Partnering for Innovation

PARTNERSHIP PORTFOLIO

UPDATED VERSION: 2013-2021
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BRINGING NEW AGRICULTURAL PRODUCTS AND SERVICES TO EMERGING MARKETS

Feed the Future Partnering for Innovation is changing the landscape for supporting agriculture in emerging market countries by empowering the private sector to raise incomes and reduce hunger. Partnering for Innovation, a USAID-funded program, builds partnerships with agribusinesses to help them sell new products and services to smallholder farmers, who represent a potential market of more than 500 million customers.

Businesses are provided with the investment assistance, expert guidance, and technical support they need to expand in emerging markets and create a growing and lasting customer base for their agricultural innovations. More than 1 million smallholder farmers have purchased $65 million worth of these products and services in the past six years, enabling them to boost farm production, raise incomes, reinvest in their businesses, and increase food security.

See how we’re changing the landscape and making a difference, together.
PROGRAM ACHIEVEMENTS AND IMPACT

20 Countries
59 Partnerships
Over $99 million in sales of technologies to smallholder farmers
Over 1.4 million smallholder farmers benefiting from 116 new products and services

In Mozambique, Adicional is expanding logistics and distribution.
In Kenya, Takaful Insurance of Africa offers index-based livestock insurance.
In Honduras and Kenya, Neumann Kaffee is building efficient coffee supply chains.
In El Salvador, Acceso Oferta Local is expanding its processing capacity.
In Guatemala, Semilla Nueva is increasing sales of biofortified maize seed.
In Nepal, Hester is introducing a thermostable vaccine for small ruminants.
In Cambodia, ATEC* Biodigesters is introducing a small-scale biodigester.
In Nigeria, ColdHubs is scaling cold storage.
In Kenya, Agri SeedCo is enhancing the sorghum value chain.

BANGLADESH
- Moana Technologies
- Promethean Power Systems
- The Metal

BENIN
- Tolaro Global

ETHIOPIA
- EthioChicken

GUATEMALA
- Mercy Corps, with Rana Labs
- Mercy Corps, with Syngenta Foundation for Sustainable Agriculture and with Farmforce

HAITI
- Solutions S.A., with GeoNova

HONDURAS
- Zamorano University

INDIA
- Driptech

KENYA
- African Agricultural Technology Foundation and seven local businesses in Tanzania, and Uganda

- Grameen Foundation and Musoni
- MEA Fertilizers
- Netafim, with Amiran Kenya Ltd.
- Purdue University, with Bell Industries
- Surehatch
- Twiga Foods

MALAWI
- Agro-Input Suppliers Limited
- Opportunity International Bank Malawi
- Rab Processors
- Universal Industries
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In Zambia, the current partnerships include:
- AGCO
- Amaetheon Agri Zambia
- Community Markets for Conservation, with TechnoServe
- Good Nature Agro
- iDE, with Toro
- MRI-Syngenta
- Stewards Globe

In Ukraine, the current partnerships include:
- Agrico Ukraine
- Agrobonus
- Bayer Ukraine and the International Finance Corporation
- International Charitable Fund – Community Wellbeing, with Danone Ukraine

In Mozambique, the current partnerships include:
- Export Marketing Company Limited
- Lusosem with iDE and HUB-Assistencia Técnica e Formação
- National Cooperative Business Association CLUSA, with Phoenix Seeds and Oruwera
- Opportunity International
- Tecnologia e Consultoria Agro-Pecuária
- Txopela Investments

In Rwanda, the current partnerships include:
- PortaScience
- Purdue University, with EcoPlastics

In Senegal, the current partnerships include:
- Compatible Technology International

In Tanzania, the current partnerships include:
- African Agricultural Technology Foundation and seven local businesses in Kenya and Uganda

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Moana Technologies
ANIMAL HEALTH AND PRODUCTIVITY
PROGRAM PARTNERSHIP PERIOD: MARCH 2014 – MARCH 2016

**ACHIEVEMENTS:**
Through its partnership with Moana, MKA Hatchery sold 53.6 million disease-free shrimp to 1,075 smallholder farmers at a value of $304,471 during the program partnership. With strong sales and increasing production continuing after the end of the partnership in March 2016, MKA had sold 150 million shrimp to 3,000 farmers by September 2016.

