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## CLIMATE INTEGRATION CASE STUDY

# USAID/UGANDA: COMMODITY PRODUCTION AND MARKETING

## CLIMATE-SMART AGRICULTURE

Climate variability and change is one of many challenges that USAID programming is addressing. This case study series explores how USAID activities in various sectors and regions address the challenge.

### ***Development Challenge***

Roughly 85 percent of Ugandans earn their income from farming, and agriculture contributes more than 24 percent of Uganda's gross domestic product and 48 percent of exports. In recent years, agricultural production and markets have declined, largely due to small volumes of poor-quality produce, and markets dominated by small traders and middlemen driven by profit margins rather than quality standards. In addition, most farmers are smallholders dependent on rain-fed agriculture, which is increasingly affected by rising temperatures and changing rainfall patterns, including higher rainfall during what has historically been the dry season and increasing droughts. These climate risks make it difficult for farmers to determine the best crops and seed varieties and optimal times for planting and harvesting. Because crops are typically dried in the sun, increases in dry season rainfall increase post-harvest storage losses from diseases and pests such as aflatoxin fungus in maize. Changes in climate also affect crop growing areas, further contributing to production and market declines. The Government of Uganda estimates that a shift in the viability of coffee growing areas could potentially wipe out 40 percent of export revenue.

### ***FTF Commodity Production and Marketing***

The primary objective of the Feed the Future (FTF) Commodity Production and Marketing (CPM) Activity is to sustainably increase the production and marketing of high quality maize, coffee, and beans in Uganda's FTF focus districts throughout Uganda. The activity is part of Uganda's FTF Value Chain Development Project, which incorporates a wide range of activities implemented by a variety of actors (e.g., producers, traders, service providers, policy makers) to promote an integrated value chain system that enhances the market value of products. One of FTF's cross-cutting priorities is environmentally-sustainable and climate-resilient agricultural development.

To improve domestic production, increase exports, and increase incomes and food security for smallholder farmers, FTF CPM uses innovative business models to increase the quantity and quality of coffee, maize, and beans that farmers produce and sell. This begins by engaging buyers to establish relationships that incentivize intermediaries to play key roles in promoting improved agricultural products. The activity works with selected enterprises and input dealers to coach and mentor intermediaries in best practices and technologies. In turn, intermediaries train village agents, who are the main interface with farmers, buying production on behalf of exporters, processors, traders, or farmer organizations. Village agents provide a range of products and services to farmers, including sales of agricultural inputs; setting up demonstrations with input suppliers to create demand; postharvest and processing services; bulking and transport of produce; and credit facilitation. By targeting leverage points in the “middle” of value chains, both productivity and market access increase.

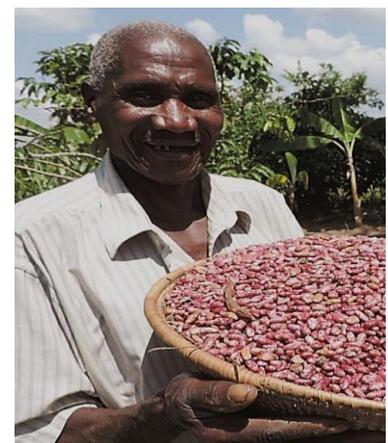
### ***How FTF CPM Addresses Climate Change***

FTF CPM has taken a climate-smart agriculture (CSA) approach to address climate risks to production and marketing in the targeted value chains, and integrated climate-resilient practices and technologies into the activity’s business models. Village agents serve as “climate champions,” introducing CSA and other best practices and technologies through trainings and demonstrations at technology learning sites and conducting awareness-raising activities in churches, meetings and other village gatherings. Many agents build successful small businesses by providing climate-resilient products and services. CSA practices include conservation tillage, which facilitates rapid planting in short rainy seasons, and drip irrigation in coffee drought corridors. Agents also promote and sell certified climate-resilient varieties of seed such as drought-resilient maize hybrids and early-maturing bean varieties; targeted fertilizer blends based on soil testing services that agents offer; and adaptive postharvest technologies, such as locally-made solar-powered dryers, which improve product quality by lowering moisture content and reducing pest infestation during storage, helping farmers adapt to changing rainfall patterns. Agents also provide inexpensive and easy to use methods and tools, such as a micro-irrigation kit consisting of a plastic bottle that is filled with water and placed in the soil, which absorbs water slowly as it is needed.

In addition, FTF CPM is strengthening the capacity of farmers to understand and respond to weather forecasts. The activity uses tools developed by mobile application providers to improve stakeholder access and response to weather forecasts, enabling them to adjust production calendars. Farmers receive weather information directly from the village agents and the agents advise on crop calendar development via text messages.

The activity is also increasing adoption of weather-indexed crop insurance, which protects farmer incomes when adverse weather conditions cause harvest losses. The insurance also allows farmers to access credit because the policy acts as collateral to the bank. Access to finance incentivizes farmers to adopt CSA practices and technologies. In addition, FTF CPM connects insurance companies to buyer-linked village agents, and, agents are forming associations to access credit for bulk purchase of improved inputs and equipment such as dryers.

In FY2014, 48,154 stakeholders increased their resilience to climate change by implementing the activity’s risk-reducing practices/actions. In FY2016 the cumulative total climbed to 101,942 stakeholders. As of March 2016, 152,469 farmers had adopted climate-resilient practices and technologies as a result of FTF CPM interventions.



Adoption of CSA practices and technologies has contributed to the percentage increase in farmer’s yields in maize by 24%, beans by 13% and coffee by 173%. This has also led to the reduction in post-harvest losses by 9% in maize, 10% in beans and 6% in coffee in the last four years of the activity.