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The U.S. Government's Global Hunger & Food Security Initiative

AGRICULTURAL DEVELOPMENT AND VALUE CHAIN ENHANCEMENT PROJECT (ADVANCE)

FY 2018 ANNUAL REPORT: OCTOBER 2017 - SEPTEMBER 2018

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ADVANCE FY 2018 ANNUAL REPORT

October 2017 – September 2018

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ACRONYM LIST

ACDEP	Association of Church-Based Development Projects
ADVANCE	Agricultural Development and Value Chain Enhancement
AEA	Agriculture Extension Agent
AgNRM	Agriculture and Natural Resources Management Project
AMPLIFIES	Assisting Management in the Poultry and Layer Industries by Feed Improvement and Efficiency Strategies
APO	Agricultural Production Officer
ATT	Agricultural Technology Transfer
BDS	Business Development Services
CSA	Climate Smart Agriculture
CREMA	Community Resource Management Areas
DAIP	District Agricultural Investment Plan
DVCC	District Value Chain Committees
EPA	Environmental Protection Agency
F2F	Farmer-to-Farmer
FaaB	Farming as a Business
FBE	Farmer-Based Enterprise
FBO	Farmer-Based Organization
FI	Financial Institution
FTF	Feed the Future
FY	Fiscal Year
GAIP	Ghana Agricultural Insurance Pool
GAP	Good Agronomic Practice
GGC	Ghana Grain Council
GIS	Geographic Information System
GPP	Ghana Poultry Project
GPRTU	Ghana Private Road Transport Union
GPS	Global Positioning System
GRIB	Ghana Rice Inter-Professional Body
GSA	Ghana Standards Authority
I-3	Innovation and Investment Incentive Grants
ICT	Information and Communication Technology
IDRW	International Day of Rural Women
IITA	International Institute of Tropical Agriculture
IP	Implementing Partner
KML	Knowledge Management and Learning
LDC	Louis Dreyfus Company
LPM	Live Presenter Mention
MMDAs	Metropolitan Municipal and District Assemblies
MOFA	Ministry of Food and Agriculture
MoU	Memorandum of Understanding
(M)SME	(Medium) Small and Micro Enterprise
MWRS	Manual Warehouse Receipt System
NF	Nucleus Farmer
NGO	Nongovernmental Organization
NORTHCODE	Northern Region Western Corridor Development
NPK	Nitrogen, Phosphorous, and Potash

NR	Northern Region
NRGP	Northern Rural Growth Programme
NSAICU	Northern Sector Agriculture Investment Coordination Unit
OB	Outgrower Business
OBM	Outgrower Business Management
OG	Outgrower
OVCF	Outgrower Value Chain Fund
PERSUAP	Pesticide Evaluation Report and Safe Use Action Plan
PFI	Partner Financial Institution
PHH	Post-Harvest Handling
PPE	Personal Protection Equipment
PPRSD	Plant Protection and Regulatory Services Directorate
PRC	Public Relations and Communication
PROTOA	Progressive Transport Owners Association
RMG	Regional Marketing Group Concept Limited
RDF	Rural Development Fund
SARI	Savanna Agricultural Research Institute
SEG	Small Equipment Grant
SIF	Social Investment Fund
SMFM	Sell More for More
SOW	Scope of Work
SSP	Safe Spray Providers
STTA	Short-Term Technical Assistance
TNS	TechnoServe
UDS	University of Development Studies
UENR	University of Energy and Natural Resources
UER	Upper East Region
USAID	United States Agency for International Development
UWR	Upper West Region
VSLA	Village Savings and Loan Association
WIAD	Women in Agriculture Department
WRS	Warehouse Receipt System
ZOI	Zone of Influence

EXECUTIVE SUMMARY

In fiscal year 2018 (FY2018), the project focused on consolidating system results and promoting sustainable behavior, individually and business/system-wise to ensure long term impact. Specific strategies include strengthening the Outgrower Business (OB) model to ensure sustainable delivery of services to smallholder farmers, buyer-sponsored outgrower model system, promoting financial inclusion through the Village Savings and Loans Association (VSLA) and establishing or strengthening apex bodies and networks for OB businesses, Farmer-Based Enterprises (FBEs), and Farmer-Based Organizations (FBOs).

Through project's facilitation and targeted grants, the number of end buyers and agro-input firms working directly with OBs to set up demonstration plots increased resulting in stronger win-win relationships. The OBs and FBEs increased the services they provide to smallholders, especially ploughing and post-harvest processing services compared with previous years. The OBs also continued to serve as the fulcrum for end buyer-sponsored outgrower schemes, which is proliferating beyond the project's direct interventions (involving new entrants like CROP CARE) which indicates scalability and sustainability of the outgrower model.

During FY 2018, the project facilitated $689,681 in loans to various actors including smallholder farmers, buyers, processors and OBs. These loans were disbursed to beneficiaries by Opportunity International, Sinapi Aba Savings and Loans Limited, Brong-Ahafo Catholic Cooperative for Social Development (BACCSOD), Bessfa Rural Bank, Bimbilla Community Cooperative Credit Union (BCCCU), Injaro Agricultural Capital Holdings Limited, and AV Ventures. Although this achievement represents 87% of the $800,000 target set for the year, the life of project target of $4,300,000 is exceeded by 6% ($4,553,656).

Furthermore, OBs made capital investments of $263,619 during the year to purchase tractors and other equipment, as well as processing plants by other actors, which brings the life of project result to $3,674,280 (92%) the target of $4,000,000. In addition to the capital investments, project beneficiaries (mostly OBs and end buyer firms) invested $1,498,698 (GHS6,747,439[1]) in production inputs for their outgrowers during the reporting period.

These results point to increasing value chain transactions and strengthened business relationships, thereby setting the businesses on the path of sustained growth and profitability. Field surveys conducted during the year to assess profitability of firms (as at end of the 2017 calendar year), showed that 76% (139) of the firms were profitable, and 48% (88) of them had increased their profit in 2017 compared to 2016. Together, these 88 firms made a total profit of $3,575,732 (GHS16,098,659) and average profit per firm is estimated as $40,633 (GHS182,939).

To further strengthen business relationships and improve sustainability, especially for OBs and FBEs/FBOs, the project facilitated the development of business associations and networks that will provide platforms for advocacy and foster cooperation among their members. During the year the project facilitated the development of 15 OB networks, all at the zonal level, supporting OBs operating in six districts in the Northern Region, three (3) in Upper West Region, five (5) in Upper East and one (1) in the South Zone. These networks are in various stages of development, but so far, some have engaged in cooperative marketing and sourcing agricultural inputs for their members. Also, 10 FBO networks were developed at the zonal level and one regional network in Upper West Region. The project trained 125 executive members of these networks on how to run business associations and on advocacy strategies and skills.

The improved business performances indicated above, are also underpinned by increasingly strong performance by smallholder outgrowers. During the reporting period, 78,978 smallholder farmers, out of whom 40,255

(50.97%) were women and 13,558 were youth, received various services from the OBs, FBEs and FBOs and benefited from other project interventions. This achievement is 5.3% above the target of 75,000 smallholder beneficiaries for FY 2018. This brings the total number of beneficiaries reached by the project to 131,394, which is 103% of the life of project target of 127,000. In terms of households, the project, during the reporting period, reached 74,136, out of which 61,883 (83%) are vulnerable.

From project data, there is evidence that the provision of the services enhanced smallholder profitability, which in turn supports the profitability and sustainability of the OBs and Buyers. For example, field surveys conducted during the year to estimate profitability of smallholders during the 2017 crop season indicates that gross margins per hectare amounted to $732 for maize, $898 for rice and $784 for soya. The 2017 crop season ended with a relatively lower maize gross margins than 2016 as the average price for maize decreased from $368/MT in 2016 to $244/MT in 2017. However, the significant increase in yields by rice women farmers from 2.71MT/ha to 3.88MT/ha resulted in an overall high gross margin of $898/ha. The project exceeded its gross margin per hectare targets for rice and soya $813/ha and $700/ha respectively but fell short of the $776/ha target for maize.

Generally, female farmers achieved significantly higher gross margins than their male counterparts. The data show that for soya, women realized 33% higher selling price mainly because they retail in small quantities whilst for rice, women achieved 31% higher yield. These contributed to the higher gross margins for women in the respective crops. Whilst soy yields have seen a steady increase from 2015, maize and rice yields either stagnated, or showed marginal fluctuations.

Apart from the provision of services and training of smallholders, the project promoted two distinct but inter-linked programs to enhance farm productivity. These are the promotion of Village Savings and Loans Associations (VSLAs), which was expanded during the year, and the community input dealer expansion program, which was designed to improve access to production inputs. The two are linked, by working with input dealers to promote production inputs during VSLA share-out of the savings mobilized. During the year, the project facilitated the formation of 300 new VSLAs with 7,142 members (3,347 women), bringing the total to 1,124 VSLAs with 24,457 members (67% women). The total savings made as at share-out between May and June 2018 was $669,492 (GHS 3,149,256), which is 41% more than the previous year.

The VSLA has become an important source of funding for both household expenditure and farm enterprise, particularly for women, who are more marginalized regarding access to finance. During this year's share-out, $175,192 (GHS788,750), representing 26 % of the amount saved, was used to purchase production inputs on the spot. Follow-up monitoring indicated that a further $136,6120 (GHS 615,055.00) was used by 4,043 farmers (2,508 of them being women) to pay for land preparation covering 3,085 hectares.

Other areas of the project that were successfully implemented include the promotion of digital inclusion, management and control of Fall Armyworm 'Spodoptera frugiperda' (FAW), environmental awareness, compliance and mitigation activities. Digital inclusion activities focused on improving digital literacy and access. Several sessions were held across the project implementation areas to discuss and promote digital money platforms in collaboration with the main telecommunication companies (MTN, Vodafone and Airtel Tigo) and mobile phone vendors. The project oriented over 5,313 (839 females) smallholder farmers, OBs, Spraying Service Providers (SSPs), community input agents and input dealers, on the benefits of transacting business through mobile money. As a result, 31 OBs (including 2 females) and input dealers signed up as mobile money merchants, while 3,880 farmers subscribed to use the mobile money platform for business transactions.

In collaboration with the National Task force on FAW, the project trained media personnel, 35 MoFA staff and field agents (21 Lead Farmers/OBs (all male), and undertook general awareness campaigns, established an alert

system (including a call center), and operated a surveillance mechanism (with pheromone traps). The data available shows that the incidence and severity of FAW attack reduced drastically in FY2018. There were fewer calls, and fewer callers indicated high severity of attack, while follow-up calls indicated the control measures advised had been effective. The public discourse also appeared more coherent, compared to the panic-influenced public discussions during PY17.

The activities on environment focused on reducing the occurrence of bush fires, improving safe handling, use and disposal of empty agrochemical containers. Other activities were on promoting awareness on compliance and regulations about pesticides. The project held several durbars/community events in collaboration with the Ghana Fire Service, traditional, and political authorities, to educate the public on the harmful effects of bush fires and the benefits to be derived in avoiding them. Recent data obtained from satellite images suggest that the areas affected by bushfires may have reduced. The project intends to conduct a ground-truthing exercise to verify this finding and assess the extent to which the project interventions contributed to the reduction.

In spite of the numerous successes during the reporting period, there were some challenges, including floods and depreciation of the Cedi to the US dollar. There were unusual heavy rains that caused widespread flooding in the Upper East and Northern Regions. This was exacerbated by the spillage of excess water from the Bagre Dam in Burkina Faso. Many maize farms were flooded and destroyed, including those of project beneficiaries. Also, the Cedi depreciated by 9.2% against the dollar between October 2017 (GHS 4.3787 to the dollar) to September 2018 (GHS 4.78 to the dollar)[1]. This had an impact on the prices of many goods, including agricultural inputs, and services, especially transport fares, which further affected prices of agricultural inputs.

The project however, reached almost all the annual and LOP targets. After four years of implementation, clear impacts are showing in key areas such as profitability of the OBs and end-buyer outgrower schemes, increased and enhanced business relations and capacity of value chain actors to honor business commitments and contracts. The nature of these impacts suggests they will be sustained. There are strong indications that end-buyers and OBs will continue to realize profits from the three value chains and continue to invest in the smallholder farmers to further improve their productivity. The project is commissioning five studies that will provide further learning on these indications.

[1] Average Exchange rate in 2018 is $1 to GHS4.5022

[1] Source: http://www.bog.gov.gh/markets/daily-interbank-fx-rates

INTRODUCTION

This report presents the main accomplishments of USAID's Agricultural Development and Value Chain Enhancement (ADVANCE) project, from October 2017 to September 2018. The USAID's ADVANCE project is implemented by ACDI/VOCA and three sub-awardees; Association of Church-Based Development Projects (ACDEP), PAB Consult, and TechnoServe. The goal of the project is to increase the competitiveness of the maize, rice and soya value chains in Ghana. The report summarizes the project's achievements against this goal and its indicators, and presents the main activities undertaken during the fiscal year. The core of the report is organized along the project's intermediate results as follows:

- Increased agricultural productivity in targeted commodities
- Increased market access and trade of targeted commodities
- Strengthened capacity for advocacy and activity implementation

The report starts with the project's collaboration with other organizations, projects, and the Ministry of Food and Agriculture (MOFA), followed by a summary of key results relating to the three intermediate result areas. The report also provides details on the project's cross-cutting activities including gender, environment, Information and Communication Technology (ICT), grants, as well as monitoring, evaluation and learning activities.

COLLABORATION

Collaboration with the Ministry of Food and Agriculture

The Ministry of Food and Agriculture (MOFA) continues to be a foremost partner of USAID's ADVANCE activity implementation, especially in the field. The project continues to work closely with MOFA at national and regional level and their agricultural extension agents (AEAs) in the districts. During FY2018, the project continued to collaborate with MOFA to undertake the following activities:

- Establish demonstration sites in 53 districts.
- Train farmers in post-harvest handling (PHH) of produce.
- Implementing activities on fall armyworm (FAW) at the national and regional levels.
- Soya utilization training with the Women in Agriculture Development (WIAD) unit of MOFA.
- Training and equipping "Plant Doctors" and management of "Farm Clinics".
- Implementing the Government's "Planting for Food and Jobs" program, through which smallholders are provided with subsidized agricultural inputs to enhance productivity

Demonstration Site Establishment

The MOFA AEAs assisted the project to establish 85 demonstration sites and trained smallholder farmers (SHF) on good agriculture practices (GAPS) such as row planting, effective methods of applying fertilizer, using certified seeds, the importance of conducting germination tests, PHH and FAW control measures. In addition, several AEAs participated actively in anti-bush fire campaigns organized by the project in collaboration with the National Fire Service.

Fall Armyworm

The project played a major role in the activities of the national task force on fall armyworm. The project organized three (3) key trainings facilitated by the project's consultant, Prof. Dan McGrath. and 10 others (at regional level) for MOFA staff, media personnel and staff from other projects. Project staff participated in all stakeholder meetings of the national task force, and in the monthly field monitoring activities.

Soy utilization training with WIAD

The project collaborated with the Women in Agriculture Development (WIAD) Units from seven districts of the Department of Agriculture to train 7,215 (508 men and 6,707 women) smallholders in the utilization of soybean in food preparation to improve household nutrition in the Northern Region. The farmers were trained by WIAD officers to prepare local nutritious dishes like Apaparansa, kooshe, soya kebab and soya milk using soya and maize.

Setting up of Plant Doctors and running Farm Clinics

The Centre for Agriculture and Biosciences International (CABI) and MOFA-Plant Protection and Regulatory Service Directorate (PPRSD), in collaboration with USAID's ADVANCE project, introduced the concept of "Plant Doctor and Plant Clinic" in the three northern regions. The Plant Doctor is a community volunteer trained to help local farmers diagnose plant disease symptoms and suggests solutions, using a computer/tablet-based knowledge bank.

The Plant Clinic is a periodic setting in the community run by the Plant Doctors, where farmers can obtain practical advice on plant health issues. The project trained 43 Plant doctors, made up of 13 from MOFA and 30 field agents of OBs working with the project. The project organized 10 Farm Clinics which were used to introduce the Plant Doctors to the communities and discuss the incidence and management of the FAW, including identification of the pest and plant symptoms.

Planting for Food and jobs

The project conducted sensitization sessions aimed at improving understanding of the scheme and enhancing access to subsidized inputs. Staff of the project also supported OBs, FBOs/FBEs and other groups to access the subsidized inputs in bulk for their outgrowers and group members. The project worked with MOFA staff and the traditional collaborators in the input industry who are involved in the program (Yara Ghana Limited and RMG Ghana Limited) in this regard. As a result, 1.4 MT of seed and 196 MT of inorganic fertilizer was procured for smallholders by the OBs and leaders of the FBOs/FBEs.

6.0. Collaboration with Other Organizations

Ghana National Fire Service

The project collaborated with the department of rural fires of the Ghana national fire service to organizet five durbars/campaigns during the year, under the theme "SAY NO TO BUSHFIRES". As part of consolidating the gains of the anti-bushfire campaigns, five anti-bushfire volunteer squads (each with 18 members) were formed and equipped during the year; two each in Upper East and Upper West Regions, and one (1) in Kintampo Zone, bringing the total to eight (three formed last year). Trainees were equipped with fire beaters, overall clothes, protective boots, hoes, machetes, rakes and gloves to aid in their activities which include organizing public fire education and acting as community fire fighters in case of fire outbreak. Recent satellite data suggest there has been a reduction in the size of the area normally affected by bushfire in these communities.

International Institute for Tropical Agriculture

USAID's ADVANCE project collaborated with the International Institute for Tropical Agriculture (IITA) to organize a two-day training in Tamale and Bolgatanga on aflatoxins and its management using AFLASAFE@. Aflasafe is a fungus-based biological control formula developed by IITA and commercialized in collaboration with Macrofertil Ghana Ltd to control aflatoxin in maize and groundnuts. The training, was attended by 33 persons (17 ADVANCE staff, five representatives of FBOs, five OBs and six OGs). MACROFERTIL provided 40 kg of the product for 10 model farms as demonstration.

Nestlé Ghana Limited

The project continued to collaborate with Nestlé who have embarked on a program to locally source raw materials for their products. Despite the very high standards required, Sahel grains, who has been working with the project since 2016, whose outgrowers were trained by the project, received a contract to supply 200 MT of maize worth $78,183 (GHS 352,000) to Nestle.

Soybean Innovation Lab

Since 2016, USAID's ADVANCE project has partnered with the Soybean Innovation Lab (SIL) of the University of Illinois, Catholic Relief Service (CRS) and the USAID funded Agriculture Technology Transfer (ATT) project to jointly train local fabricators to manufacture threshers. During this fiscal year, the project held a series of meetings with CRS and SIL and conducted a demonstration in Yendi for OBs who had expressed interest in acquiring the locally fabricated threshers.

Regional Marketing Group Ltd. (RMG)

The Regional Marketing Group Ltd. (RMG) collaborates with USAID's ADVANCE to provide good quality seeds to OBs and conduct demonstrations on their farms and those of their outgrowers. During this fiscal year, RMG's regional representatives worked with the project's regional coordinators to ensure project beneficiaries had access to good quality maize seeds.

University for Development Studies (UDS)

The project, in collaboration with the University for Development Studies (UDS), engaged 66 students in an internship program to provide office management services for 49 OBs, 13 FBOs, 15 VSLAs and 15 SSPs. These interns primarily assisted these value chain (VC) actors to keep proper records of their activities and this resulted in increased adoption of management practices and the ability to accurately estimate profits of these enterprises.

Yara Ghana Ltd.

Yara Ghana Limited has been a key partner for USAID' ADVANCE project. During 2018 the company continued to support the project to promote actor-led field demonstrations and training of smallholders by providing 7.4 MT of fertilizer through their regional representatives. These included 4.8 MT of NPK, (23-10-5 +2,4S+2MgO+0.3 Zn B, 1.15MT 16-18-15 G and 1.43 MT SULFAN 24%N6%S 25KG). Yara also trained the project's OBs on 250 field crop demonstrations. The company provided fertilizers for maize and soya cultivation while the OBs prepared land and mobilized smallholders for the training.

KEY RESULTS

1. Direct Beneficiaries

In FY2018, the project reached **78,978** smallholder farmers, out of whom **40,255 (51%)** were women, with various interventions. This achievement is about 5% higher than the target of 75,000 smallholder beneficiaries for FY2018. Approximately 5,105 (6.5%) of all smallholder beneficiaries joined the project in the reporting year. These figures bring the total number of beneficiaries reached so far by the project to **131,394** smallholders, which is about 3% above the life of project target of 127,000. The beneficiaries reached belong to 74,136 households out of which 61,883 (83%) are vulnerable.

About 62,548 beneficiaries (including 32,877 or 53% women), were trained on good agronomic practices (GAPs), post-harvest handling, produce quality standards, numeracy, mycotoxins management and control, soya utilization and nutrition, among others. The project specifically targeted women for trainings to improve their numeracy, entrepreneurship and leadership skills, and understanding of their rights, as well as household nutrition. This training achievement is 29% higher than the target of 48,375 for this fiscal year. With this achievement, the project has trained 124,258 individuals, compared with the life of project target of 120,000. Additionally, the project trained 54,548 medium, small and micro enterprises (MSMEs), 28,344 (52%) of which are women owned or led.

2. Loans and Investment

During FY 2018, the project facilitated $689,681 in loans to actors including smallholder farmers, OBs, buyers and processors. These loans were granted to beneficiaries by financial institutions such as Opportunity International, Sinapi Aba Savings and Loans Limited, Brong Ahafo Catholic Co-Operative for Social Development (BACCSOD), Bessfa Rural Bank and Bimbilla Community Cooperative Credit Union, *Injaro* Agricultural Capital Holdings Ltd. and AV ventures. This achievement represents 86% of the FY 2018 target of $800,000. However, this brings the project's achievement to 106.07% or $4,561,069 of the $4,300,000 life of project target. Furthermore, project beneficiaries made capital investments of $263,619 to purchase tractors and other equipment, as well as processing plants during FY 2018. This brings the life of project achievement to $3,674,280 (92%) of the life of project target of $4,000,000. In addition to the capital investments, OBs and end buyer firms invested $1,498,698 (GHS6,747,439[2]) in production inputs for their outgrowers. The project model encourages supply of certified seeds, fertilizers and other agricultural inputs by OBs to the OGs on credit, for in-kind repayments at harvest.

3. Gross Margins and Incremental Sales – 2017 Crop Season

As per USAID's definition, gross margin is the difference between the total value of smallholder production of an agricultural commodity and the cost of producing that commodity, divided by the total number of hectares under cultivation. The key data points required to calculate the gross margin are area planted (ha), yield obtained per hectare (tons/ha), total recurrent cash input costs(GHS), and average sale price per ton (GHS).

The figures presented in the sections on gross margins and technology application were extrapolated from the survey, which was conducted with a random sample of all project beneficiaries in FY2017, as prescribed in the

2. Average Exchange rate in 2018 is $1 = GHS4.5022

USAID Feed the Future Indicator Handbook. This section has FY2017 data because the survey collected data for the FY2017 crop season.

Table 1: Number of smallholder direct beneficiaries by crop planted and gender3in 2017

Gender	Maize	Rice	Soya	Total
Female	29,599	8,509	12,227	50,335
Male	38,117	7,715	7,517	53,349
Total	**67,716**	**16,224**	**19,744**	**103,684**

1.1. Hectares planted

During the 2017 crop season, 103,684 project smallholder farmers cultivated of 113,053 hectares, of which 44% were planted by women. About 77% of land was planted with maize, 11% with rice and 12% with soya (Table 2).

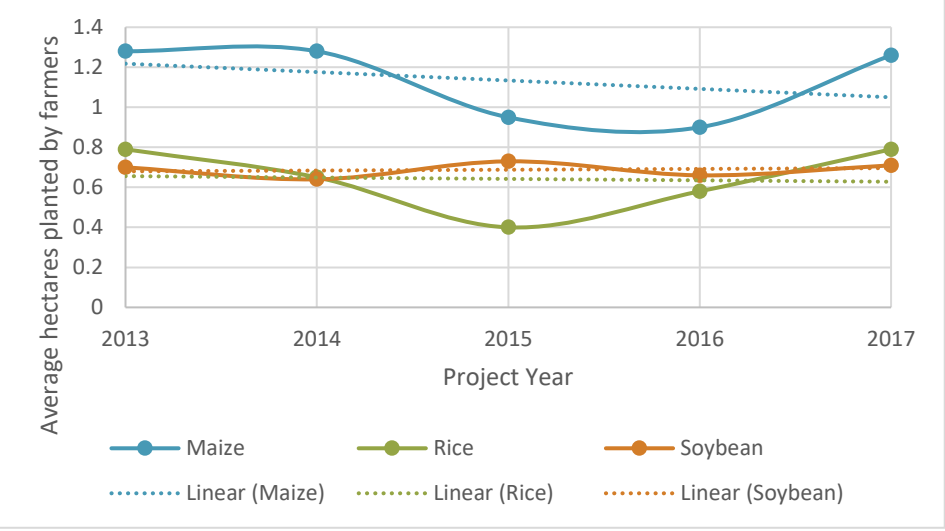
Table 2: Hectares planted in 2017 by crop and by gender

Gender	Maize	Rice	Soya	Total
Female	34,140	7,028	8,316	**49,485**
Male	52,265	5,725	5,578	**63,567**
Total	**86,405**	**12,753**	**13,894**	**113,052**

On average, the area planted per farmer in 2017 was 1.28 ha for maize, 0.79 ha for rice and 0.70 ha for soya. Female maize and female soya farmers planted smaller areas compared to their male counterpart (19% less for maize and 9% less for soya) whilst rice female farmers planted larger areas than male rice farmers (Figure 3).

