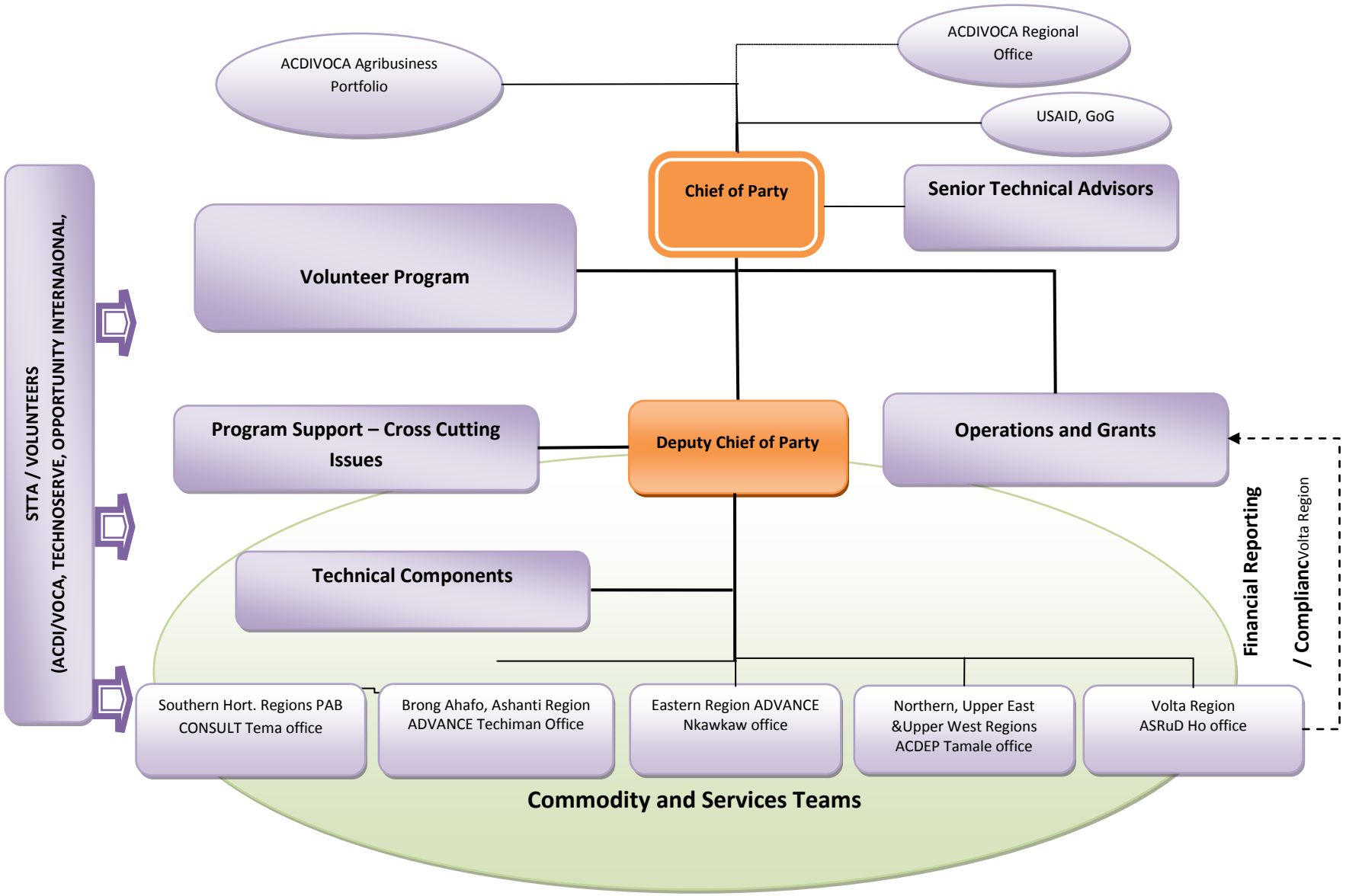
ANNEX 1: OFFICES AND STAFFING

Office Location	Area Of Operation & Districts	Staffing	Responsible Person
ADVANCE HQ	National	COP, DCOP Senior Technical Advisors (2) Senior Managers (5) Technical Specialists (6) Grants Specialist (1) PR & Communications Specialist (1) Technical & Project Associates (4) Administration Staff (6) Support Staff (11)	John Bick Riley
TECHIMAN	Ashanti Region (4) Brong Ahafo (16) **20 Districts**	Value Chain Manager (1) M&E officer (1) Post-harvest Specialist (1) Business Advisors (5) Administrative Staff (2) Support Staff (3)	Emmanuel Gyarteng
NKAWKAW	Eastern Region (12) Ashanti Region (1) Central Region (2) **15 Districts**	Senior Technical Associate (1) M&E Officer (1) Business Advisors (3) Administrative Staff (2) Support Staff (1)	Francis Essuman
