



# FEED THE FUTURE

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



## AGRICULTURAL DEVELOPMENT AND VALUE CHAIN ENHANCEMENT PROJECT (FTF ADVANCE II PROJECT)

FY2019 ANNUAL REPORT: OCTOBER 2018 - SEPTEMBER 2019



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ADVANCE II FY2019 Annual Report. October 2019

# FTF ADVANCE II FY 2019 ANNUAL REPORT

OCTOBER 2018—SEPTEMBER 2019

COOPERATIVE AGREEMENT No. AID-641-A-14-00001

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## Acronym List

ADVANCE	Agricultural Development and Value Chain Enhancement
ACDEP	Association of Church-based Development NGOs
CE	Cost Extension
FAW	Fall Armyworm
FBE	Farmer-Based Enterprise
FBO	Farmer-Based Organization
FTF	Feed the Future
FY	Fiscal Year
GAP	Good Agronomic Practice
GCX	Ghana Commodity Exchange
GESSIP	Ghana Extension Systems Strengthening Project (Catholic Relief Services)
GFSS	Global Food Security Strategy
GHS	Ghanaian Cedi
ICT	Information and Communication Technology
KIC	Kosmos Innovation Center
LOP	Life of Project
M&E	Monitoring and Evaluation
MEL	Monitoring Evaluation and Learning
MOFA	Ministry of Food and Agriculture
MT	Metric Ton
NBSSI	National Board for Small Scale Industries
NCE	No Cost Extension
OB	Outgrower Business
ODK	Open Data Kit
PFJ	Planting for Food and Jobs
PERSUAP	Pesticide Evaluation Report and Safe Use and Action Plan
PHH	Post-Harvest Handling
PPE	Personal Protective Equipment
PPRSD	Plant Protection and Regulatory Services Directorate
RAD	Rural Agro-Dealer
SSP	Safe Spray Provider
USAID	United States Agency for International Development
VAA	Village Agro-input Agent
VSLA	Village Savings and Loans Association
ZOI	Zone of Influence

## A Executive Summary

During fiscal year 2019 (FY2019), the project transitioned from completing key activities of the no cost extension (NCE) phase that ended in April 2019 to implementing new initiatives driven by functional behavior and systemic change under the cost extension (CE) phase that started in May 2019.

By the end of the NCE phase, the project successfully established and expanded sustainable rural market development models—the outgrower business model, buyer-sponsored outgrower scheme, village savings and loans associations (VSLAs), rural agro-dealers (RADs) and village agro-input agents (VAAs), and grant programs as innovation and investment catalysts—that underpin the project’s theory of change. The theory of change of the Feed the Future Agricultural Development and Value Chain Enhancement project (FTF ADVANCE II)<sup>1</sup> suggests three functions of value chain competitiveness—agricultural productivity, market access and trade, and an enabling environment—that are fueled by strong local capacity, incentives for investments, and mutually beneficial relationships and business linkages. The project carried out activities to continue strengthening the capacity of maize and soybean value chain actors. The activities focused on reinforcing and nurturing business linkages between value chain actors, leadership and functioning of value chain groups (outgrower business networks, VSLAs, RADs and VAAs, safe spray providers, and women and youth advocacy groups), as strategic pillars to support sustainability beyond project completion.

The development of ten zonal and three regional outgrower business (OB) networks is a project strategic approach to ensure sustainability of relationships, systems, and services developed during the last phase of the project. The zonal networks directly provide services to their OB members. Currently, all 10 zonal networks have the requisite interim or substantive executives in place, most of them set up offices, and some of them hired their own staff. All of these initiatives are at the networks’ own cost. During the NCE phase, the project conducted several activities intended to strengthen the networks’ operations. These included drafting business and action plans, developing statutory procedures and processes, and providing training on leadership, advocacy, and forming regional networks.

Through efforts to engage with market actors during the NCE phase, the project directly reached 9,206 smallholder farmers (incl. 5,583 women) and individuals who participated in the project’s activities during the previous year and recorded \$57,000 of capital invested by OBs in warehouse, shellers, and tractors. With the addition of these results, the project reached a total of **131,493** smallholder beneficiaries, representing **104 percent of the life-of-project (LOP) target** of 127,000. The project trained 7,524 individuals (incl. 4,807 women) on good agronomic practices (GAPs) and post-harvest handling (PHH).

The 2018 crop season ended with a higher maize gross margin (\$781/ha) than the 2017 season (\$662/ha) because the average yield for maize increased by an average of nine percent, from 3.43MT/ha in 2017 to 3.68MT/ha in 2018. Farmers may have increased their yields, as they continued to gain more experience with and apply good agronomic practices and technologies learned from the project. The Government of Ghana’s subsidy program, Planting for Food and Jobs, which provided subsidized inputs for maize production to farmers, also may be responsible for the increase. However, the soybean gross margin decreased from \$805/ha to \$535/ha, attributed to the significant decrease in soybean yield and selling prices, from 2.6 MT/ha to 2.03 MT/ha and \$344/MT to \$271/MT respectively. The lower soybean yield is the effect of no input subsidies from the Government of Ghana during 2018 crop season. During the crop season almost all (99 percent) of project beneficiaries applied one or more improved technology and management practices that the project promoted.

The project conducted six studies at the end of the NCE that provided details of the achievements, lessons learned, and sustainability of the models. Mainly, the studies showed that:

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<sup>1</sup> The project abbreviated name was rebranded to FTF ADVANCE II upon request by USAID/Ghana’s Development Outreach and Communications Office.

- OBs have developed stronger business relationships with several value chain actors, positively impacting their agribusiness enterprises. The majority (71 percent) of OBs perceive the impact of their relationships on their agribusiness enterprises as high.
- Buyers perceived a positive impact of the outgrower scheme on their business. The scheme led to an increase in profit levels, the quality of commodities sourced from OBs, the assurance of a consistent supply of commodities from OBs, and increased knowledge of good agronomic practices and business management.
- VSLAs significantly improved smallholder farmers' investments and application of improved technologies. The respondents indicated that this has led to improved living conditions, especially for women VSLA participants, in the areas of child education, health and nutrition, and investment in alternative livelihoods ventures, among others.
- The project established sustained agricultural input networks to make inputs accessible to smallholders through community promotions, financing via OBs, farmer based organizations (FBOs), VSLA share-outs, and open market access, and assessed the impact of the project's strategy in managing fall armyworm (FAW).
- The innovation and investment catalyst fund, a grant program in which businesses and individuals accessed equipment such as tractors, planters, shellers, and rotavators, by contributing from 15 to 30 percent of the equipment cost and committing to provide services to smallholder farmers, resulted in project participants making additional investments of GHS 1,969,685 (US\$437,708).
- The project's efforts to empower women through leadership training and to improve their access to land for farming resulted in increased agricultural productivity in maize and soybean value chains by women, increased women's resilience in rural households and access to finance through participation in VSLAs, increased decision-making ability of women at the household level, increased adoption of agricultural technology by women, and increased female leadership.

During the CE phase, the project focuses on the role of women, youth, and the use of information and communication technology (ICT) to further enhance inclusiveness and sustainability. The transition also involved a geographical shift to 17 districts (as opposed to 52 districts during NCE) as mandated by the Global Food Security Strategy (GFSS) country plan for Ghana. During the CE, the project is targeting a minimum of 70 OB that are members of zonal OB networks and provide services such as mechanized land preparation, input credit, post-harvest grain processing, and marketing to approximately 23,800 smallholder farmers (outgrowers). During this phase, the project's plan is to strengthen the capacity of the zonal OB networks that are associations of local OBs with elected or interim leaders to foster and advocate for the common interests of their members. These zonal OB networks aim to sustain the gains reaped from project's interventions beyond the project's closure.

The CE theory of change targets the capacity of zonal network to promote behavior change and sustainability through consistent and accountable business practice and performance. By improving the capacity of OB networks to effectively engage stakeholders, negotiate, and conduct advocacy to deliver the tangible felt needs of their members, the networks will be strong enough to promote three key principles that enhance consistent and accountable business practice and performance. These are:

1. Building and nourishing trust relations with business and social partners
2. Cultivate a learning and innovation culture to ensure successful adaptation to changing business, natural, and social environments
3. Promote inclusiveness and empowerment, especially for women and youth, to ensure business sustainability

Although activities during the CE period strongly focus on zonal OB networks, the project continues to strengthen capacity, stronger business relationships, and learning and innovation among actors such as VSLAs, financial institutions, safe spray providers (SSPs), RADs, VAAs, government agencies, and local authorities.



Since May 2019, the project has implemented activities to improve the capacity of OB networks. The project facilitated the acquisition of office premises, staff, and furniture. The project assisted the networks in organizational setup such as business registration, office rental, setup of email and social media accounts, and the acquisition of necessary office documentation. The project also conducted capacity assessments and identified key practice areas common to all zonal networks that were available to participate. The project undertook other assessments and benchmarking on SSPs, VSLAs, RADs, and VAAs to evaluate baseline capacity for behavior change. The benchmarked areas cover office and business management, service provision, women and youth inclusiveness, environmental stewardship, and digitization and ICT use. Preliminary analyses of assessment results show significant improvement in OB performance.

The project collaborated with the Fall Armyworm National Taskforce to provide education and information to various stakeholders. During the CE phase, the project worked with OB networks and the regional and district offices of agriculture to institute a surveillance and alert system based on WhatsApp platform that involves smallholder farmers, lead farmers, and OBs. During the CE phase participants reported 361 cases of FAW attacks on 334 hectares of maize across the zone of influence (ZOI), which were mostly considered mild infestations.

The project concentrated on exploring new markets, and worked with Ghana Commodity Exchange (GCX) to train representative of seven OB networks on the grain quality standard required by the platform and an overview of GCX's operations. The project also developed a new coding system for labelling bags of produce as a first step towards a traceability system. The distinct code allows a user to trace the source of the produce to the OB through the administrative region, zonal network, district, community, and the OB. The project collaborated with Esoko Insyt to develop interactive, mobile-based tools to promote self-assessment and learning. Currently, the partners have developed learning tools for understanding grain quality characteristics and standards and for setting up field demonstrations. This effort is part of an initiative to make agribusiness attractive to youth by identifying appropriate entry points (white collar-type jobs, with lower levels of menial labor) and capitalizing on young peoples' relatively higher interest in digital technology. Also, the project started to collaborate with seven young finalists of the AgriTech Challenge, an ICT for agriculture-based mentorship competition led by Kosmos Innovation Center. The project evaluated the finalists' value propositions for support services to agriculture value chain development and introduced them to networks for business.

The results from activities conducted to improve the inclusiveness and empowerment of women also demonstrate the progress achieved during the reporting period. Eight of the 10 OB networks agreed to amend their constitution to enable other women (not OBs) leaders to join the network leadership to promote gender equity in value chains. This outcome is the result of an affirmative action activity that the project facilitated for women. Other results show that three OBs are exclusively providing input credit to women's groups to improve access and productivity.

During the CE phase, the project adopted a market-system-oriented monitoring and evaluation (M&E) approach that deepens the sustainability of the outgrower business model by empowering private sector partners to take ownership and utilization of their business data while complying with USAID and ACDI/VOCA's requirements. The project developed open data kit (ODK) software and Quick Response (QR) code to facilitate OBs' data collection on their services to smallholder farmers. The QR code and ODK software allow for offline and online mobile data collection and analysis. The project also created dashboards to support data analysis, visualization, and the decision-making process.

During the CE phase, the project worked with 100 OBs (including five women), who provided various production services, and supported 18,456 smallholder farmers, including 11,023 women (60 percent) and 4,951 youth (27 percent). Including the 3,450 smallholder farmers who benefitted from trainings during the NCE phase, the project reached a total of 19,491 participants, representing 97 percent of the 20,000 participation target for FY2019. Fifty nine percent (11,028) of all participants are women.

The project also worked with 461 VSLAs, with a total membership of 10,303, including 7,008 women (68 percent) and 3,318 youth (32 percent)<sup>2</sup> in the ZOI. With these results, the project achieved more than double (252 percent) of the FY2019 target of working with 4,000 VSLA members. The project used the VSLA concept to increase access to productive economic resources, and women VSLA members constituted 38 percent and youth VSLA members constituted 18 percent of all project participants. This achievement is significantly higher than the project's FY2019 goals of 20 percent and 12 percent of female farmers and youth accessing production resources, respectively.

Twenty-two organizations and firms benefited from OB networks' facilitation and increased the distribution of inputs to farmers. The project participants greatly benefited from agricultural-related financing, recording \$706,695 of cash and in-kind credit to support their production. Six buyer outgrower schemes supported 52 OBs who worked with 1,006 smallholder farmers to provide ploughing, certified seeds, fertilizer, and agrochemicals. Of these investments, \$53,339 went to female farmers and \$15,955 went to youth. These investments are over five times higher than the FY2019 target of \$120,000.

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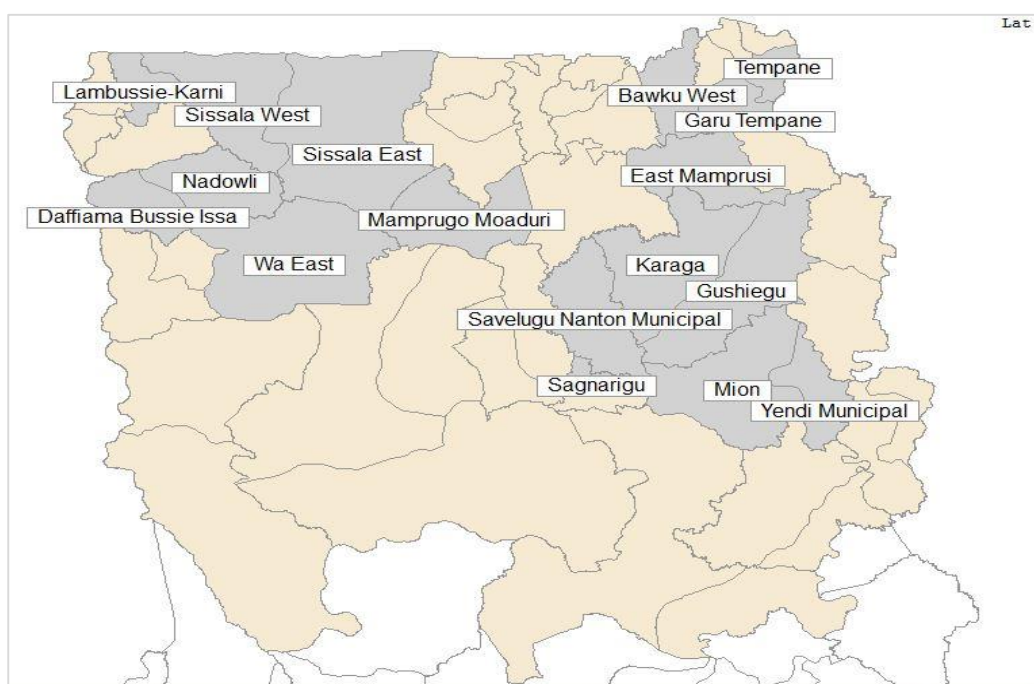
<sup>2</sup> The youth are predominantly young women (2,191) aged 18–29.

## B Introduction

This report covers achievements and results of activities implemented during fiscal year 2019 (FY2019), from October 2018 to September 2019. During this fiscal year, the Feed the Future Agricultural Development and Value Chain Enhancement project (FTF ADVANCE II) received a cost extension from May 2019 to April 2020, shifted focus to behavior and systemic changes, and took a greater facilitative approach by strengthening the capacity of outgrower business (OB) networks. The two phases—the no-cost extension (NCE) phase and the cost extension (CE) phase—differed in several respects, as explained in Table 1 below.

**Table 1. Difference between no-cost extension and cost extension phases of FTF ADVANCE II**

	Area of variation	No cost extension (NCE) phase	Cost extension (CE) phase
1	Theory of change	Capacity to enhance value chain competitiveness	Capacity to promote behavior and sustainability
2	Implementation strategy	Facilitate development of and strengthen business relationships between maize and soybean value chain actors. Address capacity gaps of value chain actors to ensure sustainability.	Focus on behavior change to ensure that gains in productivity, trade, and marketing of maize and soybean value chains are sustained. Strengthen OBs and their networks to build trust and engage with major buyers and processors on a more long-term basis.
3	Directly targeted actor(s)	All value chain actors	Mainly zonal outgrower business networks
4	Zone of influence	52 districts in northern regions	17 districts in northern regions
5	Number of partners in consortium	Three consortium partners (ACDI/VOCA, TechnoServe, and the Association of Church-based Development NGOs [ACDEP])	Two partners (ACDI/VOCA and ACDEP)



**Figure 1:GFSS Zone of Influence and Districts**

The project completed all planned activities during the NCE phase and achieved the targeted results. The activities conducted under sub-purpose 1 were mainly post-harvest handling (PHH) training, promotion of subscription and use of mobile money, and facilitative support to OBs, OB networks, rural agro-dealers (RADs), and safe spray providers (SSPs), to improve office management, business planning, and management. Under sub-purpose 2, the project supported trade associations and potential farmer-based enterprises to build the capacity of members. Under sub-purpose 3, staff provided trainings to improve the capacity of OBs, OB zonal and regional networks, and farmer-based organizations (FBOs). The project conducted six learning studies on the sustainability of the OB model, gender, grant schemes, buyer-sponsored outgrower schemes, and input expansion activities. During the CE phase, the project focuses on behavior change and development of the OB zonal networks towards sustainable outcomes. The main body of this report includes a summary of results, progress with technical implementation that is reported under three sub-purposes—increased agricultural productivity in targeted commodities, increased market access and trade in targeted commodities, and strengthened capacity for advocacy and activity implementation, project support for gender mainstreaming, environment, youth engagement, and information and communication technology (ICT), and monitoring, evaluation and learning (MEL) activities.

## C Collaboration

### Collaboration with the Ministry of Food and Agriculture and Decentralized Units

The project collaborated with the Ministry of Food and Agriculture (MOFA) Department of Agriculture's municipalities and districts to build the capacity of OB networks and access inputs for project participants. The Department of Agriculture granted office space to OB networks located in Bawku, Karaga, and Bolgatanga to coordinate their activities. Also, personnel from the Nation Builders Corps were seconded to the Sissala Area and Wa zonal OB networks to provide them with operations support. The Department of Agriculture trained, sensitized, and facilitated networks' access to subsidized inputs through the Planting for Food and Jobs (PFJ) program.

#### NATIONAL FALL ARMYWORM (FAW) TASKFORCE

As part of its support to the National Fall Armyworm (FAW) Taskforce, the project organized a joint monitoring visit to the Upper West Region to assess the Department of Agriculture's preparedness to control FAW during the 2019 planting season. The project will continue to work with the taskforce to complete planned key milestones, including an assessment of the readiness of MoFA and other stakeholders to manage FAW infestation, complete field monitoring, and re-train stakeholders.

#### PLANT PROTECTION AND REGULATORY SERVICES DIVISION OF THE DEPARTMENT OF AGRICULTURE

FTF ADVANCE II worked with the Department of Agriculture's Plant Protection and Regulatory Services Directorate (PPRSD) to provide technical assistance to project-supported safe spray service providers and some RADs and village agro-input agents (VAAs) in the four northern regions to safely handle pesticides and comply with regulations on pesticide use and trade.

### Collaboration with Other Partners

#### UK AID FUNDED MARKET DEVELOPMENT FOR NORTHERN GHANA PROGRAMME

The project signed a memorandum of understanding with the Market Development for Northern Ghana (MADE) Programme to collaborate on data and information sharing, gender activities such as the UN's

International Day of Rural Women and providing apprenticeships for female agriculture students, and assessment of environment and climate-smart practices.

#### NATIONAL BOARD FOR SMALL SCALE INDUSTRIES

The project is working with the National Board for Small Scale Industries (NBSSI) to continue to provide OBs and networks with training on business management through a network or individual registration process to establish formal relationship with NBSSI. The networks are in the process of raising the required registration fees.

#### GHANA EXTENSION SYSTEMS STRENGTHENING PROJECT - CATHOLIC RELIEF SERVICES

The Ghana Extension Systems Strengthening Project (GESSIP) is establishing a corps of self-employed village-based advisors to support the MOFA's agricultural extension system. The project started discussions with GESSIP about the possibility of village-based advisors providing services to OB networks and other value chain actors such as village savings and loan association (VSLA) members, SSPs, and OB field agents. The project shared information with GESSIP on field agents that could be trained as self-employed village-based advisors.

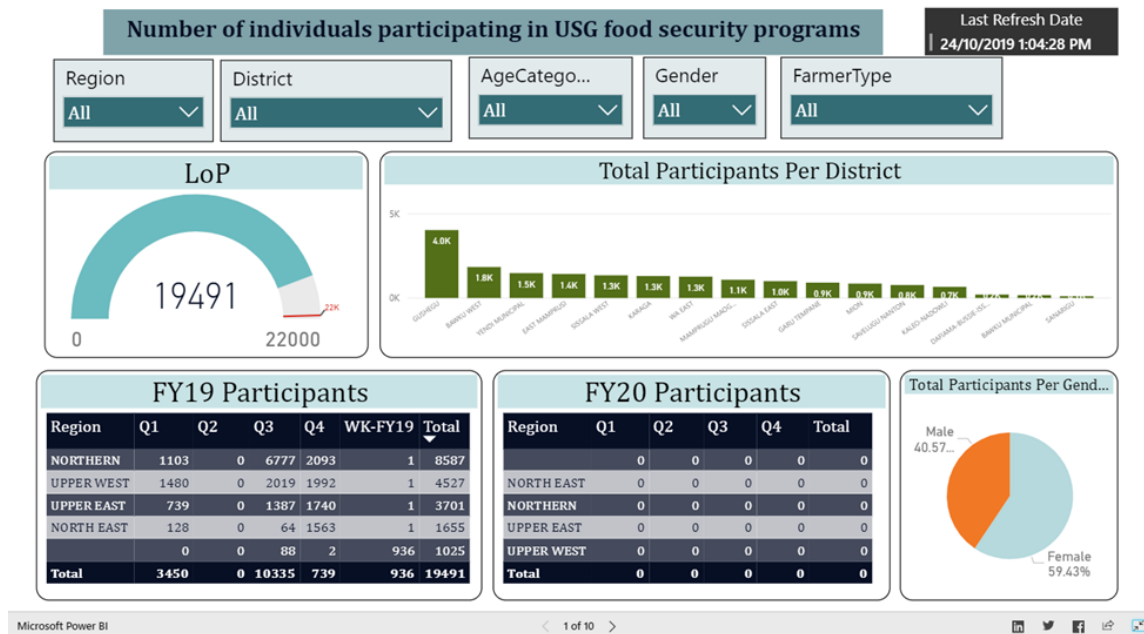
#### GHANA COMMODITY EXCHANGE

FTF ADVANCE II collaborates with Ghana Commodity Exchange (GCX) to enable OB networks and their members to benefit from GCX operations. GCX engages in a wide range of activities, including market intelligence, trading operations, electronic spot trading, trading surveillance, and warehousing. Trading operations is the most popular activity, and members benefit from access to standard and affordable post-harvest processing services such as drying, cleaning, and grading, as well as access to transparent marketing services. GCX trained 58 members from seven OB networks during the period under review. Fourteen OBs from the Jirapa and Wa zonal networks sold 75 metric tons (MT) of maize through GCX for GHS 115,346 (US\$ 21,236) by virtue of the chairman of the regional network, who is a registered member of the GCX.