**PURPOSE:**
Introduce disease-free black tiger shrimp broodstock into Bangladesh through MKA Hatchery, which can sell the offspring to the country’s smallholder shrimp farmers. The farmers can grow these juvenile shrimp more than twice as fast as they can grow wild shrimp, and the higher-quality shrimp command a significantly higher price than other varieties in the export market.

**APPROACH:**
Moana identified a mutually invested partner in Bangladesh, MKA Hatchery, that shared Moana’s vision and its belief in the potential of specific pathogen-free shrimp to transform the Bangladesh shrimp market. Moana provided technicians to upgrade MKA’s production, biosecurity, and distribution facilities to create a hygienic product and a distribution system for the shrimp.
Promethean Power Systems
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: MARCH 2017 – AUGUST 2018

**ACHIEVEMENTS:**
Promethean will provide 3,000 smallholder farmers with access to the dairy cold storage chain during the program partnership, dramatically reducing spoilage, improving quality, increasing farmers' income, and providing an incentive to increase production.

**PURPOSE:**
Introduce and sell milk chillers to dairy processors in Bangladesh that source from smallholder farmers.

**APPROACH:**
Promethean develops cold storage solutions for processors in areas where there is inconsistent electricity and individual farmers produce relatively small quantities of milk. To expand its business into Bangladesh, Promethean is establishing a local team, developing relationships with dairy processors, conducting equipment trials, and launching an outreach campaign explaining the benefits of cold storage for dairy.

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The Metal
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: JANUARY 2016 – JUNE 2017

**ACHIEVEMENTS:**
During the program partnership, The Metal established six farm machinery hubs and sold 96 reapers to local service providers who provided reaping services to 4,060 smallholder farmers.

**PURPOSE:**
Establish farm machinery hubs for integrated marketing, education, training, and aftersales services supporting reaper commercialization. On average, it takes six laborers eight hours to manually reap 1 acre of paddy or wheat, while the reaper can do it in just one hour.

**APPROACH:**
Although the reapers are too expensive for one smallholder farmer to purchase, the concentration of smallholder farmers in a small land area provides a lucrative business opportunity for reaping service entrepreneurs. The Metal marketed reapers to local service providers, who offer reaper services to smallholder farmers for a fee. The Metal also managed the post-sale maintenance of the reapers. It launched a comprehensive marketing, promotion, and public awareness campaign and showcased the reaper technology at market days and demonstration plots.
Tolaro Global
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: MAY 2016 – MAY 2018

ACHIEVEMENTS:
Tolaro Global received fair trade certification for its cashews in early 2017, allowing it to charge a price premium — a portion of which is passed through to the farmers — when selling in US and European markets. Tolaro had purchased cashews at a premium price from more than 1,500 smallholder farmers by late July 2017, and it is expected that an additional 1,700 smallholders will sell raw cashews to the business in fiscal year 2018.

PURPOSE:
Help Benin’s processors and smallholder growers gain significant value-added income from in-country processing of cashews for retail sale. More than 40 percent of the world’s raw cashews are grown in West Africa, but more than 90 percent of that crop is exported for roasting, seasoning, and packaging.

APPROACH:
During the program partnership, Tolaro Global is establishing an organic and fair trade-certified cashew roasting, seasoning, and packaging plant to sell retail-quality cashews to overseas markets. Tolaro will identify 3,200 smallholder cashew farmers to supply raw cashews to the business and will provide agronomic training to the farmers, assist them in becoming organic-certified, pay fair trade-certified prices for raw nuts, and provide farmers with equity ownership in Tolaro through stock.
ATEC* Biodigesters International
IMPROVED INPUTS & PRODUCTION

PROGRAM PARTNERSHIP PERIOD: JANUARY 2019 – JANUARY 2021

ACHIEVEMENTS:
ATEC* Biodigesters International will sell 3,000 biodigester packages and train 66,000 farmers on good agricultural practices, including fertilizer use and crop diversification.