Overall, the average hectares planted by rice farmers continue to increase each year since 2015 to 2017, whilst soya farmers seemingly maintained their average farm sizes over the three-year period. Maize farmers reduced their average farm size in 2016 whilst increasing them in 2017. Generally, the project advises producers not to hasten expansion but rather apply their limited resources efficiently and hence the slow growth in expansion.

Figure 3: Average hectares planted per farmer from 2015 to 2017 by crop and gender



[3] Some farmers plant more than one crop at a time. In such cases, the farmer is counted under each planted crop

7.0. Production

Total production in 2017 from all crop farmers was estimated at 376,812 MT (Table 4) as compared with 231,688 MT in 2016 and 182,376 MT in 2015. In 2017, the beneficiaries produced 296,590 MT of maize and 44,115 MT and 36,107MT rice and soya respectively. Except for maize, female farmers produced more than the male farmers.

Table 4: Total volume of production by smallholder farmers in 2017 per crop and gender in MT

Gender	Maize	Rice	Soya	Total
Female	115,086	27,300	20,119	162,506
Male	181,504	16,815	15,987	214,306
Total	296,590	44,115	36,106	376,812

On average, a maize farmer produced 4.32 MT, a rice farmer 2.69 MT, and soya farmer 1.89 MT (Table 5). A male farmer produced 3.02 MT whilst a female farmer produced 2.91 MT on average. The difference is found to be higher for maize farmers where a male farmer produces 0.87 MT more than a female farmer, whilst the male rice farmer produced as low as 1.03 MT less than a female rice farmer. This is because the female maize farmer plot is smaller than the male's while it's the reverse for rice. In addition, female rice farmers had higher yields.

Table 5: Average production per farmer in MT in 2017

Gender	Maize	Rice	Soya	Average
Female	3.89	3.21	1.65	2.91
Male	4.76	2.18	2.13	3.02
Average (wt)	4.32	2.69	1.89	2.97

Average yields for maize, rice and soya in the 2017 production season were 3.43 MT/ha, 3.46 MT/ha and 2.60 MT/ha respectively. Fall armyworm and floods caused a reduction in maize and rice production during the 2016 production season, therefore, the 2017 yields may be partly attributed to the success of project interventions against FAW in 2017. Table 6 shows that, even though lower than 2015, yields for both male and female maize farmers were higher in the 2017 production season compared to the 2016 season. Similar trends were observed in rice production.

Since 2014, the project has continued to add new beneficiaries. As the new beneficiaries join the project, their yields significantly improve over time. However, average yields each year is calculated from a mix of beneficiaries, both old and new, selected through a random sample for the survey. With this method, average yields reported by the project do not show a sharp upward gradient due to the diluting effect of the new entrants.

Table 6: Average yield by year, gender and crop in MT/ha

	Maize			Rice			Soya		
Gender	2017	2016	2015	2017	2016	2015	2017	2016	2015
Female	3.37	3.14	3.59	3.88	2.71	3.81	2.42	2.06	1.80
Male	3.47	3.41	3.64	2.94	2.94	4.07	2.87	2.34	1.86
Average(wt)	3.43	3.34	3.63	3.46	2.84	3.98	2.60	2.17	1.83

1.2. Total Recurrent Cash Input costs

Total recurrent input costs used to calculate the gross margin values are those that were paid in cash and not given in kind, as per 2017 USAID's FTF Indicator handbook definition. Family labor and similar in-kind contributions, as well as all non-significant costs (cost less than 5% of the total costs) are ignored in the calculation of gross margins. The cash costs include land rent, costs of seeds, fertilizers and other agrochemicals, labor, equipment rental etc.

In the 2017 farming season, total input costs incurred to cultivate the three commodities was $11,690,846 of which 80% was for maize, 10% for rice and 10% for soya. Of this total, 43% (or $5,006,070) was incurred by women (Table **7**).

Table 7: Beneficiary smallholder farmers Inputs costs(USD) in 2017 by gender and crop

Gender	Maize			Rice			Soya		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
Female	3,672,280	3,942,520	2,382,113	705,609	404,347	435,700	628,181	435,627	353,142
Male	5,670,800	6,132,793	6,962,710	479,947	511,430	739,997	534,028	301,991	326,426
Total	9,343,080	10,075,313	9,344,823	1,185,556	915,777	1,175,697	1,162,209	737,618	679,568

Interestingly, smallholder farmers' input investments did not change appreciably in 2017, when compared with results in 2015 and 2016. *Figure 1*.

Figure 1: Total input cost spent by farmers in from 2015 to 2017

On average, a farmer invested $74 in 2017. Maize farmers incurred the highest costs at $100.83 per farmer, while a soya farmer invested the least with $58.83 (Table **8**). Except for rice, male farmers invested more than female farmers. The average cost per farmer continues to decrease in 2017 for maize and rice. The percentage decrease was from 39% from 2015 to 2016 to 51% from 2016 to 2017 for maize. Rice also decreased from 8% from 2015 to 2016 to 42% from 2016 to 2017 for rice.

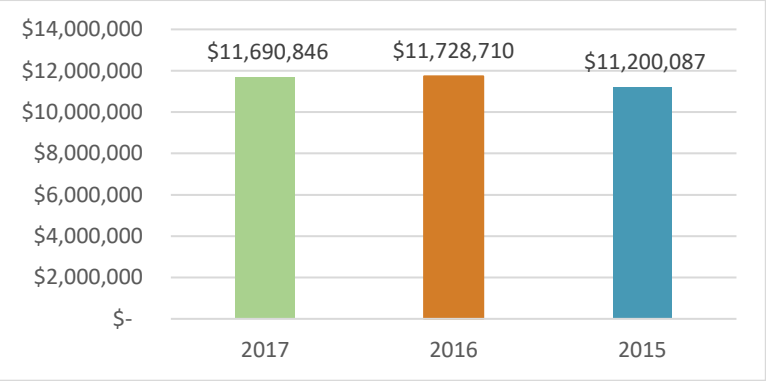


Table 8: Average input cost per farmer by crop and gender from 2015 to 2017

	Maize			Rice			Soya		
Gender	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**
Female	$ 87.96	$143.06	$146.01	$ 68.53	$76.05	$76.86	$ 51.35	$57.19	$53.43
Male	$ 111.38	$158.16	$284.06	$ 52.47	$108.33	$119.24	$ 70.99	$68.34	$70.50
Average(wt)	**$ 100.83**	**$151.88**	**$228.89**	**$ 60.97**	**$91.23**	**$99.01**	**$ 58.83**	**$61.28**	**$60.46**

However, maize farmers invested on average more with $108.13, rice and soya farmers, at $92.96 and $83.63 respectively, Male soya farmers generally had higher inputs costs than their female counterparts. Rice female farmers had a higher input cost than their male counterparts and both male and female maize farmers invested almost the same amount of cost per hectare in production.

Table 99). It is however worth noting that the amount invested by maize and rice farmers in inputs per hectare continues to decrease from 2015 to 2017 while soya farmers continue to increase their spending in inputs from 2015 to 2017. Analysis of the qualitative data indicates that high input investment in maize production in 2015 was a result of introducing the Pioneer hybrid seed which required a stringent fertilizer application regime and weed control. Lower investment in inputs was attributed to the low supply of the Pioneer hybrid seeds in 2016 and 2017. However, the yields either increased or stagnated, because of increased efficiency in production.

Table 9: Average input costs per hectare planted by crop and gender from 2015 to 2017

	Maize			Rice			Soya		
Gender	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**	**2017**	**2016**	**2015**
Female	$107.56	$158.21	$218.94	$100.40	$174.89	$270.14	$ 75.51	$93.17	$82.80
Male	$108.50	$175.67	$231.42	$ 83.84	$186.17	$233.23	$ 95.75	$97.29	$87.83
Average (wt)	**$108.13**	**$168.40**	***$228.10***	**$ 92.96**	**$181.01**	***$245.67***	**$ 83.63**	**$94.81**	***$85.15***

1.3. Volume sold and value of sales

Total quantity of produce sold was 283,241MT which is 75% of total production by smallholder farmers during the 2017 cropping season. Over 80% of all sales was for maize, 11% (32,223MT) and 8% (21,762MT) was rice and soya respectively (Table 10). Total sales amounted to $4,509,462, with 77% ($57,690,522) from maize, 13% ($9,372,376) from rice and 10% ($7,446,564) from soya.

Table 10: Quantity sold by smallholders in 2017 by crop and gender (MT)

Gender	Maize	Rice	Soy	Total
Female	91,076	22,994	12,054	126,124
Male	138,181	9,229	9,708	157,117
Total	229,257	32,223	21,762	283,241

Table 11: Amount of sales in 2017 by crop and gender

Gender	Maize	Rice	Soy	Total
Female	$24,598,624	$6,744,428	$4,622,786	$35,965,838
Male	$33,091,898	$2,627,948	$2,823,778	$38,543,624
Total	$57,690,522	$9,372,376	$7,446,564	$74,509,462

On average, a beneficiary sold produce worth $719 (Table 1211). Maize farmer were the highest at $852 while rice was $578, and soya was $377, which is consistent with the volume of sales for those commodities (Table

1212). Except for maize, average sales for female farmers were higher than their male counterparts corroborating the high volumes sold by women farmers in Table .

Table 12: Average baseline and 2017 sales per farmer by crop and gender

Year	Gender	Maize	Rice	Soy
Baseline	Female	$340	$455	$246
	Male	$360	$645	$540
2017	Female	$831.06	$792.62	$378.08
	Male	$868.17	$340.63	$375.65

Overall, project beneficiaries increased the volume of produce they sold since the inception of the project (Table 12). Both male and female maize farmers earned almost 1.6 times as much with the project's intervention than at the baseline. A female soya farmer earned 1.5 times more, with the project's intervention in 2017 than at baseline. However, male rice farmers and male soya farmers were better off at baseline, sales wise.

1.4. Gross margins

The 2017 average gross margins per hectare totaled $731.60 for maize, $897.68 for rice and $784.43 for soya (Figure 2). Female farmers achieved significantly higher margins than their male counterparts. This is primarily due to the higher average selling price by women soya (33% higher) farmers and higher yields by women rice farmers (higher by 31% 6) and slightly lower inputs costs (lower by 4%),

Figure 2: Gross margins per hectare by crop and gender for 2017

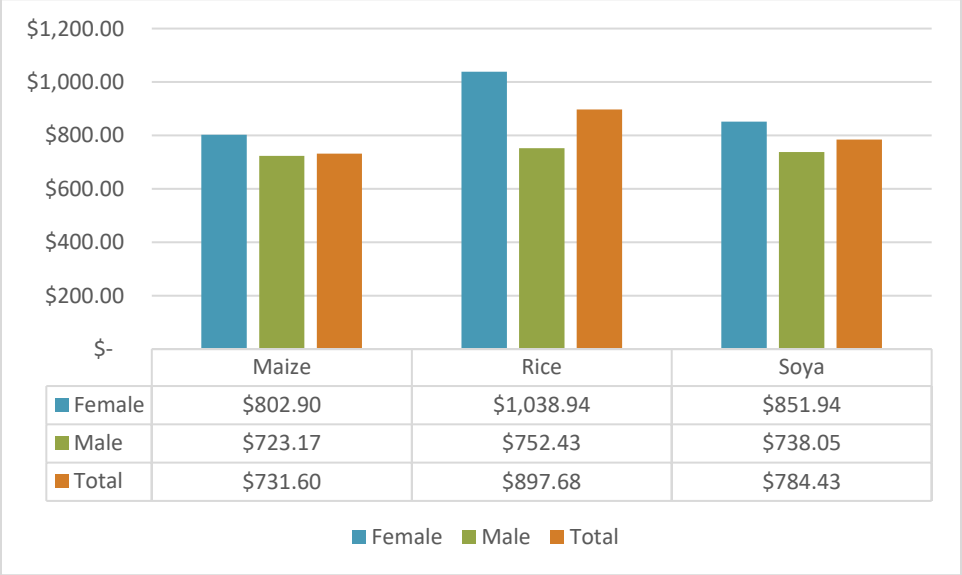
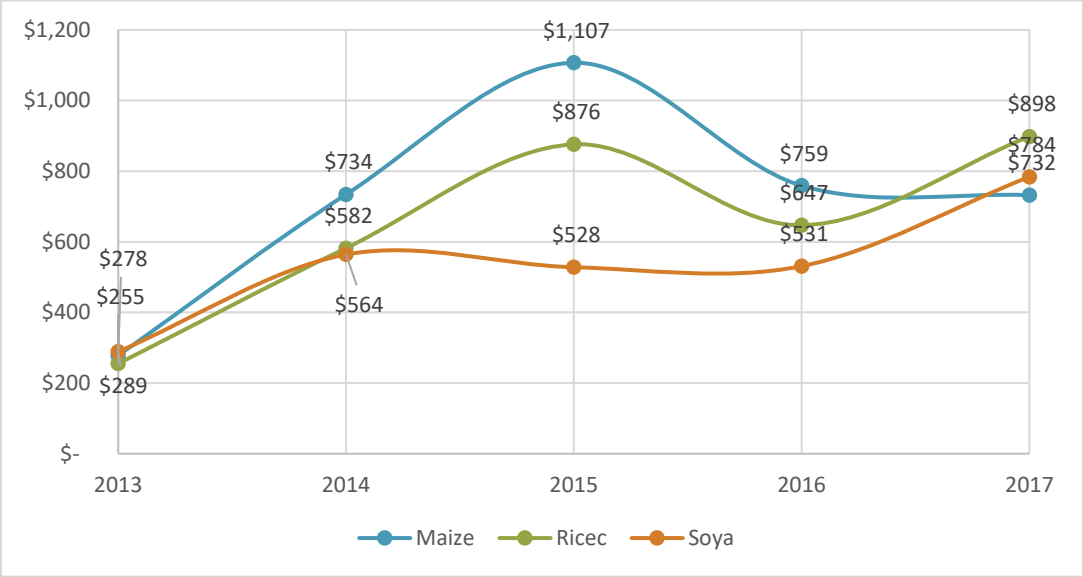


Figure 3 presents gross margin results for all crops from baseline (2013) to the 2017 production season. The 2017 crop season ended with lower maize gross margins than the 2016 and 2017 production seasons because the average price for maize decreased from $368/MT in 2016 to $244/MT in 2017 (in US Dollar terms). However, the significant increase in yields by rice women farmers from 2.71 MT/ha to 3.88 MT/ha resulted in an overall high

gross margin of $898/ha, an achievement comparable to the 2015 results. High soya yields and a stable average price in 2017 ensured a higher gross margin for soya in 2017 than any other year.

Nevertheless, the project exceeded its gross margin per hectare targets for rice and soya $813/ha and $700/ha respectively but fell short of the $776/ha target for maize. For maize, compared to 2016, inputs costs decreased, yields were stable (higher efficiency), and selling price in USD decreased. In other words, if the farmers were not as efficient, the gross margins would have been much lower than what has been achieved. The 2017 gross margins are significantly greater than at baseline, Figure 3. Despite lower sales, farmers ended up achieving higher margins per hectare as returns on investments improved.

Figure 3: Gross margins per hectare from Baseline to 2017



8.0. Application of Technologies and Management Practices

Table 13 shows the level of application of improved technologies and management practices, based on the 2017 gross margin survey. Almost all project beneficiaries applied one or more improved technologies and management practices. Crop genetics, soil related technologies, pest management, cultural practices, climate mitigation, and ICT were some of the technologies and management practices promoted by the project and applied by beneficiaries during the 2017 production season. However, the application rates vary across technologies and gender. In 2017, pest management was the most applied technology. This includes integrated pest management and use of appropriate pesticides. This is not surprising as farmers invested additional resources in insecticides to control Fall Armyworms. For most technologies, application rates were higher for female farmers than for males.

The biggest gaps are seen on application of information and communication technologies (ICT), crop genetics and climate management. In addition, the number of hectares under improved technologies cultivated by men is almost 30% higher than the women because women plant smaller plots and apply improved technologies on a smaller portion of that land. A study financed by USAID ADVANCE and conducted by the University of Cape Coast in 2017 reveals that women's application of improved technologies is low because women, unlike men, have less control over productive resources (land, labor, capital) and do not always make decisions on the time they can

allocate to apply those technologies; they lack access to inputs; and are sometimes culturally intimidated during trainings to ask questions in front of men.

A total, of 91,233 farmers out of 103,683 beneficiaries in FY2017 cultivated 73,873 ha under improved land-based technologies. The total number of beneficiaries that applied improved land based and non-land-based technologies and management practices was 93,784, which is 130% of the FY2017 target.

Table 13: Application of technologies by men and women farmers

Technology Type	Application Rate Women (%)	Application Rate Men (%)	# of Women Applying	# of Men Applying	Hectares Women	Hectares Men
Crop genetics	39	34	19,422	22,858	13,803	19,907
Soil related	55	54	27,455	28,759	19,743	26,864
Cultural practices	71	66	35,651	35,214	25,369	32,707
Pest management	73	78	36,613	41,409	37,412	48,673
One or more land based	90	86	45,155	46,078	32,469	41,404
ICT	40	51	20,113	26,986		
Climate mitigation	39	34	19,522	18,141		
One or more tech.	92	89	46,264	47,520		

Pest management and cultural practices were the most applied technology by women farmers while ICT and management practices were the least applied. For men, soil related, pest management and climate mitigation were the most commonly applied technologies.

9.0. Profitability of Supported Firms

The sustainability of firms depends on profitability and financial self-sufficiency; therefore, the project tracks the profitability of firms that are supported. Profitability of a firm is estimated as the difference between its annual income and annual costs, including operating expenses plus annual amortization and depreciation of permanent assets. The firm is deemed to be operating more profitably in the reporting year if the difference between income and costs as a percentage of costs is more than the same estimate for the previous year.

The project sampled 182 out of 1,079 firms that received significant support from the project to ascertain the number of firms that operated more profitably in 2017 compared to 2016. The project adopted the FTF Beneficiary-Based Survey approach to determine the sample size. The firms included aggregators, outgrower businesses, FBOs/FBEs and processors. The survey was conducted in August 2018 as Ghanaian firms use calendar year and financial statements and records are usually finalized around April. The Data showed that 76.37% (139) of the firms were profitable and 48.35% of them (88) had realized higher profits in 2017 compared to 2016. Together, the 88 firms made a total profit of $3,575,732 (GHS16,098,660) and average profit for each firm at

$40,633 (GHS182,939). When extrapolated over the total population of firms, the total number profitable firms in 2017 is estimated as 359 (Table 14).

Table 14: Number of firms operating profitably in 2017 as compared to 2016

Actor Type	# more profitable in 2016	# more profitable in 2017	Sum of 2017 Profit (GHS)	Average of 2017 Profit (GHS)	Extrapolated number of profitable firms
Aggregators	4	5	4,416,862	883,372	84
FBO/FBEs	2	4	5,127	1,282	78
OBs	44	78	11,554,912	148,140	196
Processors	1	1	121,759	121,759	1
Grand Total	**51**	**88**	**16,098,660**	**182,939**	**359**

PROGRESS WITH TECHNICAL DELIVERY

10.0. Sub-purpose 1: Increased agricultural productivity in targeted commodities

To increase the productivity of smallholder farmers, the project continued to set up demonstration sites, reinforce farmers' access to quality inputs and business development services, increased the management and technical capacity of the OBs through various trainings and initiatives that strengthened the OB model.

DEMONSTRATION SITES AND TRAININGS

Actor supported demo sites

During FY2018, the project trained lead actors on crop production and post-harvest handling skills to ensure continuity and sustainability of the actor-led crop demonstrations by lead actors beyond the project. The training included:

1. Planning and mobilizing resources (inputs, equipment etc.).
2. Selecting and establishing sites
3. Training on GAPs
4. Training on safe use and disposal of pesticides

The project, in collaboration with 51 OBs and two FBEs, during the FY2018 production year, supported 352 crop demonstration sites and 37 model farms (Table 15) and trained 14,642 smallholder farmers (including 7,806 women) on the importance of applying improved land-based technologies and management practices on their farms. The project also trained OBs and smallholder farmers to budget and estimate gross margins of their crops. In communities where demonstrations were held for the first time, the project compared results from recommended practices with local practices.

Eight input companies contributed inputs worth $8,265 (GHS 37,213) towards establishing the demonstrations. YARA contributed fertilizers and RMG (seed distributor), provided inputs worth $3,405 (GHS 15,331). The OBs contributed $3,610 (GHS16,255) whiles small local input retailers contributed the rest.

Table 15. Demonstration sites by region and crop

Region	Conventional		CSA	Model Farm	Total
	Maize	Soya			
Northern	76	39	4	8	127
UER	34	26	8	15	83
UWR	28	17	6	10	61
Kintampo	50	-	-	1	51
South	11	-	16	3	30
Total	**199**	**82**	**34**	**37**	**352**

Training in GAPs /PHH

In FY2018, 14,642 smallholder farmers (including 7,806 women) were trained both off-site and on-site demonstration on GAPs. Also 15,320 smallholder farmers (including 8,118 women) were trained on PHH. Outgrower businesses and the input dealers organized and led the training. At each demonstration site, the training sessions discussed the following recommended factors:

- crop budgeting procedures and estimating gross margins
- land preparation methods
- seed varieties of maize and soya
- plant population and arrangement
- fertilizer types, application rates, and timing
- use and handling of pesticides
- control measures for FAW

Farming as a Business Training

During FY2018, the project trained 10,888 farmers (including 5,296 women) on farming as business, which included planning, FAW management and control, farm budgeting and profit calculations, application of improved technologies, savings and credit, record keeping, and produce marketing. Records from monitoring visits indicated that farmers were utilizing knowledge from these trainings to operate their farms more efficiently.

Farmers shared their views on the condition of the plots and their experiences. For example, a farmer by name Haruna Mumuni from Techipe in East Gonja who participated in the field day for first time said,

"I joined a community farmer group organized by Abdul Rahman Mohammed who works with USAID ADVANCE project. In this group, farmers were trained on new agriculture techniques that can increase crop yields. I started to put what I had learned into practice by requesting a piece of land from my husband. I began to grow maize on that piece of land. By applying what I learned through the training coupled with the support I had from Abdul Rahman

PRE-SEASON AGRIBUSINESS FORUM

As part of planning towards the 2018 planting season, the USAID's ATT project organized the 8th annual pre-agribusiness forum in Tamale, attracting more than 800 agriculture value chain actors including donors and implementing partners, farmers, buyers and input dealers. It was held under the theme, "Quality Seed- Necessity for Food and Jobs". Key exhibitors were from the maize, rice and soya value chains, especially inputs and equipment dealers. The USAID's ADVANCE project sponsored almost 300 smallholder farmers to parrticipate. The forum provided an avenue to showcase new products and technologies such as seed, herbicides, fertilizer (organic and inorganic), hand-held planting equipment and applicators.

INPUT DEALER BUSINESS DEVELOPMENT PROGRAM

The project trained 17 input dealers (including 2 females) on a range of business management practices, including marketing, business planning, record keeping, the use of digital financial services, safety and compliance issues regarding the effects of pesticides on the environment and exposure to humans, pesticides handling, first aid principles and practice, regulations on transportation of pesticides and safe disposal of unused chemicals and containers.

Presentation of the community promotion concept to input dealers in Tamale in the Northern region

Furthermore, 12 input suppliers monitored from the Ashanti and Upper East Regions established 34 outlets, which resulted in sales of over $66,634 (GHS300,000) worth of inputs directly to project beneficiaries. Also, the project organized fora in the Northern, Upper West and the Brong Ahafo Regions for 16 input dealers and 35 OBs to review inputs marketing and sales at the community level and introduced VSLA schemes to community input agents.