## D Summary of Results

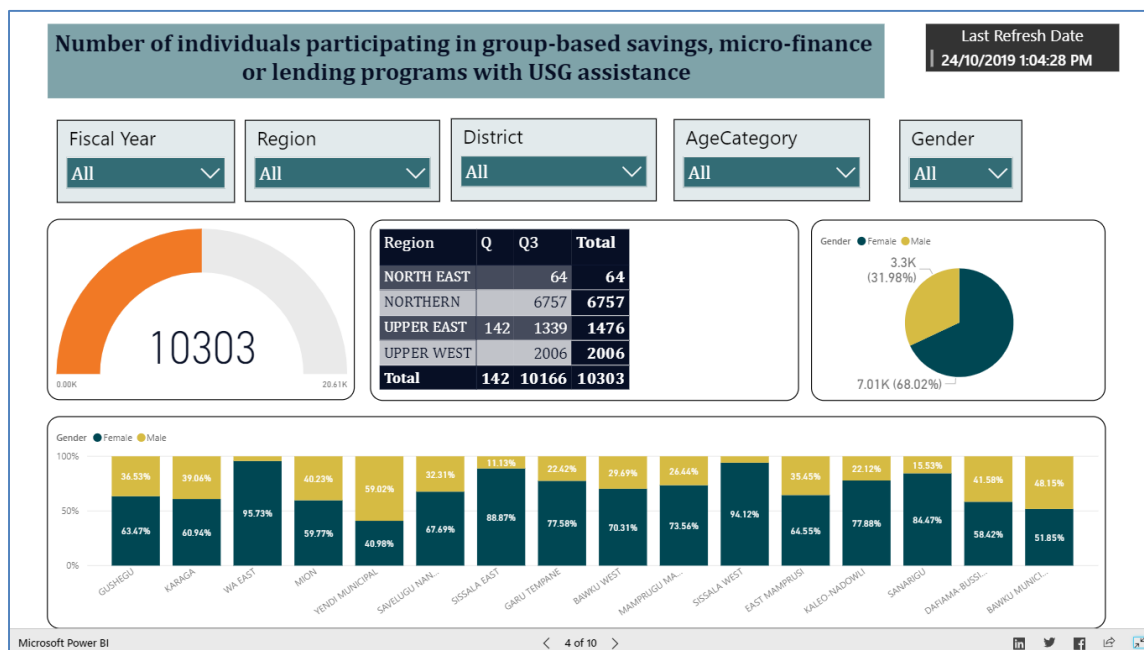
### Individual Participation

During FY2019, the project worked with 100 OBs (including five women) who provided various production services and support to 18,456 smallholder farmers, including 11,023 women (60 percent) and 4,951 youth (27 percent). Including the 3,450 smallholder farmers who benefitted from trainings during the NCE phase, the project reached a total of 19,491 participants, representing 97 percent of the 20,000 participation target for FY2019. Fifty nine percent (11,028) of all participants are women.



## Number of Individuals Participating in Group-based Savings

During the CE phase, the project worked with 461 VSLAs, with a total membership of 10,303, including 7,008 women (68 percent) and 3,318 youth (32 percent)<sup>3</sup> in the ZOI. With these results, the project achieved more than double (252 percent) of the FY2019 target of working with 4,000 VSLA members. The project

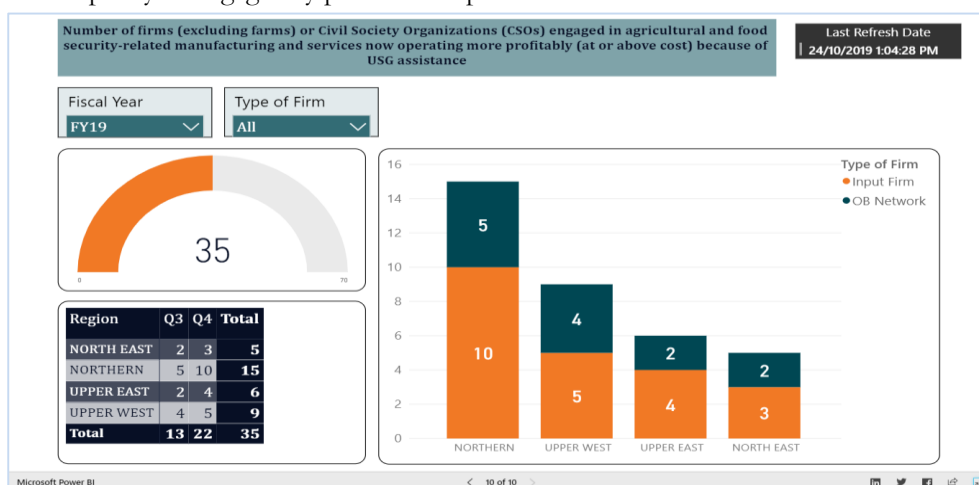


used the VSLA concept to intentionally target women for financial inclusion. Women VSLA members constitute 38 percent, and youth constitute 18 percent, of all project participants. This achievement is significantly higher than the project's FY2019 goals of 20 percent and 12 percent of women farmers and youth accessing production resources, respectively.

<sup>3</sup> The youth are predominantly young women (2,191) aged 18–29.

## ORGANIZATIONS WITH INCREASED PERFORMANCE

Twenty-two organizations and firms benefitted from OB networks' facilitation and increased their distribution of inputs to farmers. These organizations worked with all zonal OB networks and three regional networks, resulting in new business channels and increased engagements. The OB networks also increased their capacity to engage key partners for production and trade.



## VALUE OF AGRICULTURE RELATED FINANCING

Project participants benefited from agricultural-related financing, recording \$706,695 worth of both cash (\$9,263) and in-kind credit (\$697,432) to support their production. Five outgrower schemes supported 52 OBs that provided 1,006 smallholder farmers with ploughing, certified seeds, fertilizer, and agrochemicals. Out of these investments, \$53,339 went to women farmers and \$15,955 went to youth. These investments are over five times higher than the FY2019 target of \$120,000.

## Gross Margins and Incremental Sales—2018 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 (US\$), and average sale price per ton (US\$).

Following USAID FTF Indicator Handbook, the project conducted a survey with a random sample of 1,654 participants from all project maize and soybean smallholder farmers in FY2018. The project extrapolated the figures presented in the sections below on gross margins and technology application from the survey results, based on FY2018 data for the 2018 crop season.

Table 2. Number of smallholder direct beneficiaries by crop planted and gender<sup>4</sup> in 2018

Gender	Maize	Soybean	Total
Female	28,916	9,072	37,988
Male	32,608	4,943	37,551
Total	61,524	14,015	75,539

## HECTARES PLANTED

During the 2018 crop season, 75,539 project smallholder farmers cultivated 60,225 hectares (women planted 42 percent). Farmers planted 86 percent of the land with maize and 14 percent with soybean (Table 3).

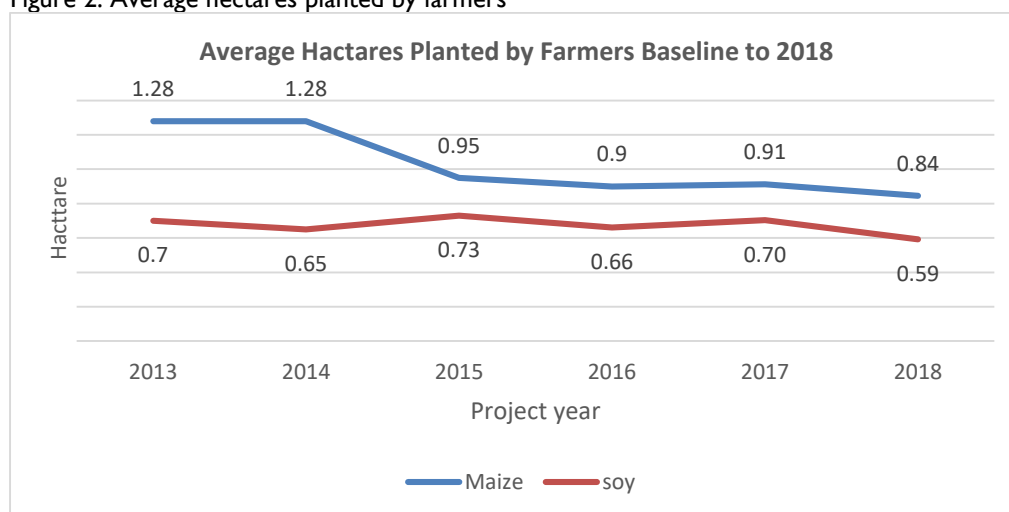
<sup>4</sup> Some farmers planted more than one crop at a time. In such cases, the farmer is counted under each planted crop.

**Table 3. Hectares planted in 2018 by crop and by gender**

Gender	Maize	Soybean	Total
Female	20,075	5,171	25,246
Male	31,877	3,132	35,009
Total	51,952	8,303	60,225

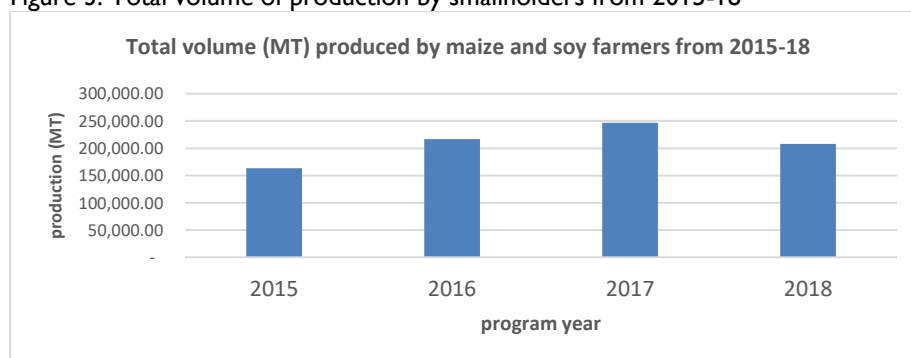
On average, individual farmers planted 0.84 ha of maize and 0.59 ha of soybean in 2018 (Figure 2) Female maize farmers planted smaller areas compared to their male counterparts (23 percent less) while female soybean farmers planted larger areas than male soy farmers (25 percent more).

Overall, the average hectares planted by maize farmers continued to decrease each year since 2015, while soybean farmers maintained their average farm sizes between 2015 and 2017 but reduced their size by 31 percent in 2018, mainly due to limited support received from OBs and the government subsidy program. Generally, the project advises producers not to hasten expansion, but to apply their limited resources efficiently, which partially explains some of the slow rate of expansion.

**Figure 2. Average hectares planted by farmers**

## PRODUCTION

Total production of maize and soybean in 2018 was estimated at 207,863 MT (Figure 3), as compared with 246,659 MT in 2017, 216,762 MT in 2016, and 162,315 MT in 2015. In 2018, the beneficiaries produced 191,568 MT of maize and 16,942 MT of soybean. Male maize and soybean farmers produced about 52 and eight percent more than female maize and soy farmers respectively. This appears to be related to land area cultivated and access to productive resources as male maize and soybean farmers planted an average of 42 percent and 11 percent more than their female counterparts, respectively.

**Figure 3. Total volume of production by smallholders from 2015-18**



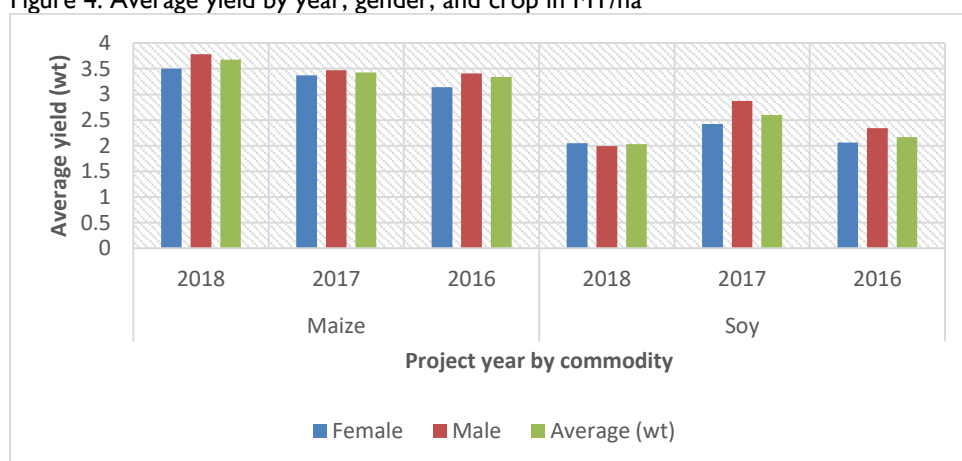
On average, a maize farmer produced 3.11 MT and a soybean farmer produced 1.20 MT (Table ). On average, male maize farmers produced 1.27 MT more than their female counterparts. Female maize and soybean farmer plots tend to be smaller than those of male farmers.

**Table 3. Average production per farmer in MT in 2018**

Gender	Maize	Soybean	Average(wt)
Female	2.43	1.17	2.13
Male	3.70	1.26	3.38
Average (wt)	3.11	1.20	2.75

Smallholders' average maize and soybean yields during the 2018 production season were 3.69 MT/ha and 2.03 MT/ha, respectively. The marginal increase (7.2 percent) in average maize yield in 2018 over 2017 may be partly attributed to the success of project interventions against FAW in 2018. Figure 4 shows that both male and female maize farmers obtained higher yields during the 2018 production season compared to the 2017 season. The reverse occurred in soybean, where average yields dipped significantly (22 percent) between 2017 and 2018 due to low investment in inputs and limited support from OBs, buyers, and the government subsidy program for soybean farmers.

**Figure 4. Average yield by year, gender, and crop in MT/ha**



#### TOTAL RECURRENT CASH INPUT COSTS

As per USAID's 2017 FTF Indicator Handbook, the total recurrent input costs used to calculate gross margin values include those paid in cash and not given in-kind. Gross margin calculation ignores family labor and similar in-kind contributions, as well as all non-significant costs (less than 5 percent of the total costs). The cash costs include land rent, costs of seeds, fertilizers, other agrochemicals, labor, and equipment rental. During the 2018 farming season, maize and soybean smallholder farmers incurred total input costs of 2,793,610 (95 percent for maize and 5 percent for soybean). Of this total, women invested 40 percent, or \$1,047,001 (Table 4).

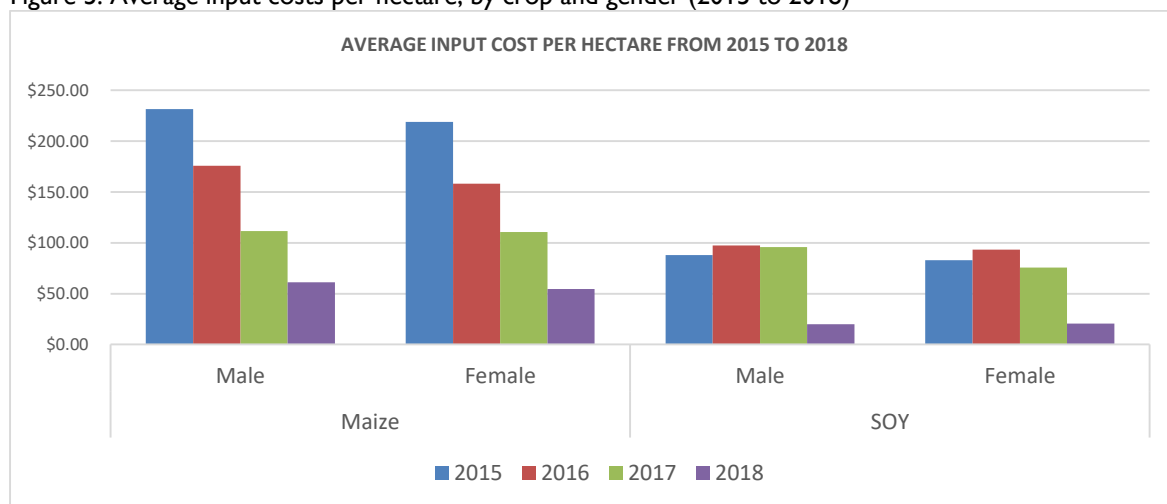
**Table 4. Beneficiary smallholder farmers' inputs costs (\$) in 2018, by gender and crop**

Gender	Maize	Soybean	Total
Female	954,434	92,567	1,047,001
Male	1,692,463	54,146	1,746,609
Total	2,646,897	146,713	2,793,610

Smallholder farmers' overall costs decreased by 23 percent in 2018, when compared with results in 2015 and 2016 (Table ). The amount invested by maize farmers in inputs per hectare continued to decrease at an average rate of 35 percent from 2015 to 2018. However, soybean farmers increased their spending in inputs by 11 percent from 2015 to 2016, reduced their investment by 12 percent from 2016 to 2017, and further reduced investment by 76 percent from 2017 to 2018 (Table and Figure 5). This could be partly attributed to the annual reduction in the average size of plots cultivated by smallholder farmers of both commodities,

marginal improvements in the adoption of improved management practices, as well as Government of Ghana input subsidies to promote the PFJ program, which provided significant support for maize smallholder farmers. Although the subsidy program is not new, it received great support in the last two years, with wider coverage in 2018, due to the government’s PFJ program.

Figure 5. Average input costs per hectare, by crop and gender (2015 to 2018)



SALES

The total quantity of produce sold in 2018 was 181,548 MT, which amounts to 87 percent of what smallholder farmers produced during the 2018 cropping season. Over 92 percent (166,552 MT) of all sales were for maize and eight percent (14,995 MT) for soybean (Table 4).

Table 4. Quantity sold by smallholders in 2018, by crop and gender (MT)

Gender	Maize			Soybean			Total		
	Vol sold (MT)	Av. Price (\$)		Vol sold (MT)	Av. Price (\$)		Vol sold (MT)	Av. Price (\$)	
Female	60,701	249		9,261	316		69,962	258	
Male	105,432	267		5,624	296		111,056	269	
<b>Total</b>	<b>166,133</b>	<b>260</b>		<b>14,885</b>	<b>309</b>		<b>181,018</b>	<b>264</b>	

Total sales (Table 5) for both commodities were \$48,276,995, with 90 percent (\$43,243,676) from maize sales and 10 percent (\$4,592,365) from soybean. Female farmers contributed 38 percent (\$18,025,085) to total overall sales.

Table 5. Amount of sales in 2018, by crop and gender

Gender	Maize		Soybean		Total
	Amount of sales	Unit price(wt)	Amount of sales	Unit price(wt)	Amount of sales
Female	\$15,093,904	\$ 249	\$2,926,946	\$ 316	<b>\$18,025,085</b>
Male	\$28,149,772	\$ 267	\$1,665,419	\$ 296	<b>\$29,948,905</b>
<b>Total</b>	<b>\$43,243,676</b>	<b>\$ 260</b>	<b>\$4,592,365</b>	<b>\$ 309</b>	<b>\$48,276,995</b>

In 2018, the average beneficiary sold produce worth \$639 (Figure 4). Maize farmers sold the highest amount at \$709, while soybean farmers sold \$325, which is consistent with the volume of sales for those commodities (Table 5). Male maize farmers achieved higher average sales than their female counterparts. Inversely, female

soybean farmers made higher average sales than their male counterparts due to the higher volumes sold by female soybean farmers (see Figure 7).

Figure 6. Average baseline and 2018 sales per farmer by crop

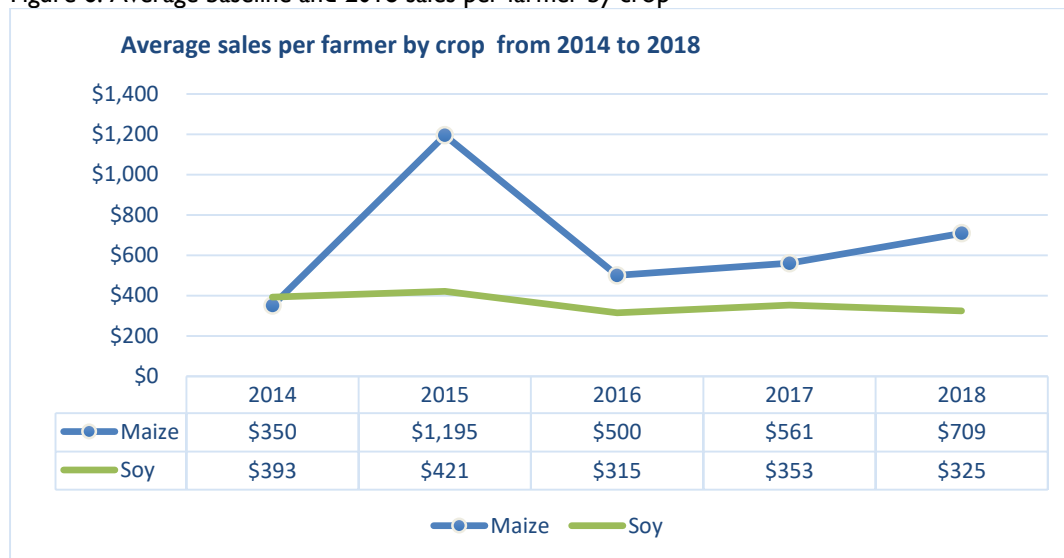
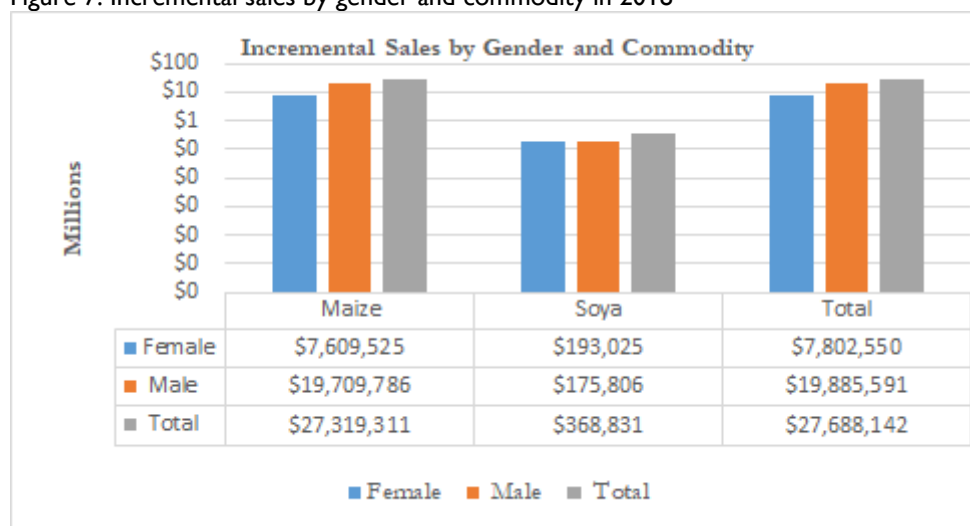


Figure 7. Incremental sales by gender and commodity in 2018<sup>5</sup>



Overall, project beneficiaries increased the volume of produce they sold since the project’s inception (Figure 6). Both male and female maize farmers earned over 1.5 times as much since baseline, resulting in incremental sales of \$27,688,142. Similarly, soybean farmers earned additional \$368,831 compared with baseline sales.

### GROSS MARGINS

The 2018 average gross margins per hectare were \$781.43 for maize and \$535.43 for soybean. Male maize farmers achieved significantly higher margins (18 percent) than their female counterparts, primarily due to higher yields. Similarly, female soybean farmers obtained higher gross margins (12 percent) than their male counterparts for the same reason (Figure 8).