PURPOSE:
Produce, sell, and distribute small-scale biodigesters to convert animal manure into organic fertilizer that improves soil health and agricultural yields. Simultaneously, the biodigester will produce biogas for cooking, which reduces farmers’ dependence on firewood, prevents deforestation, and addresses kitchen air pollution.

APPROACH:
ATEC* will manufacture, sell, and distribute its biodigester across 12 provinces in Cambodia. The biodigesters will produce biogas for cooking and high-quality organic fertilizer. ATEC* will address Cambodia’s rapid deforestation rates by marketing the biodigester as a replacement for costly wood-burning cooking methods, and improve soil health and crop productivity by promoting use of organic fertilizer. To reach its sales goal, ATEC* will pilot a payment system to directly finance the biodigester package for qualified smallholder farmers.
CURRENT PARTNERSHIP

EL SALVADOR

Acceso Oferta Local – Productos de El Salvador, S.A. DE C.V.
POSTHARVEST PROCESSING & STORAGE

PROGRAM PARTNERSHIP PERIOD: FEBRUARY 2019 – JANUARY 2021

ACHIEVEMENTS:

Acceso will add 150 new smallholder farmers to its outgrower network, generating over $315,000 in smallholder income.

PURPOSE:

Expand Acceso’s production, processing, and sale of locally-sourced products to supermarkets and restaurants in El Salvador.

APPROACH:

Acceso will establish the first El Salvadorian lettuce and potato processing facility that can guarantee international food safety standards to meet demand from supermarkets and restaurants for local products. To support this expansion, Acceso will add 150 smallholder farmers to its outgrower network. These farmers will be linked to high-value, reliable markets while receiving control and sanitation training, technical assistance on proper use of inputs such as disease-resilient seedlings, and access to key equipment like microtunnels and irrigation to increase yields.
**EthioChicken**

**ANIMAL HEALTH AND PRODUCTIVITY**

**PROGRAM PARTNERSHIP PERIOD: MARCH 2015 – DECEMBER 2016**

**ACHIEVEMENTS:**
Through a trained network of commissioned sales agents, EthioChicken sold 3.2 million day-old chicks and 3,073 metric tons of high-quality poultry feed to about 345,000 smallholder farmers — of whom 80 percent were women — during the program partnership. That success continued after the partnership ended: In the first nine months of 2017, EthioChicken reported countrywide sales of an additional 5.7 million chicks and 8,100 metric tons of feed.

**PURPOSE:**
Sell to smallholder farmers an improved variety of chicken along with affordable, nutritious feed. Compared with local breeds, the improved breed annually produces more than four times as many eggs and, in the first three months, grows to be 150 percent larger.

**APPROACH:**
EthioChicken introduced improved chicken breeds to Ethiopia by scaling up its hatchery operations, expanding its network of sales agents to reach more farmers located in rural areas, and improving feed production and distribution. EthioChicken also trains rural extension workers to raise the chickens to adolescence and then sell them to smallholder farmers.
Semilla Nueva
IMPROVED INPUTS & PRODUCTION

PROGRAM PARTNERSHIP PERIOD: FEBRUARY 2019 – JANUARY 2021

ACHIEVEMENTS:
Semilla Nueva will sell biofortified maize seed to 4,000 smallholder farmers in Guatemala.

PURPOSE:
Commercialize biofortified maize seed to increase maize yields and help reduce the high rates of malnutrition and stunting in Guatemala.

APPROACH:
Semilla Nueva will increase sales of Fortaleza F3, its biofortified maize seed, to improve maize yields by up to 10 percent. In the short-term, higher yields will contribute to increased incomes for farmers. In the long-term, the improved maize seed, which contains 2.5 times the protein and almost 40 percent more zinc than traditional varieties, will reduce malnutrition and stunting. Working through existing agrodealer networks, Semilla Nueva will manage demonstration plots and host field days to increase demand for Fortaleza F3 seed among farmers. They will also increase awareness of this new variety among buyers, traders, and processors to expand market demand of harvested Fortaleza F3 maize.
Mercy Corps, with Rana Labs
ACCESS TO FINANCE
PROGRAM PARTNERSHIP PERIOD: MARCH 2016 – AUGUST 2018

ACHIEVEMENTS:
1,020 youths will access savings and loan groups, and 1,500 youths will engage in formal discussions on technical and social topics, during the program partnership.