Discussions at each forum centered on the input promotion concept, VSLA, role of input dealers in promoting the use of inputs, sustained relationships and management of agents. These fora also strengthened linkages between OBs and input dealers.

INCREASED ACCESS TO INPUTS AND EQUIPMENT

Strengthening relationships between existing agents and input dealers

The project facilitated business relationship between 129 community input agents and 10 large input dealers through community input promotions, and refresher trainings. Some of the input dealers who participated included YARA Ghana, Timothy Agrochemical, Wofa Addo, Simple Prince, Ganorma, Suhuyini, PETASGO, Mumuni and Yahaya Enterprises, Wumpuni, Giwah and Hadiola agrochemicals. A key topic discussed was demand aggregation by the community agents to facilitate bulk supplies.

OUTGROWER BUSINESS MANAGEMENT

Outgrower Business Management Training

During the year, the project trained 206 OBs (including 2 females) covering the outgrower business management curriculum to support actors to operate efficiently and profitably. The modules are:

1. Value chain concepts
2. Effective competition and cooperation.
3. Engaging end markets
4. Current end market trends and product pricing
5. Contracts and contract negotiation
6. Business planning and financial management
7. Managing a growing outgrower business
8. Customer service and social responsibility
9. Marketing
10. Crop budget as planning tool
11. Records keeping using ICT tools

Field Management Program

The project trained OBs on effective field management to improve on service delivery to their outgrowers. Their field agents, lead farmers, and tractor operators were also trained. The topics covered include:

- How a lead actor can mobilize farmers and assess farm needs
- How to schedule, organize and supervise field preparation (tractor ploughing mainly) for smallholders
- Effective input delivery to farmers and good record keeping
- Extension support services to farmers and managing demonstration sites
- Farmers' credit recovery
- Aggregation from smallholders for sale to buyers.

Since 2016, the project, through its grants program, has equipped 156 OBs with tablets and Pico projectors to support extension and training services using the outgrower management program "SMARTEX" developed by Grameen Foundation. During the reporting period, the project trained 50 field agents on FAW. The project, in collaboration with Grameen Foundation Ghana hosted and oriented a team from Burkina Faso on how OBs integrated SmartEx application and the ICT tools for extension delivery to smallholder farmers. The team visited four OBs to learn how the OBs trained their smallholder farmers on standard crop production protocols using the application.

Because of the field management program, 122 OBs and 78 FBOs/FBEs invested over $567,821 (GHS2,556,444) to plough 12,967 ha of farmland for 14,862 farmers. They also spent $614,466 (GHS2,766,447) on 31,701 bags (50kg/bag) of NPK and 7754 bags (50Kg/bag) of Sulfate of Ammonia (SOA) fertilizers.

Outgrower Business Office Program

The project placed 51 student interns from the University for Development Studies (UDS) with 51 OBs to assist them in general office management, especially with documentation of their farming activities and financial transactions. Some of the records included:

- Purchase of inputs for on-lending
- Tractor operation costs
- Ploughing services cash and in-kind
- Creditors' and debtors' records
- Debt recoveries
- Sales

The reports submitted by interns showed a remarkable improvement in record keeping by the OBs and their field agents.

BUSINESS DEVELOPMENT SERVICES

Farm Business Planning

To date, the project has supported 287 OBs to develop business plans. The project administered the business diagnostics tool and either helped to revise or develop new business plans using the business model canvas (BMC) tool. The tool, which is an abridged version of a traditional business plan allows OBs and other community-based businesses to review their plans annually.

> *"In fact, I don't know how to express my happiness for this day. Today, we have the boxes with us and it is a great opportunity for us to save collectively so that we can buy some inputs for our farms to increase our yields. I would like to say thank you to ADVANCE project for the continuous support in making our farming profitable. Next time you come, we will have good news to share with you on these boxes."*
>
> ~ Mr Alhassan Mahama, Sufuluya VSLA group, Gushegu district

Village Savings and Loans Association (VSLA)

In FY 2018, the project facilitated the formation of 300 VSLAs with 7,142 members (including 3,347 women). This brings the total number of VSLAs formed to 124 with 24,457 members of which 67% are women. The location of VSLAs are shown in Figure 4.

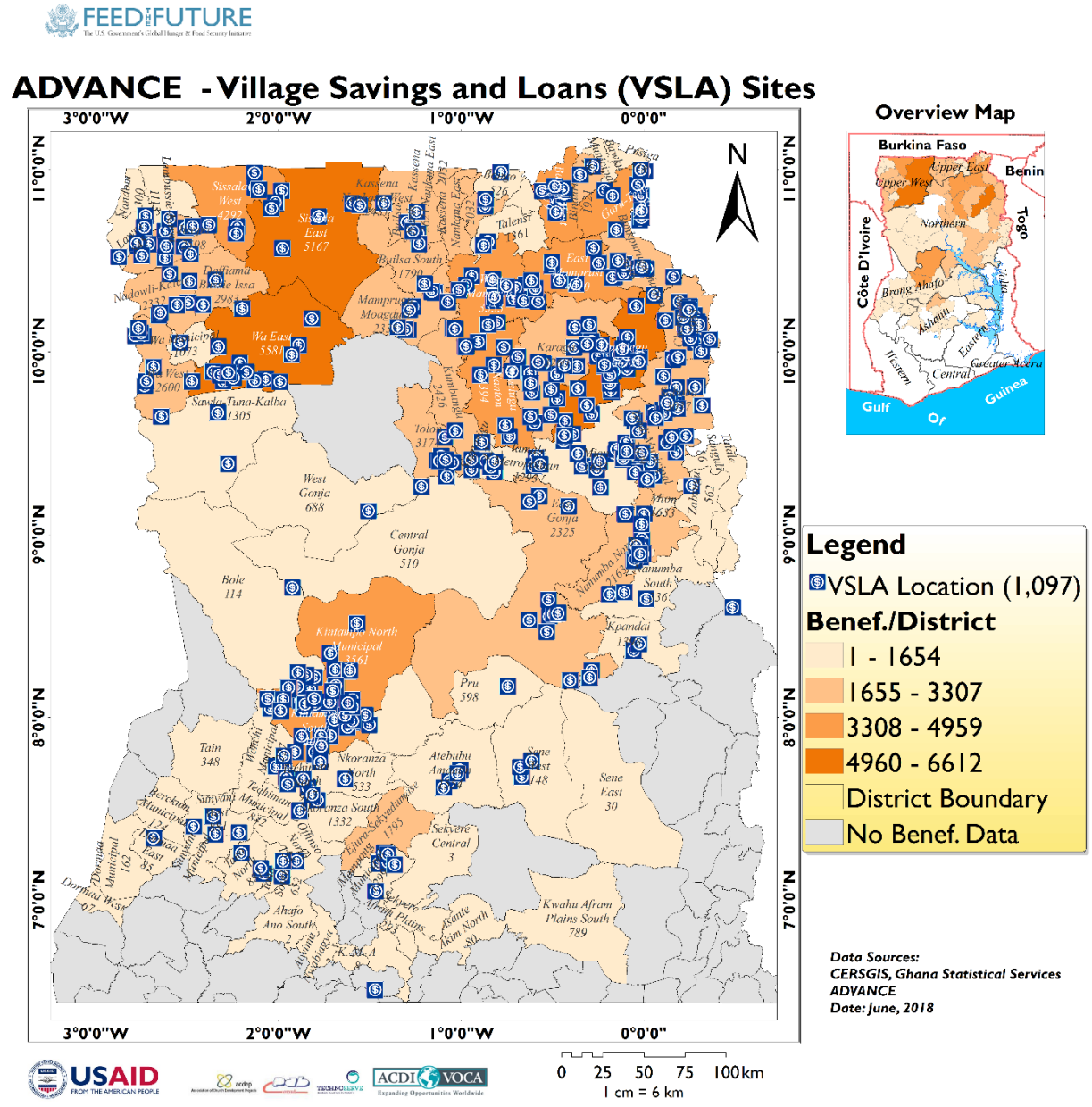
In addition, 12 high performing VSLAs served as mentors to their peers on records keeping, credit management, savings and investment management, share-out, managing bank accounts, and members' participation. At the beginning of the 2018 production season, 21,120 farmers including 13,305 women who are members of 988 VSLAs had saved $669,492 (GHS3,149,256). This was 41% higher than the previous year.

Share out by VSLA group in Yamah community in West Mamprusi with support from Sung Foundation

About a third of all savings ($251,908 or GHS1,134,144.00), was given out as loans to 1,661 members (1,155 were female). Loans earned interests of $7,393 (GHS 33,284) for the VSLAs. The amount contributed into the social fund for members' social needs was $23,842 (GHS107,342).

To promote inclusion in the formal financial sector, promote investments, and reduce risk of theft, 20 VSLAs were linked to financial institutions such as Opportunity International Savings and Loans, the National Investment Bank, Kintampo Rural Bank and Tizaa Rural Bank. Overall, these groups saved over $9,291 (GHS41,830) with these financial institutions. The amount was invested in government treasury bills which yielded extra income for the groups. Leveraging on the savings, two groups in the south accessed a loan of $4,708 (GHS 21,200) for the major production season.

Figure 4: A map showing the spatial distribution of village savings and loan associations (VSLAs)



The map above was produced by picking the spatial points of VSLAs formed by the project and overlaying them on a beneficiary map.

Digital Finance

During the year, the project promoted the transacting of business using mobile money. These are:

1. Promoting ownership of mobile phones
2. Promoting the use of mobile money
3. Setup of OBs as mobile money merchants

4. Supporting OBs to setup their OGs as subscribers
5. Tracking transactions between actors

In collaboration with telecommunication companies (MTN, Vodafone and Airtel Tigo) and mobile phone vendors, the project oriented over 5,313 (including 839 females) smallholder farmers, OBs, SSPs, community input agents and input dealers on mobile phones, and the benefits of transacting business through digital money to reduce risk associated with cash payments. As a result, 31 OBs (including 2 females) and input dealers signed up as mobile money merchants, while 3,880 farmers subscribed to use the mobile money platform for business transactions. Over GHS 9,200 worth of phones were purchased by farmers during the sensitization periods.

After purchasing a phone and registering for mobile money, she called her daughter in Kumasi to inform her, the daughter asked to speak to the ADVANCE officers and said "Thank you so much. I have been encouraging her to register since I always send her money through other people's phones which was not safe for her and risky since the people knew when she had money. Now I can send money to her directly and no one will know or overcharge her" The elderly farmer made several calls from a list of numbers on the paper she was holding and after expressed her joy with a smile saying "why did you keep so long in bringing this, I am now Ewuraba (lady) and can make calls myself on my new phone"

Monitoring visit to 23 OBs and four input dealers using the mobile money platform during the year revealed that over $107,898 (GHS485,779) worth of business was transacted. These were mainly payments for ploughing services, produce aggregation, inputs and cash deposits. In addition, commercial banks are expanding into rural communities with agency banking, targeting community leaders and OBs to serve as point of sales merchants. First Allied Bank selected 12 OBs and set them up as bank agents with point of sales (POS) devices in the Upper East Region.

An MTN officer training an agent of OB Mbanti Dgbanja as a merchant in Dagbanjado in the Northern Region

FARMER MENTORSHIP PROGRAM

During FY2018, the project resolved several issues related to contracting with end buyers**,** improving recovery through effective support to outgrowers to perform**,** maximizing the high demand for ploughing services with rippers**,** delivering timely services to clients through OB peer-to-peer mentoring programs. Five high performing and experienced OBs, (Mary Azongo, Kwabena Sarfo, Bunbas Yusif, Khalid Abubakar and Mahama Sintaro) mentored 31 developing OBs. The importance of providing clear and acceptable motivation or incentive packages to lead farmers to ensure effective supervision and recovery was part of the mentoring discussions.

CLIMATE SMART AGRICULTURE

Under climate smart agriculture, the project undertook the following activities to promote awareness among beneficiary actors:

1. Awareness on climate change and its effects
2. Sensitization campaigns on human behaviors that worsen climate effects such as bush burning
3. Smallholder training and practices that mitigate the effects of climate change

Activities related to media and other campaigns on climate change, bush burning, and development of volunteer squads that combat bush/wild fires are reported under Section 5 (Environment) of this report.

Minimum tillage and model farms

The project trained beneficiaries on the effects of climate change, soil types, causes for soil erosion, drought, use of food and non-food cover crops, mulching, and tied ridges. The OBs established 37 model farms and used these farms to train 9,255 farmers (3,473 males and 5,782 females) on minimum land tillage practices and mechanized planting, fertilizer application, and application of herbicides using boom sprayers.

Musah Abdulai, a tractor operator working with Sulyaaba Enterprise ripping a model farm at Adorsi in the Bawku West District

NUTRITION SENSITIVE AGRICULTURE

The project collaborated with Women in Agriculture Development Unit (WIAD) of MOFA to undertake nutrition education and soya utilization to improve the nutritional status and food security of smallholder farmers and their households.

A total of 5,904 (over 5,700 females) smallholder farmers were trained. The farmers were taught how to process soya into flour and how to blend it in different regular recipes. The farmers to prepare several local soya dishes (Tubani, soy porridge, Tuozaafi, khebab, kose, soup, soy milk and Aprapransa).

FALL ARMYWORM CONTROL

Since mid-2016, FAW has invaded at least 28 countries in sub-Saharan Africa (Day et al., 2017). In Ghana, the FAW has been identified in every region. The pest feeds on maize plants at all stages of its lifecycle and has the potential to severely reduce crop productivity. In Ghana the FAW affected 18,000 hectares of maize, with an estimated $164 million lost in agricultural revenue during the 2017 season. Because of this, Ghana's Parliament declared an 'agricultural state of emergency' to speedily address FAW in Ghana.

> "*This is a great opportunity for me and I am very much grateful. I always cultivate a bit of soybean yearly, but I sell them without keeping some for food. This training has enlightened me; I hope to cultivate more soybean this year, so I can sell more whilst I prepare these dishes for my household and sell during market days*."-
>
> ~ Ubaedatu Moro, a smallholder farmer at Zanwara in the Mamprugu-Moaduri district of the Northern Region

Intervention

In collaboration with MOFA, FAO, the Centre for Agriculture and Bioscience International (CABI), Farm Radio International (FRI) and other stakeholders on the national taskforce, USAID's ADVANCE project adopted the following mitigation plan to control pest:

a. Public education and awareness through mass media (radio broadcasts and posters)
b. Stakeholders' training on pest identification, surveillance, control and public engagement
c. Surveillance system using pheromone traps and standard field tracking
d. Alert system (Call Centre)
e. Pesticide observation plot to fine-tune chemical control measures
f. Support to smallholder management efforts by making available safe spray service providers (SSSPs) and recommending the use of the pesticide evaluation report and safe use action plan (PERSUAP)-compliant low toxicity pesticides.

a. Education and awareness creation

The project organized workshops and to sensitize and update both the print and digital media on FAW. Twenty-three media houses across the three northern regions participated. The media houses are expected to pass on the information to their audience to appropriately educate farmers and the general population in the best approaches to manage the pest. The project also developed 9,300 posters and 7, 800 leaflets on FAW and distributed them to AEAs, district assemblies, volunteer groups and smallholder farmers, as part of the FAW sensitization and education during the year.

b. Training of Agricultural Extension Professionals

Project staff participated in training-of-trainers (TOT) and awareness generation workshops on management of FAW in Cotonou, Benin, from February 13-15, 2018. The workshop was organized by ECOWAS, USAID and CIMMYT, in partnership with national and international research and development partners. All 15 ECOWAS member states participated in the training, which built technical capacity in IPM-based management of FAW.

Dan McGrath (first from left), FAW expert and training consultant, interacting with participants on standard field scouting at the Botanga irrigation site in Tamale.

Between April and May 2018, the project, in collaboration with MOFA, organized training in Sunyani and Tamale respectively that was attended by almost 100 participants including project staff, MOFA's agriculture extension agents (AEAs) and lead farmers. There were 35 AEAs (3 female and 32 male), 21 lead farmers/OBs (all male), and 37 ADVANCE staff (6 female and 31 male).

The training focused on how to scout fields and monitor pheromone traps to inform integrated management decisions. Topics discussed include FAW biology, scouting for signs of early infestation, when and how to take decisions on spraying, calibration of back pack knapsack sprayers, how to set and read a rain gauge and pheromone traps, identification and use of less toxic pesticides and their safe handling.

The training also integrated the android-based mobile application and FAW monitoring and early warning system (FAMEWS) developed by FAO to guide farmers and extension workers on FAW's real time detection and management.

"USAID/ADVANCE's FAW trainings equipped our extension agents with the skills and knowledge necessary to make IPM [integrated pest management] decisions based on an action threshold. This is a paradigm shift from the "identify, panic, and spray!" mind-set that leads to excessive pesticide use and ultimately loss of profits. As we move beyond the initial invasion phase of FAW, IPM will provide a sustainable solution to farmers for FAW management".
~ Mr. Ebenezer Aboagye, Deputy Director for Plant Protection and Regulatory Services Directorate (PPRSD)

11.0. Sub-purpose 2: Increased Market Access and Trade of Targeted Commodities

This reporting year, under sub-purpose 2, the project continued with the following strategies:

- Developing market linkages between OBs and large buyers (mainly large aggregators and processors)

- Reinforcing lead firms' competitiveness
- Supporting trade associations

MARKET LINKAGE DEVELOPMENT

New buyers identified

The project expanded market access by identifying new buyers in the value chains. During FY2018, the project identified six new buyers: three processors, two aggregators and a livestock producer (Table 16).

Table 16: New Buyers Identified and linked to OBs during FY 2018

Item No.	Firm Name	Region of Buyer	Firm Type
1	VADD Limited	Brong Ahafo	Soya Processor
2	Basic Trade	Northern	Aggregator
3	Global Ventures	Greater Accra	Food Processor
4	Kumasi Institute of Tropical Agriculture	Ashanti	Food Processor
5	Peace Farms	Greater Accra	Fish and Poultry Farm
6	West African Commodities	Greater Accra	Aggregator

Peace Farms, West Africa Commodities and VADD Ltd established business relations with three OBs in the Northern Region: John Muyo, Sumaila Ibrahim and Abukari Wumbei. West Africa Commodities and Peace Farms conducted trade missions to discuss business deals with John Muyo and Abukari Wumbei. These buyers purchased 320 MT of maize and 1,089 MT of soya worth $507,327.5 (GHS2,284,090) from five OBs.

Two-way trade missions

During the year, the project facilitated 31 trade missions for 15 buyers, 246 OBs, aggregators and farmer groups. Most missions involved OBs in the Northern Region. Agricare Ltd. remained the buyer with the greatest number of trade missions and business deals (12 missions involving 143 OBs). Buyers came from Accra (5), Kumasi (5), Techiman (2), Tamale (2) and Kintampo (1). The project exceeded the FY 2018 target for trade missions (17) by 82%.

Table 17. Recorded Trade Missions between Buyers and OBs during FY 2018

Item no.	Buyer Name	Location of Buyer	No. of missions	# of OBs	Regional Coverage of OBs	Commodity
1	Fosuka Enterprise	Kumasi	1	1	Upper West	Maize
2	Kojo Matu	Kintampo	2	2	South	Maize
3	Nii Nikoi Amasa	Accra	1	1	Northern	Maize
4	Peace Farms	Accra	1	1	Northern	Soya
5	Platinum Regal	Kumasi	1	1	Upper West	Maize
6	Rosemary Atindema	Kumasi	1	7	Upper East	Paddy
7	Sahel Grains	Techiman	2	9	South and Upper West	Maize

Item no.	Buyer Name	Location of Buyer	No. of missions	# of OBs	Regional Coverage of OBs	Commodity
8	Shinkaafa Buni	Tamale	1	7	Upper East	Paddy
9	West African Commodities	Accra	1	3	Northern	Maize and Soya
10	Agricare Ltd	Kumasi	12	143	South and Northern	Maize
11	Cropcare Ltd	Kumasi	3	35	Northern	Maize
12	Int. Commodity Ltd	Techiman	1	9	South	Maize
13	AVNASH Industries	Tamale	1	7	Upper East	Paddy
14	Nestle Ghana Ltd	Accra	2	16	Northern and South	Maize
15	Agrisolve Ltd	Accra	1	4	Northern	Maize and Soya
	Grand Total	**31**		**246**		

Contract Facilitation

During FY2018, the project facilitated 182 individual contracts covering 11,804 MT of maize, paddy and soya. The parties included 102 OBs, aggregators and farmer groups, and 44 buyers. The project exceeded FY2018 target of 100 contracts by 82%.

Table 48. Commodity supply contracts and agreements facilitated in PY18

Type of Contract	Number of Contracts	Contract Volume (MT)	Contract Value (US$)
Closed Contracts	7	340	309,870
Closed Sale without Formal Contract	70	3,790	1,099,818.08
Outgrower Contract	84	5,086	1,129,647.51
Purchase and Supply Agreements	21	2,588	591989.47
Grand Total	**182**	**11,804**	**2,890,057.08**

Collaboration with Nestlé Ghana on Supply Chain Development and Food Safety Improvement

Nestlé Ghana collaborated with the project to develop a viable domestic maize supply chain for some of their key products. Apart from the normal quality specifications from the Ghana Standards Authority, NESTLE requires the following standards:

1. Aflatoxin B+G - 4ppm
2. Aflatoxin B1 - 4ppb
3. Ochratoxin - 1ppb
4. Aluminium - 10ppm
5. Fumonisin - 800ppm

Other requirements are strict minimum levels of pesticide residues and metals. Samples from Sahel Grains passed all the required tests and was awarded a contract to supply 200MT of maize over six months, worth $78,183 (GHS 352,000). Samples taken from Kharma Farms, however, narrowly failed the test on Fumonisin (959ppm and 845 ppm for yellow and white maize respectively). Notwithstanding the setback with Nestlé, Kharma Farms sold his maize at a premium price to Trade Aid, (a commodity trader from Accra) at $319.8 (GHS1,440) per MT at farm gate in Karaga in the Northern Region. The Nestle price is $342 (GHS 1,540) per MT delivered to the factory in Tema.

"I sold my maize at a price higher than the season's best price of GHS 1,300 in Tamale market because of the premium quality of the maize. Secondly, my family now consume high quality maize free of aflatoxin, just like many of my smallholder farmers who benefited from the Nestlé mycotoxins control training. The partnership is good for me and I will continue to clean and sort my maize for the market and will continue to engage with Nestle until I meet their supply requirement"

~ Alhaji Hussein Muhib, OB, Karaga, NR.

Transport linkages

USAID's ADVANCE project collaborated with the cargo branches of Ghana Private Transport Union (GPRTU) and Progressive Transport Owners Association (PROTOA) in various districts to publish and update cargo transport fares from various market centers to buyer destinations, to assist farmers and buyers requiring transport.

The closure of the Buipe and Yapei bridges for repairs in the Northern Region from November to December 2017 led to back-haulage trucks from Burkina Faso, Togo and Benin using the eastern corridor road (through Yendi and Bimbilla) to Accra. This reduced the available haulage trucks from the Upper East and Northern Regions to Kumasi and other southern markets. Alternative routes through the eastern corridor or Upper West Region (Tumu, Bole) are longer, resulting in higher haulage charges[4]. Most OBs and traders deferred produce deliveries until the bridges were opened.

7th Annual Pre-Harvest Agribusiness Event, 2017

The 7th Annual Pre-Harvest Agribusiness Event was held at the Modern City Hotel in Tamale on Thursday, October 26, 2017, under the theme "Keep Going, No U Turn". For the first time, and as part of the project's exit and sustainability plan, the event was organized in collaboration with Agrihouse Foundation, an agribusiness event organizer. The event attracted 911 registered participants including farmers, buyers, processors, transporters, input dealers, farm machinery dealers and financial institutions. It provided a platform for farmers to establish business relationships and discuss contracts for the 2017 harvest of maize, rice and soya.

Evaluation of the 2017 Pre-Harvest Event

Highlights of the evaluation conducted by the UDS team involving a random sample of 194 participants and 37 exhibitors indicated that:

- 46% of participants and 19% of exhibitors were first time attendees
- 70% of previous pre-harvest attendees had made business deals
- 39% of participants rated the event as excellent and 56% rated it as good
- 18% of exhibitors rated the event as excellent and 59% rated it as good
- 99% of participants and 97% of exhibitors want the event to be organized again next year
- 80% of participants and 97% of exhibitors are willing to pay to attend the event next year

[4] For instance, the haulage charged for a bag of 100kg100 kg maize from Tamale to Kumasi increased from GHS12 to GHS20 per bag (67% higher).