PAB	Greater Accra (3) Central Region (4) Eastern Region (3) **10 Districts**	Team Leader (1) Training Manager (1) M&E officer (1) Business Advisors (6) Administrative Staff (3) 1 -Support Staff	Dr Kwame Prakah-Asante
ASRuD	Volta Region (11) **11 Districts**	Field Operations Manager (1) M&E Office (1) Marketing & Gender Specialist (1) Administrative Staff (3) Business Advisors (4) Support Staff (2)	Cosmos Yao Abiwu
ACDEP	Northern Region (3) Upper East Region (4) Upper west region (4) **11 Districts**	Value Chain Specialist (2) M&E Officer (1) Training & FBO Specialist (2) Administrative Staff (1) Business Advisors (12) Support Staff (2)	Malex Alebikiya

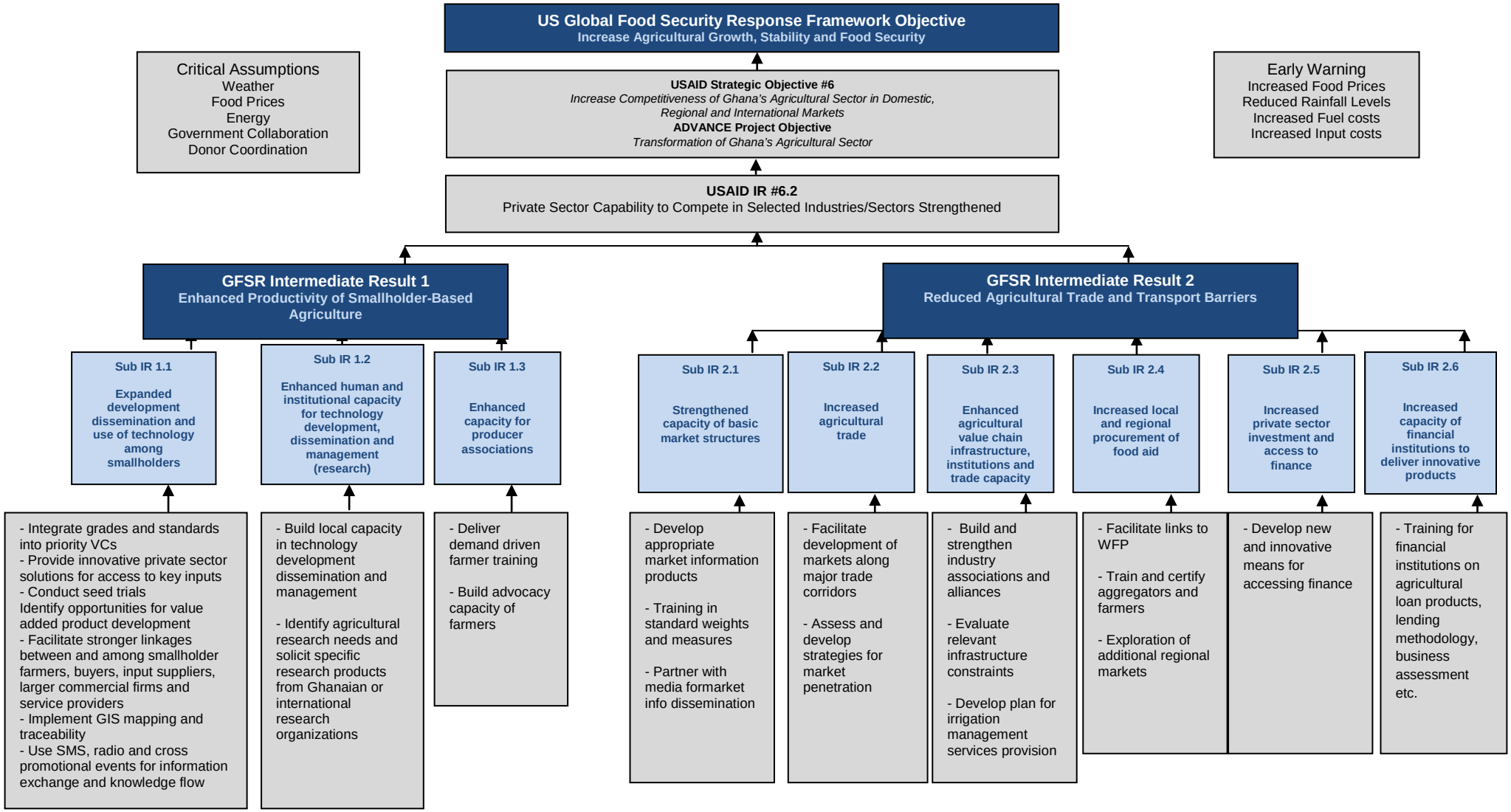
ANNEX 2: ORGANOGRAM OF THE ADVANCE HEAD OFFICE IN ACCRA