PURPOSE:
Organize savings and loan groups for Guatemalan youths, providing access to formal credit that can increase their ability to generate income.

APPROACH:
Through its AgriJoven project, Mercy Corps is engaging youths in formal discussions on agronomic and social topics and will encourage them to purchase agricultural technologies that will help them improve on-farm productivity. Rana Labs, a digital media agency, will train youths on video production using smartphone technology to provide mobile extension services and promote the savings and loan groups. Ultimately, these groups are also connected to exporters like Fair-Fruit, providing them with an end market for their product.
Mercy Corps, with Syngenta Foundation for Sustainable Agriculture and with Farmforce
INFORMATION AND COMMUNICATIONS TECHNOLOGY
PROGRAM PARTNERSHIP PERIOD: MARCH 2014 – AUGUST 2018

ACHIEVEMENTS:
Nine businesses in Guatemala have purchased the Farmforce software, providing electronic traceability for 6,300 smallholder farmers. The number of smallholders will reach at least 15,000 by 2018. In July 2017, using funding from the USAID Bureau for Latin America and the Caribbean, Partnering for Innovation signed an agreement with the Syngenta Foundation for Sustainable Agriculture (SFSA) to expand the commercialization of Farmforce to at least four new countries in the region.

PURPOSE:
Provide Guatemalan producers with the tracking needed for exporters to comply with the Food and Drug Administration’s anticipated Food Safety Modernization Act. Access to electronic traceability will enable Guatemalan producers to remain in the US market once the act is fully implemented.

APPROACH:
Mercy Corps used the program partnership to facilitate the commercialization of Farmforce, a software developed by SFSA that provides full electronic traceability to the farm level and improves overall information management. The software replaces pen-and-paper recordkeeping and helps exporters comply with Global Good Agricultural Practice requirements. Farmforce also is customizable and can track things like pesticide use, location, electronic loan payments, and mobile phone receipts. The program partnership with Mercy Corps and SFSA ended in September 2017, but Partnering for Innovation is continuing to work directly with Farmforce until August 2018.

Popoyán
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: JUNE 2015 – JULY 2018

ACHIEVEMENTS:
One thousand hectares of land will be under organic pest management in the Western Highlands, and demand for biological pest products among smallholder farmers will stimulate sales of $130,000.

PURPOSE:
Scale up the production, marketing, and sales of beneficial insects and biological pest control products.

APPROACH:
The business has established more than 30 demonstration plots showing the value of beneficial insects and other organisms that improve plant health in horticultural crops. It has trained nearly 4,500 smallholder farmers in integrated pest management.
Servicios de Post-Cosecha
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: MAY 2016 – AUGUST 2018

ACHIEVEMENTS:
More than 1,400 producers, mostly youths, will have access to improved potato seed to increase their productivity and incomes.

PURPOSE:
Increase the use of certified seed by the country’s smallholder farmers. Guatemala is Central America’s largest producer of potatoes, yet only 5 percent of farmers use certified seed.

APPROACH:
The program partnership provides a market opportunity for Servicios de Post-Cosecha to introduce new varieties sold under its Papais brand. Servicios de Post-Cosecha, with technical support from the International Potato Center (CIP), will establish a laboratory, nursery, and greenhouse to produce certified seed in the Western Highlands and establish a permanent laboratory there. Servicios de Post-Cosecha and local partners Dayco and the Asociación de Organizaciones de los Cucuhmatanes also will recruit and train seed outgrowers to grow certified seed and will establish direct market access to buyers of the improved seed.

Store It Cold
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: JANUARY 2016 – AUGUST 2018

ACHIEVEMENTS:
The CoolBot helps increase incomes for smallholder farmers by providing reliable cold storage for exporters and associations that source from them. As many as 9,000 smallholder farmers in Guatemala and Honduras will benefit from the increased availability of affordable cold storage.