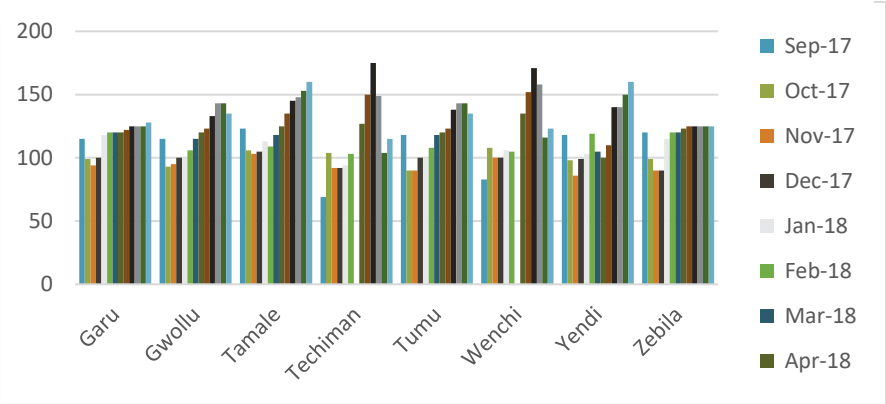
Commodity prices

Maize

Overall, maize prices monitored in eight selected major markets showed an average increase of 26% between September 2017 and April 2018. However, the highest average prices per metric ton occurred in June with $319.8/MT (GHS1440) and July with $320 (GHS 1414) while the lowest prices were in October with $221 (GHS996), November with $208.2 (GHS 937.5) and December with $218.2 (GHS 982.5). The difference between peak price and lowest price was 53.7%. In the previous year, this figure was 57.8% (highest price being $248.7/MT (GHS1120) in August; lowest $158.3 (GHS 713) in November).

In general, price information provides guidance as to what gains may be made from storing maize from harvest for a couple of months. In southern markets (Techiman and Wenchi), excess demand over supply for well dried maize resulted in the exceptionally high prices in June and July 2018. Prices in the Northern Region were high in September 2017 because of anticipated low yields and stocks, following the FAW infestation during the 2017 farming season. Prices dropped in October 2017 and November 2017, when speculators who were holding stocks decided to release some of their stocks. This was, however, short-lived with the increasing demand by the National Food Buffer Stock Company (NAFCO) and the poultry sector.

Figure 5: Average weekly maize prices (US$/MT) from selected markets



Source: ADVANCE market monitoring

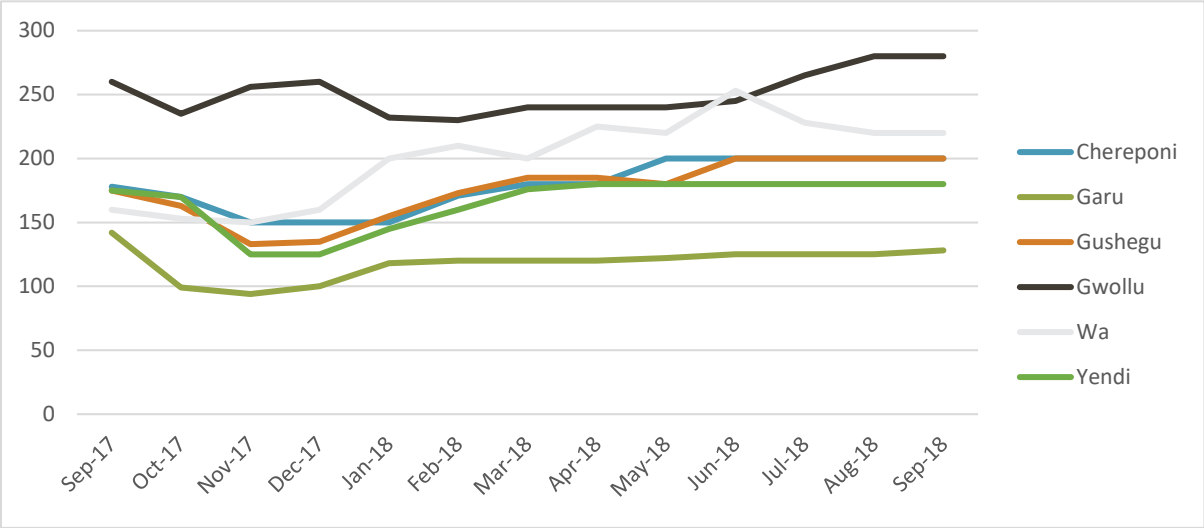
Paddy Rice

Paddy prices in the six key markets monitored increased on average by 27% between September 2017 $249/MT (GHS1120) and September 2018 $315 (GHS1420). However, the highest average prices occurred in August $32/MT (GHS1440) and September $315 (GHS1420) whilst the lowest prices were in October $207(GHS930), November $213.2 (GHS960) and December $215 (GHS970). The difference between peak price and lowest price was 54.6%. In the previous year, the highest average monthly price was $242 (GHS1090) in September 2016, the lowest was $134 (GHS603.3) in January 2017, thereby giving a maximum percent increase of 80.6%.

Soya

Soya prices had an average annual increase of 10.8% between September 2017 $259/MY (GHS1167) and September 2018 $447(GHS2013) in the six principal markets monitored, being Chereponi, Gushegu, Yendi (Northern), Garu (Upper East) and Gwollu and Wa (Upper West). The highest average prices occurred from June to September with prices nearing $444.2 (GHS 2000) while the lowest prices were in November 2017 $334 (GHS 1510) and December $344.7(GHS 1552). The difference between peak price and lowest price was 29%. In the previous year, the difference was 52% (Highest GHS1520 in August; lowest GHS 1003 in November).

Figure 6: Average weekly soya prices (US$/MT) from selected markets



Source: ADVANCE market monitoring

Due to bad weather in the 2017 production season, soya supply was low in FY2018. In addition, production appears to have decreased in 2017 compared to 2016 because of relatively 'low' prices recorded the previous year. It also appears that farmers dedicated more land to the cultivation of maize, and less for soya, because of the availability of subsidized fertilizer under the government's Planting for Food and Jobs program.

LEAD FIRM COMPETITIVENESS

Support for Buyer Outgrower Scheme

The project provided the following business development services to buyers.

Table 19. BDS to Grain Buyers and Market Lead Firms

Name of Firm/ Organization	Home Region of Firm	Type of Technical Assistance	Status of Engagement
Agricare[5] Ltd, Kumasi, feed mill processor	Ashanti	Negotiate input supply on credit with Yara, Chemico and RMG, and crop insurance coverage from GAIP to support the 2018 outgrower scheme. Recruit an agronomist to manage farmer outgrower scheme. Draw down US$300,000 on US$800,000 working capital financed by Injaro Agricultural Capital Holdings Ltd., an existing shareholder in the company.	Completed Completed Completed

[5] There were Board and management changes at Agricare in January 2018. The new team is committed to the outgrower scheme

Name of Firm/ Organization	Home Region of Firm	Type of Technical Assistance	Status of Engagement
Cropcare[6] Ltd, Kumasi, aggregator	Ashanti	Establish outgrower scheme for maize in north Ghana. Recruit 8 field agents to assist in managing the scheme.	Completed Completed
E-GABs GH Ltd, Afrisipakrom, soya processor	Brong Ahafo	Develop soya outgrower model to engage farmers in the Brong Ahafo and Northern Regions. Apply for outgrower development grant from the Ghana Poultry Project.	Ongoing Ongoing
Vester Oil Mills Ltd, Aputuogya Abuoentem, soya processor	Ashanti	Obtain working capital financed by banks under government's 1D1F program.	Ongoing
Soya processors (Royal Danemarc. Vester Oil, Inter-Grow, G. Bosomtwe, E-GABs)	Various	Build market linkage to supply local soymeal to Agricare Ltd.	Completed
Dragon Farms (associated company of Intergrow Ltd), Tema based soya processor	Greater Accra	Facilitate US$300,000[7] working capital financed by AV Ventures, an impact investor.	Completed

A one-day seminar was organized for buyers in Kumasi to share the project's experience in using digital tools, and their benefits in improving efficiency and effectiveness. The tools included WhatsApp for communications, Skype for meetings, e-banking, vehicle tracking with GPS devices, barcoding, geographic information systems and Google Earth for logistics management.

Thirteen participants from 10 buyer firms participated in the event. All firms expressed interests in using Google Earth and vehicle tracking systems to manage their logistics and fleet. Four of them expressed their intentions to sign up for e-banking, and one will consider the use of product packages with barcodes for its consumer food products.

Recovery on Buyer Input Credit for 2017 Farming Season

In 2017, the project facilitated buyer-sponsored outgrower financing (ploughing and input credit) valued at $1,326,658 (GHS6,765,958) provided by seven buyers to 103 OBs. The status of recoveries of the various outgrower schemes at the end of August 2018 is shown in Table 20. Except for Duna Farms that recovered their credits fully, the rest had recovered between 69% and 83%. Low yields associated with poor rainfall and FAW infestation in most of the farming communities are cited as the reason for lower than expected credit recovery.

[6] Crop Care is led by the former Managing Director of Agricare who worked closely with ADVANCE on the development of Agricare's outgrower scheme

[7] This a 6-month bridge financing to purchase and stock soya from the upcoming harvest. AV Ventures is conducting due diligence for a US$1.5 million facility to purchase new processing equipment and expand warehouse facilities

Project staff facilitated postponement of outstanding payments to the 2018 harvest, through mutual consent between the buyers and OBs.

Table 20. Input credit recovery for 2017 farming season

Buyer	Crop	Nature of Support	Number of OBs Supported	Production Support (Ha)	Expected Recovery (MT)	Actual Recovery (MT)	% Recovery
Akate Farms	Maize	Seed, Fertilizer and Agrochemicals	1	1,600	3,308	2,716	82%
Agricare Ltd	Maize	Seed and Fertilizer	91	2,442	4,677	3,879	83%
Sahel Grains	Maize	Ploughing Services	3	358	44	35	78%
Duna Farms	Maize	Ploughing Services and Fertilizer	1	34	19	19	100%
Premium Foods	Maize	Seed and Fertilizer	5	112	126	100	79%
Royal Danemarc	Soya	Seed and Fertilizer	1	40	15,080	10,400	69%
Total			103	4,590	23,254	17,149	74%

BDS Support to buyers

Support for buyer outgrower scheme in FY2018 was designed to ensure sustainability of existing schemes. The participating buyers and the OB networks led meetings and negotiations with technical backstopping from the project. Below is a summary of buyer-outgrower support during the 2018 crop season.

Table 21. Support for Buyer Outgrower Schemes for 2018 Farming Season

Buyer Name	Firm Type	No. of OBs Supported	Value of Support (US$)
Agricare Ltd	Animal Feed Mill	60	634,247
RMG	Input Dealer	2	155,127
Masara	Aggregator	1	9,733
Akate Farms	Poultry Farm	1	55,799
Yedent Agro Group	Processor Foods	4	37,158
Cropcare Ltd	Aggregator	17	363,641
Total		**85**	1,255,709

Shinkafa Buni, (a formerly supported buyer) on its own, continued with their rice outgrower scheme in the Northern, Upper West and Upper East regions this year, and supported farmers with input credit without the project's facilitation.

TRADE ASSOCIATION SUPPORT

The project supported two trade association during the reporting year: the Ghana Rice Inter-Professional Body (GRIB) and the Maize Traders' Association in the Brong Ahafo Region.

Southern Maize Traders Associations – Promotion of Structured Trade

The project continued its work on promoting structured trade with 13 maize traders' associations in nine major maize markets in the Ashanti and Brong Ahafo regions including Atebubu, Awuah Odumase, Badu, Ejura, Kintampo, Nkoranza, Odumase, Techiman and Wenchi.

The following was accomplished with the associations during the fiscal year:

- The Southern Maize Traders Network (SMTN) was formed as an umbrella body for the maize traders' associations in the Ashanti and Brong Ahafo Regions. The network was incorporated as a company limited by guarantee with a constitution and elected eight executives.
- The Southern Maize Traders Network (SMTN) executives visited four markets and sensitized traders and the public on the use of weights and measures, and quality standards in commodity trading. A total of 314 (86 females) traders attended the meetings.

Elected executives taking oath office lead by chairman and secretary of Techiman and Wenchi.

- In collaboration with GIZ Green Innovation Center (GIZ-GIC), the project trained 954 (177 females) maize traders from 11 traders associations and nine maize markets on grain quality standards[8] and grading, weights and measures, and contracts.

Consultative Workshop with Partners

USAID's ADVANCE partnered with the World Food Program, GIZ-GIC, United Purpose, German Institute of Metrology and Ghana Standards Authority to organize the "Consultative Workshop for Planning a Food Safety, Quality Control and Standard Weights and Measures Creation Campaign" on June 28 in Techiman, Brong Ahafo region. A total of 151 (16 females) stakeholders participated in the workshop including a representative of the Paramount Chief of the Techiman Traditional Area, the Municipal Chief Executive of Techiman, farmers, traders, aggregators, transporters, porters, officials from the Brong Ahafo Regional Coordinating Council and selected district assemblies from the Brong Ahafo and Ashanti regions.

The Southern Maize Traders Network was formally launched at the event. The workshop developed proposals to improve food safety for grains and promoted the use of weights and measures in open markets. With the exit of USAID's ADVANCE project from the south, the partners led by WFP will likely begin to implement a final plan in the last quarter of 2018 or early 2019.

Support for Ghana Rice Festival

USAID's ADVANCE project provided technical and financial support to GRIB to organize the 4th Ghana Rice Festival in Accra on 3rd and 4th November 2017 under the theme "**Ghana Rice for Food, Ghana Rice for Jobs".** The event was aimed at improving awareness of the public on the quality of locally produced rice, to enhance demand and trade.

[8] This was based on the Ghana national standards (GSS 211: 2013: Specification for Maize).

Exhibitor stands at Efua Sutherland Park on 1st Day of Rice Festival

This year's festival brought together close to 1000 consumers, more than 20 exhibitors, participants and dignitaries on the first day at the Efua Sutherland Park. First time exhibitors included Premium Bank, Achimota Brewery, MTN (telecom) and Moto King. The second day of the festival, held at the Makola market, also in Accra was patronized by the public with an estimated 2,000 persons including traders and consumers visiting the stands to sample and purchase local rice. Almost all exhibitors sold the consignment of rice they sent to the markets. They also established contacts with retailers and wholesalers. During the fiscal year, USAID's ADVANCE project also supported GRIB to review and update its constitution.

Policy influence through Advocacy on Grains Standards

The project supported the Ghana Chapter of Borderless Alliance to organize the "Ghana Road Governance Caravan on the Tema-Paga Corridor" between October 30 and November 5, 2017. The event is a fact finding and stakeholders' sensitization on the transit and food trade between Ghana and Burkina Faso. It promoted unhindered trade-related transportation from the Tema port to Burkina Faso. Project staff and value chain actors joined the caravan and participated in activities in Techiman and Paga.

During the event, the alliance's members undertook the following activities:

- Dissemination of ECOWAS protocols on trade and transport
- Advice to traders and truck drivers
- Data collection and assembling on the road conditions
- Stakeholders feedback

12.0. Sub-purpose 3: Strengthened Capacity for Advocacy and Activity Implementation

Under sub-purpose three, the project focused on developing advocacy capacity for various local organizations to engage both government and traditional institutions to address some of the constraints to agricultural developments.

ADVOCACY CAPACITY BUILDING

The project awarded grants to four local NGOs to undertake advocacy actions that will address specific challenges in the value chain for improved businesses. The NGOs are:

- Youth Harvest Foundation Ghana,
- Community Development Alliance,
- Northern Region Western Corridor Development (NORTHCODE)
- URBANET

The specific challenges identified were the following:

1. *Inadequate access to extension services:* The public extension system is known to face challenges with personnel, funds and logistics. The public extension personnel are unable to reach most farmers in remote areas. There is little transparency in the deployment of funds allocated for field visits. Therefore, a policy initiative that promotes the involvement of farmers and their leaders in the planning and use of the resources will be important to ensure best use of the funds.
2. *Limited access of women to productive land*: In parts of the project's ZOI, land tenure and inheritance systems do not make it easy for women to have access to fertile land. The project is therefore exploring innovative advocacy actions that will convince custodians and community leaders to grant special access to fertile land by women.
3. *Safe disposal of empty/used agrochemical containers:* The use of agrochemicals, especially herbicides and insecticides are increasing among smallholders. Despite previous campaigns, indiscriminate disposal of used containers continues and pose a threat to the environment.
4. *Access to government subsidized fertilizer:* Although the government's fertilizer subsidy programs, such as the government's Planting for Food and Jobs, are well intentioned, they sometimes encounter interferences that reduce transparency and accountability. The project determined that advocacy is needed to promote inclusive and accountable ways of executing the subsidy program in the field.

Advocacy Actions by Local NGOs

The project provided grants to four local NGOs to undertake advocacy actions during FY 2018, while another local NGO strengthened the internal structures and capacity of established VSLAs to ensure they operate sustainably.

Table 22. Grants recipients for Advocacy to address identified constraints

Item No.	Organization	Purpose
1	URBANET	Advocate for smallholder farmers increased access to agriculture extention services.
2	Coalition for Development of Western Corridor of Northern Region (NORTHCODE)	Advocate for increased women access and use of productive land.
3	Youth Harvest Foundation Ghana (YHFG)	Promote safe disposal of agrochemical containers.
4	Community Development Alliance (CDA)	Advocate for increased farmers' access to government subsidized fertilizer.
5	Sung Foundation	Strengthen the internal structures and build the capacity of established VSLAs to operate sustainably.

The project monitored these NGOs by conducting joint field visits. The section below summarizes each of the work accomplished.

Safe Disposal of Agrochemical Containers

The project monitored and provided technical support to YHFG in implementing advocacy actions on the safe disposal of agrochemical containers. Specifically, the project influenced the environmental protection agency (EPA) and MOFA's departments of agriculture (in Bawku West, Bongo, Kassena Nankana West, and Kassena Nankana Municipal) to exert their authority on the disposal of used agrochemical containers by designating disposal sites, enforcing by-laws to regulate and control the handling and disposal of agrochemical containers, and increasing knowledge about the causes and effects of unsafe handling and disposal of agrochemical containers among 10,000 farmers and agrochemical sellers.

Based on the initial findings of a study conducted by YHFG in the four districts, they developed a concept paper, with support from the project, to articulate a strategy that will involve all relevant stakeholders. Youth Harvest Foundation carried out district level dialogues and follow-up meetings with the four departments, with the following results:

1. The environmental health officers for Bawku West and Bongo Districts led a stakeholder engagement meeting supported by the district assembly to discuss the possibility of co-using incinerators in the various sub-district health facilities for the safe disposal of agrochemical containers. Similarly, Youth Harvest Foundation together with the Bawku West District Assembly and the EPA officials, identified a spot at Zebilla for deposit and collection of the empty agrochemical containers for incineration.
2. The four departments started preliminary discussions to review by-laws that will include farmers and agrochemical users returning used agrochemical containers to designated locations and agrochemical dealers for onward safe disposal. Also, the reviewed by-laws' will explore the option of levying agrochemical sellers to fund the provision of incinerators.
3. The EPA, MOFA and the environmental health units of the Assemblies intensified their sensitization efforts to get farmers, agrochemical sellers and the general public to understand the effects of unsafe handling and disposal of used agrochemical containers.
4. Because of a radio program on Gruni FM, community leaders at Gia in the Kassena Nankana Municipal Assembly issued an official announcement against the disposal and littering of chemical containers around a dam, which serves as a source of drinking water for the community.

Advocacy for Increased Women's Access to Productive Land

The project supported NORTHCODE's implementation and close-out of an advocacy action that increased women access to land in four districts (West Gonja, West Mamprusi, Mion and Sawla/Tuna/Kalba) of the Northern Region. This advocacy action originally targeted traditional leaders in 16 communities to release 1600 acres of land for use by 1.000 women over a period of 10 years subject to renewal. Series of regional, district and community level advocacy dialogue sessions with chiefs, land owners and the Departments of Agriculture resulted in the signing of MoUs to release and demarcate 1,711 acres of land using GPS in 14 communities for 1,012 farmers. Out of the 1,711 acres of land, NORTHCODE worked closely with selected youth in seven of the communities through the chiefs to clear a total of 264 acres for 264 female farmers to use in the 2018 production season.

Increased Access to Agriculture Extension Services by Smallholder Farmers

With project's grant of $25,560 (GHS115,075) and technical support, URBANET successfully implemented an advocacy action aimed at enhancing agriculture extension services delivery to farmers. URBANET developed

community scorecards, district self-evaluation scorecards, and inputs tracking scorecards through a series of dialogues between URBANET, selected communities, and the departments of food and agriculture in Mion, Yendi, Gushegu and Chereponi Districts. The three sets of scorecards measure the performance of AEAs with respect to extension service delivery and provision of appropriate inputs to farmers. Overall, each of the four districts scored 25% based on assessment by five communities in each district using the community scorecard. The four district departments of food and agriculture's self-evaluation scorecards, however, showed higher results; i.e. Chereponi scored 42%, Gushegu 46%, Mion 46% and Yendi 67%.

URBANET also organized district and regional level interface meetings between farmers and the departments of agriculture to discuss the results of the scorecards, which resulted in the following:

1. Selected and trained community volunteers will serve as extension liaisons between communities and departments of agriculture.
2. The four departments of agriculture will adopt the community scorecard as a process for assessing progress in extension delivery in the districts and setting up realistic performance targets.
3. The four district assemblies made commitments to fast-track funds earmarked for extension delivery.

Increased Access to Government Subsidized Fertilizer

With project's grant of $22,180 (GHS99,860) and technical support, Community Development Alliance (CDA) implemented an advocacy action aimed at ensuring transparency and accountability in the distribution of government subsidized fertilizer in the Lambussie and Sissala West Districts of the Upper West Region. The advocacy action resulted in the formation of a community-based fertilizer anti-smuggling task force that tracks and reports any suspected cases of fertilizer smuggling to the appropriate security agencies. In addition, the wide-spread media publication of the advocacy action caught the attention of the Minister of Food and Agriculture whose district director of agriculture in the Upper West Region declared "war against fertilizer smuggling" in the region.

Advocacy to Gazette By-Laws for Controlling Bush Fires

Bushfires are common in northern Ghana during the dry season. The fires further destroy the soil structure, which are already fragile, and deprives them of the vegetation that could have decomposed to add organic matter to them. The project worked with Community Resource Management Areas (CREMAs) to successfully implement advocacy actions to influence four district assemblies to pass, gazette and enforce CREMA by-laws to control bush fires in Mamprugu Moagduri District, Builsa South District, Wa East District and Sawla/Tuna/Kalba District. Because of the four CREMAs advocacy actions, the following results were achieved:

- The by-laws for Mamprugu Moagduri and Builsa South District passed and were gazetted.
- The by-laws for Wa East District passed and gazettement is in progress.
- The by-laws for Sawla/Tuna/Kalba District and gazettement is in progress.

BUILDING CAPACITY OF FBO AND OB NETWORKS

To strengthen the capacity of FBEs, FBOs and OBs to engage both public and private actors, and also ensure sustainability of their activities, the project helped these groups to form networks at zonal and regional levels. During FY 2018, the project identified the establishment of OB networks as a strategy to promote post-project sustainability of the OB model. The project supported the networks' executives to develop and strengthen internal mechanisms such as developing constitutions, electing executives, and developing strategic plans. The project also

supported the networks to identify and develop various advocacy actions. The initial plan is to develop zonal network that will evolve into regional and possibly national networks.

Formation of FBO Network

The project assisted in forming five zonal FBO networks in the Northern and Upper East Regions in addition to existing five FBO networks that the project continued to support.

Table 23. Current FBOs Networks facilitated under the project

No.	FBO Network	Location/Coverage	No. of FBOs	Stage of Growth
1.	Yendi Zonal FBO Network	Yendi, Saboba, Chereponi, Gushegu and Karaga.	12	Formative Stage
2.	Bimbilla Zonal FBO Network	Nanumba North, Nanumba South and Kpandai.	12	Formative Stage
3.	Kassena Nankana Zonal FBO Network	Kassena Nankana Municipal, Kassena Nankana West, Bongo	12	Brainstorming
4.	Bawku Zonal FBO Network	Bawku West, Bawku, Binduri & Garu Tempane	5	Brainstorming
5.	Builsa/Mamprugu Moagduri Zonal FBO Network	Builsa North, Builsa South, East Mamprusi & Mamprugu Moagduri	8	Brainstorming
6.	Tamale Zonal FBO Network	Tolon, Kumbungu, Savelugu/Nanton & Tamale	9	Formed and Performing
7.	Gonja Zonal FBO Network	Central Gonja, East Gonja and Kpandai	6	Formed
8.	Walewale Zonal FBO Network	West Mamprusi	8	Formed and Performing
9.	Kintampo North FBO Network	Kintampo North	N/A	Formed and Performing
10.	Kintampo South FBO Network	Kintampo South	N/A	Formed and Performing

The project trained 125 executives of FBO networks on advocacy and networking. These networks will spearhead the developmental agenda of the groups by working together to leverage on their numbers for bargaining and bulk purchase of inputs, collective sales and use of groups as surety in accessing finance. Some of the activities of the networks in the regions are listed below:

Upper East Region

Bawku zonal network created a WhatsApp® platform and a welfare fund for members. OB Awintoma Akande donated a five-acre land to the Bawku OB Network to establish demonstration farms at Tilli. They intend to showcase soil ripping and use it as a model farm to teach other farmers the benefits of climate smart agriculture and generate income for the network.