Annex 3: Overall Organizational Chart of the ADVANCE program



ANNEX 4: ADVANCE RESULTS FRAMEWORK



ADVANCE COMPONENT 1
ENHANCED VALUE CHAIN COMPETITIVENESS

ADVANCE COMPONENT 2
INCREASED MARKET ACCESS AND DEVELOPMENT OF LOCAL, REGIONAL AND INTERNATIONAL MARKETS

ADVANCECOMPONENT 3
INCREASED ACCESS TO FINANCIAL SERVICES

ANNEX 5: SUPPLY CHAINS IN THE DIFFERENT RICE ZONES

Supply Chains	Volta	Fakwasi-Atebubu	Upper East	Asutsuare	Dawhenya and Ashaiman	Okyereko	Total
# of supply chains established –	5	1	2	6	6	5	**25**
Value Chain Actors							
# of buyers	10	1	0	2	2	0	**15**
# of processors/millers	2	1	1	4	2	1	**11**
# of aggregators	5	5	1	6	6	6	**29**
# of FBOs	9	1	26	1	2	1	**40**
# of nucleus farmers	1	0		0	0	0	**1**
# of large scale farmers (excluding nucleus farmers)	0	0	0	0	0	0	**0**
# of smallholder farmers	1,023	100	117	500	49	100	**1889**
Total # of farmers	**1,024**	**100**	**117**	**500**	**49**	**100**	**1890**
Service Providers							
Input Dealers	4	1	1	3	2	1	**12**
Mechanized service providers	7	1	1	1	1	1	**12**
Financial Institutions	4	0	1	2	0	1	**8**

NUMBER OF FARMS MAPPED BY DISTRICT

#	District	# farms Mapped
1	Kwaebiberem	2461
2	West Akim	2578
3	Akyemansa	23
4	Birim North	1537
5	Birim South	1253
6	Atiwa	768
7	Kwahu West	542
8	Suhum kraboa Coaltar	798
9	Birim Central	679
10	Assin North	952
11	Ahafo Ano South	689
12	Adansi North	150
13	Adansi South	26
14	Amansie Central	121
15	Obuasi	216
	Total	**12,793**

ANNEX 6: PERFORMANCE MONITORING INDICATORS: INCREASE COMPETITIVENESS OF GHANA'S AGRICULTURAL SECTOR IN DOMESTIC, REGIONAL AND INTERNATIONAL MARKETS