PURPOSE:
Commercialize Store It Cold’s CoolBot, the only low-cost alternative to traditional refrigeration in Central America, because cold storage has been too expensive for exporters who source from smallholder farmers.

APPROACH:
The CoolBot attaches to a standard air conditioner to regulate and control the temperature of an insulated room, extending shelf life, maintaining quality, and reducing rejection rates for horticultural crops. Store It Cold is working with PartnerHero, a Honduras-based consultancy business, to establish in country operations and hire knowledgeable and well-trained local staff with an understanding of the market and customers. In Guatemala, Store It Cold signed a distribution agreement with a Guatemalan business, Industrias Servin, to handle its sales of cold store rooms and refrigerated trucks. Store It Cold also has held two launch events and provided 24 demonstrations with its mobile cold storage unit, reaching nearly 1,000 potential customers in Honduras and Guatemala who work in agricultural sectors.
Solutions S.A., with GeoNova
INFORMATION AND COMMUNICATIONS TECHNOLOGY

PROGRAM PARTNERSHIP PERIOD: MARCH 2017 – JULY 2018

ACHIEVEMENTS:
A total of 9,000 farmers in newly formed producer groups will receive a price premium from exporters and will have continued access to the US market.

PURPOSE:
Formalize the export mango sector in Haiti.

APPROACH:
Solutions, a Haitian information technology business, is partnering with GeoNova during the program partnership to organize growers into trained producer groups. Using its Agro Tracking software, Solutions is providing full electronic traceability for mangoes grown by the producer groups, ensuring compliance with US import regulations and enabling sales to exporters who need to be able to trace the specific source of the mangoes they purchase. Solutions and GeoNova are also providing training in agricultural practices that will increase the quality of mangoes produced by the groups.
NEUMANN GRUPPE GMBH
RESILIENCE
PROGRAM PARTNERSHIP PERIOD: MARCH 2019 – FEBRUARY 2021

ACHIEVEMENTS:
Neumann Gruppe will disburse loans to 90 coffee-growing cooperatives and bring 18 million kilograms of fresh coffee cherries to market.

PURPOSE:
Expand access to finance for smallholder coffee producers to encourage land investment, increase coffee production, and improve farmers’ resiliency to climate shocks and fluctuating market prices.

APPROACH:
Neumann Gruppe will establish smallholder service units in Kenya and Honduras to provide loans to coffee cooperatives, facilitating access to improved inputs and training, and guaranteeing steady buyers and incomes for high-quality coffee. By expanding access to finance through short- and long-term loans, smallholder coffee producers will be able to invest in their farms’ resilience, including replacing old and increasingly less productive coffee trees with improved varieties.
Zamorano University
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: APRIL 2015 – JANUARY 2017

**ACHIEVEMENTS:**
Zamorano sold 10,400 doses of NemaPower to smallholder farmers during the program partnership through its relationship with small producers and four commercial distributors.

**PURPOSE:**
Produce beneficial nematodes to control insect infestations in select horticultural crops.

**APPROACH:**
Because of the Partnering for Innovation-supported scale-up of its biocontrol laboratory, Zamorano can produce and sell 20 times as many doses of beneficial nematodes now than it could in 2015. Known as NemaPower, this product costs less than pesticides and reduces infestations by as much as 98 percent in six months. Zamorano created a multistep training program for farmers and leveraged relationships with local cooperatives and businesses that could act as distributors. It also partnered with Walmart to train Walmart’s technicians in using NemaPower. Now Walmart orders pest control products from Zamorano’s distributors and trains its outgrowers.
Driptech
WATER RESOURCE MANAGEMENT
PROGRAM PARTNERSHIP PERIOD: JULY 2013 – NOVEMBER 2014

ACHIEVEMENTS:
More than 1,779 Instakits were sold to Indian, sub-Saharan African, and other farmers during the program partnership, contributing to yield increases of 50 percent and labor savings of 80 percent. Driptech is now expanding into African markets.

PURPOSE:
Commercialize the Instakit, a small-scale drip irrigation system.