Upper West Region

The Wa zonal FBO network has set up its own office and created a WhatsApp® platform. The network started to sponsor its demonstration farms. They have put in place a five-member interim executive body to drive the process of forming a regional FBO network in the Upper West Region to serve as an advocacy platform for engaging policy makers and government agencies on agriculture, environmental and business-related issues in the region.

Northern Region

The Yendi network negotiated 125-acre input support on maize for its members from Yedent processing company in Sunyani. The Karaga network conducted field visits to monitor the outgrower scheme with Agricare and advised on improvements to the scheme. The Saboba-Chereponi network invited West African Commodity Company from Accra on a trade mission to meet with their members to discuss purchase and supply agreement for maize and soya for 2018 harvest. The Bimbilla network advocated for the supply of FAW insecticides for OGs from the department of agriculture.

Formation of OB Networks

The project has facilitated the development of 15 OB networks, one in the south zone, six in the Northern Region, three in the Upper West Region, and five in the Upper East Region. Each network has its own goals and objectives as well as activities that will benefit the group and individual OBs. The overarching purpose, however, is to promote business and build a platform for advocacy in support of community-based outgrower business owners.

Table 24: OB networks formed through the project facilitation processes

#	Name of Network	Location	Capture area
1.	Northern Outgrower Business Association	Tamale	Tamale, Tolon, Kumbungu
2.	Gushegu OB Association	Gushegu	Gushegu
3.	Eastern Corridor OB network	Saboba	Saboba and Chereponi
4.	Karaga OB network	Karaga	Karaga
5.	Bimbilla OB network	Bimbilla	Manumea North, Nanumba South & Kpandai
6.	Yendi OB network	Yendi	Mion, Yendi & Zabzugu Tatale
7.	Mamprugu Moaduri zonal Network	Walewale	Builsa South & Mamprugu Maogduri
8.	East Mamprusi OB Network		Bunkprugu, East Mamprusi & West Mamprusi
9.	Kassena Nankana Municipal OB network	Navrongo	Kassena Nankana, Kassena Nankana West & Builsa North
10.	Bolgatanga Municipal OB network	Bolgatanga	Bolgatanga, Bongo, Nabdam, Talensi & Kassena Nankana West

11.	Bawku OB network	Bawku	Bawku, Bawku West, Binduri, Garu Tempane & Pusiga
12.	Southern Outgrower Businesses Network (SOBNet).	Sunyani	Ashanti and Brong-Ahafo regions
13.	Sissala OB network	Tumu	Sissala East & Sissala West
14.	Wa OB network	Wa	Wa, Wa West, Wa East & Daffiema Bussie
15.	Jirapa OB network	Jirapa	Nadowli, Daffiema-Bussie-Isa, Jirapa, Lawra, Lambussie Kani and Nandom Districts.

FBE CAPACITY DEVELOPMENT

There are several FBOs across the project area, however, these FBOs hardly provide any services to their members and have remained social groups receiving services and training from various projects. The project has been working to transform some of these FBOs into Farmer Based Enterprises (FBEs). FBEs are groups that can provide services for their members and operate in the same way as high performing outgrower businesses. During the reporting period, the project assessed 151 potential FBEs regarding service provision, record keeping, collective sales and purchases, access to credit, office setup, warehouse facility and ability to generate income. The results of the assessments are presented in Table 29.

Table 25. Results from FBEs Assessment in 2018

Region	Formative	Early Transition	Mid-Transition	Model FBE	Total/Region
Upper East	0	0	15	10	25
Northern	0	1	22	21	44
Kintampo	1	3	20	13	37
Upper West	0	0	14	11	25
ADVANCE South	0	6	10	4	20
Total	**1**	**10**	**81**	**59**	**151**

Out of the 151 FBEs, 59 (39%) reached the model FBE stage while 81 FBEs (54%) are in the mid-transition stage. The other FBEs are at either early-transition or formative stage (see Table 26 for criteria used for categorization).

To ensure that FBOs and FBEs operate more efficiently and be more profitable, the project adopted various strategies such as facilitating the preparation of business plans and asset management plans. The project also continued to mentor FBEs and support them in accessing inputs. During the year, 36 FBEs purchased over $55,528 (GHS 250,000) worth of inputs from suppliers such as Adarkant Enterprise, Yara, RMG, Heritage Seeds, NAAZO Agro-Chemicals Enterprise), Alhaji Mudashiru Hamidu Agrochemicals Company (Salaga) and Wumpini Agrochemicals.

Table 26. Categorization of FBO to FBEs (Level Of Progression)

Score	Category	Indicators
0-10	Formative Stage	• The FBO is still mobilizing and only exist by name • Membership not well structured • No elected executives • No meetings
11-30	Early Transition	• Membership well constituted • Executives elected • Regular Meetings • Payment of dues • Have a vision but lack implementation strategy
31-69	Mid-Transition	• Registration of FBO with Department of Cooperatives • Have a working constitution and implementation plan • Conducts Collective purchase of inputs • Conducts Collectives sales of produce • Group working with Outgrower schemes • Rendering services to members; ploughing, inputs and markets • Perform recoveries with minimum supervision
70-100	Model FBE	• Being able to engage with Financial Institutions • Conduct advocacy and lobbing • Engage with other development partners • Operates as a business enterprise • Makes profit for the group • Have proper accounting systems • All internal structures performing properly

PROGRAM SUPPORT

13.0. Gender Program

During FY 2018, the project continued to mainstream and integrate gender considerations in all activities. Some specific interventions included:

- Building women's business, leadership, and entrepreneurship skills
- Increasing women's access to land for production
- Increasing women's access to ICT, financial services, and improved technologies

In addition, USAID's ADVANCE project celebrated the International Women's Day.

BUILDING WOMEN'S BUSINESS, LEADERSHIP AND ENTREPRENEURSHIP SKILLS

During the year, the technical staff of the project were re-trained on gender, leadership and entrepreneurship for greater inclusion of female smallholder farmers to access information, resources, skills, and labor-saving assets to improve on productivity and livelihoods of households.

ACCESS TO LAND FOR PRODUCTIVE WOMEN

The project has adopted three strategies to improve women's access to farm land:

1) Using existing OB networks in communities to influence traditional custodians to avail land to female farmers. The OBs have raised awareness on the economic opportunities for female farmers to produce and achieve high yields.

2) Collaboration with other Feed the Future projects such as Ghana Commercial Agricultural Project (GCAP) that award grants to OBs for land development. Through the project's collaboration with GCAP, over 40% of such land development grants were awarded to women producers.

3) Work with advocacy groups to convince traditional leaders and land owners to allocate fertile land to women.

These strategies that started in 2014 have led to over 3,000 women accessing about 5,000 acres of lands that they would not have accessed otherwise. Also, the increase in women's participation in the various value chain activities from 40% in 2014 (baseline) to about 48 % in FY2018 is partly attributed to increased access to land.

WOMEN'S ACCESS TO INFORMATION AND COMMUNICATION TECHNOLOGIES

To ensure women access to ICT and the use of digital financial services such as mobile money, the project, in collaboration with Mobile Money Service providers (MTN, VODAFONE, TIGO and AIRTEL) in FY2018 sensitized about 3,000 actors including OBs, women FBO groups, and VSLAs on the benefits of using mobile money. The mobile money service providers also took actors through the process and requirements to become mobile money merchants. Sixty-five OBs and input dealers registered as mobile money merchants and provided mobile money services to 3,274 subscribers.

Gender, Leadership and Entrepreneurship training at Mo Nkwanta in the Kintampo South

The mobile money platform has facilitated actors, especially female OBs who aggregate produce from their OGs, to make payments without the risk of carrying cash to the villages. Over 1,370 female VC actors currently transact their businesses using the mobile money platform. The limited number of female actors that own mobile phones remains a challenge to the widespread use of mobile money services. Since 2016, the project has encouraged telecommunication providers to sell low priced mobile phones targeted at women groups in the villages. This initiative enabled 222 women acquire mobile phones and subscribed to the mobile money platforms.

The women groups also use the mobile money platforms to order inputs through community agents in the communities/villages. The agents take the farmers' orders and send them to the retailers in the cities who then deliver to the nearest community and by the fastest transport means. Payment is made through the mobile money platform. Mercy (Muyo Farms Merchant) from Wapuli in the Saboba District of Northern Region remarked

"Apart from sending and receiving mobile money for input transactions, we can now send money to our children in schools through mobile money."

WOMEN'S ACCESS TO IMPROVED TECHNOLOGIES

Analysis of project data indicates a positive correlation between row planting and yield per hectare by both male and female smallholder farmers. The project therefore provided 143 manual dibblers through grants mostly to OBs and smallholder farmers to enhance efficiency and reduce drudgery associated with planting activities.

INTERNATIONAL WOMEN'S DAY CELEBRATION

On March 8 in Tamale, the project joined thousands around the world to celebrate the International Women's Day (IWD). Under the theme, "Press for progress for women's participation in agribusiness", the event recognized and appreciated achievements made by female smallholder farmers and OBs in the maize, rice and soya value chains. Over 70 women farmers including OBs, lead farmers and leaders of farmer-based organizations attended the event, which featured knowledge sharing and networking sessions involving key women agribusiness entrepreneurs, who shared their experiences.

A female OB sharing the impact of USAID ADVANCE on her farming business during the International Women's Day

14.0. Environment Support

The project integrates environmental and social safeguards to ensure compliance with Title 22 of the Code of Federal Regulation, section 216, and the relevant environmental regulations of Ghana. In FY 2018, the project targeted:

1. General environmental compliance
2. Improved agrochemical management among project actors and
3. Promotion of climate smart interventions and practices among farmers.

Awardees of IRWD with citations during 2017 Pre-harvest Agribusiness Forum in Tamale

GENERAL ENVIRONMENTAL COMPLIANCE

At the beginning of FY2018, the project compiled and disseminated a list of pesticides from approved PERSUAPs and EPA revised pesticide register for use in the 2018 farming season, some of which were used to control the FAW.

The recommended pesticides include 29 insecticides with 11 active ingredients, six fungicides with three active ingredients and 48 herbicides with 16 active ingredients. These recommendations also took into consideration the latest available information on these active ingredients and their commercial products.

The project monitored pesticide use on demonstration plots according to the PERSUAP's requirements and compiled data for the 2018 farming season. The safer use action plans aim to promote safe use of pesticides and prevent environmental pollution resulting from improper pesticide applications and disposal.

The monitoring and trend analysis covered 283 demonstration plots and involved 262 farmers in 259 communities in the ZOI. The monitoring report demonstrated significant progress on the previous results towards achieving the project's environmental objectives.

IMPROVING AGROCHEMICAL MANAGEMENT

Impact of Safe Spraying Providers

The project conducted refresher trainings for spraying service providers on improving service delivery. The trainings included business aspects and safe disposal of pesticide containers. The project also trained and equipped 153 anti-bushfire volunteers to become SSPs and gain additional livelihoods. The project provided refresher training and equipped a total of 903 SSPs through FY2018 (see Table 27).

Table 27: Number of SSPs as at September 2018

Region	Number of SSP
Northern	235
Kintampo	89
Upper West	230
Upper East	232
South	117
Total	**903**

The income generated by 367 SSPs amounted $45,357 (GHS 204,208) within the 2018 cropping season. This resulted in an average income of $123.50 (GHS 556). The table below provides the regional breakdown on SSPs' services.

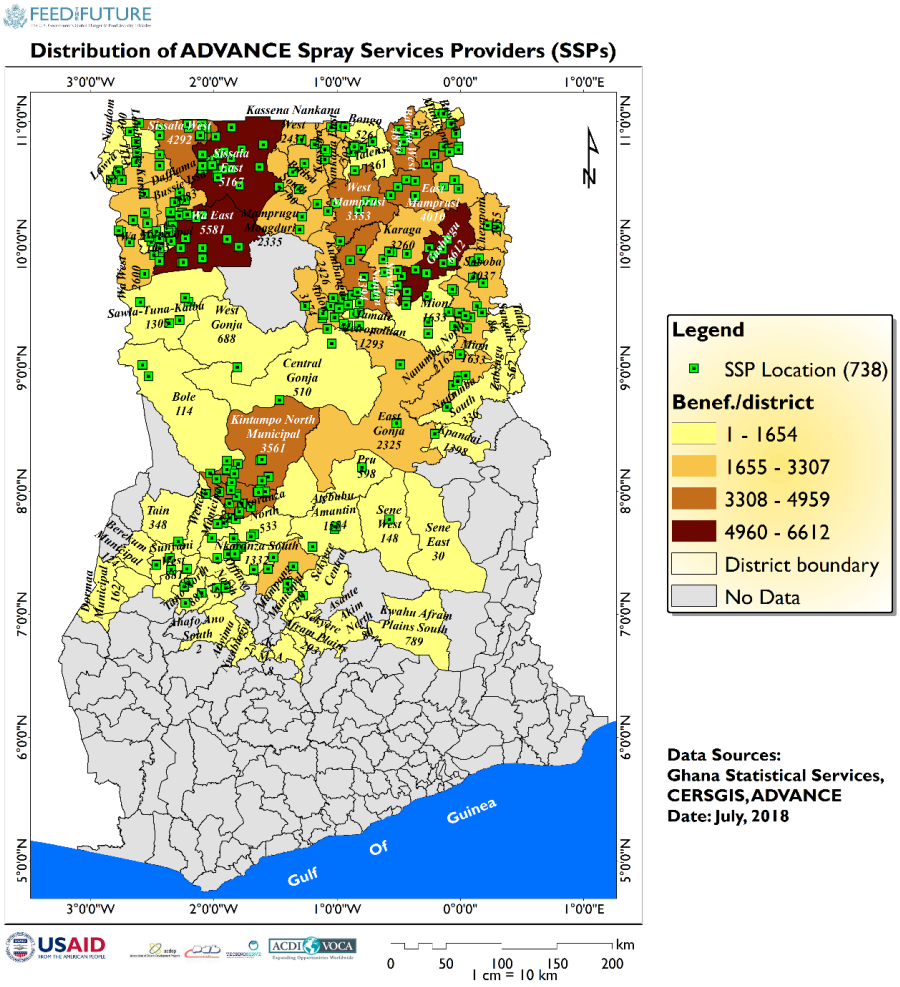
Table 28. Summary records of SSPs for one man-month

Region	Total acres sprayed	Number of farmers served			Income Realized (GHS)	Number of Persons	Average Income (GHS)
		Male	Female	Total			
Northern	13,202	2,314	1,688	4002	109,648	118	929
Kintampo	1,871	586	422	1008	19,431	63	308
Upper West	744	239	80	319	6,396	22	291
Upper East	4,280	1,070	478	1548	33,719	111	304
South	1,907	653	434	1077	35,014	53	661
Total	**22,004**	**4,862**	**3,102**	**7954**	**204,208**	**367**	**556**

The project has provided identification cards and certificates to each SSP as a form of recognition as having acquired the requisite skills to operate as SSPs. The project also piloted the formation of seven district SSP networks in the

Upper East Region. The networks are expected to engage the relevant state institutions such as EPA, department of agriculture and other regulatory bodies to seek their recognition and certification.

Figure 7: A map showing the spatial spread of safe spraying services providers (SSPs)



The map above was produced by collating the SSPs' locations within the communities and overlaying them over a district beneficiary map.

PROMOTING CLIMATE SMART INTERVENTIONS AND PRACTICES AMONG FARMERS

Bushfires are a perennial menace in the project's ZOI destroying farmland and vital crop residue for conservation agriculture. The project carried out bushfire prevention and management campaigns in collaboration with Ghana National Fire Service (GNFS). The theme for the campaigns was "SAY NO TO BUSHFIRES."

The project has studied satellite data on bushfire occurrence that shows most areas in the project's ZOI experienced fewer bushfires during the dry season from December 2017 to January 2018 than the previous year. The satellite images also show that the total area exposed to bushfires was smaller than the previous year. To consolidate the gains of the anti-bushfire campaigns, the project formed, trained and equipped five anti-bushfire volunteer squads (each with 18 members) in the Upper East (2), Upper West (2), and Kintampo (1), bringing the total to eight (three formed last year in the Northern Region).

In addition to preventing/fighting fires, the project also trained and equipped the squads to enable them to offer safe pesticide spraying services to farmers to generate income and be incentivized to remain fire volunteers.

Anti-bushfire squad training

15.0. Grants Program

INNOVATION AND INVESTMENT INCENTIVE GRANTS

The project implements an innovation and investment incentive grant program to buy down the risk for OBs and other VC actors to promote investments in innovative technologies, particularly related to mechanization and improving quality of produce.

Through this grant program, the project acquires small and large equipment, primarily for OBs, and generally pays 70% of the cost while grantees pay the rest. In FY 2018, the project paid $508,390 (GHS2,288,872) for small and large equipment. The Table below shows regional distribution of equipment procured through grants:

Table 5: Equipment grant by type and region

Equipment Grant	Northern Region	Upper East	Upper West	South	Total
Tarpaulin	114	47	49	92	**302**
Weighing Scale	9	3	7	6	**25**
Reaper	2				**2**
Dibbler	18	52	75		**145**
Motorbike	12	7	6	4	**29**
Moisture Meter	3	1	1		**5**
Bullock Plough		16	1		**16**
Harrow		4			**4**
2-4 Row Planter	2				**2**
Manual Planter	8		1		**9**
Tractor	7	5	5	3	**20**
Ripper	2	4		4	**10**
Rice Mill	3				**3**
Grain Dryer				1	**1**
TOTAL					**573**

LOCAL PARTNERSHIP GRANTS (LPG)

During FY2018, the project spent $111,786 (GHS503,283) for grants to five local organizations for advocacy actions and capacity building: URBANET, Coalition for Development of Western Corridor of Northern Region (NORTHCODE), Youth Harvest Foundation Ghana (YHFG), Community Development Alliance (CDA) and Sung Foundation. Details of the work carried out by these NGOs during FY 2018 are provided in section 6.0 Sub-purpose 3: Strengthened Capacity for Advocacy and Activity Implementation.

16.0. Monitoring and Evaluation and Learning

MONITORING AND EVALUATION

During FY 2018, the project continued its routine data collection, update, verification and migration of the project database from a Microsoft server to an ACDI/VOCA server. The project also completed the second phase of the 2017 (production season) annual gross margin survey where data was collected on smallholder yield, technology application, and farmers' storage systems. The project conducted surveys for the first phase of 2018 gross margin and enterprise profitability surveys, while the second phase will commence in November.

Gross Margin Data Collection

The second phase of the 2017 gross margin annual survey was completed in December 2017. Data on costs of inputs, technology application practices, production and yields, smallholder farmers' household storage systems, and initial sales were collected from 1,966 smallholders in the three northern regions. During FY 2018, the project also collected data from 1,650 maize and soya sampled farmers to be used to calculate their gross margins for the 2018 production season.

Migrating database from Microsoft server to ACDI/VOCA server

The project M&E online database which was hosted on a Microsoft exchange server was migrated to an ACDI/VOCA server. This ensures proper data management and generation of reports more quickly.

Data Quality Assessment and Data Verification

The project performed monthly data verification to authenticate all field data. Challenges were highlighted and discussed with all staff involved in the data collection, analysis and filing. The team also conducted an internal data quality assessment on the M&E systems and procedures implemented in the regional offices. There were no adverse findings, however an action plan was put in place to further strengthen and ensure the robustness of the system.

LEARNING ACTIVITIES AND KNOWLEDGE FORUM

The M&E staff met in Tamale to review progress with achievements of the project's indicators, data collection, data processing, data analysis and reporting processes. The team reviewed project performance and results to date during the three-day period. The project COP, DCOP and M&E Manager took the M&E team through the concept of systemic change and sustainability and research methodologies such as outcome harvesting, social network analysis (SNA), SenseMaker and most significant change (MSC) to help the team better identify and track activities and results that are showing signs of systemic change and sustainability.

On June 11, the project held a knowledge management and learning (KM&L) forum in Tamale in the Northern Region to share project results, lessons learned, and sustainability strategies with key stakeholders and received their feedback. Forty-five individuals participated, including agrochemical and equipment dealers, representatives from other USAID implementing partners, financial institutions, OBs, researchers, and project staff. The forum had three panel discussions:

1) Ensuring access to equipment and mechanization for sustainable outgrower service provision,
2) Provision of financial services to maize and soya VCs: The experience of OBs, financial institutions and VSLAs in the Northern Region,
3) Smallholder farmers' access to and adoption of improved seeds for increased productivity in the Northern Region: challenges and prospects.

The panelists discussed challenges and suggested ways to improve access to machinery, financing, and seeds. Key takeaways include the following:

1. Financing should be based on the borrower's ability to utilize the facility and ability to pay back on time. It is better when the borrower himself or herself is a farmer.
2. Appropriate mechanization solutions, not necessarily the use of tractors, should be tailored for smallholder farmers.
3. Equipment dealers were urged to set up mechanization centers to provide services to the smallholder farmers.
4. Seed producers were urged to increase distribution outlets to reach more farmers.
5. Unclear policy direction accounts for most of the challenges in the agricultural sector and should be targeted through advocacy.
6. Financial institutions are unwilling to give loans to farmers due to insufficient documentation of their financial viability.
7. VSLAs have become a valuable source of finance to rural farmers. VSLA members/beneficiaries have more women than men, yet fewer women spend on agricultural inputs during community input promotions. Culture and use of money for other livelihood activities may account for the low patronage.

GEOGRAPHIC INFORMATION SYSTEM (GIS) AND MAPPING

Using GIS and remote sensing (RS) to analyze and visualize agricultural environments and progress has proven to be very beneficial to farming industry. GIS can analyze soil data and historical farming practices to determine the best crops to plant; where they can be planted and how soil nutrition levels can be maintained to best benefit the plants. From mobile GIS in the field to the scientific analysis of production data, GIS is playing an increasing role in agricultural production by helping farmers increase production, reduce costs, and manage their land more efficiently.

During FY 2018, the project used GPS technology to map beneficiaries' farms and analyze yield through the annual gross margin survey. The project trained 34 enumerators to pick locations and measure farm areas during both phases I and II of the gross margin survey. All the technical staff of the project were also trained in map reading in April.

The project used weekly telephone calls received from beneficiaries to produce monthly FAW maps showing pest prevalence rates by beneficiaries' district.

Some maps produced during FY 2018 include but not limited to:

1. VSLA maps for Upper East and West sub-offices
2. A combined VSLA map for the project area
3. A change detection map of area of fires overlaid with campaign-held districts
4. Crop yield maps by region
5. Beneficiairies' yield comparison and at demo sites for all three commodities (maize, rice and soya)
6. Anti-bushfire squad map
7. Gross margins farm location map
8. Global Food Security (GFS) district map
9. Female farmers' land area map
10. Warehouse capacity over crop yield
11. Supply chain maps for end-buyers

PUBLIC RELATIONS AND COMMUNICATIONS

In FY 2018, USAID's ADVANCE project used several communications tools including videos, newsletters, media soirees, and promotional materials to increase the visibility of USAID's ADVANCE project's activities, results and impact on beneficiaries.

1. Bi-weekly updates

The project submitted 24 bi-weekly updates to USAID/Ghana. The bullets highlighted the project's successes and results in areas of innovation with planting basin technology, ripping, management of aflatoxin and FAW, land preservation through CREMA and digital finance system. They also covered how OBs, especially women, leveraged project interventions to improve their livelihoods. In addition, the updates showed the project's advocacy actions, collaborations with the private and public sectors, and sensitization of farmers on bushfires and their prevention.

2. Quarterly newsletters

The project produced and distributed four quarterly newsletters to over 2,000 stakeholders in both electronic and printed formats. The newsletters covered staff profile and significant project results and impact including technological innovations in agriculture and farmers' increased yields and gross margins.