<sup>5</sup> The value of incremental sales indicates the value (in USD) of the total amount of targeted agricultural products sold by smallholder direct beneficiaries relative to a base year, and is calculated as the total value of sales of a crop during the reporting year minus the total value of sales in the base year. The Feed the Future Monitoring System (FTFMS) requires computation of the baseline sales and baseline number of beneficiaries to establish average sales per beneficiary at baseline. The average sales per beneficiary are multiplied by the number of beneficiaries in each reporting year to create an adjusted baseline sales value.

Figure 8. Gross margins per hectare, by crop and gender for 2018

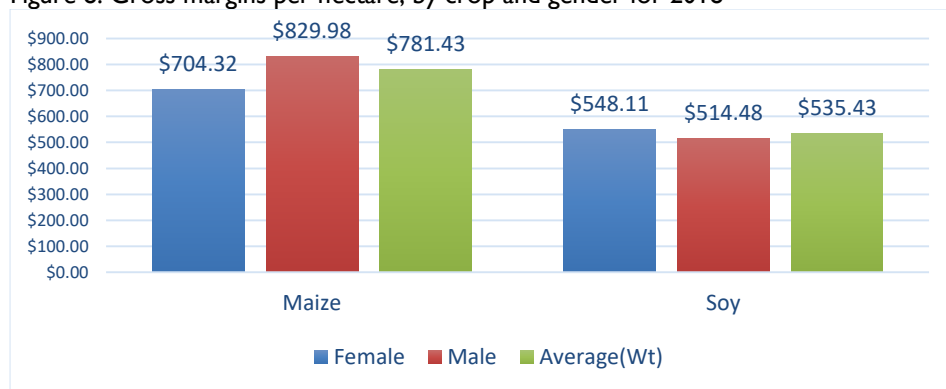
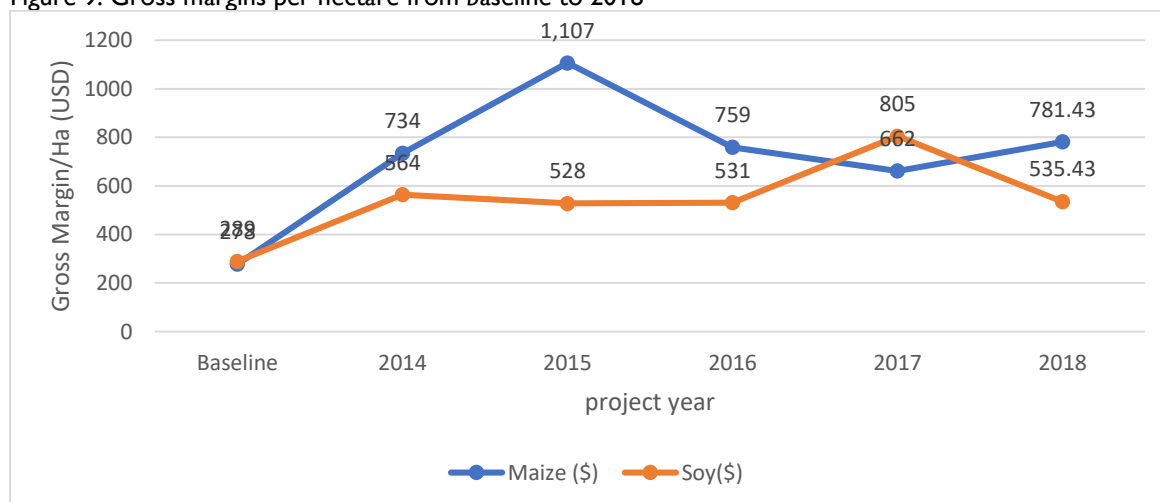


Figure 9 presents gross margin results for maize and soybean from the baseline in 2013 to the 2018 production season. The 2018 crop season ended with higher maize gross margins than the 2017 and 2016 production seasons because the average yield for maize increased by an average of 9 percent, from 3.34MT/ha in 2016 to 3.68MT/ha in 2018. This is attributable to farmers’ greater efficiency and lower input costs as a result of government subsidies. However, the significant decrease in yields and selling price of soybean from 2.6 MT/ha to 2.03 MT/ha and \$344/MT to \$271/MT (19 percent), respectively, resulted in an overall lower gross margin of \$535 per hectare, a decrease of 34 percent from the 2017 gross margin. Overall, the project fell short of the gross margin targets for both maize and soybeans. On average, maize yields increased by 7.2 percent from 2017 to 2018.

Figure 9. Gross margins per hectare from baseline to 2018



APPLICATION OF TECHNOLOGIES AND MANAGEMENT PRACTICES

Table 6 shows the level of application of improved technologies and management practices, based on the 2018 gross margin survey. Almost all project beneficiaries applied one or more improved technology and management practices. The project promoted technologies and management practices for crop genetics, soil-related technologies, pest management, and cultural practices during the 2018 production season. However, farmers’ application rates varied across technologies and gender. In 2018, pest management was the most applied technology. This included integrated pest management and the use of appropriate pesticides. In 2018 production season, a total of 74,611 of 75,539 beneficiaries cultivated 59,373 hectares under improved land-based technologies.

Table 6. Application of technologies by male and female farmers

Technology Type	Application Rate of Women (%)	Application Rate of Men (%)	# of Women Applying	# of Men Applying	Area Applied to (Ha) by Women	Area Applied to (Ha) by Men
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Crop genetics	34	43	12,899	16,101	9,632	16,895
Soil related	56	61	21,280	23,171	15,156	22,953
Cultural practices	70	78	26,885	29,542	18,056	26,537
Pest management	75	77	29,003	29,096	18,836	26,189
One or more land-based	98	98	37,540	37,071	33,435	25,938
One or more technologies	99	99	37,967	37,578		

## E Progress with Technical Delivery

### Sub-Purpose I: Increased Agricultural Productivity in Targeted Commodities

#### NO COST EXTENSION (NCE) PHASE

The activities carried out under this sub-purpose during the NCE phase aimed to complete and consolidate efforts to improve individual and business capacities for increased productivity. These capacities included:

- Provision of training and advisory services by OB field agents
- Management of service provision to smallholder farmers by field agents and OBs
- Adoption and use of improved production and post-harvest practices by smallholder farmers
- Business management

#### PROVISION OF TRAINING AND ADVISORY SERVICES BY FIELD AGENTS OF OUTGROWER BUSINESSES

The project supported field days on established demonstration farms and outgrower training on post-harvest handling. Together with MOFA staff, input dealers, OBs and their field agents, the project conducted 184 field-demonstration-based trainings for 5,955 farmers, including 3,805 women. Some of the private sector input firms that sponsored demonstrations and participated in the training included Yara Ghana, Macrofertil (Louis Dreyfus Company), Heritage Seed Company, and Adama West Africa.



Mr. Samuel Oteng Jirapa Municipal Director of MOFA (in all green attire) answering questions from farmers during the farmer field day at Chapuri in the Jirapa of the Upper West Region.



Solomon Akanpisi, an OB field agent, engaging farmers after a field day on climate-smart agriculture at a hybrid maize site at Namonsa in the Builsa North District.

The training topics included:

- Protecting unharvested fields from bushfires.

- Adhering to maturity indices and harvesting methods.
- Threshing and drying using tarpaulins and temporal storage mechanisms.
- Quality grain standards.
- Grain treatment against pests, handling, and transportation.

#### CAPACITY TO PROVIDE REQUIRED SERVICES TO SMALLHOLDER OUTGROWERS

The project supported OBs to acquire crop shellers to enhance productivity and reduce menial labor by women and youth. Monitoring visits during the period showed that 58 OBs commercially operated shellers. The OBs shelled and bagged 14,724 MT of maize and 527.4 MT of soybeans for 7,329 smallholder farmers, including 3,185 females, from 289 communities.

#### ADOPTION AND USE OF IMPROVED PRODUCTION AND POST-HARVEST PRACTICES BY SMALLHOLDER FARMERS

The project focused on the use of ICT during the dry season to build outgrowers' capacity to adopt improved practices. The project engaged ten stations in the anti-bushfire radio campaign across the three project operational regions. The radio campaign aimed to educate listeners, particularly farmers, about the harmful effects of bush burning on the environment and farming activities. The campaign broadcasted messages using radio jingles and live presenter mentions in English and seven local Ghanaian languages: Dagbani, Gonja, Likpakpa, Kussal, Buli, Dagaree, and Sessali.

“Anytime I harvest my farms, I employ the services of a tractor to plough back the maize stalks into the soil. I have seen great changes in yields since I started practicing No Burn on my farm. My farm is always wet and green throughout the season and my yields have doubled”. Mr. Yamali Shaibu, a farmer in Golinga in the Tolon District in the Northern Region is one of the farmers who have avoided using burning as a land clearing tool on his farms for the past three years as a result of learning about the effects of bushfires through radio programming.

#### RADIO LISTENERSHIP CLUBS

Established in 2015, radio listenership clubs continue to serve as a platform for helping change the behavior of farmers towards practices that improve their livelihoods. During the NCE phase, the project monitored 32 clubs in Gushegu, Saboba, Chereponi, and Karaga districts. These clubs have a combined membership of 690 individuals (predominantly women) who listen to agriculture and other programs on radio stations such as Zaa, Savannah, North Star, Labari, and Gaarkii. During monitoring visits, farmers in these communities indicated improved yields as a result of applying practices learned from radio programs.

#### CAPACITY FOR BUSINESS AND OFFICE MANAGEMENT

During the NCE phase, project staff supported OBs to acquire credit from institutions and monitored other investment activities. Monitoring showed that OBs made substantial investments during the 2018 season, including a 300 MT warehouse, motorized tricycle, multipurpose crop threshers, and a 300 liter-capacity boom sprayer. These investments, including the credit facilities obtained, exceeded \$57,000.

To build OBs' capacity in business and office management, the project employed the OB benchmarking tool, previously referred to as OB categorization. The project uses the tool for coaching and assessing eight weighted areas. (See the results of the new assessment below). The overall results showed that OBs made significant progress (in spite of varied backgrounds and literacy levels) since January 2018, when the previous assessment took place, but few met expectations for produce labelling, use of standards, and ICT. The project partnered with the NBSSI and four major importers and distributors of seeds, fertilizer, and other agroinputs—Yara, ADAMA (West Africa), Yahaya Enterprise, and RMG—to train 30 RADs to improve their recordkeeping and stock management. During the training, participants discussed key topics, including entrepreneurship, marketing, owner-managed businesses, business planning, financial management, credit management, costing and pricing, and safe chemical handling.

## COST EXTENSION (CE) PHASE

During the CE phase, the project aimed to improve the capacity of key actors to sustainably increase the productivity of their zonal OB networks. The capacity efforts aim to galvanize collective action and learning, competitive business management processes, and building and maintaining relationships. The project activities during this period targeted improving individual and collective capacity to:

- Manage OB networks
- Support individual OBs to provide smallholder farmers with efficient services
- Link networks to third-party service providers such as financial institutions; equipment dealers, SSPs, VSLAs, and local, regional, and national authorities and agencies.

Therefore, under the CE phase, the new theory of change for sub-purpose 1 is that business networks, strengthened with the capacity to learn, reflect, and relate to relevant stakeholders, will continue to grow and attract the required resources for members. Also, members will deliver efficient services to outgrowers and others to ensure competitive and sustainable value chains.

The following section describes the activities, results, and observed outcomes within this framework.

### SUSTAINABLE BUSINESS SYSTEMS FOR SERVICE PROVISION AND INPUT DISTRIBUTION

#### Improving Zonal OB Network Planning and Activity Implementation

The project held a joint planning workshop with OB network representatives in May 2019, where it briefed network representatives on the new CE phase implementation strategy, approaches, and expected results. Workshop participants produced a joint annual work plan to be implemented by the project and networks. The OB networks also updated their strategic and action plans. The network action plans mainly focused on acquiring business development and support services for their members.

#### **Assess OB Networks' Capacity to Operate as Full Business Entities without External Support Inventories, Reviews, and Assessments**

The project conducted inventories, reviews, and assessments of the office setup, including office space, personnel, and communications, and the leadership, governance, and stakeholder engagement capacities of network executives in 17 GFSS districts in the northern, north east (newly created administrative region), upper east and upper west regions.

#### **Office Setup**

This aspect of business operations is often taken for granted by local businesses and affects their public profile and recordkeeping abilities. The assessment showed various gaps, including business registration, office space, personnel, bank accounts, signage, email accounts, and general internet presence, to name a few. During the CE period, the project worked with three OB networks to acquire office space. Under an arrangement that also supports the implementation of a participatory monitoring and evaluation (M&E) system, the OB networks employed one staff member to support office management and operations. Under the asset disposition scheme from the NCE phase, the project procured furniture and basic ICT equipment to all OB networks. The current status of office setup is shown in Table 7 below.

Table 7. Business requirements and the number of zonal OB networks who acquired them

Item no.	Facility	Number of Networks with Facility
1	Business/cooperative registration	5
2	Constitution	10
3	Strategic and action plan	9
4	Office premises (physical address)	9
5	Bank accounts	10
6	Email for network	10

7	Email for executives	8
8	Digital connectivity/internet presence at office	8
9	Facebook account	4
10	WhatsApp group	10

### ***Review Meetings with OBs and their Field Agents***

This annual activity aims to create mutual learning from the operations of and services provided by OBs during the previous crop season. For this year's meeting, the project supported OB networks to develop and use a simple format/agenda to guide such review meetings. The guide enabled participants at the review meeting to systematically assess each area of their businesses, provide a general rating in relation to the previous year's business, and make suggestions for improvement.

During the CE period, the project supported the organization of seven zonal OB networks' review meetings with 68 OBs (67 men and 1 woman) in the northern, north east, upper west, and upper east regions. The project tackled the topics of OB business operations (including establishing demonstration plots), FAW awareness and control, OB service provision, OB management, OB and field agent relationships, and use of ICT tools. After the review, participants felt confident that they had the capacity to undertake their assignments and tasks because they believed the previous year's results were of good quality. The assignments and tasks included setting up demonstration plots, negotiating the supply of inputs, using information on FAW for training and education, and granting credit recovery to outgrowers. Participants described ploughing services as the exception, stating that these services were insufficient to meet demand and provided later than clients' preferred timeframe. Participant recommendations included additional training on FAW, more educational materials (including pictures and video), improved access to recommended pesticides for FAW control, training for OBs and field agents on the annual review tool, disincentives to reduce credit defaulters, and provision of adequate incentives and regularized employment for field agents.

### ***Management Capacity***

The project assessed OB network executives' management and operational capacities by administering a tool, developed with their collaboration. The executives rated 42 practices according to the level of importance to their work (not important, somewhat important, important, or very important) and their knowledge of the practice (very low, low, high, very high). The 42 practices covered leadership, group management, office management, stakeholder engagement, inclusiveness, and use of ICT and digital finance.

The executives of the nine participating networks recognized the importance of all 42 assessed practices to their function as executives. However, the results highlighted differences in skill levels. For 26 practices, executives indicated high or very high skill levels. In the other 16 areas, the majority of the network executives indicated that their current skills are low or very low. Those 16 areas included skills in group recordkeeping and documentation, engaging stakeholders (local, district, national authorities, financial institutions, and equipment dealers), and using ICT tools (excluding digital finance).

The majority of network executives expressed low levels of competency in:

1. Preparing activity progress reports
2. Conducting training for managers and field agents about setting up field demonstrations
3. Creating and nurturing trust with other groups and networks
4. Keeping membership records, including member profiles indexed by gender
5. Supporting the development of annual activity work plans
6. Supporting the development of annual activity budgets
7. Keeping and using group asset registers, including collated assets
8. Collecting and using data on members' businesses to help them improve



9. Interacting with bank officials for loans and credit
10. Negotiating with district officials
11. Interacting with regional government officials
12. Interacting with national government officials
13. Interacting and negotiating with equipment dealers
14. Using the internet to improve business
15. Using computers to better organize records and information
16. Using tablets to collect business data and information in the field

The project finalized training topics and content to address these 16 areas, and will carry out trainings during the coming quarter.

#### ***Field Demonstrations and Advisory Services***

OB networks carried out most of the preparatory activities to establish field demonstrations, even before the project's CE phase. This participation shows that zonal OB networks feel ownership of the training process of outgrowers. The nine networks established 56 demonstration sites, supervised by 56 OBs, including 50 sites for maize and six for soybeans. The networks paid for almost all (97 percent) of the cost of inputs for the demonstration sites, and private sector input firms covered the remainder (3 percent). The demonstrations and model farms covered an area of 195 acres (79 ha), and cost a total of GHS97,326 (\$17,919).

**Table 8. Cost of inputs for 57 demonstrations**

Item No.	Item	Quantity	Value (GHS)	Value (US\$)
1	Seed (MT)	1.6	24,597	4,528
2	Fertilizer (MT)	38.3	51,326	9,449
3	Herbicides (Liters)	221.5	4,095	754
4	Pesticide for FAW (liters)	93.5	4,207	775
5	Ploughing (ha)	78	13,102	2,412
	Total		97,326	\$17,919

**Table 9. Private sector contributions to the establishment of OB network demonstration sites**

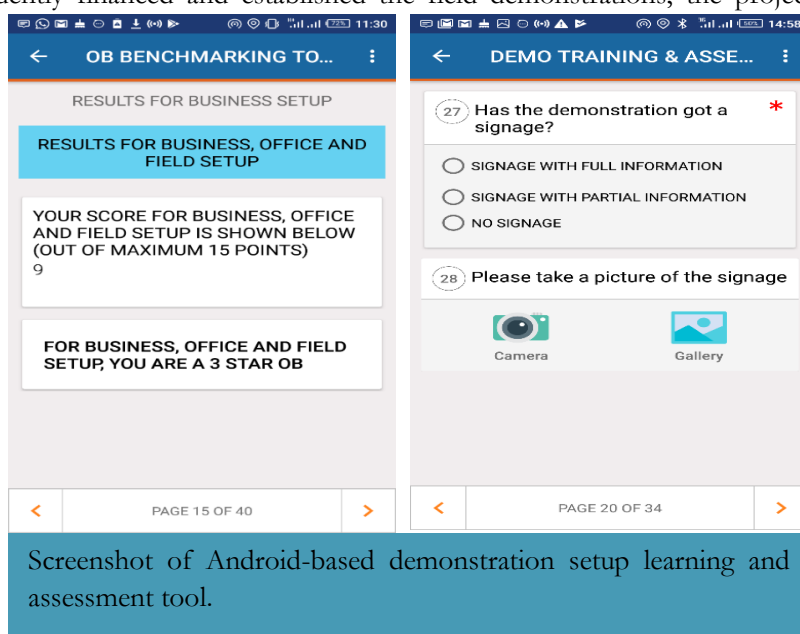
Rural Agro-input Dealer	Seed		Fertilizer		Herbicides		Pesticides		Total Value (GHS)
	Qty (Kg)	Value (GHS)	Qty (Kg)	Value (GHS)	Qty (Kg)	Value (GHS)	Qty (Kg)	Value (GHS)	
Antika	45	450	0	0	0	0	0	0	450 (\$82)
Agrilink	30	300	4	285	4	60	0	0	645 (\$118)
18th April	10	100	5	345	4	60	0	0	505 (\$92)
Yara	0	0	3	230	0	0	0	0	230 (\$42)
Adama Wa	0	0	0	0	0.75	200	6	960	1,160 (\$213)
Rhinosas	20	76	0	0	0	0	0	0	76 (\$13)
<b>Total</b>	<b>105</b>	<b>926</b>	<b>12</b>	<b>860</b>	<b>8.75</b>	<b>320</b>	<b>6</b>	<b>960</b>	<b>3,066 (\$564)</b>

The review meeting demonstrated that network executives are motivated to pursue business opportunities that benefit their members, especially regarding buyer-sponsored outgrower schemes (see results under sub-purpose 2.0) and input provision on credit to smallholder or nucleus farmers. The recruitment of office staff is likely to accelerate the implementation of other areas in their plans that did not show as much progress to date, such as fundraising and farm advisory service provision.

Table 10. OB networks and demonstrations established

	OB Network	Zone	Number of Demonstrations Established	
			Maize	Soybean
1	Sissala Area Network	Tumu	10	0
2	Nawuni Nsungti Network	Yagaba	3	2
3	Kusaug OB Network	Bawku	4	0
4	Yendi OB Network	Yendi	8	3
5	Gushegu OB Network	Gushegu	4	1
6	Beimoni OB Network	Karaga	6	0
7	Jirapa OB Network	Jirapa	3	0
8	Tininyangi OB Network	Nalerigu	5	0
9	Wa OB Network	Wa	7	0
	Total		50	6

Since the OB networks independently financed and established the field demonstrations, the project focused on creating a short guide and learning tool to support new OBs and field agents. The guide, which is currently in draft form, explains how to estimate requirements for a crop demonstration, engage stakeholders, identify participating farmers, and conduct training. It is based on the project's experiences and published resources on the internet. The tool, which is an app created on the Esoko Insy survey platform, can be used to assess the conduct of a field crop demonstration and to learn the key requirements for establishing and running a demonstration site.



Screenshot of Android-based demonstration setup learning and assessment tool.

## IMPROVING BUSINESS AND MANAGEMENT SKILLS OF OUTGROWER BUSINESSES

### Office Management

At the beginning of the CE phase, the project drew up two checklists—one detailing the minimum requirements for office setup and the second on basic office and business management practices. The office setup list includes space, office building signage, branding that features the office's digital and postal address, furniture, ICT tools, and personnel to manage the office.

During the CE period, 50 OBs from nine networks demonstrated improved recordkeeping on mechanization service provision, tractor maintenance, and marketing.

The project used the OB benchmarking and performance assessment tool, in addition to the OB manual, to provide guidance to networks and members on improving the management and performance of their businesses. The objective is to ensure that individuals can use the tools to conduct self-assessments and network executives can assess members' performance at appropriate intervals and provide the necessary support. The project digitized the OB benchmarking and performance assessment tool using the Esoko

Insyt platform. Individuals with access to smartphones can now conduct self-assessments and access their overall performance results and scores in each category.

The project conducted an assessment using the benchmarking and performance assessment tool to ascertain the status of OBs in the new ZOI. Preliminary analyses of the results show some improvement. The new ZOI included 130 OBs, 80 of which received a rating of three to five stars. Since the preliminary analysis, nine more OBs achieved the three to five star rating. The proportion of OBs that attained an overall score of three to five stars remained constant in both assessments. Similarly, the categories of office and field setup, business and succession planning, and provision of services did not show increases or decreases. However, the categories of market linkage and use of ICT increased, reflecting the improved capacity of OB networks to engage and negotiate with buyers and the project's drive to increase ICT use among OBs. The percentage of OBs that earned a three to five star rating for the category of employment of women and youth declined between the first and second assessments.