APPROACH:
Driptech worked with vegetable export businesses, local distributors, and import businesses. The system is affordable and customizable, and farmers can install these half-acre and one-acre drip irrigation systems in less than three hours.
Agri Seedco Limited
RESILIENCE
PROGRAM PARTNERSHIP PERIOD: APRIL 2019 - FEBRUARY 2021

ACHIEVEMENTS:
Agri Seedco will produce and sell 310 tons of improved sorghum seed to smallholder farmers.

PURPOSE:
Introduce two new sorghum varieties to the Kenyan market that are drought-resistant, reach maturity faster than traditional sorghum varieties, and are more resilient than maize.

APPROACH:
Agri Seedco will increase smallholder farmers’ resilience to climate change and environmental shocks by introducing two new varieties of sorghum seed. Sorghum is an alternative to maize production for Kenyan farmers because it is less prone to pests, and because of its popularity as an ingredient to enrich ugali, a popular staple. To promote the improved seed varieties and grow demand, Agri Seedco will establish demonstration plots and hold farmer field days to train smallholders on sorghum production and postharvest handling, strengthen farmer group linkages, and facilitate access to inputs and markets.
Takaful Insurance of Africa Limited

RESILIENCE

PROGRAM PARTNERSHIP PERIOD: MARCH 2019 – FEBRUARY 2021

**ACHIEVEMENTS:**
Takaful will sell 9,000 index-based livestock insurance policies to pastoralists, including 6,250 policies bundled with AfriScout, an application that allows pastoralists to find the closest forage and water sources for their herds.

**PURPOSE:**
Help Kenya’s pastoralists communities manage the risk of more frequent droughts by selling index-based livestock insurance that will allow them to purchase water and forage or fodder to keep their herds healthy in times of shocks and stresses.

**APPROACH:**
Takaful will address the challenges faced by pastoralists in Kenya by offering index-based livestock insurance that uses predefined drought conditions to trigger automatic payments. This lifeline to pastoralists will allow them to purchase forage and water for their herds while reducing negative coping strategies such as distressed sales and overgrazing. Through this partnership, Takaful will bundle its insurance with AfriScout, an application developed by Project Concern International (PCI), that allows pastoralists to find the nearest forage and water source without costly and time-consuming scouting.
Neumann Gruppe GmbH
RESILIENCE
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African Agricultural Technology Foundation and seven local businesses in Kenya, Tanzania, and Uganda

IMPROVED INPUTS AND PRODUCTION

PROGRAM PARTNERSHIP PERIOD: JANUARY 2014 – JANUARY 2018

ACHIEVEMENTS:
At least 120,000 smallholder farmers will purchase and plant 955 tons of imazapyr-resistant maize, valued at more than $2 million.

PURPOSE:
Commercialize StrigAway, an herbicide-coated maize seed that controls the spread of the parasitic weed Striga. In Kenya, Tanzania, and Uganda, Striga infests 1.4 million hectares of farmland, causing farmers to lose from one-third to all of their staple crops.

APPROACH:
Continuing efforts that began during the program partnership, the African Agricultural Technology Foundation is working with seven local businesses to commercialize StrigAway, a maize seed coated with the herbicide imazapyr to prevent the weed from attaching to the plant. The partnership is increasing seed production with automated treating equipment, improved packaging and labeling, and safety training.
**Grameen Foundation and Musoni**

**ACCESS TO FINANCE**

**PROGRAM PARTNERSHIP PERIOD:** FEBRUARY 2016 – JUNE 2017

**ACHIEVEMENTS:**
Musoni disbursed about $5.3 million in new loans and reached nearly 14,000 new loan recipients during the program partnership. As the Kilimo Booster loan product increases in profitability for Musoni, the business is looking into how to expand its activities in other regions of Kenya.

**PURPOSE:**
Expand Kilimo Booster, a loan tailored specifically for smallholder farmers with flexible terms and a customizable grace period based on the farmer’s seasonal cash flow.

