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Multi-Crop Planter Makes Sowing Easy for Northern Farmers



Comfort Angbing, a lead farmer

It's a headache for both smallholder and nucleus farmers when sowing season approaches – a tiresome task that sometimes leaves farmers in despair. Sowing maize and soy with no money to hire laborers is time-consuming and leaves many, especially women and children, with waist and back pain. It is capital-intensive for other farmers who decide to hire the services of laborers.

However, the introduction of the manual multi-crop planter in the by the Feed the Future Ghana Agriculture Technology Transfer Project in three northern regions has been a relief to farmers, especially some 100 women in the Upper West Region of Ghana. Adisa and Comfort share their stories on how the planter is improving their lives.

Thirty-nine-year-old Comfort Angbing, mother of five and a smallholder farmer at Kongno in Lambussie-Karni district of the Upper West Region of Ghana, says the planter has become a source of alternative business. It has generated GHS 165.00 for her by renting it to other women farmers during the balance of this year's planting season.

She explained that nine members of her group who used her planter service were charged GHS 10.00 for the cost of labor and the fee for the planter. Seven farmers, who were not members of her group, paid GHS 15.00 for the same service.

Comfort, who is the lead farmer of the Balanang Women's Group, conceived the rental business idea last planting season, when the planter was used to sow maize and soy on the demonstration field.

"Now I want to buy extra five planters with the proceeds of service fee and soy/maize harvest and rent it to women in neighboring communities. I have also encouraged other women, especially my group members, to save money and buy some of the planters because it is very helpful," she said.

Aside from being relieved of back and waist pain after sowing, Comfort saved GHS 280, which she would have used to pay labor and food costs for 10 people to sow her seven acre maize and soy farm.

"The machine is helping me a lot and if I don't let my colleagues pay for the services, time will come when the machine will spoil and I cannot get it again," she said.

The money she saved was used to buy educational materials, a school uniform and food items for Christian Angbing, her 18-year-old son at Sawla Senior High School in the Sawla-Tuna district of the Northern Region. Elated, Comfort thanked the people of the United States for supporting and nurturing her business dream.

Meet Madam Adisa Issaka, 57, mother of nine and a smallholder farmer at Kpare, a community in the Lambussie-Karni district of the Upper West Region of Ghana, who saved GHS 1,300 during the sowing season. That amount would have been spent on labor services and meals for sowing her 12 acres of maize and 3 acres of soy, but now she has money available to revive her maize trade.

Adisa expects a good yield this season. She observed that the use of the multi-crop planter increased her plant population compared to previous seasons where laborers did the sowing by dibbling.

She now has the money to pay for her son Inusa Issaka's admission fee to the Senior High School, buy educational materials for the children at the Junior High level and also invest in her shea nut



processing business. “I will save part of this year’s farming proceeds to buy agro-inputs for next season [and] use some to start maize trade to support my husband because he’s very old,” she said.

The mother of nine said after sharing the benefit of the planter with her group, Katimi-Inye Women’s Association, about 18 of the 38 members expressed an interest in buying the planter in the coming season. Adisa applauded the people of the United States for giving her a lifeline. The 100 women were identified and supported through MEDA, a local partner.

Farmers Apply GAPs Without Waiting for Demonstration Results

Research has shown that most farmers apply good agricultural practices (GAPs) only when they have been proven successful on the field, but surprisingly, farmers in the Buffiama/Bussie/Issa district did not wait. GAPs include land preparation, weed control and correct fertilizer application.

A 35-year-old nucleus farmer, Mr. Josbert Baliawelie, father of three in Funsu district in the Upper West Region of Ghana, and his 452 farmers replicated GAPs on their farms. Previously, Josbert and his farmers had no idea there was a standard method of plowing or that their type of soil needed harrowing to loosen it for easy germination.

“Aside [from] land preparation, I learned that to maximize yields I need to choose the right type and quantity of fertilizer for my

sanzal-sima maize variety and also control weeds right after planting. On the field I saw the ‘ring’ method and the right distance of applying fertilizer. All these helped my maize farm; I can now see my farm looking good – the maize cobs are big and uniform. This is the first time my farm is looking nice like this,” he said.