3. Video production

The project produced five videos to demonstrate results in various thematic areas:

- **VSLA:** We produced a video to illustrate results in the project's VSLA concept. The video can be accessed via this link: https://youtu.be/1tsb2cSULH0
- **CREMA:** The project developed two videos to show our advocacy action in conserving and managing natural resources for sustainable livelihoods in northern Ghana. The videos are available on: https://youtu.be/hq8dg_cX6ug and https://youtu.be/ADJ87c1pw5M
- **Gender**: The project produced a 5-minute documentary on the impact of its activities to promote gender equity. The video is accessible on https://drive.google.com/open?id=1JsZQp21CPWNkqZdnTGQ6piph0BQJn_Sb

- **IWD:** The project also produced a video that covers the International Women's Day (IWD) celebration held on March 8 in Tamale in the Northern Region.
- **Smartcard:** The project produced a video to highlight the innovation in using smartcards to profile training attendants and how it has improved the project's monitoring, evaluation and learning system.
- **ICT:** A draft video illustrating the impact of using ICT tools to achieve project results is also ready for review.

4. Events and field visits

- **Field Visit by USAID Officials:** The project organized USAID officials' visits to beneficiary communities. These visits allowed the officials to have first-hand experience on the beneficiaries' livelihood improvement as a result of project's interventions.

  On October 26, 2017, the project facilitated the USAID/Ghana Mission Director, Sharon Cromer's visit to the Kpanashe, in the Gushegu District in the Northern Region. She visited a project-facilitated soya demonstration field and met with over 120 beneficiaries. The smallholder farmers said the project's training on GAPs, VSLA and linkages to financial institutions, safe spraying service provision, and linkage to outgrower increased their agriculture productivity and finances. The Mission Director applauded the project for using smartcards to profile beneficiaries and contributing to the competitiveness of the maize, rice, and soy value chains. On February 21, 2018, the project hosted a US congressional staff delegation in Zinindo in the Northern Region, where they interacted with over 200 smallholder farmers, five OBs, and private sector leaders within the maize, rice and soy bean value chain. The farmers said the project's trainings on GAPs and soya utilization, digital financing and market linkages improved their productivity and livelihood. The delegation acknowledged how the Feed the Future program is impacting lives in Ghana.

  On June 26 and 27, 2018, the project's AOR and USAID private sector team lead, Pearl Coleman Ackah; USAID agricultural team lead, Jenna Tajchman; and private enterprise foreign service officer, Plato Hieronimus visited OBs in the south. The team interacted with project's OBs, smallholder farmers, field agents and SSPs and visited OGs' demonstration fields to observe how they adopted GAPs and technologies to improve their productivity.

- **Seventh Pre-harvest Agribusiness Event:** On October 19, 2017, the project co-organized the seventh annual pre-harvest event in Tamale with Agrihouse Foundation, with participation from about 900 participants. The events' theme was "Keep Going, No 'U' Turn". It encouraged value chain actors to continue their businesses and partnerships on their own beyond the project. Participants grouped into commodity sessions, discussed marketing opportunities and made business deals. The event featured exhibitions in the areas of seed production, fertilizer, storage, machinery and technology.
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- **CREMA Stakeholder Forum:** From March 7 to 9, 2018, the project organized fora at different locations in the Northern and Upper East Regions to disseminate the findings of a study conducted on environmental conservation in the four selected CREMA Districts (Sawla-Tuna-Kalba, Wa East, Mamprugu Moagduri, and Builsa South).
-

- **International Women's Day (IWD) Celebration:** On March 8, 2018, the project celebrated women on the IWD in Tamale in the Northern Region. The theme for the event was "Press for progress for women participation in agribusiness". The event recognized achievements made by female smallholder farmers and OBs supported by USAID's ADVANCE project in the maize, rice and soya value chains. The event emphasized the need to consolidate gains made by the project female OBs and featured mentorship training, knowledge sharing, and networking sessions.
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- **Pre-Season Event:** The project supported the USAID funded Agriculture Technology Transfer (ATT) project to organize the eighth annual pre-season and networking event in Tamale on March 21, 2018 in collaboration with the National Seed Trade Association of Ghana. It was organized under the theme, "Quality seed, necessity for food and jobs", and allowed participants to network and plan ahead of the planting season. The project sponsored 293 actors out of the total 800 participants. Farmers purchased agriculture input such as oil and filters, irrigation equipment, hose and pipes and motor bikes from equipment dealers.
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5. **Consultative workshop to promote structured trade in southern Ghana:** On June 28, 2018, the project joined the World Food Programme and GIZ to organize a consultative workshop for 151 stakeholders (16 female, 135 male) made up of traditional authorities, municipal and district assembly representatives, farmers, traders and transporters in Techiman in the Brong Ahafo Region. Under the theme, "planning of food safety, quality control and standard weights and measures awareness creation campaign," the project Chief of Party encouraged all stakeholders to collaborate effectively to ensure increased use of weights and measures to improve crop quality and benefit all market actors. The participants pledged their support to scale up and make weights and measures sustainable. The Southern Maize Traders Network (SMTN) was launched as part of the workshop.

LESSONS LEARNED

Since 2014, the project has continued to add new beneficiaries every year. As the new beneficiaries interact with the project, their yields significantly improve over time. However, average yields each year are calculated from a mix of beneficiaries, both old and new, selected through a random sample for the gross margin survey. With this method, average yields reported by the project do not have a sharp upward gradient due to the diluting effect of the new entrants.

As beneficiary farmers interact with the project and improve their yields, the average production increases which results in more volume sold. In addition, the project, through its two-way trade missions, ensures that ready markets for farmers each year. This is achieved through OBs aggregating produce from smallholder farmers and selling it to end-market buyers.

Table 30: OBs and Smallholders vs. Yields(MT/ha) and hectares cultivated (ha)

Year	OBs	OGs	Crop Yield (MT/ha)			Hectares Cultivated (ha)			
			Maize	Rice	Soya	Maize	Rice	Soya	Total
2014	155	37,070	3.40	3.01	1.58	17,239.88	2,809.19	4,157.62	24,206.69
2015	288	53,176	3.63	3.98	1.83	40,967.28	4,785.64	7,981.25	53,734.17
2016	370	89,565	3.33	2.90	2.28	59,831.02	5,059.13	7,779.84	72,669.99
2017	376	103,684	3.43	3.46	2.60	86,405.22	12,753.05	13,893.80	113,052.07

To date, the project has linked all 424 OBs and 131,394 smallholders to 158 buyers. This has seen smallholder farmers' volume of sales increasing from 63,512MT in 2014 to 283,242MT in 2017 (see Table 31).

Table 31: Average production and volume sold by farmers and total sales ($)

Year	Production per farmer (MT)			Volume sold per farmer (MT)			Total Volume sold (MT)			Total Sales ($)		
	Maize	Rice	Soya	Maize	Rice	Soya	Maize	Rice	Soya	Maize	Rice	Soya
2014	2.56	1.65	0.74	2.16	1.44	0.73	49,688	7,334	6,490	5,964,778	2,204,367	2,681,183
2015	3.64	1.61	1.3	3.25	1.56	1.25	132,586	18,541	14,100	48,783,808	5,225,452	4,733,197
2016	3.01	1.49	1.4	1.80	0.97	1.09	119,410	9,744	13,125	33,162,692	2,821,117	3,786,949
2017	4.32	2.69	1.89	3.39	1.99	1.10	229,257	32,223	21,762	51,951,028	8,807,062	6,983,531

The quantity of maize sold has significantly increased over the years, as well as the amount of sales because the number of beneficiaries has increased annually, and production and sales per beneficiary increased as well (Table 31).

The average number of hectares planted per farmer reduced from 1.42ha to 1.28ha for maize farmers, 1.20ha to 0.79ha for rice farmers and 1.27ha to 0.70ha for soya farmers from baseline to FY2017. The general reduction in plot size is the project's strategy to intensify production. It enables farmers to invest their limited resources on the appropriate land size and apply good agronomic practices and improved technologies leading to increased yields. In 2017 (about 94.26%) farmers applied at least one or more improved land-based technologies and management practices than at baseline (38.46%). The reduced plot sizes also meant a reduction in the production cost per hectare for certain production variables like land preparation, thereby optimizing profits.

Impact of exchange rate on smallholder gross margins

Analysis of gross margin data show that incremental sales reported are affected negatively by the cedi's depreciation because the sales' increment from baseline to 2017 is converted from cedi to US dollar. Even though produce is sold in Cedis, the incremental sales' and gross margins are converted to US dollars. The cedi depreciated by 66% from baseline to the 2017 crop season (see Figure 7 below) and therefore had a negative impact on the reported values for gross margins and, sales and incremental sales.

Figure 4: Average price in GHS and USD from baseline to FY17

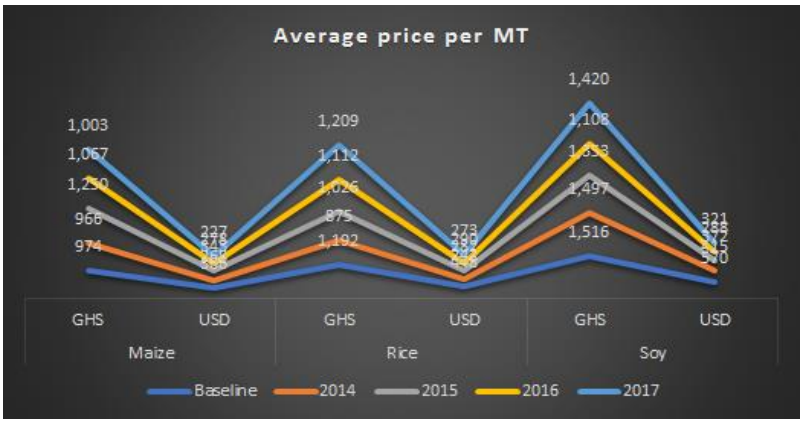
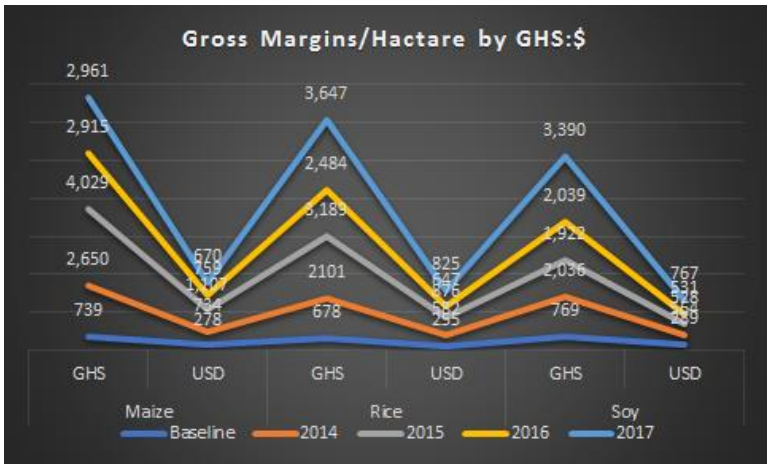


Figure 5: Gross margins in GHS and USD from baseline to FY2017



Annex 1: Indicator Table

ADVANCE II INDICATOR TARGETS AND ACHIEVEMENTS - FY2018

Indicator Source	Indicator Type	Indicator/Disaggregation	FY 2018 Target	FY 2018 Actuals	% FY 2018 Achievement	Comments
CI	OP1	Number of direct project beneficiaries	75,000	78,977	105.30%	
		Male	*41,250*	38,722		
		Female	*33,750*	40,255		
FTF	OP2	Number of private enterprises (for profit), producer organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance	450	991	220.22%	The overachievement is due to the project targeting more producer enterprises and training them on product quality standards.
FTF	OP3	Number of individuals who have received USG supported short-term agricultural sector productivity or food security trainings	48,375	62,548	129.30%	The number of farmers supported by the outgrower businesses (OBs) who needed training and support was higher than expected. The project conducted several training programs to significantly increase farmers' capacity and improve their practices.
		Male	*26,607*	29,671		
		Female	*21,784*	32,877		
FTF	OP4	Value of agricultural and rural loans	$800,000	$697,094.81	87.14%	A loan agreement for $800,000 was signed between Agricare Ltd. and *Injaro* Agricultural Capital Holdings Ltd. However, at the time of reporting, only $300,000 was released.
		Male				
		Female				

Indicator Source	Indicator Type	Indicator/Disaggregation	FY 2018 Target	FY 2018 Actuals	% FY 2018 Achievement	Comments
FTF	OP5	Value of new private sector investment in agricultural sector or value chains (USD)	$800,000	263,619	32.95%	Outgrower Businesses and other value chain actors invested in machinery such as tractors, rippers, motorbikes, tricycle. However, end-buyers and processors did not invest in new plants and machinery to support their operations as expected.
FTF	OP6	Number of MSME including farmers receiving USG assistance to access loans	37,500	13,467	35.91%	The Village Savings and Loans Association and sensitization activities were successful but there were limited resources of the OBs and buyers and limited access to loans from financial institutions to OBs. This affected the OBs roles as upfront financiers to invest in outgrower farmers' production resulting in the under achieving of this indicator.
FTF	OC1	Gross margins per hectare for selected crops US Dollar under marketing arrangements fostered by the activity (USD/ha)				The underachievement is due to unexpected lower yields for rice (primarily due to flooding) and maize (primarily due to Fall Armyworm (FAW) infestation) in 2017
		Maize	**$800**	**$732**	**91.50%**	
		Male	$790	$723		
		Female	$840	$803		
		Rice	**$1,350**	**$897**	**66.44%**	
		Male	$1,400	$752		
		Female	$1,250	$1039		

Indicator Source	Indicator Type	Indicator/Disaggregation	FY 2018 Target	FY 2018 Actuals	% FY 2018 Achievement	Comments
		Soy	**$650**	**$784**	**120.61%**	
		Male	$700	$738		
		Female	$600	$851		
FTF	OC2	Number of hectares under improved technologies or management practices as a result of USG assistance	72,000	73,872.86	102.60%	The overachievement is due to more farmers applying improved technologies such as row planting, fertilizers, improved seed on their farms.
FTF	OC3	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	72,000	93,784	130.25%	More farmers were encouraged to use improve technologies, which led to increasing yield and gross margins. This overachievement was due to many farmers applying technologies shown to them on their farms.
		Male	38,610	47,520		
		Female	31,590	46,264		
FTF	OC4	Number of private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	338	852	252.07%	The overachievement was due to all firms applying at least one of the management practices promoted by the project.
FTF	OC5	Value of incremental sales (collected at farm-level) attributed to FTF implementation	$17,880,000	$38,393,802.67	214.73%	Most farmers increased their plot sizes and applied more improved technologies, which enabled them to increase yield. Also farmers
		Maize	$14,940,000	$40,163,470	268.83%	
		Rice	$2,130,000	$2,332,289	109.50%	

Indicator Source	Indicator Type	Indicator/Disaggregation	FY 2018 Target	FY 2018 Actuals	% FY 2018 Achievement	Comments
		Soy	$810,000	$1,496,550	184.76%	sold more produce during the 2017 cropping season.
FTF	OC6	Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	75	379	505.33%	The overachievement was due to all firms applying at least one of the management practices promoted by the project in their business operations.
CI	OC8	Number of organizations/ enterprises identified as high potential for future awards	7	0		No new award was made to any grantee but the project continued to work with existing grantees.
CI	OP8	Number of organizations/ enterprises receiving capacity building support against key milestones	50	46		11 Trade Associations, 14 OB and FBO networks, 3 municipal assemblies, 2 governmental organizations and 14 local NGOs were trained on market performance, weights and negotiations, contracts and measures.
F	OP9	Number of awards made directly to local organizations by USAID	5	0		No new award was made to any grantee but the project continued to work with existing grantees.
FTF	OP10	Number of Households benefiting directly from USG Assistance		74,136		

Indicator Source	Indicator Type	Indicator/Disaggregation	FY 2018 Target	FY 2018 Actuals	% FY 2018 Achievement	Comments
FTF	OP13	Number of members of producer organizations and community-based organizations receiving USG assistance	6,750	13,756	203.79%	The overachievement was due to the project targeting more FBO members and providing them with capacity building on FaaB and product quality standards.
FTF	OP14	Number of MSMEs including farmers, receiving Business Development Services as result of USG assistance	30,000	54,548	181.83%	The overachievement was due to more farmers receiving capacity building on savings through the VSLA schemes and quality standards.
CI	OC9	Value chain actors accessing finance	225	13	5.7%	This year End-buyers and processors were unwilling to access loans to support their operations, given the high interest rates and experience of the few who defaulted.

ADVANCE II INDICATOR TARGETS AND ACHIEVEMENTS AS AT SEPTEMBER 2018

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
CI	OP1	Number of direct project beneficiaries	131,349	127,000	103%	
		Male	*68,116*	67,000	102%	
		Female	*63,278*	60,000	105%	
FTF	OP2	Number of private enterprises (for profit), producer organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance	1,228	1,100	112%	The overachievement is due to the project targeting more producer enterprises and training them on product quality standards.
FTF	OP3	Number of individuals who have received USG supported short-term agricultural sector productivity or food security trainings	123,845	120,000	103%	More smallholder farmers received trainings in GAPs, FAW preventive measures, product quality standards during the production season.
		Male	*62,896*	*63600*	99%	
		Female	*60,949*	*56,400*	108%	

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
FTF	OP4	Value of agricultural and rural loans	4,561,069.00	4,300,000	106%	
FTF	OP5	Value of new private sector investment in agricultural sector or value chains (USD)	3,674,280	4,000,000	92%	Outgrower Businesses and other value chain actors invested in machinery such as tractors, rippers, motorbikes, tricycle. However, end-buyers and processors did not invest in new plants and machinery to support their operations as expected.
FTF	OP6	Number of MSME including farmers receiving USG assistance to access loans	52,775	56,500	93%	The Village Savings and Loans Association and sensitization activities were successful but there were limited resources of the OBs and buyers and limited access to loans from financial institutions to OBs. This affected the OBs roles as upfront financiers to invest in outgrower farmers' production resulting

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
						in the under achieving of this indicator.
FTF	OC1	Gross margins per hectare for selected crops US Dollar under marketing arrangements fostered by the activity (USD/ha)				The underachievement is due to unexpected lower yields for maize and rice in 2016 (primarily due to flooding) and maize (primarily due to Fall Armyworm (FAW) infestation) and lower selling prices for soybean and maize.
		Maize	732	835	88%	
		Male	723	900	80%	
		Female	803	880	91%	
		Rice	898	814	110%	
		Male	752	867	87%	
		Female	1,039	760	137%	
		Soy	784	700	112.%	
		Male	738	800	92.%	
		Female	852	600	142%	
FTF	OC2	Number of hectares under improved	231,413	312,200	74%	The project's strategy is to

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
		technologies or management practices as a result of USG assistance				encourage farmers to intensify production. It enables farmers to invest their limited resources on the appropriate land size and apply good agronomic practices and improved technologies leading to increased yields
FTF	OC3	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	93,784	101,700	92%	
		Male	47,520	*55,935*	85%	
		Female	46,264	*45,765*	101%	
FTF	OC4	Number of private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based	852	800	107%	The overachievement was due to all firms applying at least one of the management practices promoted by the project.

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
		organizations (CBOs) that applied new technologies or management practices as a result of USG assistance				
FTF	OC5	Value of incremental sales (collected at farm-level) attributed to FTF implementation	103,973,733	67,880,000	153.%	Most farmers increased their plot sizes and applied more improved technologies, which enabled them to increase yield. Also farmers sold more produce during the 2017 cropping season.
		Maize	100,305,417.33	53,840,000	186.30%	
		Rice	3,350.21	9,730,000	0.03%	
		Soy	3,664,965.43	4,310,000	85.03%	
FTF	OC6	Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above	379	225	168%	Many more firms than anticipated needed support and were supported by the project to improve productivity. Thus more firms have been surveyed and found more profitable than the previous year.

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
		cost) because of USG assistance				
CI	OC8	Number of organizations/ enterprises identified as high potential for future awards	13	8	163%	
CI	OP8	Number of organizations/ enterprises receiving capacity building support against key milestones	46	50	92%	Trade Associations, OB and FBO networks, 3 municipal assemblies, 2 governmental organizations and 14 local NGOs were trained on market performance, weights and negotiations, contracts and measures.
F	OP9	Number of awards made directly to local organizations by USAID	5	5	100%	
FTF	OP10	Number of Households benefiting directly from USG Assistance	121,455	79,100	154%	
FTF	OP13	Number of members of producer organizations and	19,445	9,000	216.%	The overachievement was due to the project targeting more FBO

Indicator Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% LOP Achievement so far	Comments
		community-based organizations receiving USG assistance				members and providing them with capacity building on FaaB and product quality standards.
FTF	OP14	Number of MSMEs including farmers, receiving Business Development Services as result of USG assistance	109,292	45,200	242%	The overachievement was due to more farmers receiving capacity building on savings through the VSLA schemes and quality standards.
CI	OC9	Value chain actors accessing finance	588	300	196%	

Annex 2: Success stories

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SUCCESS STORY

IMPROVING LIVELIHOODS THROUGH VSLA

An Unemployed Graduate Gains Employment with a Commercial Bank because of Dedicated VSLA Service

The Village Savings and Loans (VSLA) concept implemented by the USAID ADVANCE project is to ensure that smallholders who do not have access to formal banking services will be able to save towards the purchase of agricultural inputs to increase productivity. Therefore, improved seeds, fertilizer, weedicides, pesticides, inoculants among other inputs are promoted at the community level during share-outs to ensure easy accessibility to such inputs. As at December 2017, the project had formed 853[1] VSLA groups with a membership of 19, 856 beneficiaries (76% female). The groups were trained on how to save and record their savings, maintain orderliness in the group during and after meetings, leadership roles, development of group constitutions and fines, buying of shares and borrowing from the VSLAs.

Community volunteers were trained on the VSLA concept to be able to render support to a cluster of VSLA groups in record keeping and other activities that are undertaken to ensure that groups perform at high level even after the exit of the project. Therefore, Abdulai Abukari an unemployed Bachelor of Arts graduate from the University for Development Studies was trained as a VSLA agent to support four VSLA groups with about 100 beneficiaries.

Abdulai Abukari taking records of VSLA transaction by one of his groups at Sampayili

One of the objectives of Abdulai was to link his VSLA groups to banks for financial services. Although this initiative was challenging, he successfully linked two groups (Kpanmanga and Bobgunyeyaa Groups from Sambu community) to the National Investment Bank in February 2017. Further, the two groups opened accounts with the bank with a total savings of GHS 15,000 or $3,345.68 (GHS 8,000 or $1,784.36 for Kpanmanga, and GHS 7,000 or $1,561.32 for Bobgunyeyaa). Based on the returns, the two other VSLAs opened accounts with the same bank, with Abdulai Abukari playing a vital role in the process.

The instrumental role Adbulai played by liaising with the bank and the groups to mobilize funds for savings earned him the admiration of the bank officials, who went ahead to employ him in June 2017.

Abdulai remarked, "I am grateful for the training I received from USAID ADVANCE. The skills-set I received through their trainings and activities landed me a job three years after

graduating from the University. I am also glad the VSLA groups have seen the need to enroll with the formal banking sector to access credit and other facilities."

Currently, Abdulai Abukari works for the National Investment Bank at the Yendi branch. He affirms that his livelihood has improved as he now contributes financially to the upkeep of his family. He intends to save some of his salary to pursue higher education and take care of his younger siblings. He has, since his employment, mobilized 44 clients in the Sambu area of the Mion District in the Northern Region for the bank. Also, he has been involved in sharing his experiences on VSLA linkages to financial institutions with eight groups in Kpanashe in the Gushegu in the Northern Region who have agreed to send their savings to Opportunity International in Tamale.

USAID ADVANCE seeks to use the VSLA approach for smallholders to purchase production inputs to increase yields and income. In 2018, the project will set up 300 new groups and provide the needed guidance to make the group members economically empowered

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SUCCESS STORY

ADOPTING INNOVATIVE WAYS TO IMPROVE TRADE AND MARKETING

Cereal Foods Processor Increases Sales from Product Rebranding

Background and Challenge

Yedent Agro company formulates and produces vitamins and minerals fortified maize and soybean foods for the Ghanaian and West African market. Since its establishment in April 2002, the company relied mainly on contract orders from the World Food Program and the Ministry of Health of Ghana to drive sales. In 2014, it decided to enter the consumer market with "MaisoyForte," a maize-soy blend breakfast cereal fortified with vitamins. In the Ghanaian market, this type of cereal food is commonly called "tombrown."

Despite its comparatively low price and nutritional superiority over similar products, sales for MaisoyForte was low. About half of the product distributed to supermarkets and retail shops in the Ashanti and Brong-Ahafo regions was returned unsold. Retailers were decreasing shelf space for the product to make way for products with stronger demand.

Our Intervention

In mid-2015, Yedent Agro sought the help of the USAID ADVANCE project to address the low sales of MaisoyForte. The project hired a consultant to review the market situation of the product, and to develop a strategy and action plan to promote the brand and increase sales.