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
Increase Competitiveness of Ghana's Agricultural Sector in Domestic, Regional and International Markets								
1	% rural HH income increase						TBD	Will be determined at mid-term review and for sample HH after harvest
2	Value and volume of international and intra-regional exports of targeted agricultural commodities						TBD	Will be determined after harvest. Focus however is on regional exports
3	Value and volume of purchases from smallholders of targeted commodities	Change in volume of purchases from smallholders of targeted commodities as a result of USG assistance (MT)						
		Maize					8,000	Will be determined after harvest. However negotiations initiated with UT Logistics and GAFCO who have potential to purchase a total of 18,000 MT of maize per annum
		Rice					2,000	Will be determined after harvest. Negotiations ongoing with UT Logistics, which has potential to purchase 7,000 MT of rice respectively
		Soya					2,700	Will be determined after harvest. Negotiations ongoing with 8 companies who have potential to purchase a total of 136,400 MT of soya bean per annum
		Mango					1,350	Will be determined after harvest. Negotiations ongoing with Sunripe Ltd who have potential to process 20,000 MT of mango per annum

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
		Pineapple					0	Negotiations initiated with 2 processing companies (Sunripe Ltd, Fruitiland) who have potential to process 156,000 MT of pineapple per annum
		Citrus					0	Negotiations initiated with 3 fruit processing companies (Sunripe, Coastal Groves Ltd, Fruitiland) who have potential to process total of 146,000 MT of citrus per annum
		Change in value of purchases from smallholders of targeted commodities as a result of USG assistance ($)						
		Maize					2,400,000	Will be determined after harvest
		Rice					858,000	Will be determined after harvest
		Soya					720,900	Will be determined after harvest
		Mango					225,450	Will be determined after harvest
		Pineapple					0	n/a for Year 1
		Citrus					0	n/a for Year 1
4	# of individuals benefitting directly from project activities						11,000	18,065 farmers identified and/or registered to participate in ADVANCE.
	# of rural households benefitting directly from intervention						2,500	To be determined
	# of vulnerable households benefitting directly from intervention						2,500	To be determined

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
5	# of assisted producer organizations, trade and business associations and CBOs						200	569 FBOs identified and/or registered to participate in ADVANCE
	# of women's organizations assisted						50	Identification of women's FBOs in progress. However at least 55 women's FBO identified so far as potential beneficiaries of ADVANCE
6	# of agriculture-related firms benefitting directly from project activities						10	(43) Processors, (66) buyer/aggregators, (79) input dealers and (12) mechanized service providers identified as potential participants in ADVANCE. Includes 18 firms.
Component 1: Enhanced Value Chain Competitiveness								
7	Gross margin per hectare ($)	Maize					109	Will be determined after harvest
		Rice					239	Will be determined after harvest
		Soya					155	Will be determined after harvest
		Mango					n/a	Will be determined after harvest
		Pineapple					n/a	Will be determined after harvest
		Citrus					n/a	Will be determined after harvest
8	Increase in crop yield	Maize					TBD	Will be determined after harvest
		Rice					TBD	Will be determined after harvest
		Soya					TBD	Will be determined after harvest
		Mango					TBD	
		Pineapple					TBD	n/a for Year 1
		Citrus					TBD	n/a for Year 1
9	# of additional hectares under improved	Maize					2,400	10,597.7 ha available for cultivation/technology application by farmers identified to date

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
	technologies or management practices	Rice					1,000	4,116.4 ha available for cultivation/technology application by farmers identified to date
		Soya					1,500	3,847.2 ha available for cultivation/technology application by farmers identified to date
		Mango					80	2,760 ha planted/available for technology application by farmers identified to date
		Pineapple					120	1,204.8 ha available for cultivation/technology application by farmers identified to date
		Citrus					70	1,861.2 ha planted/available for technology application by farmers identified to date
10	# and % of beneficiaries adopting targeted/new technologies	Maize					3,000	Will be determined during farming season
		Rice					1,200	Will be determined during farming season
		Soya					1,200	Will be determined during farming season
		Mango					600	Will be determined during farming season
		Pineapple					300	Will be determined during farming season
		Citrus					300	Will be determined during farming season
11	# and % of beneficiaries adopting ISO and Global GAP standards						TBD	To be determined following training scheduled for second half of Year 1
12	# of beneficiaries trained in new technologies or management practices						5,000	Training will take place during second half of Year 1
	Male attendance at short term agricultural sector productivity training						3,500	Training will take place during second half of Year 2