The nucleus farmer envisages that the season will be a rewarding one, and he is likely to harvest about 17 metric tons of maize – more than double the 8 metric tons in previous seasons.

With the maize proceeds, he plans to expand from 17 acres to 20 and to set up a shop for his wife. Josbert also intends to buy a tractor and set up a building



materials shop in the next four years with his farming earnings. “The exposure to the GAP has changed my mentality, and I now see farming as a business, but not something subsistent where we just farm to feed our families,” he said. Although it was the first time the Feed the Future Ghana Agriculture Technology Transfer Project extended its technologies through Save Ghana, a local implementing partner, all 1,035 farmers in the Funsu district in the Upper West Region of Ghana applied the GAPs they were taught.

Enhancing data Collection



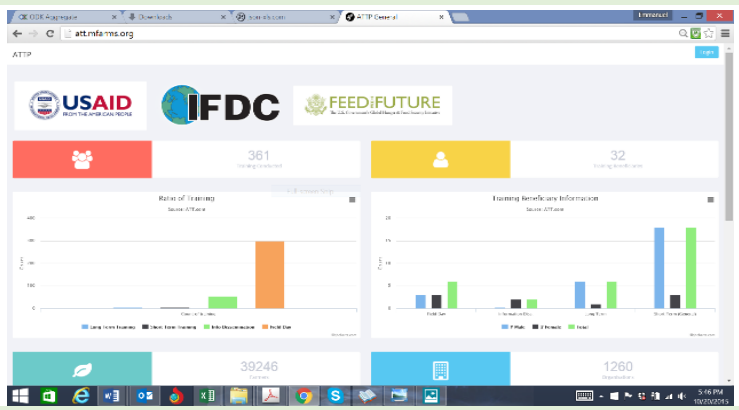
Mr. Emmanuel Morna, Director of Monitoring and Evaluation

Monitoring results through indicators is an important piece of managing project performance. Over the last couple of months, a number of strategic actions have been taken by management of the Feed the Future Ghana Agriculture Technology Transfer Project to strengthen its Monitoring and Evaluation (M&E) Unit to enable the team to collect and report quality data comprehensively.

Recruitment of Regional M&E Officers: The data collection was done solely by the local implementing partners (LIPs) and coordinated by the M&E Specialist, Emmanuel Morna, which posed a lot of challenges. As a result, three Regional M&E Officers have been engaged and stationed at Wa, Bolga and Tamale to operationalize the project's performance management plan (PMP) in their respective regions by providing trainings and guidance to the LIPs and other stakeholders. This ensures that timely, accurate and reliable data are provided regularly. These Regional M&E Officers work closely with the Agriculture Technology Transfer Project team but report directly to the M&E Specialist. This has enhanced field monitoring of the project's activities.

Development and deployment of a digital M&E platform: Over the last two years, the project collected M&E data manually using data collection forms and employed both Excel- and Access-based templates to enter, store and analyze the data. This process was time-consuming and tedious and introduced errors that required a lot of editing to improve data quality. The project management, therefore, engaged Image-AD, a software development company, to develop and deploy a digital M&E platform for the project by configuring all indicators on an online platform. It is accessible anywhere, provided there is an internet connection.

All LIPs have been provided mobile devices to collect and enter data into this platform. This digital interface has helped, enabling the project to have real-time access to measurements of project indicators and activities. In addition, this has enhanced data



aggregation and analysis.

Image-AD also set up a customized survey platform for collecting both qualitative and quantitative data on indicators with a mobile application (offline) or directly on the web. This platform was used to conduct a survey that collected data on three key indicators:

The number of farmers applying improved technologies, hectares under improved technologies and yield per hectare.

To enhance the accuracy of determining farm sizes, 30 GPS devices and ArcView software were procured to measure farms to accurately determine hectares under improved technologies and generate the appropriate maps. With this enhanced system and personnel in place, along with the continuous backstopping from the METSS and USAID teams, the Feed the Future Ghana



Agriculture Technology Transfer project team is set to collect quality and credible data from the field through regular monitoring and surveys.

Making Two Seasons a Possibility

Traditionally, farmers in the three northern regions of Ghana have only one season to farm: from June, when the rains start, through August, when they then decline sharply, coming to a complete stop in mid-November, when the dry Saharan winds usher in the Hamatan season. People in these savanna regions are predominantly farmers who depend on rain-fed agriculture.