Old Brand Packaging

New Brand Packaging

The review established that the market perceived the product as something other than "tombrown" – the product name and packaging did not reflect its content; the packaging options were inadequate as the product was packaged only in 500g packages; and the opaque product package made it impossible to visualize the content.

The consultant recommended a rebranding, including renaming the product to reflect its content, and switching to transparent packaging.

In December 2016, the firm completed re-branding the product and acquired a branded distribution van. This was in addition to the deployment of billboards and radio adverts to improve brand awareness.

The Outcome

After ten months of rebranding and relaunch, Yedent has multiplied sales of the product tenfold from an average of GHS 3,800 ($877.6) monthly to GHS 37,667 ($8,402.2). The product has regained lost shelf space. The number of retail outlets carrying the products has increased from nine in the Ashanti, Brong Ahafo and Greater Accra, to 70 across all 10 regions of the Country. Current monthly production volumes for the product has increased by 800% from 0.48 metric tons to 4.71 metric tons.

Branded Distribution Van installed with Public Address System

Farmers have benefitted from Yedent's increased sales with increased demand from the company for maize and soybean for processing. In 2017, Yedent ventured into the development of its first soybean outgrower scheme with Suleman Abdul Karim, a USAID ADVANCE nucleus farmer in the West Mamprusi District in the Northern Region. This initiative is part of Yedent's strategy to expand and secure its raw material base. The project will continue to enhance the outgrower schemes to enable famers access good quality inputs, and a guaranteed market.

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SUCCESS STORY

IMPACT OF USAID ADVANCE ON A LEAD FARMER

The story of how a lead farmer built his house and bought a motorbike

Abdul Khadir Imoro standing in his own house built through increased crop yield

"Since I became a beneficiary of USAID ADVANCE interventions in 2014, I have always had high farm produce and used the income generated to buy a motorbike and built my own house and roofed it with aluminum roofing sheets." This is the testimony of Abdul-Kadiru Imoro a lead farmer working with Kharma Farms in Sampayili in the Karaga District.

Kharma Farms is an outgrower business operated by Muhib Hussein under the USAID ADVANCE project. Through the lead farmer system, well-established outgrower businesses select a lead farmer who represents them in their operational communities. It is this lead farmer concept that has brought the potential in Abdul-Kadiru Imoro to the limelight as he represents Kharma Farms at Sampayili. He does a great job and always realizes 100% investment recovery from the outgrowers.

Before Abdul-Kadiru Imoro became a beneficiary of the USAID ADVANCE project, he could barely maintain a two-acre farm by himself. Through the project, Kharma Farms entered the Sampayili community in the 2014 farming season and started extending ploughing services to smallholder farmers who could not afford to pay cash.

Kharma Farms identified Abdul-Kadiru Imoro and for the first year of being with the project, Abdul-Kadiru received ploughing services for a four-acre land. The cost of the services was paid after harvesting. Abdul-Kadiru cultivated two acres each of soybeans and rice and at the end of the season, he harvested 5.13 MT/Ha of rice and 2.5 MT/Ha of soy, compared to previous yields of 1.75 MT/Ha and 0.5 MT/Ha for rice and soybean respectively. After fully paying his debt, he bought a motorbike from the rice proceeds. Excitingly, Abdul-Kadiru remarked: *"have you seen how ploughing service and row planting of rice can turn things round in one's life".*

Following this success in 2014, Kharma Farms adopted him as a lead farmer in Sampayili and has since received several trainings from USAID ADVANCE (including trainings on Good Agriculture Practices, spraying services and grain quality standards) which have helped him improve his farming techniques.

In 2015, Kharma Farms increased Abdul-Kadiru's acreage from four to eight. He cultivated three acres of maize, three acres of rice and two acres of soy. He adopted the project's technologies he had learnt through the trainings, demo set up and radio education. His yields for that year were: 5.2 MT/Ha for rice, 4.5 MT/Ha of maize, and 2.6 MT/Ha of soy. This was impressive for him as he generated enough proceeds from the sale to even build a house.

"I built my house and roofed it with aluminum roofing sheets and still had enough food for my family. I am a proud man and I am proud to be a beneficiary of the USAID ADVANCE interventions. May Allah bless ADVANCE and their sponsors so that they can continue to guide us further to reach greater heights." Abdul-Kadiru Imoro gladly remarks.

For the Sampayili community where most houses are built with mud and roofed with thatch because of low income, it is a great achievement to have a house built and roofed with aluminum roofing sheets.

Abdul Kadiri Imoro in his three-acre maize farm at Sampayili

"*In 2017, Kharma ploughed four acres of maize for me, gave me yellow maize seed with fertilizer, I planted in rows and buried the fertilizer, today it is about 70 days old and when I look at the farm I get satisfied therefore I cannot hide my story,*" Abdul-Kadiru Imoro remarked.

Moving forward, Abdul-Kadiru Omoro plans to transfer this knowledge to other smallholder farmers to also adopt the best farming practices. The project will continue to work with Kharma Farms to improve the capacity of Abdul-Kadiru Imoro and other farmers so that they can have improved yields.

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SUCCESS STORY

FACILITATING EFFECTIVE MARKET LINKAGES AND QUALITY MANAGEMENT SYSTEM IN THE GRAIN SUPPLY CHAIN

Traceability Codes Improve Quality of Produce Farmers Deliver to Feed Processors

For Agricare, a Kumasi based feed miller, producing 6,000 metric tons of feed per annum, tracking the source of poor quality maize delivered to its factory to a specific farmer remained a challenge. In 2016, the company supported 14 nucleus farmers and 334 smallholders with hybrid maize seed and fertilizer. The farmers paid back 712.50 metric tons of maize which translated into 14,250 bags of maize of 50 Kg weight each.

Bags of maize with traceability codes in a smallholder farmer's community ready for collection

Nucleus farmers will typically aggregate the maize from their smallholders in various communities, add theirs, and deliver them to Agricare in Kumasi in truckloads of 500 to 600 bags per consignment. Due to the absence of adequate storage facilities, nucleus farmers often weigh, package and leave the produce in the custody of smallholder farmers, and later hire trucks to load and deliver them to the buyer.

Some of the consignments delivered to Agricare included underweight bags (< 50Kg), inferior quality grain, or grain with too much foreign material. Nucleus farmers found it difficult to identify and isolate these bags from thousands of bags delivered to the buyer. Where a defective bag was identified, the challenge was how to trace it to the source of supply.

To address this challenge, USAID ADVANCE and five nucleus farmers in the Upper West Region in November 2016 piloted the use of traceability codes written on each bag of maize supplied to Agricare. The code has the name of the nucleus farmer, name of the smallholder farmer, community, and the bag number. Smallholder farmers have their codes written on their bags in their presence before their produce is carted away by the nucleus farmer, or his or her representative. The selected nucleus farmers generated and wrote traceability codes on all the bags of maize they supplied to Agricare.

At the end of the 2016 season, all smallholders on the scheme supplied maize that met the quality parameters of Agricare. The company did not report any underweight bags, or grains mixed with foreign materials.

A truck discharging maize with traceability codes at Agricare

Emmanuel Yobor, a nucleus farmer in the Upper West Region, joyfully describes the traceability coding as his "new packaging security man". On its effectiveness, he says "with the codes, all smallholder farmers know that bad maize supplied by them can be traced to them so they package the produce to meet high standards. Produce left in their care was not tampered with because they have unique marks on them". Emmanuel directs a vehicle from Agricare to a smallholder farmer in Dasimah in the Sissala West District of the Upper West Region of Ghana to load and deliver maize to Agricare unaccompanied. He is confident of the quality, and knows that he can trace any defective bag to its source. Previously, Emmanuel or his field officer would have to accompany the vehicle to the community, randomly sample bags from the consignment to inspect its contents and weigh them to ensure that Agricare's quality requirements were met before loading them into the truck.

Another nucleus farmer, Yahaya Seidu in Buoti, also in the Upper West Region, has allowed smallholder farmers to fill sacks of maize in their homes, and bring them to a specified location for weighing. Previously, Yahaya would send a representative to the smallholder's farmer community to supervise the packaging process. For Agricare, the traceability has saved them the time and costs of labelling each bag of maize before storage. It can investigate any quality defects in any batch of feed produced to the source of maize. William Ahiadormey, Managing Director of Agricare, has, on some trade missions to farmer communities, asked to meet some smallholder farmers, based on their traceability codes, to commend them for their high-quality supplies.

In 2017, the traceability coding was adopted by 18 additional nucleus farmers and their smallholders from the Upper West Region (they are implementing the scheme on a full scale out of a total of 79 outgrower businesses.) who are suppliers to Agricare and other large processors. In 2018, Agricare intends to make traceability coding of local maize mandatory for its local suppliers. Consequently, ADVANCE is providing the requisite support to all beneficiaries of the Agricare scheme to enable them to meet this requirement.

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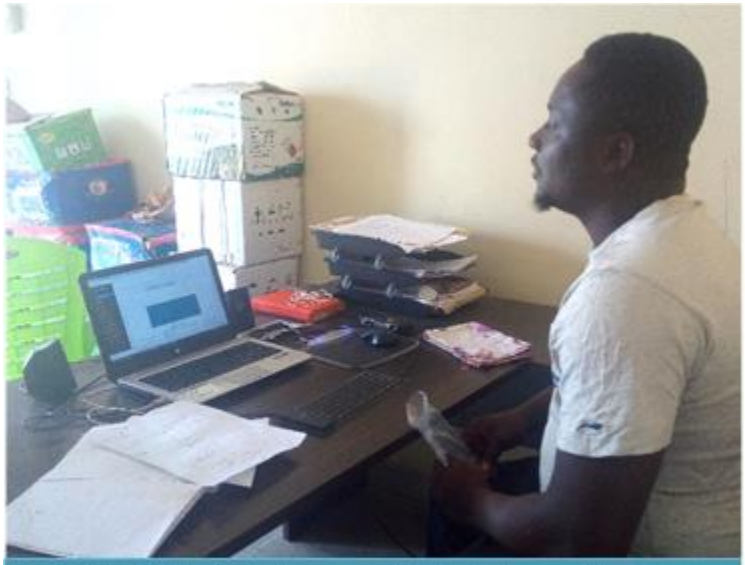
SUCCESS STORY

SUSTAINING IMPROVED AGRICULTURE SERVICES THROUGH ICT

An Outgrower Business' Initiative Gives Signs of Sustainability of Technology Adoption for Improved Outgrower Management Services



Teddy Addah observing a synchronized data on his laptop

The use of technology and digital equipment for business activities, including agriculture production, is on the upsurge. However, technology adoption for information management is a challenge for many farmers in northern Ghana. Teddy Addah, outgrower business (OB) and owner of Kolada Farms and Trading Company Ltd, in Navrongo in the Upper East Region with over 90 outgrowers sought to overcome this challenge. Among other things, he wanted to intensify extension delivery services such as distribution of inputs and delivering of good agronomic practices for his outgrowers who were spread across communities in the Kassena Nankana West District and Kassena Nankana Municipality.

Being aware of his intent, the project facilitated a business linkage between Teddy and Farmerline, an ICT-based company, during the 2017 USAID ADVANCE pre-harvest event. In December 2017, Teddy signed up on Farmerline's Mergdata, an application which enables bulk voice and SMS messaging, mobile surveys and data collection to improve operations. It also improves real-time information access, dissemination, data collection and analytics for these businesses.

Through this technology, Teddy by himself captures and manages the profiles and accounts of his field staff and production records of his outgrowers. The application has a functionality to map exact farm locations. After using it for five months, Teddy successfully profiled and took GPS coordinates of his farmers to precisely determine where they live. Once his field staff collects the data, they automatically synchronize it on Teddy's laptop. The application has relieved Teddy of the long and tiring manual data collection and increased his efficiency in information dissemination, data management, and monitoring of his field staff' work. *"The Mergedata has improved my filing system; data collected on the field automatically synchronizes with my laptop in the office. I monitor the work of my field staff remotely. I have spent only GHC450 ($100) on data capturing and analysis on my farmers but would have previously spent over GHC2,000 ($444) for same activity."* Teddy shares.

The project is particularly excited that Teddy confidently adopted this technology, which shows a sign of sustainability by the OB's commitment to invest in it beyond project's support.

I am very certain to continue this activity even when USAID ADVANCE exits. I thank them so much for linking me to Farmerline and providing me with all the trainings. But again, I say that, I can, and will continue with the application with or without the project," Teddy added.

He will begin to send bulk texts messages to his farmers using the same application. USAID ADVANCE will support him in developing and localizing the content for his farmers.

USAID ADVANCE has reached over 54,140 beneficiaries with ICT services including radio broadcast and agricultural tips, weather and market price information through Voice Messaging (VM) and Short Messaging Service (SMS), and will continue to facilitate the training of OBs and field agents on various technological tools for improved outgrower management services.

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SUCCESS STORY

QUALITY GRAIN STANDARDS, A TOOL FOR PROFITABILITY

Adoption of Quality Grain Standards by Smallholders Increases an OB's Profit Margin

Mahama Tia, an outgrower business (OB) owner in the Northern Region, joined USAID ADVANCE in 2014 and supports 339 outgrowers, including 133 women. In 2015, the project linked him to Premium Foods Limited, a food processing company based in the Ashanti Region of Ghana, with whom he signed an outgrower contract to purchase 300 bags of fertilizer and 0.9 MT of improved maize seed at GHC 34,500.00 ($7,701) on credit that he will repay after harvesting. He fully repaid his debt by supplying 64.30 MT of maize (valued at GHC 64,728.00 or $13,741.15 including repayment for the inputs and extra sales) sourced from his smallholder farmers to the company. Based on this success, Mahama signed, in 2016, another contract with Agricare, a processor in Kumasi.

Mahama Tia showing samples of quality maize

Mahama, however, faced a challenge in delivering quality grains because the practice of cleaning maize (which involves winnowing, weighing, bagging, sewing and packing) after shelling was new to the smallholder farmers who benefited from the OB's services. Because of poor quality, he spent GHS 3,200 ($714) to hire labor for more than 30 days to clean 64.30 MT of the maize consignment to Premium Foods. The extra cost of production drained his profit and delayed supply to the company.

USAID ADVANCE worked with Ghana Grains Council and Ghana Standards Authority to develop grain quality standards on maize, rice and soya, and trained 60 staff from the Department of Agriculture and lead farmers who work with OBs on meeting those standards and handling post-harvest. Mahama leveraged the opportunity to train two of his lead farmers who in turn trained over 300 of his smallholder farmers from the latter part of 2016 through 2017.

As a result of the post-harvest and quality standard trainings, the smallholder farmers better appreciated the need to clean their maize after shelling and adopted the practice. "*In late 2017 and early 2018, the farmers themselves packaged their maize produce into Agricare's and Premium Foods' 50Kg bags after cleaning, which saved me the cost of transporting the maize to my place for cleaning and re-bagging*", Mahama shares. Within the same period, Mahama supplied more than 482.5 MT of maize to Premium Foods Limited and

Agricare which were cleaned by his smallholder farmers. This resulted in savings of more than GHS 24,075 (US$ 5,374) which would have hitherto been spent on cleaning.

An elated Mahama Tia remarked *"I noticed a massive improvement in the quality of maize I now aggregate from my outgrowers after the training. My outgrowers now clean their maize after threshing before bagging for me which was not done in the past sourced and supplied 113mt of maize from my farmers to Premium Foods and Agricare in 2017 alone without spending a cedi on cleaning. The food processors were very satisfied with the quality and requested me to bring more in 2018."*

Beyond increasing his profits by meeting quality grain standards and selling to the food processors, Mahama is now considered a leading figure in quality standards by Agricare who relies on him occasionally to inspect the supplies' quality of other OBs with whom Agricare has similar contracts. Mahama's adopted quality standard practice has promoted good relationship with his buyers, increased his profitability and improved access to markets.

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SUCCESS STORY

HOW VSLAs ARE CONTRIBUTING TO REDUCTION IN RURAL-URBAN MIGRATION

An Ex-"Kayayei" Shares How She Stopped Head Porting Business and Relocated Permanently to Her Hometown Because of VSLA

In Ghana, it is quite common for women in rural areas, especially in the north, to migrate to cities in the south to eng age in head porting [2](popularly called "Kayayei" in the local parlance) to enable them to raise money to cater for their families.

Latifa Hamidu displaying a VSLA box during a group meeting

Latifa Hamidu, a 39-year-old enterprising woman who lives in Boamasa, a farming community in the West Mamprusi District of the Northern Region, farms to generate income. Prior to fully engaging in farming, Latifa was forced by circumstances to engage in the head porting business in Accra in the Greater Accra Region from 2014-2016. *"It was not a pleasant experience being a "Kayayei" at all. While it served as income generating venture for patrons, it exposed "Kayayeis" to a number of social vices such as sexual harassment and theft",* Latifa narrated.

In early 2017, Latifa returned home to visit her family and met an old female friend who introduced her to USAID ADVANCE's Village Savings and Loans Associations (VSLA)[3], after hearing how Latifa suffered in the south. Latifa's contributions ranged from GHC12.00 (USD2.8) to GHC40 (USD 9) per week. After the share-out, she used some of her money to purchase 100 kilograms of fertilizer to farm maize on a 1.2 acres family land. After adopting good agronomic practices promoted by USAID ADVANCE, Latifa harvested 2.5 MT/Ha. She sold 0.5 MT and realized GHS 500 (USD 111), which she invested in small trading to generate additional income.

Latifa attributes her "new" life to the impact of USAID ADVANCE's VSLA. She shares: *"USAID ADVANCE's VSLA saved me from Kayayei. I can vow that I will never go back to 'Kayayei' because I have a 'saviour', VSLA. VSLA challenges me (and other women) to contribute towards the purchase of agriculture inputs. Through that, I am into farming, with other income generating sources. What even gives me joy and happiness is that, there is now increased unity among we the women in the community as we meet weekly to save and discuss issues confronting women, our children and the community at large."*

She now stays in the community to take care of her children instead of travelling to the south to embark on Kayayei. *"My children are fed well and are now concentrating on their education"*, she added. She hopes to become a VSLA ambassador to encourage all head porters who migrated to the south to return to their hometowns and make a more dignified living. USAID ADVANCE has set up 826 VSLA groups with a total savings of $656,730 as of December 2017, which has contributed to improving agriculture productivity and enhancing livelihood.

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SUCCESS STORY

BREAKING TRADITIONAL BARRIERS FOR WOMEN TO ACCESS PRODUCTIVE LAND

USAID ADVANCE Has Contributed to the Allocation of 5,000 Acres of Agriculture Land to Over 3,000 Women

Some of the women representatives endorsing their portions of the MoUs at the signing ceremony at Walewale in the Northern Region.

Securing access to land, agricultural inputs and extension services is a prerequisite for promoting gender equity among farmers. However, women's access to such services in the three northern regions of Ghana is hampered by patriarchal practices and norms that deny women's property rights.

Since 2014, USAID ADVANCE has adopted three strategies to improve women's access to farm land: 1) Use of existing outgrower business (OB) network in communities to help influence traditional custodians to avail land to female farmers. OBs take on the initiative of raising awareness on the economic opportunities of women farmers to produce and achieve high yields. 2) Collaboration with other Feed the Future projects such as Ghana Commercial Agricultural Project (GCAP) that award grants to OBs for land development. Through USAID ADVANCE's collaboration with GCAP, over 40% of such land development grants were awarded to women producers. 3) Work with advocacy groups such as the Coalition for the Development of Western Corridor of Northern Region (NORTHCODE) to convince traditional leaders and land owners in northern Ghana to allocate acres of land to women.

USAID ADVANCE organized community sensitization and lobbied with men-landlords, chiefs, and husbands in other districts in the three northern regions between March and May 2016. As a result, a number of OBs also successfully negotiated with traditional authorities and husbands of female outgrowers to release lands to women. Nicholas Lambini, an OB in Chereponi District in the Northern Region, negotiated with traditional authorities to secure 500 acres of fertile land for 500 women to cultivate during the 2017 production season by demonstrating how investment in women yield greater returns. Opportunity International, through an outgrower scheme with OB Yakubu Hussein in the Gushegu District in the Northern Region, helped 23 women smallholder farmers to acquire one acre of land each to cultivate soybean. Abdul Rahaman Mohammed, an OB in Kongo in the Garu-Tempane District in the Upper East Region, convinced local chiefs and opinion leaders to release land for 100 women to cultivate rice for the 2015 cropping season. Through the same type of project's intervention, Amidu Kala, an OB in Fatchu in the Upper West Region, released five acres of farm lands to five women; and Margaret Tablah,

a woman farmer at Bussie in the Upper West Region, was granted 10 acres of her deceased husband's land by his family.

The Chief of Bussie in the Daffiama-Bussie-Issa District in the Upper West Region pledged:

"We are ready to hand over some of our fertile lands to our women, and support them with inputs to farm. I now appreciate that if women have access to fertile lands for production, there will be a sustainable food supply and the nutritional benefits of our foods in our homes will be enhanced to reduce malnutrition among our children".

USAID ADVANCE in June 2017 awarded a grant of GHC126,800 ($28,304) and technical support to the Coalition for the Development of Western Corridor of Northern Region (NORTHCODE), a local NGO that operates in the Northern Region of Ghana, to advocate and influence traditional leaders and land owners in 16 communities in the Mion, West Gonja, West Mamprusi and Sawla/Tuna/Kalba Districts to allocate lands to women to farm rice, maize and soybeans. NORTHCODE carried out a research on the issue of women's limited access to and ownership of farm land in the four districts. The research showed that women lack access to fertile land closer to homestead and are rather given land that is far away; which affects their productivity. These research findings were shared during a regional stakeholders' advocacy workshop in August 2017 in Tamale (Northern Region) where some stakeholders pledged their support to address the issues.

Between October and November 2017, NORTHCODE in collaboration with the Departments of Food and Agriculture in the four districts, successfully facilitated the signing of memorandums of understanding (MoUs) between the women beneficiaries and the traditional leaders of the 16 communities, who agreed and set aside parcels of land banks (parcels of land for future sale or development, including farming) for cultivation in the next farming season by the beneficiary women. It is expected that success of this initiative will further give tenure rights of 1,600 acres of farm lands to 1,000 women over a 10-year freehold lease period starting from 2018 farming season until 2028.

Adopting all these strategies have led to over 3,000 women accessing about 5,000 acres of lands across the three northern regions that they would not have accessed otherwise. USAID ADVANCE will strengthen its advocacy interventions for more land to be released to women.

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SUCCESS STORY

ADOPTING IMPROVED AGRICULTURAL PRACTICES ENHANCES LIVELIHOOD

A Family Sends Its Children to University Because of the Adoption of Improved Production Technologies

Joyous Ceasar Akinkang on his newly procured home-used John Deere tractor

Ceasar Akinkang is the owner of Adanseba Farms, which operates in three communities (Naadema, Baasa and Bachiesa) in the Builsa South District of the Upper East Region. He is an outgrower business owner who supports 185 smallholder farmers and provides various services to them, including land preparation and input support. Before becoming USAID ADVANCE's beneficiary, Ceasar cultivated small acreages of land barely using any improved technologies, which resulted in low yields. In 2014, he cultivated 4 hectares of maize and 1.6 hectares of rice and produced 4.5 metric tons (MT) and 3.1mt respectively.

USAID ADVANCE trained 116,694 individuals on good agronomic practices (GAPs), post-harvest handling (PHH), produce quality standards, farming as a business (FaaB), Outgrower Business Management (OBM), among other modules, by December 2017. Ceasar joined USAID ADVANCE in 2015 and has since received various trainings including good agronomic practices and OB management services. With the knowledge acquired on the use of certified seeds and recommended fertilizer application, he saw improvement in his rice production from 4.5mt on 1.6 hectares (2.8mt/ha) in 2014 to 40mt on 8.4 hectares (4.8mt/ha) in 2016. In 2017, he expanded his farm to 20 hectares and increased production to 138mt (6.9mt/ha) by using improved technologies. He sold 30mt of rice to AVNASH (foodstuffs producer mainly in the rice lines of businesses), 42mt to Shinkafa Buni Rice Farmers Association, and 8.4mt to parboilers, all valued at GHC 94,620 ($21,121). He also ploughed a total of 239 hectares for his 185 outgrowers and provided seeds and fertilizer to 49 of them.

With revenue from the season's activities, Ceasar purchased a secondhand John Deere tractor with a trailer for GHC 25,000 ($5,580), a secondhand plough for GHC 3,500 ($781), and a rotovator for GHS 4,000 ($893). Ceasar recounts how joining USAID ADVANCE has improved his production and enabled his siblings to graduate from university.