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
	Female attendance at short term agricultural sector productivity training						1,500	Training will take place during second half of Year 3
	# of individuals who have received USG supported short term agricultural sector productivity training						5,000	Training will take place during second half of Year 4
13	# of beneficiaries trained on international quality control, environmental and other standards and regulations						TBD	Training will take place during second half of Year 1
14	# of demonstration sites created	Maize					TBD	Will take place during second half of Year 1
		Rice					TBD	Will take place during second half of Year 1
		Soya					TBD	Will take place during second half of Year 1
		Mango					TBD	Will take place during second half of Year 1
		Pineapple					TBD	Will take place during second half of Year 1
		Citrus					TBD	Will take place during second half of Year 1
15	# of agriculture related technologies made available for transfer						5	Yet to commence
	# of new technologies or management						0	n/a

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
	practices under research							
	# of new technologies or management practices under field testing						2	Yet to commence
16	# of beneficiaries trained in Farming as a Business (FaaB) or other entrepreneurship and business skills							Training will take place during second half of Year 1
Component 2: Increased Market Access and Development								
17	# of public-private partnerships formed						2	Yet to commence
18	# of beneficiaries reporting using market information						5,000	To be determined
	Usage of market price and market information systems as a result of USG assistance						5,000	To be determined
19	# of beneficiaries adopting a more market oriented attitude						TBD	To be determined
20	# of beneficiaries selling commodities to WFP for food aid						TBD	WFP has presented request for information about unsold maize/rice which they intend to purchase
	Volume of commodities sold to WFP by beneficiaries						TBD	

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
	Value of commodities sold to WFP by beneficiaries						TBD	
21	# of marketing, commercial and technical information systems available						TBD	
22	# of business service providers receiving project assistance						TBD	Naamseco (get details of ADVANCE support to Naamseco re Stanbic Bank)
23	# of beneficiaries accessing BDS services						TBD	Plans underway to make services of Naamseco available to farmers
	# of targeted enterprises accessing business development services through USG assistance						10	(43) processors, (66) buyer/aggregators, (79) input dealers and (12) mechanized service providers identified as potential participants in ADVANCE. Of these at least 11 firms are under consideration for BDS support
Component 3: Increased Access to Financial Services								
24	# of firms that invest in improved technologies and value of investment						TBD	Upper West Agro Enterprise being considered for grant to invest in processing equipment
25	# and value of loans to beneficiaries	# of loans					5,000	Discussions underway with STANBIC Bank and Agricultural Development Bank for provision of credit to farmers
		Value of loans					1,325,600	Discussions underway with STANBIC Bank and Agricultural Development Bank for provision of credit to farmers
26	# of beneficiaries with improved access to financial services						5,000	Discussions underway with STANBIC Bank and Agricultural Development Bank for provision of credit to farmers

Indicator No.	Indicator	Sub-Indicator	Organization				Year 1 Target	Status as at April 2010
			ADVANCE	IEHA	GFSR	EG		
27	# of financial sector professionals trained on financial products						TBD	81 financial service providers (1 apex organization, 1 capacity building institution, 18 commercial banks, 11 NBFIs, 3 venture capital funds and 47 rural banks) identified in project operational areas. Of these 21 have expressed interest in ADVANCE. 4 MOUs developed. Includes MOU with National Banking College for financial service capacity building for interested financial institutions
28	# of financial services introduced						TBD	Collaboration under negotiation with financial institutions is expected to result in the introduction of new financial services appropriate for the agricultural sector.