**Table 11. Comparison of results from OB assessments using the benchmark tool in December 2018 and September 2019**

Star Rating	Overall Rating	Market Linkage and Use of Standards	Office and Field Setup	Business and Succession Planning	Provision of Services	Provision of Services to Women and Youth	Use of ICT and Digital Finance
December 2018 Assessment							
Novice	0	25	0	2	11	1	10
1-Star	12	41	4	19	22	1	65
2-Star	59	78	59	54	41	6	96
3-Star	87	57	68	82	39	27	48
4-Star	61	28	64	48	40	64	7
5-Star	10	0	34	24	76	130	3
Total	229	229	229	229	229	229	229
September 2019 Assessment							
Novice	0	4	1	2	17	6	8
1-Star	11	19	5	10	10	15	26
2-Star	30	40	29	27	18	22	43
3-Star	36	41	41	33	25	24	28
4-Star	43	20	30	38	26	24	19
5-Star	10	6	24	20	34	39	6
Total	130	130	130	130	130	130	130

**Table 12. Number and percentage of OBs earning 3 to 5 star ratings during the two assessments**

	December 2018 (n=229)		September 2019 (n=130)	
	Number	%	Number	%
<b>Overall rating</b>	158	69	89	68
<b>Market linkage and use of standards</b>	85	37	67	51
<b>Office and field setup</b>	166	72	95	73

<b>Business and succession planning</b>	154	67	91	70
<b>Provision of services</b>	155	68	85	65
<b>Provision of services to women and youth</b>	221	96	87	67
<b>Use of ICT and digital finance</b>	58	25	53	41

### *Analysis Using Common Data Set*

The project conducted an analysis using a common data set of 89 OBs for both periods which indicated that seven more OBs gained five-star status (Table 13), but the overall percentage of OBs with ratings of three to five stars remained similar or slightly lower (70.8 percent in December 2018 and 69.8 percent in September 2019). This result may be caused by the new five-star-rated OBs moving up from the three-to-five star rated group. The analysis also indicated that increase in the number of OBs with five-star ratings came with increase in market linkage (5), office and field setup (7), business and succession planning (7), and use of ICT (6). However, some OBs lost their five-star status in the categories of provision of services (15) and provision of services to women and youth (34). These decreases may be attributed to the fact that some OBs' tractors can no longer be serviced and have been decommissioned, or to the impact of the government's subsidy program on the provision of input credit by OBs.

A large proportion of OBs ranked in the lower level (novice to two-star rankings) in the categories of provision of services to women and youth and use of ICT.

**Table 13. Comparison of results from OB assessments using the benchmark tool in December 2018 and September 2019, based on a common data set of 89 OBs**

Star Rating	Overall Rating	Market Linkage and Use of Standards	Office and Field Setup	Business and Succession Planning	Provision of Services	Provision of Services to Women and Youth	Use of ICT and Digital Finance
<b>December 2018 Assessment</b>							
Novice	0	7	0	0	3	0	2
1-Star	3	14	0	10	8	0	25
2-Star	23	28	21	20	11	2	39
3-Star	27	22	27	32	16	10	22
4-Star	33	18	30	18	17	28	1
5-Star	3	0	11	9	34	49	0
Total	89	89	89	89	89	89	89
<b>September 2019 Assessment</b>							
Novice	0	0	0	0	11	6	4
1-Star	4	8	4	2	8	17	17
2-Star	23	23	17	14	13	24	21
3-Star	23	31	29	23	19	17	22
4-Star	29	22	21	34	19	10	19
5-Star	10	5	18	16	19	15	6
Total	89	89	89	89	89	89	89

Table 14. Number and percentage of OBs in five-star category at two periods of assessment based on common data set of 89 OBs

	December 2018 (n=89)		September 2019(n=89)	
	Number	%	Number	%
<b>Overall rating</b>	63.0	70.8	62.0	69.7
<b>Market linkage and use of standards</b>	40.0	44.9	58.0	65.2
<b>Office and field setup</b>	68.0	76.4	68.0	76.4
<b>Business and succession planning</b>	59.0	66.3	73.0	82.0
<b>Provision of services</b>	67.0	75.3	57.0	64.0
<b>Employment of women and youth</b>	87.0	97.8	42.0	47.2
<b>Use of ICT and digital finance</b>	63.0	70.8	47.0	52.8

### ***Improving Capacity for Managing Disease and Pest (FAW) Outbreak***

The project continues to collaborate with the Fall Armyworm National Taskforce, providing education and information to various stakeholders. During the CE phase, the project worked with OB networks and the regional and district offices of agriculture to institute a surveillance and alert system that involves smallholder farmers, lead farmers, and OBs. The system uses the social media platform WhatsApp. Farmers report cases of FAW to lead farmers, who report to their respective OB. The OB is expected to take action to protect their investments. During the period, 14 participants reported 361 cases of FAW attacks on 334 hectares of maize across the ZOI. Out of the 361 cases reported, 290 (80.3 percent) were considered mild infestations, while the remaining 71 (18.7 percent) cases were considered severe.

The project collaborated with MOFA to organize a refresher training where they introduced the new FAW system to SSPs, RADs, VAAs, lead farmers, and outgrowers.

### ***Bilateral Initiative to Combat FAW***

Since 2017, the project worked with Adama West Africa to hold field demonstration trials, engaged with OB networks to explore avenues to increase access to products, and participated in annual pre-season and pre-harvest events. Through these promotional activities, the company identified six RADs and VAAs as distribution agents within Tamale, Yendi, Karaga, and Tumu. Using the distribution agents, the company scaled up its distribution network and sales, selling 2,256 liters of Ema Star 112EC insecticide (Emamectin-benzoate + Acetamiprid), which covered 360,096 hectares of land in the project's ZOI and cost a total of GHS 360,960 (\$66,457) during the 2019 planting season. This was a substantial increase from 2017, when the company sold 480 liters that covered 1,920 hectares, with a total value of GHS 67,200 (\$12,372). Additionally, the company sold 9,541 liters of other products, valued at GHS205,132 (\$37,768), for maize and legume crops, respectively. The company's active involvement in FTF ADVANCE II's value chain activities accounts for the significant increase in sales volumes and improved smallholder farmers' access to quality insecticides to control FAW. This ultimately minimized the devastating effects of FAW on participants' farms, especially on maize in 2019, compared to the impact in 2017 and 2018.

Jerry Soyel, Marketing Development Executive of Adama West Africa, said, "In fact, my engagement in the various value chain activities organized by FTF ADVANCE II has brought me closer to farmers in terms of access to quality inputs and sales. This has made Emaster the most popular brand on the market for FAW control."

According to Mr. Soyel, Adama West Africa intends to strengthen the various linkages created by FTF ADVANCE II to grow its brand within the ZOI and beyond, even after the project ends.

### ***FAW National Taskforce Monitoring Activities***

The FAW National Taskforce established various regional teams for monitoring and reporting on the preparedness of regional and district taskforces and MOFA offices for managing FAW. The project participated in monitoring activities in the upper west region. The project collaborated with the regional director of agriculture, the PPRSD, and district directors of agriculture from seven districts during the monitoring visit. The following is a summary of the main findings.

- Regional and district-level taskforces are yet to be formed.
- The regional office had the following products in stock from 2018 purchasing, which can cover approximately 17,066 hectares.
  - Bypel: 926 sachets (426 from 2018) [can cover 148 hectares]
  - Eradicoate: 357 liters (all from 2018 delivery) [can cover 571 hectares]
  - Adepa: 1,684 liters (1,120 liters from 2018) [can cover 1,347 hectares]
  - Emaster: 2,000 liters (all from 2019 delivery) [can cover 16,000 ha]
- 600 posters and flyers were printed but not yet distributed to district offices for onward distribution to farmers.
- FAW presence was recorded at six irrigable dam areas where early maize is planted, including Busa, Yaliyeli, Sankana, Kpalinye, Jawia, and Bouti in the Wa municipal, Wa west, Nadowli-Kaleo, and Sissala West districts.
- The Department of Agriculture requested further training from FTF ADVANCE II for 83 newly recruited staff for effective delivery of FAW information. However the request was late into the season and could not be honored due to scheduling and budgetary constraints.

### **OTHER MONITORING VISITS**

FTF ADVANCE II also visited the Mamprusi Moagduri Department of Agriculture to ascertain their level of preparation to fight the pest. During the visit, the district department of agriculture shared that they received pesticides, mainly “ADEPA” (30 liters), BYPEL (10kg in sachets), EMA STAR (60 liters), and ERADICATE (30 liters), and were in the process of distributing them to farmers. The district office plans to work with the zonal OB network to reach out and sensitize community farmers about FAW. The districts mounted pheromone traps in Kubori and Yizeesi for early FAW detection. The director also shared that the district does not have enough educational materials such as posters, flyers, and radio jingles to sensitize farmers.

### **STRENGTHENING THE CAPACITY OF THIRD-PARTY SERVICE PROVIDERS**

The project’s OB model includes a web of “third party” service providers, including input dealers, SSPs, VSLAs, RADs, VAAs, digital agricultural information providers, crop insurance companies, and others. With the development of zonal OB networks, the service providers and the OBs in the ZOI constitute zonal business clusters with interconnected businesses. As part of activities to improve the sustainability of the OB model, the project works to ensure that service providers have the requisite capacity and business relationships to support efficient and effective operations.

### **IMPROVING ACCESS TO AGRICULTURAL INPUTS**

MOFA runs the PFJ program, which grants smallholder farmers access to fertilizer, seeds, and agrochemicals at subsidized prices. However, business activities between OB networks and private input dealers and suppliers continue to increase. The project facilitated the operational expansion of 13 input dealers, resulting in additional sales worth **GHS359,765 (\$66,237)**.

Table 15. Input firms and additional sales

No.	Input firm	Location	Metropolitan, Municipal, and District Assemblies	Region	Additional Sales (GHS)
1	Rhinosas	Yendi	Yendi Municipality	Northern	4,800
2	Naazoe	Yendi	Yendi Municipality	Northern	5,200
3	Yamba Yelimangli	Yendi	Yendi Municipality	Northern	3,500
4	Tang Ngomda	Karaga	Karaga District	Northern	32,500
5	Mashood Dori Enterprise	Bulenga	Wa East	Upper West	15,090
6	RMG	Tamale	Tamale Metro	Northern	13,900
7	Adama West Africa	Tamale	Tamale Metro	Northern	10,000
8	Simple Prince	Bolgatanga	Bolgatanga Municipal	Upper East	13,575
9	Ariku Company Ltd	Bazua	Binduri District	Upper East	8,800
10	Petasco Enterprise	Bolgatanga	Bolgatanga Municipal	Upper East	30,000
11	Antika	Wa	Wa Municipality	Upper West	97,500
12	Yahaya Enterprise	Gushegu	Gushegu Municipality	Northern	2,500
13	Agrilinks	Wa	Wa Municipality	Upper West	67,500
14	Siekannye Naazie Enterprise	Bussie	Daffiama Bussie Issa	Upper West	50,000
15	Who Is Free Enterprise	Nalerigu	East Mamprusi	North East	2,200
16	Achiri Agrochemicals Enterprise	Nalerigu	East Mamprusi	North East	1,700
17	Basuglo Enterprise	Tumu	Sissala East Municipality	Upper West	1,000
	Total				359,765 (\$66,237)

Bawku and Karaga Zonal OB networks concluded trade deals with three input suppliers—Adama West Africa, RMG, and IWAD, including the purchase of 5.45 MT of improved maize seed varieties (Lake, Wandata, Sanzal Sima and Pan 12 and 13) worth \$3,102. The OB networks purchased the seeds at the PFJ program subsidized price of \$0.57 per kilogram. OB networks also completed business with other companies, including Agrilink, 18<sup>th</sup> April Company, Antika Company, Heritage Seed Company, Yahaya Enterprise, Balandura Enterprise, Yelimangli Enterprise, Simple Prince, M&B Ltd., and ACL Ltd.

At the start of the CE phase, the project conducted a rapid appraisal to determine the status of 23 RADs in the ZOI. The appraisal areas included linkage to OBs, ICT, and continued support for developing business plans. The appraisal results indicated that 14 RADs (61 percent) already maintain links to OBs, all 23 have and use mobile phones, 18 (78 percent) are on social media (WhatsApp@ or Facebook@), but only four (17 percent) have business plans. The project supported four input dealers in Nalerigu and Tumu to develop business plans, including Kassim Mohammed of Who Is Free Agro Chemicals, DAB Company Ltd., Sankofa Ltd., and Shani Achiri Gbana of Shuyini Enterprise. The business plans include sales and revenue projects for a five-year period, from 2019–2024. The project also helped two input dealers, Nazoe Enterprise and Rhinosas Enterprise located in Yendi Municipality of the northern region, set up accounts with telecommunications company MTN and receive training on the mobile money cash management system.

### ***Access to Inputs through Safe Spray Providers***

SSPs play an important role in the wider OB network or business cluster. In addition to providing an additional channel to access agricultural inputs, they help reduce environmental and health risks associated with pesticide use. The business model is well-established, and SSPs continue to offer services without project intervention or support. During the CE phase, monitoring reports from 73 SSPs showed that 2,641 farmers (1,300 men and 1,341 women) received services covering 1,661 hectares. The service, which required 4,345 liters of pesticides, is valued at GHS36,678 (\$6,753).

In collaboration with PPRSD of MOFA, the project conducted refresher training for 125 RADs and VAAs. The trainings took place in nine locations: Yendi, Gushegu, Karaga, Yagba, and Nalerigu (northern region) Wa, Jirapa, Tumu (upper west region), and Bawku (upper east region).

The training covered topics that enable farmers to safely use pesticides, control weeds, and manage pests, not only reducing the risk of harmful physical exposure, but also providing better, faster, and cheaper weed control, leading to lower production costs and increased farm margins. These benefits allow farmers to expand their productivity, resulting in increased value chain competitiveness.

"This training is very beneficial to me because I do a lot of spraying and didn't know that chemicals can get into my body system through other parts than my mouth and cause more harm than I thought," stated Yelbong Williams, an SSP from Bankpama in Wa West district.

Jawal Mohammed, PPRSD representative, shared that his organization is willing to continue to strengthen OBs', RADs' and SSPs' capacity to ensure safe business operations. The OB networks will capitalize on this collaboration to build a stronger relationship with PPRSD and seek the directorate's support in training additional members beyond the end of project.



Jawal Mohammed (PPRSD official) delivering refresher training for SSPs and rural agricultural agents belonging to the Wa OB network in Wa in the upper west region. Photo Credit: Samuel Asinvim Aleewam



### STRENGTHENING VILLAGE SAVINGS AND LOANS ASSOCIATIONS (VSLA)

The sustainability of the VSLA concept is not in doubt, based on reports and accounts collected from members and other development workers. However, it appears that many of the associations lack confidence when conducting the share-out process. Some of the groups, although they formed in 2017, only undertook share-out once with project support. In response to this need, the project is working with Sung Foundation and other yet-to-be-identified local NGOs in the upper east and upper west regions to retrain members and identify village agents to assist groups. Village agents who support 5–10 groups receive remuneration from VSLAs and can improve the confidence of VSLA members. During the reporting period, **167** VSLAs required project support to conduct their share-out.



VSLA share out in Kpanashie in the Gushegu District of the Northern Region

The project supported the associations, spanning **61** communities and including **4,249** farmers (**3,101 women and 1,148 men**) to share out a total amount of **GHS 1,114,967 (\$205,280)**, including loans to members with a cumulative value of **GHS 324,798.00 (\$59,800)**.

To promote smallholder farmers' access to inputs and improve productivity, six input dealers supplied inputs to smallholder farmers during and after share-out. The input dealers included Mashood Dori Enterprise, Yahaya Enterprise, Nazoe, Agrilinks, Ariku Company, Ltd., and Tang Ngomda. The 167 VSLA groups invested a total of **GHS 52,300 (\$9,629)** in inputs such as fertilizer, seeds, and crop protection, in addition to paying for land preparation.

### NEW AVENUES FOR ACCESS TO FINANCIAL RESOURCES

To improve access to capital for grain aggregation and equipment finance, the project facilitated the development of new financing arrangements with Barclays Bank Ghana and Growth Factor Technologies, a Fintech company focused on delivering value to businesses in the supply chain by providing its users with access to working capital. Growth Factor Technologies is a start-up that grew out of the Kosmos Innovation Centre (KIC) 2018 AgriTech Challenge, a business competition where young entrepreneurs develop commercial solutions to challenges encountered within the agriculture sector through the use of innovation and ICT. KIC is a partnership between Kosmos Energy and Meltwater Entrepreneurial School of Technologies to increase promotion and adoption of technology and innovation.

The project is working with Growth Factor Technologies to introduce OBs to a trade finance product called *Nvoicia* through OB networks along the maize and soybean value chains to promote aggregation. Through the Nvoicia product, Growth Factor Technologies pre-finances up to 80 percent of the invoice value of products supplied by OBs to large firms, while waiting for actual payment of the goods supplied. According to them, the interest rate is negotiable and varies according to the margin the OB is likely to make on the sale. Considering the project's work with TATA Africa, local representatives of John Deere tractors, Barclays Bank Ghana is also interested in providing equipment financing and developing a financial product suitable for project-supported OBs.

## Sub-Purpose 2: Increased Market Access and Trade in Targeted Commodities

### NO COST EXTENSION PHASE

The project conducted activities targeted at consolidating relationships between buyers and OBs, and to promote trade generally.

### TWO-WAY TRADE MISSIONS

The project facilitates trade missions to build business relationships. Two types of missions are organized by the project: project-facilitated (for new entrants, facilitated and sponsored by the project) and actor-led (for businesses who already experienced at least one mission). OBs or buyers initiate and sponsor the actor-led missions, and actor-led trade missions are indicative of the sustainability of business relationships between buyers and OBs. During the first quarter, the project facilitated three trade missions for four buyers (Agrisolve, Limited, Royal Danemac, Basar Agro West Africa, and Premium Foods Limited) to visit 64 OBs in the north, and facilitated OBs' visits to buyers and processors to understand their requirements. The visits yielded the following results:

1. Agrisolve completed trade reconciliation of the previous season's contract with Wumbei Enterprise; a Gushegu-based aggregator who previously supplied maize and soy to the firm. The two parties also finalized a purchase and supply agreement for 2018/19 season, with Wumbei Enterprise committing to supply an initial amount of 40 MT of white maize worth \$9,157 (GHS44,000).
2. Premium Foods, Ltd. concluded a purchase contract with Kasule and Yelmagli Enterprises of Tamale and Yendi, respectively, to each supply 80 MT of maize.
3. Royal Danemac met with the Saboba zonal OB network and secured a biweekly supply agreement with OB Abdul Rashid Alhassan from Wapuli to supply 20 MT of soy with a start price of \$250 (GHS1,200) per MT at the farm gate. The company also agreed to provide advance payment of \$4,994 (GHS24,000) to the OB to support aggregation.

The project provided refresher training on marketing and commodity price trends to 52 OBs and two FBO executives, using content from the project's market intelligence report. The refresher training aimed to improve OBs' understanding of market dynamics in order to improve negotiation and marketing skills and outcomes. Staff of buyers Premium Foods, Agrisolve and the financial institution Opportunity International Savings and Loans participated in the training and shared their perspectives of market intelligence with OBs.

### THE EIGHTH PRE-HARVEST AGRIBUSINESS EXHIBITIONS AND CONFERENCE EVENT TO IMPROVE BUSINESS AND MARKET LINKAGES

The 8<sup>th</sup> Pre-Harvest Agribusiness Exhibitions and Conference event took place on October 3–5, 2018, at the Aliu Mahama Sports Stadium in Tamale. The event theme was *"Transforming Agribusiness in Northern Ghana, The Future Starts Now."* As part of the general post-project sustainability plan, Agrihouse Foundation, a private event organization, led the planning and organization of this year's event, with technical and financial support from the World Food Program's Enhanced Nutrition and Value Chains project and private sector sponsors. For the first time, the event took place over three days and featured a wider range of activities. A total of 2,449 participants (1,793 men and 656 women) attended the three-day event, compared to 911 in October 2017. The 349 event exhibitors showcased a variety of products, from equipment to food products, knowledge platforms, and other value chain products. Participants included farmers, buyers, processors, transporters, input dealers, farm machinery dealers, financial institutions, development agencies and projects, and government officials. The event provided a platform for farmers to establish business relationships and discuss contracts for the 2018 maize, rice, and soybean harvests. It

also included seminars and briefing sessions on agribusiness and policy issues, as well as a field trip to a model mechanized maize farm promoted by an OB affiliated with the FTF ADVANCE II project.



Ambassadors and ministers of state at the opening ceremony.



OBs from SOBNET (Southern OB network) fostered by FTF ADVANCE II at the 8<sup>th</sup> Pre-Harvest event.

## COST EXTENSION PHASE

### END MARKET SUPPLIER RELATIONSHIP DEVELOPMENT

FTF ADVANCE II continued to work with OB networks to explore new avenues for marketing maize and soybeans. The networks are becoming adept at pre-seasonal negotiations with existing buyers. To foster this skill, the project concentrated on exploring new markets and engaged OBs to register with the GCX. GCX currently has warehouses in Wa and Tamale, and plans to set up more in other areas where OB networks operate. The project worked with the networks to educate members on conditions required for registering and trading on the exchange. In addition to expanding trade and markets, the project worked on improving competitiveness through product traceability.

### REVIEW EXISTING BUYER OUTGROWER SCHEMES FOR IMPROVED PERFORMANCE

Agricare held four meetings with five zonal OB networks in Gushegu, Tamale, Wa, and Tumu before the production season to review the previous season's outgrower scheme activities and contract terms and conditions for the 2019 production season. More than 82 OBs from the five networks participated in the meetings.

OBs raised a variety of concerns:

- Late delivery of inputs like seeds and/or last minute changes of previously approved input packages, such as changing the “Chemico” fertilizer brand to the “Falcon” brand
- Late contracts
- Farmers’ non-adherence to production protocol and resulting low yields
- High credit repayment prices
- Cost of bagging produce
- Shortages of fertilizer supplied to farmers, leading to repayment shortages

At the end of the deliberations, both parties committed to addressing the concerns raised by OBs to ensure effective implementation of the outgrower scheme during the 2019 production season. Agricare presented the 2019 production season's outgrower scheme package and OB networks provided feedback to finalize the package.

The OB networks identified ten agribusiness firms ready to invest in the production of maize and soybeans, and discussed inputs, repayment costs, and arrangements. The firms invested **GHS2,039,390 (\$375,478)** in fertilizer, seed, crop protection, and ploughing services. The investment covered a total area of **537.1**

hectares, comprising of **16.4 MT** of seeds valued at **GHS900,306** (\$165,758), 666.8 MT of fertilizer worth **GHS1,030,280** (\$189,688), and herbicides valued at **GHS58,300 (\$10,733)**. Table 16 includes details about the firms involved.

**Table 16. OB networks and firms engaged in input investment**

#	OB network	Firm	Location	Commodity	Type of Investment	Value of Investment (GHS)
1	Sissala Area, Wa, Beimoni, Gushegu, and Tamale	Agricare	Kumasi	Maize	Fertilizer and seed	1,176,600
2	Yendi	Yedent	Sunyani	Maize	Fertilizer	52,470
3	Wa	Degas	Tamale	Maize	Fertilizer, seed, crop protection, and ploughing services	79,380
4	Nalerigu	OCP	Accra	Maize	Fertilizer	30,000
5	Sissala Area	CropCare	Kumasi	Maize	Fertilizer and seed	685,975
6	Sissala Area	Sahel	Techiman	Maize	Seed, fertilizer, and herbicides	14,965
		Total				2,039,390

Two networks (Gushegu and Karaga OB networks) supported five of their members to acquire credit in the amount of GHS **53,307 (\$9,814)** from the Tamale branch of Opportunity International Savings and Loans, in the northern region. The members will use the credit to invest in inputs and to provide working capital to procure fuel for tractors. The bank granted the credit as a result of the OB networks' intervention. The OBs have been given a moratorium period of six months, after which they must repay the loan in four equal installments over a ten month period.

In addition to trading with GCX, the zonal OB networks established their own relationships with new stakeholders, EXCELBIT produce aggregators, and IWAD seed producers. OBs in the Wa and Jirapa network started trading on the GCX through their Chairman Iddrisu MacAdams, who is registered on the exchange. Fourteen OBs from the Jirapa and Wa zonal networks sold **75 MT** of maize through GCX for **GHS115,346 (\$21,236)**.