"Because of USAID ADVANCE, I had high yields, made a lot of money, and spent over GHC19,400 ($4,330) from my own coffers to take care of two younger siblings in the College of Education in Bimbilla in the Northern Region with one of them currently pursuing a bachelor's degree at the University for Developmental Studies in Tamale. I am also comfortably taking care of my two children in primary and junior high school levels. Since 2016, I have paid their school fees in advance before school resumes. I have also set up a shop for my wife from which she makes additional income to support the family. I credit USAID ADVANCE for these positive developments in my life".

In 2018, Caesar will continue to support his outgrowers by preparing their land and providing seeds and fertilizer. He also anticipates securing the services of a trained field agent to assist him in monitoring his fields and training farmers. The project will set up a four-hectare maize model farm for him and support him to cultivate additional eight hectares of maize and 40 hectares of rice.

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SUCCESS STORY

COMMERCIALIZING AND MAKING SPRAY SERVICE PROVISION SUSTAINABLE FOR CLIMATE SMART AGRICULTURE

Spill over results of spray service lead SSPs to form networks on their own initiative

USAID ADVANCE introduced the spraying service provision program in 2016. The project works with OBs to equip selected farmers with personal protective equipment (PPE) to provide safe pesticide application services to other farmers. These service providers are called spraying service providers (SSPs). The SSPs train other smallholder farmers in their communities on safe use and handling of pesticides and spray farmers' fields with pesticides at an agreed fee.

Kwame Akponjabil, an SSP, taking other SSPs through active ingredient identification and recording during an SSP training at Naadema in the Builsa South District

As of December 2017, the project had trained and equipped 711 SSPs (all males) with PPE across the zone of influence. Out of this number, 564 sprayed 12,433 hectares of land for over 12,518 smallholder farmers; and realized GHC 263,014 (US$54,795). In addition to educating and providing services to the farmers, SSPs are contributing towards the reduction of farmers' exposure to health hazards from improper application, handling and storage of pesticides.

"Being an SSP is not only about spraying people's farms but educating the farmers on safer use and handling of pesticides. Dressing in my PPE is enough education to the farmers in Prima as they mostly learn through visualization. I thank USAID ADVANCE for helping me to impact my community positively through this SSP program," Adam Wahab, a service provider in the Upper East Region said.

The benefits and interest in SSP participating in the program have spilled over beyond the project's involvement. Without project's support, SSPs trained 32 smallholder farmers in the Upper East Region in April-May. Further, the newly trained SSPs acquired their own PPE and sprayed a total of 26.2 hectares as of June 2018.

The SSPs' results have led them to form networks to make the intervention sustainable beyond USAID ADVANCE. In June 2018, with the project's support, SSPs in the Upper East Region formed networks in Builsa North, Builsa South and Mamprugu Moaduri Districts to oversee their activities. The Department of Food and Agriculture in the region has recognized the networks as functioning groups in the district.

The networks will be supported to formally register with the Plant Protection and Regulatory Services Directorate (PPRSD) of the Ministry of Food and Agriculture (MoFA) and Environmental Protection Agency (EPA). The networks will plan and manage all SSPs' activities in their respective areas. They will engage various district offices of Department of Agriculture and other regulatory bodies in their activities for SSP business certification and trainings and reach more communities.

The success of these three networks has become a model for replication in other regions. USAID ADVANCE will guide all SSPs to form networks in their districts to make their activities sustainable.

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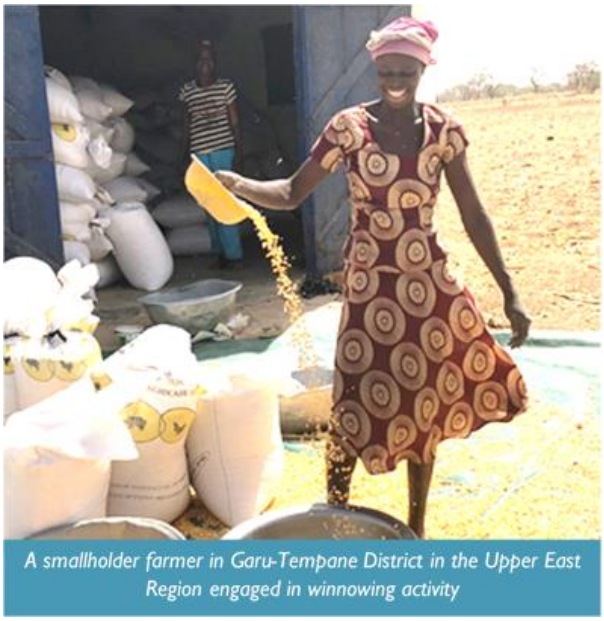
SUCCESS STORY

EMPOWERING WOMEN FOR AGRICULTURAL PRODUCTION AND LIVELIHOOD

"Providing land to women can help increase families' livelihoods", a male farmer and husband states



A smallholder farmer in Garu-Tempane District in the Upper East Region engaged in winnowing activity

By collaborating with NGOs such as the Coalition for the Development of Western Corridor of Northern Region (NORTHCODE) and other projects, USAID ADVANCE is facilitating access to land by women for farming activities. As of March 2018, the project helped secure tenure rights for 1,600 acres of farm lands to 1,000 women over a 10-year lease period. The success of a female farmer, Asibobo Alhassan, in Kongo in Garu-Tempane District in the Upper East Region has urged her husband and community leaders to release more farming land to women in the upcoming 2018 production season.

Asibobo's husband, Alhassan Yakubu, cultivated 3.2 hectares of maize and harvested 0.45 MT on average in 2015 and 2016, earning an average of GHC 400 (US$ 89) each year. In the 2017 production season, Asibobo requested 1.6 hectares of land from her husband to complement his efforts. Through USAID ADVANCE's plea, Alhassan reluctantly released the land to his wife. She used 1.2 hectares for maize farming and the remaining for groundnut production. USAID ADVANCE linked her to an outgrower business (OB), Abdul Rahman Mohammed, who trained her on good agronomic practices, including row planting, fertilizer application, and pest management. After adopting these practices, she harvested 3.2 MT of maize and sold 2.5 MT, which generated income of GHC 2,500 (US$558).

Asibobo's husband stated: *"I was not so sure my wife could farm so I was reluctant to give her the land. Adopting USAID ADVANCE's GAPs, she proved me and other men wrong. I now know that providing land to women can help increase families' income."*

Because of Asibobo's success, the men in the community have expressed their willingness to release land to their wives to farm during the upcoming production season. Other women, upon witnessing the respect she gained from her husband and other men in the community, consult her on good agronomic practices. The couple intends to cultivate seven hectares in 2018. USAID ADVANCE's OB will continue to provide

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them with the necessary training and help them access inputs. The project will strengthen its advocacy interventions for more land to be released to women.

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SUCCESS STORY

INCREASING THE PRODUCTIVITY OF SMALLHOLDER FARMERS THROUGH OUTGROWER SCHEMES

Buyer outgrower schemes improve yields and profits of smallholder maize farmers in Janga

Abdulai Sayibu, on his new motor bike purchased from profit realized after repaying Agricare for input credit

Abdulai Sayibu is a smallholder farmer based in Janga in the West Mamprusi District of the Northern Region. He has been cultivating maize for 15 years, as well as groundnuts and cowpea. Like many smallholder farmers in Northern Region, he faced challenges with accessing improved seeds, he neither applied fertilizer nor adopted most improved farming practices. "*I started farming maize since I was 15 years old and I am now in my mid-thirties. For all these years, I never purchased certified seeds nor adopted adequate fertilizer application and row planting. My harvest was usually between 0.5mt to 0.8mt on two acres,"* Abdulai Sayibu recounted.

Abdulai Sayibu became a USAID ADVANCE's outgrower beneficiary in 2015 and worked with Mahama Yakubu Tiah, an OB in Janga. He has since benefitted from training in good agronomic practices and quality standards. In 2017, he received input credit through the project's facilitated Agricare outgrower scheme[4]; specifically, eight bags of fertilizer and 30Y87 pioneer maize seeds to cultivate a two-acre land. With skills acquired through project's trainings and the application of the certified seeds and fertilizer, Abdulai harvested 6.8MT of maize from the two acres. Compared to his initial average production volume, the 6.8MT represents over 1,000 percent increase in his production volume because of USAID ADVANCE's support.

With the 6.8MT of maize harvested, he paid 1.6MT to Agricare for the inputs and sold the surplus for GHS 2,300 (US$479). He used some of the profit to purchase a motorbike to facilitate visits to his buyers and other farmers. In preparation for the 2018 farming season, Abdulai acquired additional land and expanded his farm to four acres with support from USAID ADVANCE's outgrower scheme.

"I thank the OB and the USAID project for the support. I got high yields and profit from maize farming because I had access to improved seeds and fertilizer, timely ploughing and threshing service from my OB. With the new motor, I intend to acquire a new land away

from the community where the fertility is high to expand my farm and increase my yield next season," – Abdulai Sayibu

The project has linked 5,009 smallholder farmers to the outgrower schemes and will continue to support outgrowers through OBs to increase production and gross margins.

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SUCCESS STORY

POSITIONING FARMER BASED ENTERPRISES AS KEY AGENTS OF CHANGE IN AGRICULTURAL VALUE CHAIN

USAID ADVANCE strengthens the capacity of a farmer group for improved service delivery

Adam Aminu and Adam Abdullah, lead farmers in the Buipe District of the Northern Region, formed the Samakuse Farmers Group in 2010 to enable them participate in outgrower schemes and access production inputs such as seed, fertilizer, herbicides and insecticides to improve their productivity. For four years, the group struggled with business registration, record keeping, and access to agricultural inputs and end markets.

A 200-MT capacity warehouse under construction by the Samakuse Farmers Group

The group became a farmer-based organization (FBO) under USAID ADVANCE in August 2014 and has since received project support. Through USAID ADVANCE's facilitation, the group leaders developed a constitution to guide their operations and registered the group with the Department of Cooperatives in Buipe District. The project trained group members in leadership and agricultural production activities such as: management of group dynamics, records keeping, numeracy, farming as a business (FaaB), Sell More Fore More (SMFM) and good agronomic practices (GAPs). To expand their marketing outlets, the project introduced group members to mechanized practices such as shelling, spraying service provision for business, large buyers, and financial institutions such and Abosokotre Rural Bank.

These interventions have enabled the group to graduate from an FBO to a farmer-based enterprise (FBE). Members operate with formal administrative structures, engage with the open market, and conduct collective purchases and sales of inputs and produce. They purchased two tractors, two shellers, two trailers, warehouse (under construction), tricycles, motorbikes, power tiller, knapsack sprayers, tarpaulins, weighing scales and manual planters.

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By adopting improved agricultural technologies, yields of individual FBE members improved from an average of 0.15 MT to 1.0 MT of maize per acre, with corresponding profits rising from GHC150 to GHC700 (US$31 to US$149) for the 2017 farming season. Their bank account balance is GHC 32,000 (US$6,667) as of May 2018.

Samakuse Farmers Group has become exemplary to other organizations. They trained 11 FBO executives in four districts in FBO management. They oversee 13 smaller community groups with membership of 45 each, who serve as their outgrowers. The group not only advances loans to its members for production, aggregation and trade but also allows the members to leverage the group's assets as collateral to access loans from Abosokotre Rural Bank in Buipe. The rural bank has acknowledged the farmer group as their major partner in the district.

Out of the project's 148 FBOs, 52 have graduated to become FBEs as at March 2018. The project is working with the remaining FBOs to enhance their progression to FBE status to make them profitable in the agricultural value chain.

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SUCCESS STORY

BUILDING OUTGROWER BUSINESSES' CAPACITY IN BOOKKEEPING FOR IMPROVED MANAGEMENT SERVICES

Accurate bookkeeping leads to increased margins for Mic Mac Enterprise, a USAID's ADVANCE project-supported outgrower business

Michael Asutani is the owner of Mic Mac Enterprise, an outgrower business (OB) with over 625 smallholder farmers across eight communities in the Yendi Municipality in the Northern Region. Before becoming a beneficiary of the USAID's ADVANCE project in 2015, Michael was a nucleus farmer with 30 farmers from three communities and had farmed for over 10 years. While he would keep basic records on his ploughing services to his outgrowers, the records did not include data on sales, income and expenditure, or equipment maintenance (fuel, servicing and operator cost) records. This made it difficult for Michael to ascertain the true financial state of his business; he could not make sound business decisions and suffered losses.

Since becoming a project beneficiary, Michael has received project-facilitated training covering accurate record management, business and financial management, contracting and negotiations, outgrower management, and business operations analysis. With project support, Michael received two interns who supported him with bookkeeping during peak production season, from the University for Development Studies in 2017 and 2018. As a result, he acquired bookkeeping skills in income and expenditure, ploughing services, recovery, shelling, sales, and fuel management.

Mic Mac Enterprise owner, Michael Asutani (Photo credit: Joseph Kansaki, agricultural production officer)

Now, Michael keeps up-to-date records on all ploughing services, including cash and in-kind payment, equipment fuel and maintenance cost, service provision to outgrowers in seed and fertilizer, marketing and sales. He also tracks repayment from outgrowers supported. In 2017, through knowledge in bookkeeping, Michael successfully determined the amount of fuel used for ploughing per acre, and this enhanced transparency and accountability between his machine operators and the farmers. He spent GHC 13,444 (USD 2,801) on ploughing services for 619 outgrowers and GHC 5,324 (USD 1,109) on tractor maintenance. If not for his newly acquired knowledge as a result of the project's training intervention, Michael could not have determined these figures exactly.

The bookkeeping also helped in repayment recovery. For the 2017 production season, he had 99% recovery for in-kind repayment. His increased knowledge in outgrower business management led to increased efficiency, timely equipment servicing, and tractor maintenance. Michael's production volume also increased to two metric tons per acre, which is more than a 25% increase over his previous average prior to being a project beneficiary.

"Previously, I kept my records anyhow. I could not analyze the figures to make any meaningful decision to improve my business. Because of USAID's ADVANCE trainings, I can now set target for the business operation in terms of loan repayment, service provision, and revenue generation. I am also able to project profits for a particular season." — *Michael Asutani, owner of Mic Mac Enterprise*

Because of these successes, he has progressively increased the number of outgrowers he supports from 30 in 2015 to 625 in 2018. Michael is one of 373 OBs the project has trained to help them improve their businesses and offer quality services to their outgrowers.

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SUCCESS STORY

ENHANCING TRACTOR OPERATORS' CAPACITY FOR IMPROVED SERVICE DELIVERY

A trained tractor operator shares how the USAID's ADVANCE project helped him break a major barrier

Many smallholder farmers in Northern Ghana face the challenge of having limited access to quality mechanized land preparation. This is partly due to a lack of training for equipment operators. Poor land preparation activities can potentially reduce yields by 30 percent. In addressing this challenge, the USAID's ADVANCE project worked with equipment dealers, especially AFGRI, an agricultural services company formerly representing John Deere in Ghana, to train 56 people, including tractor operators and outgrower business owners (OB) across the three northern regions of Ghana on basic tractor operation and maintenance since 2016.

Abdula Alidu, a USAID's ADVANCE project trained tractor operator with Mic Mac Enterprise, an outgrower business in the Yendi Municipality of the Northern Region (Photo credit : Joseph Kansaki, agricultural production officer)

Abdula Alidu, 40, who works with Michael Asutani, an OB in the Yendi Municipality of the Northern Region, benefited from the tractor maintenance training. Abdula previously worked as a hired tractor operator, providing land preparation and threshing services to farmers in the municipality. Throughout his entire 17-year career, he never received any formal training in the operation and maintenance of tractors or the ripping technique until he took part in the USAID ADVANCE's project facilitated trainings in 2016 and 2017. Prior to that, he had poor skills in ploughing and service provision, maintenance schedules, and tractor handling. This resulted in frequent breakdowns of the tractors and increased servicing costs. After ploughing 50 acres of land, Abdula would spend GHS 3,000 (USD 625) on either maintenance or repairs.

After receiving these tractor management trainings, Abdula gained a deep knowledge, including techniques for climbing a tractor, routine checking of all fittings, dashboard readings and interpretation, determination of servicing schedule, and ripping and ploughing to avoid frequent breakdown of the parts. As a result, he successfully used a John Deere tractor that he received as grant from Michael Asitani for more than a year without any broken parts. That meant he also saved the GHS 3,000 he would have spent on maintenance

or repairs for every 50 acres ploughed. Abdula adheres to routine tractor maintenance, thereby minimizing frequent part breakdowns and costs of maintenance. He provides quality ploughing services to smallholder farmers, and this has won him the admiration of farmers, outgrower business owners, and other tractor operators in the Yendi Municipality and beyond.

"Now, due to the knowledge gained on tractor operation, there is reduced cost of maintenance. I invest the money I would have spent on repairs on other beneficial things. I am motivated to continue with the practice because my [fellow] operators are always curious to how I kept the tractor in that good condition. I now literally sleep with the tractor for good monitoring," Abdula said.

In early 2018, Abdula trained nine other tractor operators who had not received prior project's training. This will enable them to also improve upon their performance. He monitors and provides technical backstopping to the trained operators in case of any challenges. His vision is to continue to be an example to others. "The training has been beneficial," Abdula said. "I want to impart the knowledge to more operators on my own in the coming years."

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SUCCESS STORY

17.0. IMPROVING OUTGROWER BUSINESS MANAGEMENT THROUGH DIGITAL FINANCIAL SERVICES

USAID's ADVANCE project connects smallholder farmers to input suppliers and buyers through mobile money services

Most of the USAID's project beneficiaries live in remote communities in the three northern regions and Brong Ahafo Region with limited or no financial services. They therefore face challenges, including inadequate access to financial services and difficulty obtaining agrochemical and other agricultural inputs. To mitigate this situation, the project collaborated with financial institutions and telecommunications companies to provide digital financial services (DFS) through mobile money. This technology promotes cashless transactions among value chain actors to promote efficiency and reduce risk associated with cash payments.

Registration of farmers as MTN mobile money subscribers at Mimima community in the Upper East Region

Since 2014, the project has linked 4,756 actors to mobile money and trained 1,482 project beneficiaries, including 692 women, to become mobile money subscribers. Smallholder farmers appreciate the benefits of this digital financing system and patronize its use on their own initiative.

Adopting this DFS method has contributed to smallholder farmers' access to finance, improved payments, facilitated access to credit, reduced the risk of cash transactions, and facilitated the payment or recovery process. In August 2018, the project organized community input promotions for over 8,750 smallholder farmers across 16 districts in the Northern Region. Using mobile money and without the project's facilitation, 222 farmers from the Zagum, Fio Naya, Boamasah, Kinkandina communities in the West Mamprusi District followed up after the promotions. They purchased 13.2 metric tons of NPK fertilizer from Mumuni Enterprise, an input shop owned by Alhaji Mumuni Braimah, at a value of GHS17,952.00 (USD 3,740). Early purchase and application of fertilizer contributes to improved yields. "We do not have to travel long distances to give money to anyone. We can sit in the comfort of our homes and transact business. Because we have gotten fertilizer early, I am sure we will increase our production volume this farming season," a smallholder farmer said. The input dealer appreciated the payment system and remarked, "In 2017, USAID' ADVANCE project set me up as a mobile money merchant to facilitate transaction with clients. I am grateful to the project for that initiative. It is easier to transact business with farmers through mobile money than physical payment."

The mobile money service has also improved credit recovery for outgrower businesses. Matthew Mbanti Dagbanja, a nucleus farmer in the Yendi Municipality in the Northern Region, said that USAID/Ghana ADVANCE II's introduction of the electronic money payment system caused an appreciable number of smallholder farmers repaying their credits through mobile money. Matthew extended his services from 90 outgrowers in 2012 to 219 outgrowers in 2018. "Before the introduction of mobile money service, my farmers either risked carrying cash or traveling long distances to purchase agrochemicals," Matthew said. "With mobile money, farmers now send money to me before I transport their goods to them in their respective communities. This makes the work easier."

Most input dealers have set up agents in the communities. These agents are mostly lead farmers, who provide services to smallholders receiving payment through mobile money. Additionally, mobile money has become a savings platform for most smallholder farmers, as they find it as a secure way of keeping money.

The project is scaling up the number of beneficiaries of DFS to 10,000 smallholder farmers by the end of 2018. The project will continue to work with the telecommunication industries to provide technical support to smallholder farmers through mobile money services to enhance their productivity.

SUCCESS STORY

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STRENGTHENING MARKET LINKAGES FOR INCREASED COMMODITY SALES

USAID's ADVANCE project intervention enables Vestor Oil Mills Limited to expand domestic distribution channel and increase soymeal sales

One objective of the USAID's ADVANCE project is to increase market access and trade for maize, rice, and soybean farmers in the project's zones of operation. One way the project achieves this is through strengthening the capacity of processors, including Vestor Oil Mills Ltd., a Kumasi-based soybean processor, to allow them to participate actively in the value chain.

In Ghana, mechanically processed soymeal has suffered very stiff competition from the predominantly imported, solvent-processed soymeal. This is due to the general perception among poultry farmers, the product's main users, that the quality of the former is inferior.

Vester Oil Mills Limited, a USAID/Ghana ADVANCE II-supported business, operates a 45 metric tons-per-day mechanical expeller.

Vester Oil Mills, with its 45 metric tons-per-day mechanical processor, had dedicated poultry farmer customers, who regularly demanded the firm's products, despite the general preference of the market for solvent-extracted soymeal. In 2014, heavy shortages in the soybean supply resulted in Vester Oil Mills losing these customers to the imported product. When the supply improved in 2015, the company found it difficult to reclaim the customers it had lost. Consequently, it turned its attention to the Nigerian market, where the demand for mechanically processed soymeal by the catfish and poultry industry was strong. Vester Oil Mills successfully exported 1,105 metric tons of soymeal to Nigeria from March through December 2015. In July 2016, the Nigerian naira, began depreciating against international currencies, including the Ghanaian cedi. Though Vester Oil Mills' sale prices of soymeal in Nigeria remained unchanged in cedis and dollars, prices increased by 179 percent between July and September 2016 in nairas. Demand in Nigeria declined because of the high price, and sales dropped sharply. Vester Oil Mills exited the Nigerian market in October 2016.

Intervening in the situation, the USAID's ADVANCE project, in October 2016, introduced Vester Oil Mills and its products to the Poultry Farmers Association in Dormaa Ahenkro in the Brong Ahafo Region — the biggest poultry enclave in Ghana. Members of the association, who are all poultry farmers of mostly layer birds, were initially skeptical about the efficacy of the company's mechanically processed product.

The project encouraged members of the association to volunteer some of their birds for a trial using Vester Oil Mills' soymeal. Six farmers volunteered 200 birds with an average laying percentage of 66 percent for the trial, in which they would be fed with Vester Oil Mills' soymeal feed.

Two weeks after the trial, all six farmers recorded a 66 to 87 percent increase in laying among their 200 birds. During the same period, the flock from which the 200 birds originated increased their laying by 73 percent on the imported soymeal. The positive results of this trial led to a higher demand from farmers for Vester Oil Mills' soymeal.

Meanwhile, the project also identified and assisted Vester Oil Mills with securing a premise in the main market of Dormaa Ahenkro to use as a storage and sales outlet. The owner of the premise, Nea Nyame Aye Farms, a USAID's ADVANCE project-supported poultry business, offered the space to Vester Oil Mills at no cost to allow the company to save money and promote its soymeal to poultry farmers in the region.

In less than a week after the trial's results, farmers purchased 75 metric tons of soymeal that was already on the market, compelling Vester Oil Mills to dispatch another 140 metric tons from its factory at Aputuogya Abuoentem in the Bosomtwe District of the Ashanti Region to restock the Dormaa Ahenkro sales outlet.

Between November 2016 and December 2017, Vester Oil Mills recorded soymeal sales of 5,760 metric tons in Dormaa Ahenkro. In January 2018, Vester acquired two acres of land in Dormaa Ahenkro to begin construction of a permanent sales distribution depot. From January through September 2018, Vester Oil Mills sold 4,380 metric tons in the Dormaa Ahenkro market. Dormaa Ahenkro is on the Ghana-Cote d'Ivoire border, where the company's soymeal has caught the attention of some Ivorian poultry farmers who became regular customers. Fuani Farms, for instance, one of the biggest poultry farms in Cote d'Ivoire, purchases an average of 85 metric tons of Vester Oil Mills' soymeal per week through KA Unity farms in Dormaa Ahenkro.

[1] 853 are currently active

[2] *Head porting is a menial business where operatives make a living by carrying loads on their head, for example, in market areas and lorry stations for distances for which payment is determined by the owner of the goods*

[3] *With a culture of savings, Village Savings and Loans Association (VSLA) members save amounts of money periodically to purchase input for agriculture production and be economically empowered.*

[4] *Linkage to Agicare allows him to access high quality inputs and guarantees markets to sell his maize produce.*

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