ANNEX 7: ADVANCE PROJECT PERFORMANCE MONITORING INDICATORS

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
Increase Competitiveness of Ghana's Agricultural Sector in Domestic, Regional and International Markets							
Impact indicators							
1.	% rural HH income increase		Household income in cash and in kind, including value of own consumption and changes in asset values **Unit of measure: Percentage change**	x			
2	Change in value and volume of international and intra-regional exports of targeted agricultural commodities	Change in volume of intra regional exports of targeted agricultural commodities as a result of USG assistance	Intra-regional exports - Exports of the targeted commodities to all other countries in the sub-region. Commodities - Those targeted in the work plans and/or contracts of the implementing partners. **Unit of measure: Metric Tons**	x			x
		Change in value of intra regional exports of targeted agricultural commodities as a result of USG assistance	Intra-regional exports - Exports of the targeted commodities to all other countries in the sub-region. Commodities - Those targeted in the work plans and/or contracts of the implementing partners. **Unit of measure: US Dollars**	x			x
3.	Change in value and volume of purchases from smallholders of targeted commodities	Change in volume of purchases from smallholders of targeted commodities as a result of USG assistance	The volume of domestic agricultural trade by smallholders of targeted commodities. **Unit of measure: Metric Tons, Percent**	x			x
		Change in value of purchases from smallholders of targeted commodities as a result of USG assistance	The value of domestic agricultural trade by smallholders of targeted commodities. **Unit of measure: US Dollars, Percent**	x		x	x
4,	# of individuals benefitting directly from project activities		An individual is a beneficiary if s/he is engaged with a project activity and either already has shown benefit from the activity) or has a high likelihood of gaining one of those benefits due to his/her significant level of engagement with the project. **Unit of measure: Number**	x			
	# of rural HH benefitting		The definition of "vulnerable" will be the definition used			x	x

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
	directly from intervention		by the operating unit in formulating its Results Framework and activities. Possible groups include but are not limited to: HIV/AIDS sufferers and their families and those affected by drought, conflict and low assets (poverty traps). **Unit of measure: Number**				
	# of vulnerable rural HH benefitting directly from intervention		The definition of "vulnerable" will be the definition used by the operating unit in formulating its Results Framework and activities. Possible groups include but are not limited to: HIV/AIDS sufferers and their families and those affected by drought, conflict and low assets (poverty traps). **Unit of measure: Number**			x	x
5.	# of assisted producer organizations, trade and business associations and CBOs		Organizations assisted are those that are engaged with a project activity and either already have shown benefit from the activity (as measured by any of the types) or have a high likelihood of gaining one of those benefits due to their significant level of engagement with the project. **Unit of measure: Number**			x	x
	# of women's organizations/associations assisted		Organizations assisted are those that are engaged with a project activity and either already have shown benefit from the activity (as measured by any of the types) or have a high likelihood of gaining one of those benefits due to their significant level of engagement with the project. Only those organizations whose primary beneficiaries are women will be counted. In some cases men will be members of these organizations; this would not prevent counting the organization, as long as the primary intended beneficiaries of the organization are women.	x		x	x
6.	# of agriculture-related firms benefitting directly from project activities		A firm is a beneficiary if it is engaged with a project activity and either already has shown benefit from the activity or has a high likelihood of gaining one of those benefits due to its significant level of engagement with the project. Benefiting firms include those whose employees receive training. **Unit of measure: Number**	x		x	x
Enhanced Value Chain Competitiveness							
Outcome indicators							
7.	Gross margin per hectare		Gross margin = income on a per hectare basis minus	x			x

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
			direct costs of growing that crop, total cost of purchased inputs and production. Includes only those input costs estimated to be at least 5% of the total input cost. **Unit of measure: US Dollars**				
8.	Increase in crop yield		The change in yield over time from production processes for targeted products per unit of farm land. **Unit of measure: Metric tons per hectare**	x			
9.	# of additional hectares under improved technologies or management practices		Number of hectares brought under improved technologies and/or management practices in this year (includes tenure arrangements and administrative systems such as water user associations, etc.). **Unit of measure: Hectares**	x		x	x
10.	# and % of beneficiaries adopting targeted/new technologies	# of beneficiaries adopting targeted/new technologies	Number and percentage of smallholder beneficiaries who have adopted new technologies and practices in inputs and production. **Unit of measure: Number**	x			x
		% of beneficiaries adopting targeted/new technologies	Percentage of smallholder beneficiaries who have adopted new technologies and practices in inputs and production. **Unit of measure: Percentage**	x			
11.	# and % of beneficiaries adopting ISO and Global GAP standards	# of beneficiaries adopting ISO and Global GAP standards	Number of beneficiaries who have adopted international safety and quality standards. **Unit of measure: Number**	x			x
		% of beneficiaries adopting ISO and Global GAP standards	Percent of beneficiaries who have adopted international safety and quality standards. **Unit of measure: Percentage**	x			
Output Indicators							
12.	# of beneficiaries trained in new technologies or management practices		Training refers to any activity formal or informal that transfers skill or technology to project beneficiaries. Training topics could include: improved input practices, improved production techniques, improved processing techniques and improved management practices. Individuals attending more than one training are counted as many times as they attend trainings. **Unit of measure: Number**	x			
	Male attendance at short – term agricultural sector productivity training in this		Training refers to any activity formal or informal that transfers skill or technology to project beneficiaries. Training topics could include: improved input practices,				x