### GHANA COMMODITY EXCHANGE AS A VIABLE MARKET OUTLET FOR OB NETWORKS

FTF ADVANCE II asked the GCX to provide an overview of its operations and to train seven OB networks in Yendi, Moagduri, Bawku, Tumu, Wa, Gushegu, and Karaga on the required grain quality standard. The training registration cost **GHS550 (\$101)**. The training built upon farmers' existing knowledge of grain quality standards and brought out information on cleaning, drying, separating immature grains, and grain impurities.



Mr. Mac Adam Iddrisu (Chairman of Wa OB network), a beneficiary of the GCX produce sale platform in Wa.

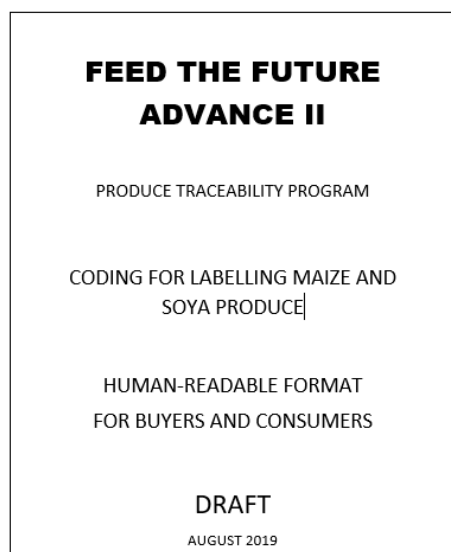
### DEVELOPMENT OF LABELING AND TRACEABILITY SYSTEM FOR OB NETWORKS

During the CE phase, the project completed a manually readable system of labeling produce that will improve traceability. The coding allows buyers and others to trace produce to the outgrower business.

The unique ID code applies a three-letter combination coding for administrative region, OB network, and district, and a four-letter combination for the OB:

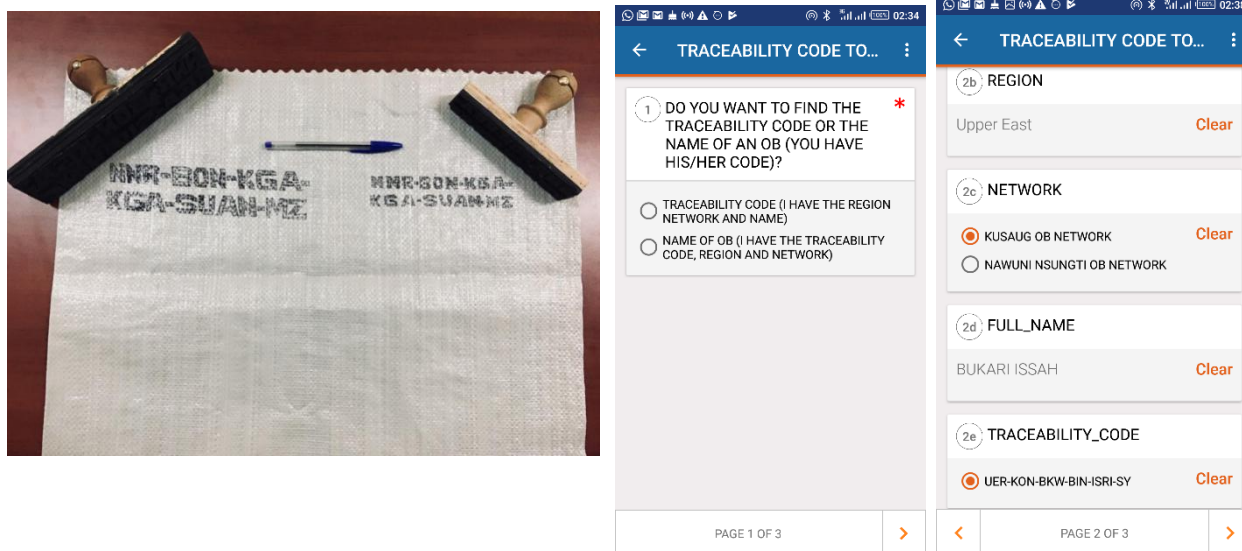
- **Region:** Northern Region (NOR), Upper West (UWR), Upper East (UER), and North East (NER)
- **OB Network:** First initial of network combined with O (for OB) and N (network). For example: YON for Yendi OB network
- **District:** Popular combination of three letters
- **OB:** Initials will be made up of four letters comprising of the first two letters of second name and last two letters of first name. For example: *John Dimah* (DIHN)
- **Crop:** Maize (MZE) and soybean (SYB)

A draft document is currently under review, and the project will circulate the final version to all stakeholders for reference.



The project is also testing an android-based tool developed on the Esoko Insyt platform to supplement the use of the hard copy tool. It allows users to search for a label code using the name of the OB or other credentials. The mobile, android-based tool is expected to enhance use of the system as it will be accessible at any time and place.

The project collaborated with the OB networks to produce two prototypes of a stamping gadget to demonstrate its ease of use and affordability. The project started demonstrating and testing the system, which is expected to be ready before the harvesting and processing period.



## Sub-Purpose 3: Strengthen Capacity for Advocacy and Activity Implementation

### NO COST EXTENSION PHASE

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

Some of the activities conducted during the NCE phase aimed at concluding activities implemented to strengthen local non-governmental organizations, but the activities focused on supporting OB zonal networks to improve their governance and advocacy structures.

### DEVELOPMENT OF ZONAL OB NETWORKS

The project supported the development of zonal OB networks (over the previous ZOI) as a project strategy to ensure the sustainability of the project's relationships, systems, and services. The project set up the zonal networks as business associations to directly provide services to their members, and supported them to set up interim executives. The project conducted activities intended to strengthen the networks' operations, including:

- Drafting business and action plans
- Developing statutory procedures and processes
- Training on leadership and advocacy
- Forming regional networks

#### *Training on Leadership and Advocacy*

One important activity for the effective functioning of OB networks is advocacy. OB network leaders require advocacy skills to engage with stakeholders for the benefit of their OB members. During the NCE period, the project conducted training for 65 network leaders in four locations—Wa, Tumu, Tamale, and Bolgatanga. The topics discussed included:

- Using advocacy in groups and organizations
- Identifying priority issues for advocacy

- Identifying and mapping influential stakeholders
- Developing an advocacy action plan
- Implementing an advocacy action plan
- Engaging stakeholders for advocacy

The training included group exercises where small groups developed sample advocacy processes and plans. During a plenary session, the groups discussed advocacy best practices and how to engage influential stakeholders on specific issues.

The advocacy training revealed that many participants make choices based on public perception or influential people, but not based on analysis of the issues in question. Training participants pledged to utilize the knowledge gained to improve advocacy actions for the collective benefit of farmers.

*This is one of the trainings I have attended and learned a lot to develop my business and to support the zonal network. The content and delivery were to my level of understanding and participatory. We need more of such trainings so to improve our grower businesses.*

—Peter Waja, Chairman, Yendi Zonal Network

### **Formation of Regional-level OB Networks**

The project completed the development of three regional networks that will support the zonal networks in the upper west (three zonal networks), upper east (five zonal networks), and northern (six zonal networks) regions. The specific job descriptions for interim executives differs slightly across regions, but they perform similar functions, including:

- Improving capacity of zonal network leaders
- Building regional and national-level relationships with governmental and other authorities and bodies
- Advocating for policy initiatives

The upper west regional OB network formed later than the others, and involves three zonal OB networks. The project facilitated a day-long workshop to form a regional executive body that will advocate for policies promoting these OBs' interests. The project took 13 executive members through the exercise of formulating action plans and core values to guide the zonal and regional OB network operations

### **ASSESSMENT OF GENERAL CAPACITY AND STATUS OF GRANTEES**

During the NCE period, the project held a meeting with the representatives of the five organizations to discuss their experiences executing grants, and to ask each representative to conduct a self-assessment of their organization using the organizational capacity assessment tool (OCAT). During the meeting, participants also discussed the sustainability of local NGOs with the emergence of social enterprises and dwindling donor funding.

When discussing the representatives' experiences executing grant awards, participants highlighted outcomes of grantee activities and lessons learned:

- CDA successfully brought fertilizer smuggling to the fore of the national agenda, resulting in high media coverage, a strong commitment from the MOFA to deal with the issue, and a visit by the Minister for Food and Agriculture to border towns.
- YHF highlighted safe disposal of empty pesticide containers, which also caught media attention. However, solutions to the problem require the collaboration of several government agencies and private entrepreneurs.
- URBANET used the community scorecard to hold district agriculture extension agents accountable for their services. The meeting agreed that the community should publicly display scorecard results, possibly through community radio broadcasts or similar media, to publicize the accountability mechanism and stimulate debate.
- Sung Foundation established 130 new VSLAs between November 2017 and June 2018. The project encouraged field agents to continue to support VSLA groups beyond the end of project.

During the meeting, each grantee's representative conducted their organization's self-assessment using the OCAT. The analysis showed that, in general, the organizations have moderate capacity in most of the

assessment areas, except for low scores in performance management. NORTHCODE achieved the highest overall ratings, including a high score in performance management. CDA had the lowest overall rating.

**Table 17. Ratings of five local NGOs**

Organization	Governance	Administration	Human Resource	Financial management	Program management	Organizational Management	Performance management	Average
<b>CDA</b>	3.00	3.00	3.00	3.00	2.90	3.33	2.17	2.91
<b>YHF</b>	3.80	3.20	3.60	3.30	3.30	3.60	3.10	3.41
<b>NORTHCODE</b>	3.80	4.00	3.90	3.00	3.80	3.60	4.00	3.73
<b>URBANET</b>	3.20	2.80	2.80	3.00	3.00	3.30	2.80	2.99
<b>SUNG Foundation</b>	3.60	4.00	3.40	4.00	3.60	3.30	2.83	3.53
<b>Average</b>	3.48	3.40	3.34	3.26	3.32	3.43	2.98	3.32

1.00–1.49 = Low capacity; 1.50–2.49 = Basic Capacity; 2.50–3.49 = Moderate capacity; 3.50–4.0 = High capacity

### COST EXTENSION PHASE

During the CE phase, the project focused on developing and making accessible learning materials and platforms to influence desirable and sustainable behavior change. The project targeted the following activities:

- Assessing and building the capacity of value chain actors to identify gaps in reaching sustainable behavior change
- Facilitating working relations between MOFA and OB networks to participate actively in government agricultural programs
- Training OB networks and promoting the concept of total quality management (TQM)

### ASSESS AND BUILD CAPACITY OF VALUE CHAIN ACTORS TO IDENTIFY GAPS IN REACHING SUSTAINABLE BEHAVIOR CHANGE

The project worked with key value chain actors to define “desirable behaviors” in order to set benchmarks and guide transitions from current to desirable behaviors. Individual OBs already had a benchmarking tool, so the project developed tools for OB networks, VSLAs, SSPs, RADs, and VAAs. Broadly, the tools show varying grades/standard behaviors in the following areas:

1. Business management and growth
2. Appreciation and use of data and records
3. Developing stronger business, social, and networking relationships
4. Ability to engage stakeholders
5. Demonstrating environmental stewardship
6. Demonstrating inclusiveness
7. Increased digitization of business transactions and operations

Once finalized, the tools will be converted to android-based apps that will be accessible to actors and networks.

The assessment results indicated that some tools require revision, which is currently underway. Table 18 lists some areas that require improvements:

**Table 18. Results of assessment tools**

Business System	Number of Tools Administered	Low Score Performance Areas
<b>OB networks</b>	9	Leadership skills, fundraising, information management, and developing business relationships with lead firms, including financial institutions and equipment dealers and buyers.



VSLAs	64	Group involvement in social and economic activities, group digitization of savings, effective group governance, absence of SSPs in some communities, and recordkeeping.
SSPs	32	Business relationship between OB network and department of agriculture, recordkeeping, linkage with input dealers, customer relationships, business investment, such as personal protective equipment (PPE), management of business growth and decline, container disposal and use of PPEs.

To support the behavior change process, the project planned training during the next quarter. The training sessions will include appropriate psychometric tests and behavior change communications to address the issues identified in the table above.

#### FACILITATE WORKING RELATIONS BETWEEN MOFA AND OB NETWORKS TO PARTICIPATE ACTIVELY IN GOVERNMENT AGRICULTURAL PROGRAMS

The MOFA, through the Department of Agriculture, is the main implementation agency of the Governments of Ghana's agriculture policies and programs offering public goods and services, including training to farmers. The project supported six zonal OB networks in Yendi, Bawku, Wa, Karaga, Gushegu, and Mamprugu-Moagduri to meet with the Department of Agriculture and discuss collaboration, modalities for accessing agro-inputs and fertilizers from the PFJ program, and other matters of interest.

Through these engagements, the Bawku Municipal Agricultural Development Unit allocated an office within its office premises for use by the OB network. Also, five networks including Yendi, Beimoni, Gushegu, Kusaug and Nawuni Nsungti were able to access **9.20MT** of seeds for **GHS 37,372 (\$ 6,880)** and **1,131MT** of fertilizer for **GHS 150,275 (\$ 27,667)** through subsidy under the PFJ program.

#### INTRODUCING OB NETWORKS TO TOTAL QUALITY MANAGEMENT (TQM)

TQM is a way of managing an organization to ensure continuous improvement over a period of time by maintaining a focus on customers while addressing the needs of stakeholders for quality products and services. The project developed an assessment tool for OBs and networks to determine their capacity and level of TQM implementation in their operations based on the following areas:

- Customer focus
- Quality of service
- Leadership
- Continual improvement
- Membership involvement
- Process approach as a management strategy (integrating all organizations processes as a system)
- Factual approach to decision making
- Supplier relationship development

The tool was administered to nine OB network leaders. The OB networks scored low in some areas:

- Concept of customers and customer focus
- Quality, products and services, and leadership
- Factual approach to decision making
- Process approach as a management strategy
- Involving everyone in maintenance of quality

As a result, the project developed tailor-made TQM training materials for nine networks and conducted trainings, structured into two interactive and participatory sessions. The first session discussed TQM and the second covered stakeholder engagement.

By the end of the training, OB networks were better prepared to ensure the sustainability of their group by satisfying the needs of members, leadership, involving people, improvements and innovation, factual approaches to decision making, supplier relationships, and working with stakeholders to derive maximum benefits.

“Actually, the training is excellent, and I believe if we follow, it will take us to the higher level. But I request a copy of the training material for the network office,” remarked Ibn Sulemana, Chairman of the Beimoni OB Network in Karaga.

Participants shared their training experiences at different locations after each session. Zulfata Issahaku, who attended a training in Wa to represent her father, said, “I am trained teacher and my father asked me to take over his business which I was not willing, but after going through this training on Total Quality Management I will take over his farming business”

## F Program Support

### Gender Mainstreaming

#### NO COST EXTENSION PHASE

During FY2019, the project continued mainstreaming gender and promoting women’s empowerment in all activities. Specific interventions included:

- Building women’s business, leadership, and entrepreneurship skills
- Increasing women’s access to ICT, financial services, and improved technologies
- Promoting nutrition-sensitive agriculture
- Celebrating and honoring rural women

#### BUILDING WOMEN’S BUSINESS, LEADERSHIP, AND ENTREPRENEURSHIP SKILLS

The project promotes women’s leadership roles by supporting advocacy for the creation of women’s leadership positions, training in leadership skills, and recognition and awards for performance and leadership. The project discussed the possibility of creating additional leadership positions with the regional and zonal OB networks, such as a women’s organizer, apart from the treasurer position that is normally reserved for women. The OB networks generally agreed, and the project anticipates that each network will create two to three positions. During FY2019, the project trained 131 women VSLA leaders from 54 VSLAs in 15 communities to lead VSLA activities, especially share-out modalities. As part of technical skills training, 3,805 women smallholder farmers benefited from maize and soybean post-harvest handling training during the period.

The project supported the leadership of the Binaba Women Farmers Association, a farmer-based enterprise (FBE), to provide mentorship to the leaders of AGAOKODEP, an FBE at Binaba, in Bawku West district in the upper east region. The project identified the Binaba Women Farmers Association for their strengths in financial mobilization, input acquisition, and equipment maintenance. Led by Victoria Asaaro, women from the FBE mentored AGAOKODEP on planning, documentation, membership, and identification



The Business Linkages Specialist facilitating a training session on TQM in Tumu

and networking with institutions for input credit. Some of the critical experiences shared by members of the Binaba Women Farmers Association included:

1. Toende Rural Bank at Zebilla is considering providing lower interest rates to the group because they consistently make 100 percent payments on input credit facilities provided.
2. In regards to asset management and utilization, the Binaba Women Farmers Association established a committee to oversee the use and maintenance of their five donkey ploughs and motorized tricycle. The committee maintains records on incomes and expenditures kept and reported to members.
3. To generate income, the Binaba Women Farmers Association engages in commodity trading. The association invested funds earned from the motorized tricycle (GHS900) in rice paddy for later sale.

Leaders of AGAOKODEP felt inspired by the engagement and decided to adopt the strategies of Binaba Women Farmers Association in their group.

#### SUPPORT WOMEN IN VSLA GROUPS TO INVEST IN THEIR LIVELIHOODS

The project facilitated the capacity development of 1,097 VSLAs in the ZOI. These VSLAs have approximately 70 percent female membership and increasing savings. This activity aims to support improved economic use of savings to increase VSLAs' overall annual income and sustainability after the project ends. FTF ADVANCE II collaborated with MOFA's Women in Agriculture Department to train over 15,000 women on domestic and commercial soybean utilization to improve smallholder farmer households' nutritional status, food security, and income. These trainings continued during the period under review.



Asana Wuni, group leader of Tinguri Women's Group showcasing some of group's products during the 2018 Pre-Harvest event held in Tamale in the Northern Region.

#### SUPPORT WOMEN IN COMMERCIALIZING SOYBEAN PRODUCTS

The project conducted trainings for 371 women interested in commercializing soybean products. The women participants learned to prepare and package various soybean products, including soybean cerelac, soybean milk, soybean kebab, soybean flour (popularly known as "soybean tom brown"), and other local products such as soybean "dawadawa."

Apart from soybean products, the training covered other popular commercial products such as shea butter, groundnut butter, and the weaving of highly prized local cotton fabric.

The project gathered evidence on the impact of trainings during monitoring visits. A group of previously trained women from Tinguri in West Mamprusi district, northern region, established a business entity producing soybean cerelac for sale with assistance from KOICA, the Korean Development Agency. During the 8<sup>th</sup> Pre-Harvest event in Tamale, the Tinguri Women's Group funded their participation and exhibited their products.

Under a mentorship scheme, Esther Akabzaa, an OB and owner of Abuogpoka Enterprise, promoted income generating activities to 250 female outgrowers who are VSLA members in seven communities in the Bongo district of the upper east region. These groups are involved in shea butter production, groundnut paste, kente weaving, dawadawa making, basket weaving, and produce a local malt drink.

### INTERNATIONAL DAY OF RURAL WOMEN

FTF ADVANCE II commemorated the 2018 UN International Day of Rural Women at Tuna, in the Sawla-Tuna-Kalba district, northern region. The event recognized women's role in enhancing agricultural production and rural development. During the event, the project awarded plaques and prizes to five women OBs across the three northern regions and the Brong-Ahafo region for their corporate social responsibility and contributions to improving livelihood, food security, and agricultural practices in their communities. The awardees included:

1. Elizabeth Peter from the northern region
2. Hajia Maria Kobzie from the upper west region
3. Akua Yeboah from the Brong Ahafo region
4. Faustina Amoah from Brong Ahafo region
5. Margaret Akos Awenyok from the upper east region

The event theme was *“Enhancing access to production resources and time-saving assets for agribusiness growth: the empowerment of rural women.”* The event brought together 176 participants (132 women and 44 men), including the project's beneficiary female OB owners, outgrowers, aggregators, and processors. Other participants included representatives from local non-profit organizations, district departments of agriculture, traditional leaders, development partners, input and equipment dealers, and financial institutions.

The Chief of Party of FTF ADVANCE II acknowledged women's contributions to national development and urged all stakeholders to continue advocating for women's access to agricultural production resources to improve their yields and livelihoods. The COP enumerated some of the key opportunities provided to women under the project and indicated that, as of September 2018, the project had supported 63,278 women (48 percent) out of **131,493** project beneficiaries.

Margaret Tabla, a project-supported FBE leader and past awardee, also spoke on behalf of women beneficiaries, and commended the project for building female farmers' capacity on good agricultural practices, in addition to leadership, numeracy, and post-harvest processing.

### GENDER STUDY

The project conducted a study to assess the results of four years of activities aimed at empowering women. The study had two broad learning questions:

- Assess gender issues with regard to access and control over assets and resources, gender roles, responsibilities and time used, and patterns of power and decision making within the maize, rice, and soybean value chains
- Assess the extent to which program activities had unintentionally strengthened youth participation and partnership within the maize, rice, and soybean value chains

The gender study found that women's decision-making power has increased at the household level, and the OB model has been instrumental in ensuring female farmers' access to agricultural services. This is borne out by the LOP data that shows that 60,949 women participants received training, including 33,097 on good agronomic practices. Other capacity building activities that support improved decision making include:

- Post-harvest handling (19,512)
- Quality standards (41,879)



Participants at the UN International Day of Rural Women event, organized by FTF ADVANCE II at Tuna in the Sawla-Tuna-Kalba district, northern region. Photo credit: Abdulai A. Rahaman

- Farming as a Business (23,610)
- Numeracy (20,613)

Outgrower schemes enabled women smallholder farmers to increase not only their access to improved seeds and fertilizers, but also their farm yields, going from an average production of 1.2 MT to 3.14 MT maize per hectare.

Contracts between women OBs, FBOs, and end buyers enabled 63, 278 women beneficiaries to obtain incremental sales of \$31,208,339 from maize, paddy rice, and soybean between 2015 and 2018.

The study also found that FTF ADVANCE II grants saved women's time and energy and increased their opportunity to socialize and attend other community events. However, while the OB model increased women's access to services, women face multiple constraints in seeking leadership roles in agriculture groups; most leadership positions are still held by male members.

The study showed that youth are playing a critical role in the advisory and extension services as field agents for OBs and as community input agents, providing information and inputs to smallholder farmers, although this role can be significantly scaled up.

### **COST EXTENSION PHASE**

The project is building on the successes of the previous phase in order to enter new areas to enhance women and youth empowerment. Key expected results include:

- Advocate affirmative action to persuade zonal OB networks to create appropriate positions for women at the executive level
- Facilitate stronger relationships between women groups and other stakeholders and service providers

### **ENHANCING ADVOCACY ACTIONS FOR IMPROVED ACCESS TO PRODUCTIVE RESOURCES**

#### ***Advocacy***

Except for VSLAs, the representation of females in other value chain actor groups is low and should be improved. Therefore, project staff held sensitization and training sessions on women's and youth inclusion to encourage the networks to promote affirmative action strategies aimed at greater inclusion. Fifty-nine value chain actors participated in project training programs in three zones, Gushegu, Karaga, and Yendi in the northern region. Participants included eight male OB network members, one field agent, and 41 women VSLA members. During the training, staff shared relevant results from gender and youth inclusion efforts, as well as lessons learned from the project's studies conducted on gender inclusion, buyer-sponsored outgrower schemes, and VSLAs.