It takes time for farmers in this region of Ghana to adopt new agricultural technologies due to their traditional regime of one, rain-fed cropping season. The Northern Region records an annual average rainfall of about 830 millimeters, with the majority of water being lost through surface runoff and flooding in potentially productive areas where the inundated lands cannot be utilized by farmers. There is, therefore, the need for an innovative technology transfer project to find ways to trap the excess water and utilize it during the dry season, making a second cropping season possible.

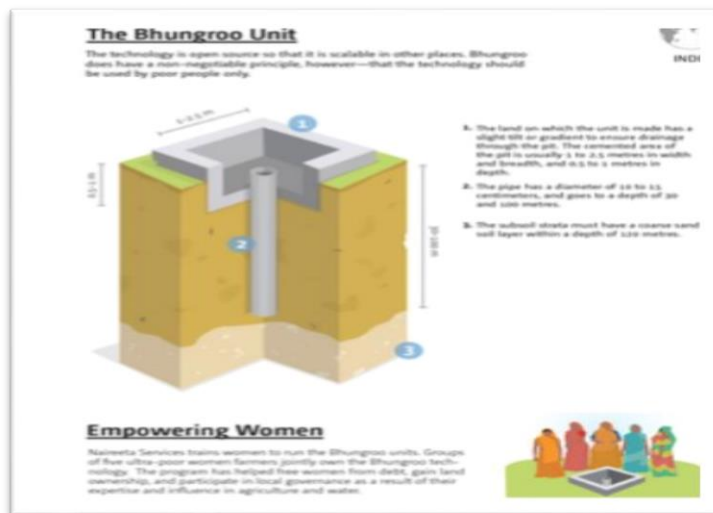
By encouraging the introduction, demonstration, and adoption of sustainable technologies, particularly those that can support two cropping seasons per calendar year, increasing the supply of improved varieties of certified and hybrid maize, rice and soy seeds through strengthened value chains, the Agriculture Technology Transfer project (ATT) will increase productivity and profit margins for agricultural producers throughout Northern Ghana – resulting in increased household incomes and a significant reduction in poverty and food insecurity.

Already, USAID's Feed the Future ATT Project is partnering with the International Water Management Institute (IWMI) and Conservation Alliance (CA) to install 30 sub-surface water catchment systems through the BHUNGROO and PAVE irrigation technologies. BHUNGROO, which means “straw,” is an Indian-originated technology, awarded by the World Bank Marketplace (2007) and Stanford University (2008) as “the most potentially transformative technology,” frees waterlogged/flooded farmlands of excess water during the rainy season, stores water underground in

naturally unsaturated layers of soil and through small-scale pumping and irrigation systems, making this stored water available for farming during the dry season.

One BHUNGROO or PAVE site can free five acres of waterlogged land, making it available for rainy season cropping. It can then irrigate 20–25 acres in the following dry season, allowing for a second cropping season. On average, 10 of these sub-surface water harvesting systems will be developed in each of the three SADA zone of influence (ZOI) regions. These demonstration sub-surface water catchment systems will be locally owned and managed once fully developed by IWMI and CA and proven to be operational.

The technology has been very successful in India, Benin and Liberia, and is being tested in the 2015 rainy season at three sites developed under the supervision of BHUNGROO's inventors, through their partnership with Conservation Alliance. CA has adopted BHUNGROO globally as a “potentially transformative technology” for environments that receive adequate seasonal rainfall for one planting but can be transformed into dual cropping season systems -- with the second season ideal for production of improved seed (controlled growing environment with far less risk of cross-pollination from competing crops) as well as high-value and nutritious vegetables. The technology is simple, and can be managed locally by community-based farming groups. Most often in India, the BHUNGROO systems are managed by women, who use the dry-season irrigation to grow high-value vegetables, dramatically



increasing their household income. ATT will work with its FtF collegial projects, SPRING, RING and ADVANCE II, and IFDC's 2SCALE project, to train local farmers' groups in the use and maintenance of the technology, small-scale irrigation schemes and profitable marketing of dry-season vegetables. In these small dry-season oases, farmers in northern Ghana will transform their traditional one-season cropping system, to a two-season income-generating commercial agro-enterprise!