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
	reporting year as a result of USG assistance		improved production techniques, improved processing techniques and improved management practices. Individuals attending more than one training are counted as many times as they attend trainings. **Unit of measure: Number**				
	Female attendance at short – term agricultural sector productivity training in this reporting year as a result of USG assistance		Female attendance at agricultural sector productivity training programs at which significant knowledge or skills have been imparted through short term training programs (continuous programs of 6 months duration at least, not intermittent training over an elapsed period of 6 months or more) **Unit of measure: Number of female participants**				x
	# of individuals who have received USG supported short term agricultural sector productivity training		Training refers to any activity formal or informal that transfers skill or technology to project beneficiaries. Training topics could include: improved input practices, improved production techniques, improved processing techniques and improved management practices. Individuals attending more than one training are counted as many times as they attend trainings. **Unit of measure: Number**			x	
13.	# of beneficiaries trained on international quality control, environmental and other process voluntary standards and regulations		Training refers to any activity formal or informal that transfers skill or technology to project beneficiaries. Types of training applicable to this indicator are: international quality control, environmental and process voluntary standards. Individuals attending more than one training are counted as many times as they attend trainings. **Unit of measure: Number**	x			
14.	# of demonstration sites created		On farm project-sponsored sites, seed multiplication sites, or research centers available to beneficiary farmers for access to new improved varieties, new production technologies and proven practices. **Unit of measure: Number**	x			
15.	# of agriculture related technologies made available for transfer		Number of technologies, management practices, or products made available. Technologies to be counted here are agriculture-related technologies and innovations. **Unit of measure: Number**			x	x
	# of new technologies or management practices under research as a result		Technologies to be counted are agriculture-related technologies and innovations. **Unit of measure: Number**			x	x

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
	of USG assistance						
	# of new technologies or management practices under field testing this year as a result of USG assistance		Under field testing means that research has moved from focused development to broader testing and this testing is underway under conditions intended to duplicate those encountered by potential users of the new technology **Unit of measure: Number**				x
16.	# of beneficiaries trained in Farming as a Business (FaaB) or other entrepreneurship and business skills		Training refers to any activity formal or informal that transfers skill or technology to project beneficiaries. Knowledge or skills gained through technical assistance activities is included. Individuals attending more than one training are counted as many times as they attend trainings. **Unit of measure; Number**	x			
Increased Market Access and Development of Local, Regional and International Markets							
Outcome Indicators							
17.	# of public-private partnerships formed		Public entities include: the USG, developed country governments, multilateral development institutions, national governments of developing countries, and universities or other arms of national governments. For-profit enterprises and non-governments organizations (NGOs) are considered private. A partnership is considered formed when there is a clear agreement, usually written, to work together to achieve a common objective. **Unit of measure: Number**			x	x
18.	# of beneficiaries reporting using market information		Number of beneficiaries reporting use of market information as a result of USG assistance. **Unit of measure: Number**	x			
	Usage of price and market information systems as a result of USG assistance		Measures usage of USG supported prices and market information systems. It is the total number of hits to such systems during the reporting year. Systems are primarily web based and SMS or any similar technology. **Unit of measure: Number of hits**		X		
19.	# of beneficiaries adopting a more market oriented attitude		Behavior change in these cases would be measured by identifying behavior pathways among beneficiaries within the value chain (i.e. identifying promotional activities, buying inputs, farmers starting service businesses, buyers organizing preferred supplier programs, etc.) **Unit of measure; Number**	x			