The participants proposed the following actions to improve participation:

- Stronger links of networks to women VSLA leaders
- Incorporation of female processors and aggregators within zonal networks
- Recruitment of youth as lead farmers/agents and secretaries
- Exclusive positions within networks for women and youth
- Formation of youth groups who will be supported with farm inputs
- Youth mentoring through peer learning strategies aimed at highlighting gains in agriculture

Zonal OB networks will be encouraged to set a minimum quota (indicated in the gender and youth integration framework) for women and youth participation, and will monitor to ensure that these groups have the support to participate and contribute to meetings and succeed in agribusiness.

#### ***Equipment***

FTF ADVANCE II promoted adoption of various technologies, including improved seeds, agro-inputs, and gender-sensitive<sup>6</sup> basic farm equipment. During the reporting period, the project compiled an inventory of equipment and current availability. The project contacted dealers to build and improve relationships with women and youth, and to design financing products that suit their needs. Staff also discussed how to ensure those who purchased equipment with support of the previous grant program can also build relationships for after-sales services. Below are listed thirteen affordable, labor-saving equipment and devices that are particularly useful to women:

**Table 19. Labor-saving equipment and devices useful to women**

Item No.	Equipment Type	Dealers
1	Weighing scale	RST WAATCO, TATA AFRICA
2	Moisture meter	Dizengoff, TATA AFRICA
3	Tarpaulin	RST WAATCO
4	Power tiller	RST, TATA AFRICA
5	Dibblers	TIF
6	Manual planters	RST, Tamale Implement factory (TIF)
7	Seed drill	TATA, RST
8	Transplanters	TIF, Gratis Foundation
9	Bullock/donkey plough	Gratis Foundation, TIF, RST
10	Donkey carts	Gratis Foundation, RST, TIF
11	Multi-purpose Threshers/Shellers	RST, WAATCO, TATA AFRICA
12	Tricycle with trailer	LK International,
13	Motor bikes	LK International

### ***Access to Agricultural Inputs***

OB John Dimah of the Sissala Area network collaborated with a woman-led aggregator firm, Agrisolve, to run a special scheme for 490 women cultivating more than 200 hectares of maize. OB John Dimah provided advisory services and supervision while Agrisolve provided the inputs required to the farmers. Similarly, the project assisted with enrolling 210 youth, including 58 young women who cultivate maize on 40 ha, in three outgrower schemes (Agricare, Crop Care, and Sahel Grains).

The firms provided credit in the form of production inputs (land, inoculant, seeds, fertilizer, and agro-chemicals) for youth as they cultivated more than 100 hectares.

Michael Asutani Baba, an OB from the Yendi OB network who has 627 outgrowers (328 women and 299 men) engaged community leaders to access and plough 22 acres of lands for 11 of his outgrowers who are between the ages 18 and 25 years (6 women and 5 men) within the four communities of Kuga, Zabang, Wakang, and Zang in the northern region. In addition, he provided his outgrowers with 28 bags of NPK, six bags of TSP, six sachets of inoculants, and 10 bags of urea to cultivate soybeans, maize, and rice.

According to Michael, although some youth were willing to venture into agribusiness, the lack of productive resources such as land and agro-inputs served as deterrents. Hence, collaborating and advocating with land owners to make land available to youth for production is a pivotal solution. Michael said, “I see the sustainability of agriculture to be in the youth and that is why I will always advocate and urge community leaders and all other network members to support and get more youth into agriculture.”

### ***Training and Advisory Services***

The project worked with the zonal OB networks to identify women leaders and champions to facilitate training and field demonstrations. As a start, four OBs in the Wa and Jirapa networks selected five women

<sup>6</sup> Various types of light weight equipment which reduce drudgery and increased efficiency were provided at different times during the previous phases.

in four communities in the upper west region and hosted field demonstrations with inputs they provided to outgrowers.

#### SUPPORT FEMALE PARTICIPANTS TO COMMERCIALIZE SOYBEANS

FTF ADVANCE II developed a market assessment tool to assess potential markets for soybean products within the project's ZOI. Before developing the tool, the project conducted a survey in Yendi, Mion, Karaga, and Gushegu districts to understand the available infrastructure and support services. The survey yielded the following key results:

- Soybean flour is commonly produced by households and consumed by both children and adults. Households usually blend yellow corn flour with soybean flour.
- Soybean flour is also sold in the market, often without labelling or adequate packaging. Several women produce the blended flour, each with the potential of processing 200 kg a week.
- A new factory owned by eight women's group from eight communities and located in Sang, in the Mion district, produces well-packaged, blended soybean flour. The factory is supported by the Community Life Improvement program, an NGO. It has the potential to produce 500 kilos of soybeans a week. The factory currently supplies the district hospital, which sells blended soybean flour to parents of children with cases of anemia, stunting, and malnourishment at the hospital and health posts.
- In Karaga, B-Diet Company, a blended soybean flour processor based in Tamale, supplies shops and health facilities in the area.
- Nutrition centers at the various district hospitals and clinics are potential outlets for flour, as each clinic or hospital either produces flour themselves, or sold or marketed flour on behalf of producers in exchange for a commission.
- The soybean kebab is the most common and popular commercial product encountered. Most of the women interviewed indicated that they can sell whatever quantity they produce, and cannot meet demand on scheduled market days. The soybean kebab is the vegan version of a traditional product known as "washing," made from cow milk. The women also indicated there is no unhealthy competition among producers in view of the market potential.
- No sale of local artisanal production of soybean milk product was observed.
- A focus group discussion with two women's soybean processing groups in Nakpache and Bimbong communities, in the Yendi municipality, indicated that women are involved in processing soybean flour, soybean kose, waswasa, milk, wagashie, and soybean kebab. This production yields small quantities, which are sold within the community, schools, or surrounding communities during market days. The main production challenge is poor access to processing mills, low access to credit for expansion when needed, poor processing techniques, and low financial management skills.
- Community mills were deemed unsuitable for production of high-quality flour required for blended soybean because of contaminants.
- The project visited a local market and observed several soybean flour products, including Wagashie, Kebab, and Koko, sold on the table and fried openly. This flour was packaged without labels. Patronage was lower than desired, but catered to women's basic needs. Some women made average weekly profits of GHS20 to GHS100 (\$3 to \$18), and believed they could increase the amount with credit support to increase production.



Packaged blended flour from factory at Sang, Mion district.

- Most women involved in commercial soybean processing worked individually rather than collectively. Many belong to VSLAs that provide support services in terms of credit access and social support.



Inside the soybean processing factory at Sang.



Soybean kebab (before frying) on display in Yendi market.

The project completed a quantitative field survey, involving 169 respondents, based on a sample selected for the annual productivity survey. The analysis will guide future support to women interested in scaling up their businesses.

## Environment

### NO COST EXTENSION PHASE

FTF ADVANCE II continued its work on environmental and social safeguards, aiming to ensure compliance with Title 22 of the Code of Federal Regulation, section 216, and the relevant environmental regulations of Ghana. FY2019 achievements are highlighted below.

#### ***Pesticide Use Monitoring***

The project conducted monitoring to measure the progress of implementation of safer use actions. The safer use monitoring plan aimed to (1) promote safer use of agrochemicals through awareness, (2) prevent environmental pollution resulting from improper pesticide applications and disposal, and (3) ensure compliance with Title 22 of the Code of Federal Regulations, section 216.

In FY2019, the project monitored the pesticide use of every farmer who hosted demonstration plots during the 2018 farming season, 281 demonstration farms hosted by 266 farmers in 271 communities, and compared data with the previous years' results for trend analysis.

#### ***Reducing Reliance on Pesticides***

Pesticide use monitoring in 2018 revealed 92 percent of active ingredients used on the farmers' fields were compliant with the Pesticide Evaluation Report and Safe Use and Action Plan (PERSUAP). This compliance is the result of training farmers on the safe use of chemicals and an integrated pest management approach, emphasizing minimum and judicious reliance on chemical control and the use of least toxic chemicals.

#### ***Promoting the Use of Personal Protective Equipment (PPE)***

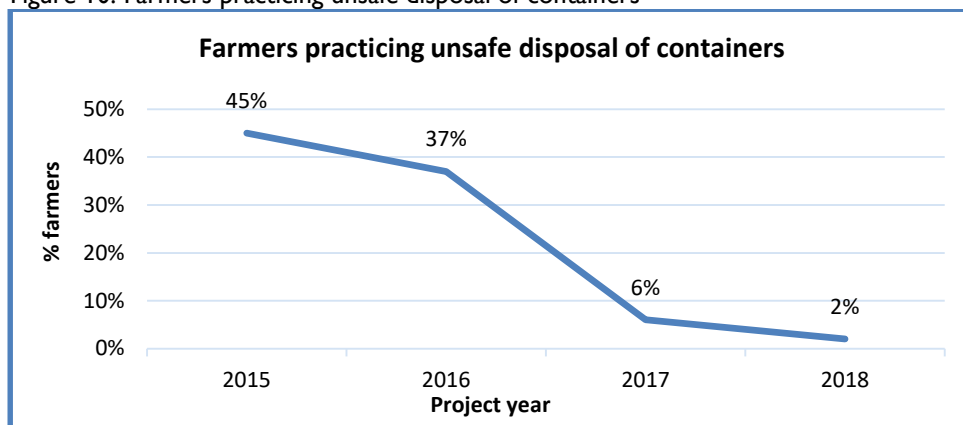
The project has recorded a steady increase in the acquisition of personal protective equipment by project supported participants since the beginning of the project, from 2015 to 2018. In the first year of implementation, 23.7 percent of farmers hosted demos without a single PPE. However, in 2018, 94 percent of farmers owned and used at least one PPE.

#### ***Discouraging Re-use of Pesticide Containers***

In the 2018 farming season, the project did not record any re-use of empty chemical containers for water/food storage by farmers, compared to three percent recorded container re-use in 2015.



Figure 10. Farmers practicing unsafe disposal of containers



The unsafe practice of throwing away pesticide containers improved during the period of project implementation. In the monitoring exercise this quarter, only 2 percent of farmers disposed of used containers improperly, compared with 6 percent, 37 percent, and 45 percent recorded in 2017, 2016, and 2015, respectively. The project achieved this significant progress mainly through training on good agricultural practices, the work of SSPs, and radio jingles.

#### ***Discouraging Women and Children from Pesticide Application***

The 2018 PERSUAP recommended discouraging women and children from taking part in pesticide application as a safer use action. Women, especially pregnant and lactating mothers, are at a greater risk of pesticide exposure, which can result in physiological harm to both mother and child. Expectant mothers may also develop pregnancy complications with exposure to pesticides. The project recorded a continuous decline in the number of communities in which women take part in pesticide application. The trend was 15, 7, and 3 communities in 2016, 2017, and 2018, respectively. Discouraging children from taking part in pesticide application also on the rise, as their skin is more permeable than an adult's skin. In 2018 farming season, the project recorded three communities where children take part in pesticide application, compared to 16 in 2016.

#### ***Promoting Safe Use of Pesticides through Trained Locally-based Service Providers***

During the 2018 farming season, 61 percent of farmers who hosted demonstrations patronized the services of SSPs, compared to 47 percent, 13 percent, and 9 percent in 2017, 2016, and 2015, respectively. This increase is due to the significant rise in the number of trained and equipped SSPs who continue to offer commercial services to the public. At the end of 2018, 903 SSPs received training and equipment, progressing from 39, 180, and 711 in 2015, 2016, and 2017, respectively.

## **NO COST EXTENSION PHASE**

## REVIEW OF THE PERSUAP

The project completed a review of the PERSUAP during the last quarter of FY2019, and conducted a training program for the project’s technical staff



Project technical staff at a PERSUAP training

on the new approved list and safer use action plan. The project will hold trainings for other stakeholders during the first quarter of FY20. The project will also develop key elements of the report, including pesticide lists and safe use guidelines, into an online quiz-based learning tool and reference. Other activities such as training on minimum tillage using rippers could not be carried out due to the timing of the CE phase, which coincided with the main tilling period.



**PESTICIDE EVALUATION REPORT AND SAFE USE AND ACTION PLAN (PERSUAP) FOR USAID FUNDED FEED THE FUTURE GHANA AGRICULTURAL DEVELOPMENT AND VALUE CHAIN ENHANCEMENT PROJECT II CE**

**REVIEW OF PESTICIDE EVALUATION REPORT AND SAFE USE AND ACTION PLAN (PERSUAP)**

AUGUST 2019

ACDI/VOCA-Ghana  
#1 Tripoli Street, Adjacent MJ Grand Hotel,  
East Legon, Accra - Ghana



## Youth Engagement and Information and Communication Technology (ICT)

### LINK KOSMOS GRADUATES TO OB NETWORKS TO FACILITATE USE OF ICT IN SERVICE DELIVERY

The Kosmos Innovation Center (KIC), a subsidiary of the Kosmos Energy Group, focuses on training young entrepreneurs through a mix of skills training, mentorship, and seed funding. In 2017, the center initiated an ICT for agriculture-based mentorship competition (AgriTech Challenge) to select and provide seed money for young entrepreneurs. This activity focused on tapping into the entrepreneurial spirit and drive created in competitors and winners to explore service provision to OB networks.

The project contacted and met with seven start-ups that have the potential to offer services to enhance the competitiveness of the maize and soybean value chains, including Soil Solutions, Kwidex, Growth Factor, Agro Sourcing, Ghalani, Troto Tractor, and Farm Cure.

Table 20 shows the status of discussions with each start-up.

FTF ADVANCE II technical staff in Tamale observed a demonstration of Soil Solutions’ toolkit called ‘Asaasepa,’ which is a do-it-yourself home test kit. The project continues communications to link Soil Solutions to OB networks. Additionally, FTF ADVANCE II plans to conduct a pilot initiative with Ghalani on its farm record management platform to provide specific solutions customized to farmers’ data and learning needs.

Table 20. Status of engagement with KIC AgriTech Challenge finalists/startups

Name of Group	Description of Solution	Status of Engagement
<b>Growth Factor</b>	Through its Nvoicia platform, Growth Factor provides trade financing solutions that promote access to working capital to businesses. Nvoicia is an invoice factoring platform that assists small to medium businesses that have pending payments to access early payment.	FTF ADVANCE II introduced Growth Factor to OB networks in upper west region. Growth Factor started engaging actors in the region. Potential partnership is considered high.
<b>Soil Solutions</b>	Soil Solutions created a do-it-yourself soil tool kit called ' <i>Asaasepa</i> ' that enables farmers to test for basic nutrients such as NPK & PH in their farm soil, and informs them about nutrients the soil lacks.	Soil Solutions presented its product and benefits to FTF ADVANCE II. This could be an additional business model for SSPs. Staff raised issues about how farmers will attribute value gained to testing.
<b>Ghalani</b>	Web and mobile farm management systems that helps farmers and agribusinesses to manage farm processes to increase productivity and reduce costs.	Ghalani is willing to custom design at no or low cost. Potential sustainability partner to host both participatory M&E, service data collection modules, and learning tools.
<b>Kwidex</b>	Gathers funds through crowd-funding web application from user ('contributors') to invest in projects/farmers/others and share profits.	Business model must be well-explained to OB network members. It has potential to encourage transparent accounting.
<b>Agro Sourcing</b>	Agro Sourcing actively facilitates value addition efforts of major agricultural produce and post-harvest residue that have industrial applications. Also it created an efficient logistics management system that integrates farms, storage facilities, and local transport in rural farming communities.	The post-harvest residue model is viable but does not relate well with the business of the OB. Most residues are utilized in the north for animal feed or fuel wood. The main crop residue of substantial quantities without alternate use is rice (straw and husks). The project may link Agro Sourcing with a compost producing company.
<b>Farm Cure</b>	Farm Cure has an integrated pest management system. They provide traps for pests through an app that identifies the pest and recommends management and control measures.	Business model suitable for outbreak pests. Needs further exploration. Introduction to OB network is next.
<b>Trotro Tractor</b>	Provides an electronic platform that connects farmers to tractor operators. The platform will also allow tractor owners to monitor movement and work progress of their equipment. The farmers can request, schedule, and prepay for tractor services. The operator on the other hand gets quick requests for tractor (ploughing) services.	Business model deviated from OBs who operate on credit-base. Project will promote the platform to OBs who require cash payments and outgrowers who are capable of paying cash.

#### IMPROVING STAKEHOLDER ACCESS TO AGRICULTURAL INFORMATION

The project supports OB networks to identify relevant multimedia entities and service providers capable of channeling required information services for OB field agents, lead farmers, RADs, VAAs, VSLA agents, and SSPs on a sustainable basis. The services include weather updates, market intelligence, agricultural production, post-harvest tips, and new information from research.

After engaging the service providers listed in Table 21 below, (Esoko, VIAMO, and Farmerline), the project shared the nature of service and costs with OB networks for consideration. For those that are freely accessible (VIAMO 3-2-1, MOFA e-agriculture), the project developed one-page guides on how to access those services.

**Table 21. Key providers of agriculture digital information provided to OB zonal networks for evaluation**

Name of Organization	Product/Packages	Prices
<b>Esoko</b>	Weather alert, climate smart agriculture advice and market prices.	GHS 40.00 a year
<b>Viamo</b>	Bundle of agronomic and pest management advice, weather alerts and market prices once a week	GHS45.00 for a 4 monthly season
<b>Farmerline</b>	Weather forecast: Per farmer GAPs content: 2 times / week/ farmer Market Price; Commodity prices from major regional/district markets: Once/week/	GHS 2.63/month GHS 2.52/month GHS 1.58/month
<b>3-2-1 Service</b>	<b>Viamo</b> Various forms of information, including farming and weather	Free for Vodafone subscribers

#### FACILITATING INCREASED INTERNET PRESENCE OF OB NETWORKS AND SERVICE PROVIDERS

The project is actively working with the zonal OB networks to improve internet presence and use of social media in order to benefit from a wider range of services offered through the internet. During FY2019, the project sensitized all zonal OB networks' executives on the use of social media and nine OB networks opened an account or created a group platform on at least one of the following media platforms—WhatsApp, Facebook, Twitter, Instagram, and/or email.

The most popular platform is *WhatsApp*, which has voice messaging capability, thereby offering opportunities for people who are not literate to communicate. The chairman for the Wa OB network, Mac Adams, requested a hands-on ICT training for OB members. He said, “The production season is coming to an end and we want to request that Madam Lynda, the ICT specialist to come back and train us on the ICT, so that we will be able to learn some of these things to help members with such challenges.”

## G Monitoring, Evaluation, and Learning

During FY2019, the project focused on updating the MEL plan, developing a new MEL system, and building the capacity of staff and OB networks and their agents to effectively implement the new plan. The project also completed the second phase of the 2018 (production season) annual gross margin survey, which collected data on smallholder yields, technology application, and storage systems. The project conducted surveys for the first phase of the 2019 production season to measure annual yield and technology adoption. The second phase will begin in November.

#### UPDATING THE MEL PLAN

The project's MEL plan combines the performance monitoring plan and the knowledge management and learning plan into a single document that describes how project management will implement a system to monitor, analyze, evaluate, and report on the results of the project to USAID. The MEL plan details the project's approach to promoting a learning culture and an applied M&E system that encourages evidence-based decision making, sparks innovation, and advances critical information to OBs and project management in various contexts. The MEL plan also includes the project's approach to information and spatial data management and utilization of technology relevant to OB management, and lays out the organizational structure (both personnel and workflow) for implementing the M&E system.

### DEVELOPMENT OF A NEW MEL SYSTEM

During the CE phase, the project adopted a market-system-oriented M&E approach that deepens the sustainability of the OB model by empowering private sector partners to take ownership and utilization of their business data, while complying with USAID and ACIDI/VOCA's requirements. The project adopts the following approach:

- Facilitative approach: the OB networks and the OBs collect routine monitoring data directly from smallholders.
- Tailored capacity building: the project will develop data management tools tailored to the OBs' and the OB networks' constraints and abilities, and provide the networks, the OBs, and their agents with hands-on trainings and constant mentoring.
- Win-win strategy: The data collected by the OB networks will be mostly beneficial to the networks and OBs to monitor the state of their businesses accurately and to track project progress. They will share this data and information with the project to use in tracking results and progress.
- ICT powered and built on experience: a selection of user-friendly ICT-based business intelligence tools, combined with offline and online mobile data collection and analysis.
- Social inclusion tracking: monitoring how women and youth participants are affected by, involved in, and benefit from project interventions through relevant indicators and learning efforts.

To support the networks and OBs to fulfil that responsibility, FTF ADVANCE II developed data management tools tailored to the constraints and capacity of OBs and their networks. The project developed a QR code to facilitate data collection by OBs on their services to smallholder farmers. The QR code, which contains basic data on smallholder farmers, is a 2-dimensional barcode that can be read optically using a mobile phone camera. The project combines the QR code with ODK software, which allows for offline and online mobile data collection and analysis. The project also created dashboards to support data analysis and visualization.



A snapshot of barcode for project participants (left) and ODK data collection interface (right)

The project trained OB networks and the OBs' field agents to use the ODK application to facilitate data collection and management by OBs on the services they provide to smallholder farmers. The training provided 65 OBs (including two women) and 51 OB field agents from all 10 zonal networks with hands-on practice to use the ODK platform, setting up the application on their android phones and tablets and completing electronic data forms, including farmer registration forms, service provision forms, sales forms, and repayment forms. Participants expressed their willingness to use the data management system, citing its user-friendly interface and data protection and confidentiality.

The training empowered OB networks to take ownership of the data management tools tailored to their recordkeeping systems, abilities, and constraints in order to deepen the sustainability of the OB model after project closure.

### USING INTERNS FOR DATA COLLECTION AND SUPPORT TO OB NETWORKS

The project hired three regional data interns to support, collect, and process data in a timely manner. The interns are youth who previously worked with the project as enumerators on annual surveys. In addition, the project encouraged the networks to hire interns to enhance effective data collection. The project will support and provide training for interns to ensure effective use of the MEL system and the general operation of network offices.

### PHASE III GROSS MARGIN SURVEY

The project completed the third phase of the FY2018 gross margin annual survey in March 2019 by collecting additional sales data to triangulate the initial data captured during the second phase of the survey in October 2018. During the annual survey in October, the project collected data on costs of inputs, technology application practices, production and yields, smallholder farmers' household storage systems, and initial sales from 1,654 smallholders in the maize and soybean value chains. The key results section of this report presented final gross margin results.

### DATA QUALITY ASSESSMENT AND DATA VERIFICATION

The project performed monthly data verification to authenticate all field data. The team highlighted and discussed challenges with all staff involved in 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 for the first two quarters of FY2019. There were no adverse findings.

### LEARNING ACTIVITIES

The project finalized reports on the three remaining studies of the five commissioned in September 2018 to assess the impact and sustainability of specific project strategies and interventions, including the sustainability of the OB model, buyer-sponsored outgrower schemes, grants as incentives in promoting competitiveness, VSLA, input dealer business expansion, and management of FAW. Four consultants and 12 supervisors undertook the assignment, with support from project staff in Ghana and the home office. The consultants adopted a mixed (qualitative and quantitative) method and administered structured and semi-structured questionnaires for both primary and secondary data collection from various value chain actors. Mainly, the studies showed that:

- OBs have developed stronger business relationships with several value chain actors, positively impacting their agribusiness enterprises. The majority (71 percent) of OBs perceive the impact of their relationships on their agribusiness enterprises as high.
- Buyers perceived a positive impact of outgrower schemes on their business. The schemes led to increased profit levels, quality of commodities sourced from OBs, assurance of consistent supply of commodities from OBs, and increased knowledge of good agronomic practices and business management.
- VSLAs significantly improved smallholder farmers' investments and application of improved technologies. The respondents indicated that this has led to improved living conditions, especially for women VSLA members, in the areas of child education, health and nutrition, and investment in alternative livelihoods ventures, among others.
- The project established sustained agricultural input networks to make inputs accessible to smallholders (through community promotions, financing via OB, FBO, VSLA share-out, etc.), open market access, and assessed the impact of the project's strategy in managing FAW.
- The innovation and investment catalyst fund, a grant program in which businesses and individuals accessed equipment such as tractors, planters, shellers, and rotavators, by contributing from 15 to 30 percent of the equipment cost and committing to provide services to smallholder farmers, led to additional investments of GHS1,969,685 (\$437,708) made by project participants.
- Increased agricultural productivity in maize and soybean value chains by women, increased women's resilience in rural households and access to finance through participation in VSLAs, increased decision making for women at the household level, increased adoption of agricultural technology by women, and increased female leadership attributed to the project's efforts to empower women through leadership training and improve their access to land for farming.