**APPROACH:**
Grameen Foundation supported the sustainable growth of Musoni’s Kilimo Booster loan for smallholder farmers by developing a software that streamlined the loan application process, shortened the approval and disbursement turnaround time, and increased Musoni’s profitability by reaching a greater market share of smallholder borrowers.

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**MEA Fertilizers**

**IMPROVED INPUTS AND PRODUCTION**

**PROGRAM PARTNERSHIP PERIOD:** OCTOBER 2015 – FEBRUARY 2018

**ACHIEVEMENTS:**
More than 51,000 legume farmers will apply BIOFIX to their crops on 25,000 acres of land.

**PURPOSE:**
Meet the high demand among Kenyan farmers for BIOFIX, a rhizobial inoculant for legumes that increases yields by 40 percent.

**APPROACH:**
MEA increased the amount of BIOFIX on the market by 50 percent during the program partnership by using Partnering for Innovation-funded upgrades to reduce production time from 21 to seven days. Moreover, MEA made BIOFIX available in a wider range of quantities — packages of 10, 20, and 50 grams — that make it more adaptable to Kenya’s widely varying farm sizes. MEA also provides demonstration plots, farmer training, and aftersales support.
**Netafim, with Amiran Kenya Ltd.**

**IMPROVED INPUTS AND PRODUCTION**

**PROGRAM PARTNERSHIP PERIOD: SEPTEMBER 2013 – MARCH 2016**

**ACHIEVEMENTS:**
Netafim sold drip irrigation kits to 524 farmers for $406,157 during the program partnership.

**PURPOSE:**
Sell smallholder farmers the Family Drip System, a comprehensive gravity-based drip irrigation system in sizes of 250 and 500 square meters as well as 1 acre.

**APPROACH:**
To make the system affordable, Netafim worked with financial advisory firm Connexus to develop an innovation loan product to be offered through commercial bank partners. The product offered current market rates, but with a three-month grace period, a cash flow rather than collateral-based system, and a 50 percent loan balance buy-back guarantee from Amiran. To ensure that customers were able to maintain and optimize their new drip irrigation systems, Netafim established a call center to provide customized after-sale technical support.

**Purdue University, with Bell Industries**

**POSTHARVEST PROCESSING AND STORAGE**

**PROGRAM PARTNERSHIP PERIOD: SEPTEMBER 2013 – SEPTEMBER 2014**

**ACHIEVEMENTS:**
Local distributor Bell Industries has sold more than 1.2 million Purdue Improved Crop Storage (PICS) bags to more than 208,000 smallholder farmers in Kenya, including more than 1.1 million bags after the end of the program partnership in September 2014.

**PURPOSE:**
Increase smallholder grain producers’ use of PICS bags to reduce postharvest losses, improve their ability to store grain for household food security, and provide farmers the option to delay grain marketing to capture increased commodity prices between harvest seasons. When sealed, PICS bags virtually eliminate insect damage for stored grain and other crops.

**APPROACH:**
The university used local private sector partners to market the product to the smallholder customers. The PICS bags, developed by Purdue University, provide small-scale hermetic grain storage to reduce postharvest pest damage. Made of two high-density polyethylene inner bags that fit inside another bag, PICS bags can be used by smallholder farmers to store either a few kilograms or a full 50 or 100 kilograms of grain.
Surehatch
ANIMAL HEALTH AND PRODUCTIVITY
PROGRAM PARTNERSHIP PERIOD: JULY 2014 – JULY 2015

ACHIEVEMENTS:
During this program partnership, Surehatch sold 250 egg incubators to smallholder farmers and farmer cooperatives and established a trained sales force in Kenya. More than one-third of its Kenyan customers are women. Surehatch is now expanding into other African countries.

PURPOSE:
Sell small-scale egg incubators and provide training and post-sales technical and veterinary support to smallholder farmers in Kenya, who can then start their own poultry business. Using the incubator increases hatch rates tenfold over traditional practices.

APPROACH:
Surehatch developed a Kenya-based sales team and introduced its small-scale egg incubators to Kenya’s smallholder market by running free monthly workshops on the benefits of effective poultry management and egg incubation, emphasizing the concept of producing chickens as a business opportunity. In addition, Surehatch’s Kenya-based staff called its customers every day during the first incubation period to answer questions and provide support.