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
20.	# of beneficiaries selling commodities to WFP for food aid		Number of beneficiaries selling to the food aid end market through WFP **Unit of measure: Number**	x			
	Volume of commodities sold to WFP by beneficiaries		Amount of targeted commodities sold to WFP by beneficiaries **Unit of measure; Metric Tons**		x		
	Value of commodities sold to WFP by beneficiaries		Value of targeted commodities sold to WFP by beneficiaries **Unit of measure; US Dollars**		x		
Output Indicators							
21.	# of marketing, commercial and technical information systems available		Specialized market and commercial information systems for the agricultural sector will be designed in order to foster their autonomous access to and use of specialized market and commercial information **Unit of measure: Number**	x			
22.	# of business service providers receiving project assistance		Business service providers - Organizations which provide market analysis, market development and other trade-related business development services to firms. USG assistance - May include training, technical services or other assistance provided by implementing partners or directly by the USG. Organizations assisted are those that are engaged with a project activity and either already have shown benefit from the activity (as measured by any of the types) or have a high likelihood of gaining one of those benefits due to their significant level of engagement with the project. **Unit of measure: Number**	x			
23.	# of beneficiaries accessing BDS services		ACDI/VOCA will define BDS in accordance with the definition of the Small Enterprise Education and Promotion (SEEP) Network. According to SEEP, BDS are comprised of the following categories: Market Access; Input Supply, Technical and Product Development; Training and Technical Assistance; Finance; Infrastructure; Policy/Advocacy. Includes both paying clients and estimated numbers of beneficiaries of information and other free services. BDSs offer benefit from non-financial services such as training, specialized consulting on bookkeeping, market information, etc. **Unit of measure; Number**	x			x

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
Increased Access to Financial Services							
Outcome Indicators							
24.	# of firms that invest in improved technologies and value of investment	# of firms that invest in improved technologies	This indicator measures the number of firms that invest in improved technologies as a result of USG assistance. Firms improve their productivity and in turn their competitiveness, by accessing capital and increasing investment in productive assets. **Unit of measure: Number and US Dollars**	x			
		Value of firms' investment in improved technologies	Value of firms' investment in improved technologies as a result of USG assistance **Unit of measure: US Dollars**	x			
25.	# and value of loans to beneficiaries	# of loans to beneficiaries	Beneficiaries include smallholders, FBOs, processors and traders. Loans may include products from financial institutions, leased equipment, or materials made available on a credit basis by buyers **Unit of measure: Number**	x			
		Value of loans to beneficiaries	**Unit of measure; US Dollars**				x
26.	# of beneficiaries with improved access to financial services		Total number of beneficiaries who are active savers, have access to credit, have purchased other financial services such as micro-insurance, have received training provided by financial institutions etc. Summed across all USG-supported microfinance institutions. This indicator provides a measure of the scale of impact of USG efforts to broaden access to financial services through support for microfinance institutions **Unit of measure; Number**	x			
Output Indicators							
27.	# of financial sector professional trained on financial products		The number of financial sector professionals, accountants, actuaries, insurance and pension specialists, bankers and other individuals who manage financial institutions, manage risk or provide operating services to the financial market, who have been trained as a result of USG training activities **Unit of measure; Number**	x			
28.	# of financial services introduced		The number of designed and pilot tested new products linking producers with end markets by encouraging MFIs and/or commercial bank loans to stakeholders throughout the value chain **Unit of measure: Number**	x			

Indicator No.	Indicator	Sub-Indicator	Indicator Definition and Unit of Measure	ADVANCE	GFSR	EG	IEHA
Early warning Indicators							
T.1	Food Prices		Refers to the price of staple foods Unit of measure; Percentage				
T.2	Rainfall		Unit of measure: mm				
T.3	Fuel cost		Unit of measure: Percentage				
T.4	Input cost		Unit of measure: Percentage				

ADVANCE – ADVANCE Indicator
GFSR – Global Food Security Response Indicator
EG – USAID Economic Growth Objective Indicator
IEHA – Initiative to End Hunger in Africa Indicator