The project organized three stakeholders' fora from June 17 to 21, 2019 in northern Ghana—in Tamale, Bolgatanga, and Wa—to share result of the studies and lessons learned.

## PUBLIC RELATIONS AND COMMUNICATIONS

The public relations & communications team continued to ensure FTF ADVANCE II's visibility and highlighted the project's activities, progress impact, and successes. The team completed the following activities during this fiscal year.

### ***Biweekly Bullets***

During FY2019, the project submitted 22 informational biweekly bullets to USAID to outline key activities, results, and impact. The bullets highlighted major field activities such as the project's successes and results in empowering OB networks for agriculture productivity and market sustainability, enhanced private sector collaboration and growth, establishment of market linkages and networking for value chain actors as a result of stakeholder and planning meetings, interventions to combat FAW, and inclusion of women and youth as part of sustainability strategy.

The bullets also highlighted how the project enhanced OBs' capacity in contract negotiation, marketing for commodity aggregation, and OB networks' involvement in participatory data management through the use of ODK software and QR codes.

### ***Success Stories***

The project submitted nine "Telling our Story" and personal interest stories to USAID. Three additional stories are included in this annual report.

ACDI/VOCA published the following three stories on its website:

- Mechanization Helps Outgrower Business Owner Support 750 Farmers in Ghana (<https://www.acdivoca.org/2019/08/mechanization-helps-outgrower-business-owner-support-750-farmers-in-ghana/>)
- Young Ghanaian Business Owner Supports 300+ Farmers (<https://www.acdivoca.org/2019/08/young-ghanaian-business-owner-supports-300-farmers/>)
- Fati's Story: From Smallholder Farmer to Outgrower Business Owner in Ghana (<https://www.acdivoca.org/2019/08/fatis-story-from-smallholder-farmer-to-outgrower-business-owner-in-ghana/>)

### ***Quarterly Newsletter***

The project published and distributed three quarterly newsletters illustrating the project's support and impact to over 1,000 stakeholders, including partners, clients, and actors involved in the project, in both electronic and printed formats. The newsletter showcased how the project accelerated the transformation of agribusiness in northern Ghana through building capacity of OB networks for sustainability.

### ***Events and Field Visits***

#### 8th Annual Pre-Harvest Agribusiness and Exhibition event

From October 3 to 5, 2018, the FTF ADVANCE II project joined Agrihouse Foundation and World Food Programme, with support from MOFA, Northern Regional Coordinating Council, and the Northern Development Authority, to organize the 8<sup>th</sup> Annual Pre-Harvest Agribusiness event. The event took place at the Aliu Mahama Sports Stadium in Tamale, in the northern region. Major private sector sponsors included Ecobank, Yara Ghana, Kosmos Energy Ghana, Interplast Ghana, and KL International Company Ghana. Under the theme: "Transforming agribusiness in northern Ghana, the future is now", the event sought to accelerate the transformation of agribusiness in northern Ghana through business networking and linkages. It called on stakeholders to make agriculture attractive and encouraged youth to venture into agriculture to reduce youth unemployment.

#### Regional Stakeholders Fora

From June 17 to 21, 2019, FTF ADVANCE II organized three stakeholders' fora in Tamale, Bolgatanga, and Wa, in northern Ghana, to share project results, lessons learned, and discuss the sustainability of the project's interventions and impact. A total of 136 stakeholders attended the three events (54 in Tamale, 38 in Bolga, and 44 in Wa), including USAID representatives, officers of the department of food and

agriculture, OB owners and networks, farmers, financial institutions, input and equipment dealers, VSLA members, buyers and processors, and representatives of other donor-funded projects.

#### FTF ADVANCE II Planning Meeting

The planning meeting, which took place from May 7 to 10, 2019 with 11 OB network executives (three from upper west region, two from upper east region, and six from northern region) who joined project staff had the theme “New Beginning with the End in Mind – Achieving Results and Pursuing Sustainability”. Participants included USAID’s Agreement Officer’s Representative (AOR), Pearl Coleman Ackah, and Agriculture Team Leader, William Benjamin.

#### USAID Mission Director meets Private Sector Actors in Tamale

FTF ADVANCE II facilitated a business meeting between some selected private sector actors and a team from the USAID Mission, led by the Mission Director, Sharon L. Cromer in Tamale on May 28, 2019, as part of a four-day northern Ghana field trip for mission representatives.

The meeting aimed to enable the mission director and her team to interact with private sector partners in the promotion of investments and innovations, with an emphasis on opportunities and challenges in northern Ghana. Diverse private sector actors from agribusiness, financial institutions, mobile network operators, and the health sector all attended the meeting.

#### USAID AOR Visits Beimoni OB Zonal Network in Karaga

USAID AOR, Pearl Coleman Ackah, visited the Beimoni OB zonal network in the northern region’s Karaga district, accompanied by the project’s COP and value chain competitiveness and inclusiveness expert.

During the visit, the USAID AOR had the opportunity to interact with network members. Members were encouraged and further engaged with the new USAID Global Food Security Strategy (GFSS). Most OBs indicated that they cultivate all the crops earmarked for GFSS support.

#### 9<sup>th</sup> Annual Agriculture Pre-season Event

The 9<sup>th</sup> Annual Pre-season event was held on April 4 at Modern City Hotel in Tamale in the Northern Region to showcase various agricultural inputs, machinery, and technological services for agricultural value chains, among other agricultural related goods and services.

The National Seed Trade Association of Ghana collaborated with the Northern Development Authority, Ministry of Food and Agriculture, and the Savannah Agricultural Productivity Improvement Program (SAPIP) to organize the event, with key sponsorships from RMG Ghana, SAPIP, and Antika Company Ltd. Approximately 400 participants, including farmers, government staff, and donor agency staff attended the event. Project staff mounted an exhibition stand to display some of the projects’ achievements through publications and photos.

#### 9<sup>th</sup> Annual Pre-Harvest Agribusiness Conference and Exhibitions Event

From October 25 to 27, 2019, project staff and executives of 10 OB networks participated in the 9<sup>th</sup> Annual Pre-harvest Agribusiness Conference and Exhibition Event at the Aliu Mahama Sports Stadium in Tamale, northern region.

Under the theme “Market Access: what is the structured and sustainable pathway?”, the event brought together farmers aggregators, equipment dealers, financial institutions, input dealers, insurance companies, processors, buyers, researchers, government officials, students, telecommunications companies, trade associations, transporters, development partners, civil society actors, and the general public.

The three-day event attracted about 2,100 participants, who interacted, shared expertise and formed business partnerships to promote growth in Ghana’s agricultural sector. Ten OB networks’ executives from Karaga, Yendi, Gushegu, Nalerigu, Jirapa, Wa, Kusaug, Bawku, Sissala, and Mamprugu Moagduri established business relations with value chain actors, including buyers and input dealers, and shared their OB network profiles to expand partnerships.

#### Building up project photo database

The project has collected a large collection of high quality photos. The project submitted 12 photos to METT Ghana for a story map on the ADVANCE project. All photos showed the project in action and



demonstrated the project's effectiveness and impact on the field. ACIDI/VOCA used shared project photos as covers for learning study brochures and social media page posts.

**Videos:** The project developed two video productions on buyers and ODK software to depict project work and achievements.

[https://drive.google.com/drive/folders/1LyjPd2axMrISU\\_xjXJyDnORKL1rF6y](https://drive.google.com/drive/folders/1LyjPd2axMrISU_xjXJyDnORKL1rF6y)

[https://drive.google.com/drive/folders/1LyjPd2axMrISU\\_xjXJyDnORKL1rF6y](https://drive.google.com/drive/folders/1LyjPd2axMrISU_xjXJyDnORKL1rF6y)

# Annex I: Indicator Table

## PROJECT INDICATOR TARGETS AND ACHIEVEMENTS — FY2019 COST EXTENSION PHASE (MAY-SEP 2019)

Indicator Source	Indicator Type	Indicator/Disaggregation	FY2019		% FY2019 Achievement	Comments
			Targets	Actuals		
GFSS	OP1	Number of individuals participating in USG food security programs	20,000	19,491	97%	The production season is not over yet. We expect to meet the target with more SHFs that will obtain services such as training in post-harvest and quality standards, shelling and sales from OBs in the coming quarter.
		Female	10,000	11,028	109%	
		Male	10,000	8,464	85%	
		Youth		4,951		
		Non -SHF		100		
		SHF		18456		
GFSS	OC1	Yield of targeted agricultural commodities among program participants with USG assistance				Yield data is based on gross margin survey of 2018 production season.
		Maize	3.7	3.69		
		Male		3.78		
		Female		3.5		
		Youth	NA	NA		
		Soybean	2.0	2.03		
		Male		1.99		
		Female		2.05		
Youth		NA				

GFSS	OC2	Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance	74,6	74,611	100%	The FAW control efforts, coupled with high adoption of in integrated pest management gave the overall technology application rate. Data based on gross margin survey of 2018 production season.
		Male	37,578	37,578	100%	
		Female	37,967	37,967	100%	
GFSS	OC3	Number of hectares under improved management practices or technologies with USG assistance	59,373	59,373	100%	Almost all project participants applied one or more improved technology and management practices. Data based on gross margin survey of 2018 production season. Target revised to align with result of the survey.
		Male	25,938	25,938		
		Female	33,435	33,435		
		Youth				
GFSS	OC4	Value of annual sales of farms and firms receiving USG assistance (\$)	\$48,276,995	\$48,276,995	100%	Data based on gross margin survey of 2018 production season. Target revised to align with result of the GM survey.
		Maize	\$43,243,676	\$43,243,676		
		Male		\$28,149,772		
		Female		\$15,093,904		
		Soybean	\$4,592,365	\$4,592,365		
		Male		\$1,665,419		
		Female		\$2,926,946		
GFSS	OP2	Value of agriculture-related financing accessed as a result of USG assistance	\$120,000	\$706,695.49	589%	A lot more investment was made in supply schemes than anticipated. Five firms with 52 OBs ran buyer outgrower schemes for the benefit 1,006 SHFs for FY2019 production season. (Additionally \$301,758 was obtained in the NCE phase)
		Male		\$65,4147.75		
		Female		\$53,339.43		
		Youth		\$15,955		
GFSS	OC5	Number of organizations with increased performance improvement with USG assistance	20	35	175%	10 zonal OB networks and 3 regional networks increased capacity to partner private sector service providers and advocate for participation in planting for food and jobs program. 22 firms also expanded their business networks

						through running of outgrower schemes with OBs.
GFSS	OC6	Number of individuals participating in group-based savings, micro-finance or lending programs with USG assistance	4,000	10,303	258%	VSLA concept has gained recognition and relevance in the project ZOI because of the practical impact it has had on the lives of the participants which explains the high numbers (461 groups).
		Female		7,008		
		Male		3,295		
		Youth		3,318		
		Savings		10,303		
GFSS	OC7	Percentage of female participants in USG - assisted programs designed to increase access to productive economic resources	20	38%	190%	VSLA members are dominated by female, which explains the high percentage. Female VSLA members alone constitute 37% of project participants in FY2019.
GFSS	OC8	Percentage of participants in USG- assisted programs designed to increase access to productive economic resources who are youth (19-29)	12	18%	150%	A significant number of youth are attracted to VSLAs to raise capital for additional livelihood ventures. Youth in VSLA constitute 18% of all project participants in FY2019.
GFSS	OC9	Number of value chain actors accessing finance	50	52	104%	

**PROJECT LOP INDICATOR TARGETS AND ACHIEVEMENTS AS AT SEPTEMBER 2019**

Indicator or Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% Achievement so far	LOP	Comments
CI	OP1	Number of direct project beneficiaries	131,493	127,000	104%		
		Male	68,142	67,000	102%		
		Female	63,351	60,000	106%		
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	124,572	120,000	103%		More smallholder farmers received trainings in GAPs, FAW preventive measures, product quality standards during the production seasons.
		Male	63,344	63,600	99.6%		
		Female	61,228	56,400	109%		
FTF	OP4	Value of agricultural and rural loans	4,863,150	4,300,000	113%		
FTF	OP5	Value of new private sector investment in agricultural sector or value chains (\$)	3,731,280	4,000,000	93%		OBs 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%		There were limited resources for OBs and buyers and limited access to loans from financial institutions. This affected the OBs roles as upfront financiers to invest in outgrower farmers' production resulting in slightly under achieving on this indicator.

Indicator or Source	Indicator Type	Indicator/Disaggregation	LOP Actuals	LOP Target	% Achievement so far	LOP Comments
FTF	OC1	Gross margins per hectare for selected crops US Dollar under marketing arrangements fostered by the activity (\$/ha)				
		<b>Maize</b>	<b>781.43</b>	<b>835</b>		
		Male	829.98	900		
		Female	704.32	880		
		<b>Rice</b>	<b>886</b>	<b>814</b>		
		Male	752	867		
		Female	1,038	760		
		<b>Soybean</b>	<b>535.43</b>	<b>700</b>		
		Male	514.78	800		
		Female	548	600		
FTF	OC2	Number of hectares under improved technologies or management practices as a result of USG assistance	303,881.64	312,200	97%	The project's strategy is to 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 organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	852	800	107%	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	\$110,055,056.52	\$67,880,000	162%	Overall most farmers maintained their plot sizes and applied more improved technologies which enabled them to increase yield. Also farmers increased their sales volumes over the years.

Indicator or Source	Indicator Type	Indicator/ Disaggregation	LOP Actuals	LOP Target	% Achievement so far	LOP	Comments
		Maize	\$106,623,676.67	53,840,000	198%		
		Rice	(\$2,238,556.27)	9,730,000	-23%		
		Soybean	\$3,431,379.85	4,310,000	80%		
<b>FTF</b>	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	379	225	168%		Many more firms than anticipated needed support and were supported by the project to improve productivity. Thus more firms were surveyed and found more profitable than the previous year.
<b>CI</b>	OC8	Number of organizations/ enterprises identified as high potential for future awards	13	8	163%		The project continued to work with existing grantees.
<b>CI</b>	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.
<b>FTF</b>	OP9	Number of awards made directly to local organizations by USAID	5	5	100%		
<b>FTF</b>	OP10	Number of Households benefiting directly from USG Assistance	121,455	79,100	154%		More households than expected benefitted from the project.
<b>FTF</b>	OP13	Number of members of producer organizations and community-based organizations receiving USG assistance	19,445	9,000	216%		The overachievement was due to the project targeting more FBO members and providing them with capacity building on FaaB and product quality standards.
<b>FTF</b>	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.
<b>CI</b>	OC9	Value chain actors accessing finance	590	300	196%		The overachievement is due to value chain actors' readiness to leverage the grants incentive and invest in their businesses.





# Annex 2: Success Stories



# FEED THE FUTURE

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

SUCCESS STORY

## REVAMPING BUSINESSES, CREATING JOBS FOR RURAL WOMEN

**USAID's ADVANCE project enhances the competitiveness of a rice processing business of a women's group**

The Nyebu Bi Yoona is a women's group in the Sanagrigu District in the Northern Region that cultivates rice and other crops. The group started in 1997 with initial membership of 20. In 2012, with their own contribution of GHC3,500 (US\$729) in addition to a credit facility from a financial institution in Tamale, they procured a rice milling machine to help them process rice for their members and other rice processors on a commercial basis. They called their business Nyebu Bi Yoona rice processing centre and was intended to serve as an alternate source of their livelihood. Unfortunately, their dream was short-lived because their machine frequently broke down. They often spent a lot of money on repairs, and the unreliability of the machine-made group members and other clients mill their rice elsewhere. The business kept running at a loss and eventually closed down for six months in 2017. The women were left with farming as their only source of livelihood. Yet, they continued to explore for support to procure a new milling plant that could meet the quality, quantity, and processing speed of customers.



A worker of Nyebu Bi Yoona Processing Center in the Northern Region inspecting to ensure the milling is done well. Photo credit: Abdulai A. Rahaman.

In 2017, the Ministry of Food and Agriculture (MOFA) introduced Nyebu Bi Yoona group to the USAID's ADVANCE project and they became a project beneficiary. Through the project's grant scheme, the group acquired and installed a rice miller, grading machine, weighing scale, moisture meters and bag closing machine, all valued at US\$ 33,372.12 to revamp their operations. On their own, the group members constructed a facility to house their new machines. They also received training from the project on good agronomic practices (GAPs), records keeping, operations and maintenance of rice milling machine.

Their business was revamped and they began active operations in April 2018. They have progressively increased the number of bags of rice they mill from 30 to 80 as of December 2018. From April 2018 to date, the Nyebu Bi Yoona Processing Centre has milled 1,054.33 MT of rice with revenue of US\$8,328.33. They raised US\$1,020.43 from their business and bought tricycle to enable them to easily carry parboiled rice from the parboiling unit to the milling center for processing and convey processed rice to customers and distribution outlets. Revamping their business due to the project's grant equipment has enabled the group to employ 17 new workers out of which 15 are females and two are males. *"The rice mill has brought a lot of good to women. It has created employment opportunities for women along the rice value chain. The rice processing business has enabled me in particular to build a house, supported my daughter's tertiary education and able to take care of my old mother and other household needs."* Madam Ayisha Otibo the Managing Director of Nyebu Bi Yoona Processing Centre shares. Damba Abiba is an employee of the rice mill. According to her, she uses her daily wages on her children's school fees and upkeep of her home.



Workers of Nyebu Bi Yoona Processing Center in a group photograph with the Managing Director, Avisha Otibo (Middle in all yellow dress).

Based on Nyebu Bi's success story and increased income, the women are mobilizing funds to establish a solar drier to dry parboiled rice for members and customers. Nyebu Bi Yoona Processing Centre is among many small businesses owned and managed by women that the USAID's ADVANCE project has supported to expand their businesses to create more employment opportunities for women, and improve livelihoods and incomes.





# FEED THE FUTURE

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

SUCCESS STORY

## CHANGING FARMERS' LIVES THROUGH CAPACITY BUILDING

**An outgrower business (OB) owner increased his farming business assets and livelihood as a result of adopting USAID's ADVANCE project's good agronomic and agribusiness practices**

The USAID Agricultural Development and Value Chain Enhancement project (USAID's ADVANCE project) works with 424 OBs and 131,411 smallholder farmers to improve their yields and gross margins in the maize, rice, and soybean value chains. From inception to date, the project has trained 123,845 beneficiaries (62,896 men and 60,949 women) on good agronomic practices (GAP), post-harvest handling, produce quality standards, and other agribusiness areas. The project's training programs improve farmers' knowledge, productivity, and income. Field surveys conducted in 2018 to estimate smallholder farmers' profitability during the 2018 crop season indicate that gross margins per hectare amounted to \$774.76 for maize. Salia Yakubu is a 42-year-old outgrower business owner in Challu Community in the Sissala East District, Upper West Region. According to him, many households in his community now consider farming as profitable businesses because of USAID's ADVANCE project training on good agronomic and farm management practices. Prior to becoming a project beneficiary in 2015, Salia provided services to 45 outgrowers with one tractor and sheller. Even though he transacted business with his outgrowers, he did not keep any business records. He and his outgrowers also planted haphazardly and had low yields. *"We were not conscious about how we planted our maize. We didn't even know that planting techniques influence plants' growth"*, Salia said.



Mr. Yakubu Salia with his child standing in front of one of his tractors in Challu. Photo Credit: Cephass Lifeson.

Since he became a project beneficiary, Salia received training on GAP such as row planting, effective methods fertilizer application, use of certified seeds such as the pannar hybrid variety of maize, the importance of conducting germination tests, post-harvest handling (PHH), and fall armyworm (FAW) control measures. He also received training on OB management practices such as recordkeeping, crop budgeting, profit calculation, and contract negotiation. Salia adopted these practices for the 2017 crop season. Instead of using his local maize seed variety (Obaatampa), he planted a certified variety (Pan 12). As a result, his yields and income increased from an average of 1.57MT/ha and GHS6,560 (US\$1,367) in 2016 to 4MT/ha and GHS48,342.83 (US\$9,795.91) in 2018, higher than the national average of 1.99MT/ha (MOFA report, 2017). His outgrowers, who previously planted local varieties and obtained 0.5MT, are now

obtaining 2.5MT/ha with the certified Pan 12 seeds. The high yield motivated him to increase his farm size from 6.1ha in 2017 to 15.4ha in 2018. The increase in income enabled him to purchase an additional tractor at GHC 45,000 (US\$9,375) and two shellers at GHC 8,000 (US\$1,667) to expand his farming business. He also works with an additional 45 outgrowers, to a total of over 150 farmers as of the 2018 production season.

He appreciates the USAID's ADVANCE project for its interventions.

"My farming business has received huge transformations since I became a beneficiary of the USAID's ADVANCE project in 2015. Notably, the trainings have enhanced my understanding about GAPs and OB management practices, and this has helped me increase my assets and income. Prior to joining the project, I served 45 OGs with only one sheller and a tractor. Before the end of 2017, my margins increased and I purchased an additional tractor and two shellers. I am better able to provide for my family. I even paid off my children's fees at one instance. Thanks to USAID's ADVANCE project".

Salia encourages other farmers to adopt USAID's ADVANCE project's improved agricultural practices and technologies.





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SUCCESS STORY

## EVOLVING FROM AN FBO TO A FOOD MANUFACTURING BUSINESS

**The story of how Wallindi Women's Association leveraged USAID ADVANCE's project trainings to build a cottage industry**

Wallindi Tinguri Women's Association in the West Mamprusi District, Northern Region, includes 78 members (77 female and one male) and is one of 43 farmer-based organizations (FBOs) in the Northern Region that received support from the USAID's ADVANCE project to become farmer-based enterprises (FBEs).

In March 2018, the group registered as an enterprise, and it now belongs to the Cottage Industries Association of Northern Region. The FBO received training from the ADVANCE project on recordkeeping, such as keeping meeting minutes, attendance and dues registers, production records, collective purchases, sales, balance sheets, and profit and loss determinations, among other topics related to management capacity. The group also attended several advocacy and policy workshops that improved their lobbying skills and helped them to reach out to other organizations for support. In addition, the group benefited from trainings on numeracy, farming as a business (FaaB), good agronomic practices (GAP), credit management, and post-harvest handling (PHH). They participated in pre-season and pre-harvest agribusiness events, where they built business partnerships through market linkages.



*Members of the Tinguri women's association in the motor tricycle they received from KOICA as result of USAID's ADVANCE*

In an effort to boost the FBO's income and improve nutrition, the project trained the women members to prepare meals using soybeans, such as kebabs, beverages, and porridge. Using the knowledge gained from these trainings, the group established a small cottage factory that currently employs one person, where they produce and sell instant cereals and porridge products, including cerelac, tombrown, and winimix. In February 2018, the group received a grant of GHS2,000 (US\$412) from the Korea International Cooperation Agency (KOICA) to enhance their brand and packaging. In October 2018, the USAID's ADVANCE project, in collaboration with KOICA and the project's partner ACDEP, organized a contest to support effective and dynamic women's groups, through which the Wallindi Association won a motor tricycle. The tricycle helped reduce the challenges and costs of transporting the group's produce to sell at the district capital's market.

During the project's October 2018 pre-harvest event in Tamale, the Tinguri Women's Association displayed and sold their soymeal products for a total value of GHS900, which is 41 percent higher than their average monthly sales (GHS640).

As a result of trainings from the USAID's ADVANCE project, the group now keeps up-to-date records of their meetings and business transactions. Moving forward, the association plans to expand their sales outlets to reach a larger market and increase sales volume.





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SUCCESS STORY

## FROM CHALLENGES TO SUCCESS: HOW USAID'S ADVANCE PROJECT CONTRIBUTES TO YOUTH EMPLOYMENT

**The Story of Abdul Wahab in the Upper West Region** As of September 2018, the USAID's ADVANCE project interventions had benefitted 131,394 farmers, including 21,577 (16.4 percent) youth<sup>7</sup> involved in activities such as crop production, safe spraying service provision (SSP), and village savings and loans associations (VSLA). The project trained 179 youth in SSP. Of these individuals, 167 sprayed 3,873.57

hectares of land for 3,886 farmers and generated revenues of US\$78,500. In 2018, over 5,219 young VSLA members had saved GHC 268,083.37 (US\$54,322.86). These results complement the Ghanaian government's efforts to reduce the rate of youth unemployment. With their savings, some of these young VSLA members engaged in commercial farming, invested in input dealership businesses, or invested in various businesses to improve their livelihoods. Abdul Wahab, a 22-year old maize



Abdul Wahab (OG) in front of his 4-acre maize field at Bugubelle in the Sissala East district of the Upper West

farmer from the Bugubelle community in the Sissala West District, Upper West Region, received support from the ADVANCE project. Wahab completed Tumu Senior High School in the Upper West Region in 2016. He wished to continue his education at John Bosco Training College in Navrongo, in the Upper East Region, but his parents could not afford his tuition fees. A disappointed Wahab planned to travel to Accra and take menial jobs to survive while trying to raise enough money to go back to school. In 2017, while preparing to travel to the city, Wahab met a USAID's ADVANCE project-supported OB owner, Tahiru Yahaya Imoro, during a project training for farmers in the Bugubelle Community.

"I explained my situation to Tahiru and he promised to help me. He explained to me how the USAID's ADVANCE project supports farmers to increase their agricultural production and income. I became assured that through farming I could earn a decent income, so I abandoned the idea of going to the city. I became one of Tahiru's OGs who received support from USAID's ADVANCE project", Wahab noted.

Through project facilitation, Wahab received training on good agronomic and post-harvest practices by the Ministry of Food and Agriculture's (MOFA) agriculture extension agents. He learned about row planting,

<sup>7</sup> Beneficiaries 18 to 29 years



fertilizer application, fall armyworm control, timely harvesting, and good storage to minimize postharvest losses. He also received production inputs—hybrid seeds, fertilizers, and agrochemicals— and crop insurance from Agricare for his maize field for the 2018 production season, worth GHS805.63 (US\$161.41).

In December 2017, he harvested 4.2 MT of maize from 0.8 hectares (ha) and repaid Agricare with 1.6 MT of his crops. He sold his remaining 2.6 MT of maize at a value of GHS2,340 (US\$474.16). In 2018, he increased his acreage from 0.8 ha to 1.2 ha and harvested 5.7 MT. He repaid Agricare with 2.4 MT of crops to cover the cost of input he received, and sold the remaining 3.3 MT at GHS3,300.00 (US\$668.69). With project support, he opened a bank account with Ghana Commercial Bank in December 2017, where he deposited his proceeds for the next crop season. He also started to save to pursue his education.

With his newfound knowledge and success, Wahab expanded to four acres and plans to purchase inputs without depending on the Agricare outgrower scheme during the next crop season.

“I am now a happy person, and I can brag about that, thanks to USAID’s ADVANCE project. At least, I can take care of myself and support my family. What makes me very happy besides the money is that I have successfully convinced three of my friends to practice farming rather than going to the city to pursue menial jobs. They heeded the advice, and are now cultivating an acre of maize each. I help them in the management of their farms. I want to go back to school by 2020. I want to save enough through my farming activities for my school fees. I know it is very possible”, said Wahab.





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SUCCESS STORY

## LINKAGE TO FORMAL MARKETS INCREASE FARMERS' SALES AND INCOME

**The story of how Kasule Enterprise increased his sale outlets through USAID's ADVANCE project facilitated market linkage strategies**

One of USAID's ADVANCE project's objectives is to increase market access and trade for maize and soybean farmers in the project's zone of influence. The project achieves this objective through a multi-facilitated market linkage approach which includes trade missions with buyers and produce sellers, pre-harvest agribusiness and exhibition events, as well as capacity building of the value chain actors to increase access to markets.

Yakubu Kasule, an aggregator and owner of Kasule Enterprise, a sole proprietorship business in Tamale is a project beneficiary of the capacity development initiatives aimed at enhancing trade. His enterprise aggregates and supplies maize and soybeans to buyers in southern Ghana. The business has the capacity to sell 1,000 metric tons (MT) annually in the open market. Until Yakubu became a participant



Yakubu Kasule standing in front of his enterprise.

of USAID's ADVANCE project in 2016, his end market buyers were only limited to women aggregators and poultry farmers in Accra. The project directly linked him to buyer firms, including Premium Foods Limited, Vestor Oils, and Agrisolve Limited to sell his produce formally. In 2017, Yakubu was also linked to a producer group, Samankuse Farmers Association in the Northern Region's Central Gonja District, where he was able to purchase 250MT of maize.

Since Yakubu benefited from the project's support, he has been able to strike a deal with Premium Foods Limited during the seventh pre-harvest agribusiness and exhibition event to supply of 50MT of maize weekly, at GHS1,120 (US\$ 250) per ton as compared to the open market price of GHS1,000 (US\$223). In addition, he was also able to supply 400MT of maize and 50MT of soybeans worth GHS 591,750 (US\$ 131,728) to two companies at the end of 2018 production season.

*"The market linkage has increased the number of metric tons I supply by about 45 percent. The price offered by the formal markets is higher compared to my usual buyers, so I made more profit. Even for the upcoming 2018/19*

*purchasing season I have started engaging two companies and we will continue to do business together” Yakubu stated.*





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SUCCESS STORY

## LEVERAGING OUTGROWER SCHEMES TO ENHANCE WOMEN'S ACCESS TO AGRICULTURAL PRODUCTION INPUT

**USAID's ADVANCE project-supported OBs provide women farmers with agricultural production inputs to improve their productivity**

In 2014, USAID's ADVANCE project introduced buyer outgrower schemes, enabling farmers to easily access production inputs such as seed, fertilizer, herbicides, and insecticides on credit to improve their productivity and repay with produce. Since then, the project facilitated 12 buyer outgrower schemes in the Upper West Region that have supported 37 outgrower businesses (OBs), with a total investment of GHS10,583,232.58 (US\$2,355,9130) covering production on 6,096.8 hectares. The support package includes hybrid seeds, fertilizers, herbicides, and ploughing services. Agricare Company, Limited has one of the largest schemes currently operating in the Upper West Region. During the 2017 and 2018 planting seasons, Agricare supported 24 OBs with agricultural inputs worth GHS 1,801,901.08 for 1,560.8 hectares of land.

According to the OBs, many women farmers are credit worthy, yet they face challenges accessing inputs from outgrower schemes because of costs. To address this issue, five OBs, including Yahaya Seidu, John Dimah, Fulera Adamu, Emmanuel Yobo, and Yahaya Tahiro Moro, linked 252 women farmers in Bouti, Vamboi, Kusali, Bullu, and Bugbelle in the Upper West Region's Sissala West and East Districts with Agricare's outgrower scheme for the 2018 production season to cultivate 527 acres (210.4 ha) of maize. The 252 women applied the inputs and good agronomic practices they learned from demonstration sites on their farms.

This adoption led to increased yields, from an average of 1.25MT/ha in previous seasons to 4MT/ha at the end of the 2018 production season. In addition, they successfully repaid OBs with 2 MT of maize to cover the cost of inputs they received, and will sell 2 MT of remaining maize. On average, each woman earned GHS2,000 (US\$408.16) per hectare, supported with the outgrower scheme's input package.

Saharatu Sumani, a 52-year-old widow from Bullu in Upper West Region's Sissala District and a project beneficiary, said, *"I harvested 3 MT from my one acre (0.4ha) farm in the 2018 planting season as compared to between 0.5 and 1 MT in previous years. I paid 0.8 MT to my OB to cover my cost of inputs and I still have 2.2 MT of maize and likely to make a profit of GHS2,200 (US\$445). I will use this money to pay my children's school fees, care of their health*



Saharatu Sumani on her donkey heading to the market to sell some of her 2MT maize after paying off cost of input to her OB John Dimah

*needs and also buy inputs for my farm during the next farming season. I am very happy and will appeal to my fellow women to join outgrower schemes for better access to inputs and increased yields.”*





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SUCCESS STORY

## POSITIVE IMPACT OF ADVANCE FAW TRAINING ON MAIZE YIELD – THE CASE OF AWINTOMA FARMS

### Awintoma Farms in the Upper East Region survives FAW infestation and obtains high production volumes amidst severe floods

In mid-2016, fall armyworm (FAW) was formally identified in Ghana. Maize farmers across the country suffered huge farm losses due to farmers' inadequate knowledge on how to control the pest. The project sensitized 30 journalists across three northern regions to share accurate information with the general public on the best pest management practices for FAW

To mitigate FAW, USAID's ADVANCE project collaborated with the Ministry of Food and Agriculture (MOFA) and the National Fall Armyworm Taskforce to implement various interventions. The project trained and reached 424 OBs, 131,394 smallholder farmers, and over 70 agricultural professionals on FAW management. The project produced 45,336 print materials, including posters and leaflets, and aired radio jingles in English and 11 local languages on 31 radio stations in the three northern regions and Brong-Ahafo regions. These outreach efforts disseminated accurate pest management information to the general population.

In addition, the USAID's ADVANCE project also set up dedicated call centers (MTN, Airtel-Tigo and Vodafone) to educate farmers and the general public on the worm and its mitigating measures, and further set up 57 pheromone traps to monitor the presence of egg-laying moths. Also, four pesticide observation fields were established by the project to observe the efficacy of FAW pesticides in order to determine which one works best.

In April 2018, USAID's ADVANCE project conducted a three-day workshop on FAW management for agricultural extension agents and outgrower businesses. The training taught participants to set up pheromone traps, scout the field, and use a backpack sprayer.



Awintoma Akande (right) engaging APO on how he controlled FAW menace on his farm

Awintoma Akande, an OB at Tilly in the Bawku West district, Upper East region, chose to participate in the workshop due to the heavy losses he suffered on his farm during the previous season. In 2017, Awintoma invested GHS30,000 (US\$6,678) on production inputs, including seed, fertilizer, and weeding,

to cultivate a 24- hectare maize farm. Unfortunately, he only harvested 40 MT at the end of the season. After attending the FAW management training, he felt empowered to manage the pest by setting traps, monitoring, and managing sanitation on his farm. He increased his acreage to 40 hectares and invested GHS 85,000 (US\$ 18,889) in production input for the 2018 cropping season, ultimately producing 108 MT on his 60- acre farm.

Awintoma hopes to use his sales revenue to pay off his loan from the bank. He also intends to increase his farm size to 46 hectares during the 2019-cropping season to expand his profits and improve his business's sustainability.





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SUCCESS STORY

## MECHANIZATION FOR OUTGROWER BUSSINESS INCREASES YIELD

### How Fabuk Farms acquired equipment to increase crop yield.

USAID's ADVANCE project has worked with 424 OBs and 131,493 smallholder farmers to improve their yields and gross margins in the maize, rice and soybean value chains. From 2010 to date, the project trained 124,572 beneficiaries (male: 63,344, female: 61,228) on good agronomic practices (GAPs), post-harvest handling, and produce quality standards, and other agribusiness areas which improved farmers' knowledge, productivity, and income.

Fusseini Abubakar from Niebilgbin is the vice chairman of the Karaga OB Network and owner of Fabuk Farms in the Karaga District of the Northern Region. He now considers farming as a profitable business because his income has significantly increased by adopting the good agronomic and farming practices, he learned from the FTFs ADVANCE II trainings.

The annual increase in his income enabled him to acquire two tractors, two corn shellers, two conventional ploughs, one ripper, one manual planter and one harrow for his farming business in 2016. As a result of acquiring these equipment his productivity improved and has been able to take care of his 12 children.

Prior to becoming a project participant in 2010, Fusseini provided services to 57 smallholder farmers (outgrowers) with only one tractor. He narrated that supporting himself and his smallholder farmers with ploughing services was very difficult.

“There were no chemicals to spray and kill weeds before planting and also we have to manually prepare and plant seeds. When ADVANCE came, they taught me new farming techniques by showing me how to plant in rows and supported me to get one particular variety of pannar seed”.

Fusseini who cultivates maize, rice, soybean, groundnut and cowpea mentioned that since he became a project participant, the project has trained him on row planting, effective fertilizer application methods, use of certified seeds such as pannar hybrid variety of maize, post-harvest handling (PHH) and OB management practices such as record keeping, crop budgeting, profit calculation and contract negotiation. He adopted these practices and used one of his farmlands as a visible model farm to show off good practices in his community.



Fusseini Abubakar showcasing one of his rippers



“After I sowed and it sprouted, the staff of ADVANCE came to monitor and brought smallholder farmers to see my model farm. I then decided to plant on a larger land close by the road side for it to be visible for all eyes to see when passing”

As a result of adopting new technologies and management practices, Fousseini’s yield on his maize farm almost doubled, increasing from an average of 2.0MT/ha in 2011 to 3.7MT/ha in 2012. During

the 2018 production season, his production increased to 6.2MT/ha. The number of outgrowers with whom he works also increased by over 1,000% from 58 in 2011 to 750 (of which 328 are women) in 2018. He trained his outgrowers and monitored their farms to make them productive. His trainings and regular monitoring of his outgrowers also helped increase their yields from 1.7MT/ha in 2011 to 4.5MT/ha on average in 2018.

“I am working with my secretary who is a youth who handles all my records and mobile money for all payment to mobilize the young children of all my aged OGs so that I can train them to take over their parents farms as a business”, Fousseini said.



Fousseini Abubakar and his secretary





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SUCCESS STORY

## ENCOURAGING YOUTH PARTICIPATION IN AGRIBUSSINESS

### Sulley Adams urges youth to take up farming as business

Sulley Adams, 28 years old, is an outgrower businessman from Lagbensi in the East Mamprusi District of the Northern Region who defied the notion that farming is for the elderly and illiterate and took over his father's farm to manage as a business. Sulley took over the management of his father's 130-acre soybean farm in 2015, after completing senior high school decided to cultivate maize for himself in addition to managing his father's farm. He then became a USAID's ADVANCE project's participant with 40 smallholder farmers. The project trained him and his smallholder farmers on row planting, post-harvest handling, record keeping, appropriate application of fertilizer and agrochemicals. By 2019, Sulley had progressively cultivated an 85-acre maize farm.



Sulley Adams displaying his tablet on his farm

Sulley now works with 345 smallholder farmers (40% women) who cultivate about 1,380 acres of land across ten communities in the district. He provides his outgrowers with services and agro-inputs, including ploughing services, fertilizer, and improved hybrid seeds.

"I assess of the farmers, profile them, then I do my own investigations and visit their farms unannounced to see the realities on the ground because I want them to succeed so that I can also succeed", he noted.

He also received a Samsung Galaxy tablet from the USAID's ADVANCE project which he uses to profile his farmers and to teach them good agronomic techniques. He subscribes to Esoko and Ignitia Ghana to receive weekly text messages on agronomic tips, commodity prices and weather information, which he shares with his outgrowers to better schedule their farming activities. Thanks to the training provided by USAID's ADVANCE project, Sulley's outgrowers realize higher yields, which enable them to repay him for the services he provides to them.

"Before joining the project, our previous yield for maize was 2.0MT/ha and 0.7MT/ha for soybean. Most of my farmers, especially the men could not repay their credit; but now with the improved seeds and good agronomic practices, they are able to produce 4.5MT/ha of maize and 1.75MT/ha for soybean" he narrated.

Sulley's farming business growth also enabled him to invest in the rearing of livestock and has a mango plantation. He pays for his younger siblings' education and currently mentors six young men who assist him in supporting his 345 outgrowers.





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SUCCESS STORY

## GENDER INCLUSION FOR WOMEN EMPOWERMENT

**Celebrating the success of a female smallholder farmer who became an outgrower business**



District.

Fati Zakari, once a smallholder farmer of outgrower business (OB) owner, Fousseini Abubakar, has successfully become an OB in Nyong Yapalsi in the Karaga District of the Northern Region.

Fati, who worked with her OB for two years, adopted all the good farming practices she was taught by USAID's ADVANCE project and received production inputs (hybrid seeds, fertilizer, and agrochemicals) on credit from Agricare through project facilitation.

“Due to all the trainings I benefitted from ADVANCE and

my OB, I started row planting, using certified seed, applying appropriate fertilizer with good record keeping and can now produce and sell more for re-investment into my farm and family upkeep”, she said.

In 2014, she cultivated 20 acres of maize (10 acres of yellow maize and 10 acres of white maize), 10 acres of rice and 10 acres soybean. By 2019, Fati increased her acreage by an additional 20 acres for maize and 10 acres each for soybean and rice. She also increased her yield in maize from 2.0MT/ha to 3.72MT/ha by 2018.

Fati, who now supports 90 smallholder farmers (out of which 60 are women) with seeds, is also the leader of a project facilitated village savings and loans association (VSLA). During meetings, she shares knowledge on good agronomic practices which she has obtained from the project and through listening to the radio GAP messages. She also conducts monitoring visits to her outgrowers' farms and advise them. Through the project, she was linked to Opportunity International Savings and loans and negotiated a loan to buy a tractor to render ploughing services to her outgrowers.

“As soon I am able to access the loan to get the tractor, I would work hard to increase the acreage of soybean so that I can also buy a planter in order to attain higher yields”, Fati noted.





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SUCCESS STORY

## PROJECT-SUPPORTED SPRAYING SERVICE PROVISION IMPROVES YOUTH LIVELIHOOD

### FTF ADVANCE II Creates Jobs by Training Young People on Safe Spraying Who are now Training and Giving Opportunities to Others

One of the interventions implemented by USAID-funded Feed the Future Ghana Agricultural Development and Value Chain Enhancement Project (FTF ADVANCE II) is setting up spraying service providers (SSPs) to mitigate the harmful effects of pesticides on users and the environment. The project, in collaboration with the Plant Protection and Regulatory Services Directorate (PPRSD) of the Ministry of Food and Agriculture (MOFA), set up and trained young men as SSPs on the use of various products, the importance of using personal protection equipment, customer care, basic recordkeeping, and assembling and servicing knapsack.

David Awia Kabade, is a youth and security guard at GN Bank who, after gaining the knowledge and skills to provide professional and effective spraying services in 2016, has been able to train



David Awia Kabade, SSP in Langbinsi in the East Mamprusi District

and create jobs for six more youth in Langbinsi in the East Mamprusi District.

According to David, he was able to save some money out of the income he generated from providing spraying services to farmers and purchased three knapsacks and personal protective equipment (PPE) to enable him to train some youth.

He narrated that he aims to transfer all the skills he acquired from the project to his trainees to create a source of livelihood for the youth. He also noted that, although the spraying business is

hazardous and tedious, he has been able to provide spraying services to 78 smallholder farmers for a total value of GHS1,500 covering 150 acres in 2019.

He explained how the spraying service benefitted him and his family. “Without the spraying job, myself and most my trainees would have traveled elsewhere in search for work. “I see my job as a business and that is why I have to market myself well by not just providing services to the farmers who I see as my clients, but also to educate them on safer use and handling of pesticides. At the end, they are satisfied and get good yields” David noted.

Currently, David owns three knapsacks and PPE sets which he rents out at a fee. He plans to acquire additional knapsacks and PPEs and also train more youth next year.

Yakubu Ibrahim, 23-year-old who was trained by David shared that becoming an SSP since 2018 has been his source of income. “I am able to spray 10 acres a day during peak season with the support of knapsack from David. He rents it out to me at a fee of GHS 2 a day which is convenient. He always ensures I adhere to proper disposal after spraying”, he said.





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SUCCESS STORY

## VSLAs TAKE UP COOPERATIVE FARMING AS A SUSTAINABILITY MEASURE

### Two VSLAs Engage in Cooperative Farming to Build their Resilience

Two village savings and loans associations in Kulunkpegu, a farming community in the Yendi Municipal of the Northern Region have engaged in cooperative farming as part of their efforts to sustain the running of their savings and also support their member's farms with seeds during planting season.

The groups known as "*Gub kati mali*" which means 'together we can' and "*Somsim vela*" meaning 'support is good' are made up of 25 members each (20 females, 5 males) who farm between two to eight acres of maize and soyabean.

According to members of both groups formed in 2015, the benefits that they received from USAID-funded Feed the Future Ghana Agricultural Development and Value Chain Enhancement Project (FTF ADVANCE II) propelled them to save money for their share outs and also use their social fund to start an acre of maize cooperative farm together in 2018.

The proceeds from the group's cooperative farms that will be harvested this year will be partly shared among members of both groups and partly used to re-invest for the next planting season.



Some members of the two VSLAs in Kulunkpegu in the Gushegu District, Northern Region

Majeed Sana, leader of "*Gub kati mali*" group, recounted the instances that led to their encounter with FTF ADVANCE II. She disclosed how they were processing sheabutter on a small scale and

wanted to progress in their farming activities until they decided to engage the district agriculture extension officer for training who in turn led them to FTF ADVANCE II.

“Before we were introduced to ADVANCE, we did not know how to row plant, space out our crops, apply fertilizer, control pest and weed, level our land before planting and even appropriate time for harvesting. But the project built our capacity, taught us all the best farming practices and gave us susu boxes to enable us to save and share out when farming season is about to start. Also, during share out, ADVANCE came in with input dealers to give us the opportunity to buy improved seeds, fertilizers and chemicals”, Sana noted.

Salamatu Iddrisu, also a member of “*Somsim vela*” group added that, “We never thought as peasant farmers that we are capable of saving money until ADVANCE showed us the way. We are now enjoying the benefits because one can request for loan to support the family in times of educational or health emergencies. Also, for farming season, we are able to request for loans to invest into our farms and access inputs and ploughing services.”

They disclosed that, in 2018, they were able to raise an amount of GHS 4,000 each during a cycle to invest in agro-input purchase in the production season.

The groups mentioned access to tractor services and to markets as being their greatest challenge. In order to address their inability to access tractor service appropriately, the group expressed their desire to register and set up as MTN Mobile Money merchant so that they could obtain transactions commissions that will add to their savings to acquire a used tractor for themselves.

Abdullahi Wasiu, secretary of ‘*Gub kati mali*’ group said, “If we are able to sign up for a MoMo account and run one as a business, we will be able to generate additional savings to be able to acquire a tractor for our group someday.”



Abdul Wasiu of ‘*Gub kati mali*’ group at the cooperative maize farm