Twiga Foods
INFORMATION AND COMMUNICATIONS TECHNOLOGY
PROGRAM PARTNERSHIP PERIOD: MARCH 2017 – AUGUST 2018

ACHIEVEMENTS:
Twiga will increase the number of smallholder farmers from which it sources by 7,500.

PURPOSE:
Use a mobile business-to-business (B2B) platform to connect smallholder vegetable farmers to informal urban produce markets and enhance the supply chains that link them.

APPROACH:
Twiga is expanding its network of rural collection centers, where it aggregates produce from smallholder farmers, from eight centers to 33 during the program partnership. This expansion will provide a market for more farmers and offer urban vendors better, more affordable produce to sell. Twiga’s innovative B2B platform generates rich data that will further improve its processes. Twiga hopes to replicate its model in other African cities that have suboptimal supply chains for fresh produce from rural smallholder farmers.
Agro-Input Suppliers Limited
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: NOVEMBER 2015 – NOVEMBER 2017

ACHIEVEMENTS:
Agro-Input Supplies Limited (AISL) sold 557,000 packets of Nitrofix to about 80,000 smallholder farmers, resulting in more than $200,000 in sales.

PURPOSE:
Use the program partnership’s two-year time period to commercialize Nitrofix, a legume inoculant that contains rhizobia bacteria that boost legumes’ natural nitrogen fixation.

APPROACH:
To increase the availability and proper use of Nitrofix, AISL sold the product through 25 agrodealers. It also set up 116 demonstration plots and organized 50 farmer field days to show the difference between soybeans planted with and without Nitrofix.
Opportunity International Bank Malawi
ACCESS TO FINANCE
PROGRAM PARTNERSHIP PERIOD: JANUARY 2015 – JULY 2017

**ACHIEVEMENTS:**
During the program partnership, 10,000 smallholder farmers were trained and 19,400 farmers benefited from financial services. At least 30 percent of the trainings and financial services directly benefited women.

**PURPOSE:**
Work with Opportunity International and Catholic Relief Services to provide financial and banking services to groundnut, soybean, and orange-fleshed sweet potato farmers in Malawi.

**APPROACH:**
To make financial services affordable and ensure loan repayment, the project trained groups of farmers in good agricultural practices.

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Rab Processors
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: MARCH 2015 – JULY 2017

**ACHIEVEMENTS:**
Rab Processors procured more than 12,000 metric tons of agricultural commodities through three rural marketing and storage facilities, benefiting 10,500 smallholder farmers during the partnership. The Agricultural Commodity Exchange for Africa (ACE) will provide community outreach and training on warehouse receipts to 15,000 smallholder farmers.

**PURPOSE:**
Work with ACE to strengthen the soybean, groundnut, maize, and pigeon pea value chains.

**APPROACH:**
Rab Processors established three rural marketing and storage facilities and a warehouse receipts program to ensure that smallholder farmers can maximize market prices.
Universal Industries
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: FEBRUARY 2015 – JULY 2018

ACHIEVEMENTS:
At least 8,000 smallholder farmers will sell a total of 8,000 metric tons of orange-fleshed sweet potato (OFSP) to Universal Industries, which will develop six OFSP products in its plant, commercialize at least four of these products, and yield revenue of $136,000.

PURPOSE:
Develop a commercial market for OFSP food products to provide farmers with a new source of income and increase vitamin A consumption in rural and urban areas.

APPROACH:
Universal Industries is working with the International Potato Center (CIP) during the program partnership to provide training on OFSP production, including growing improved vines and sales opportunities for smallholder farmers. Universal Industries will develop products with OFSP puree or flour, run an OFSP processing plant, and commercialize OFSP-based products.
Adicional
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: JANUARY 2019 – FEBRUARY 2021

ACHIEVEMENTS:
Adicional will expand its logistics and distribution network to transport 2,000 tons of agricultural commodities produced by smallholder farmers, increase the volume of agricultural inputs it distributes to rural areas by 120 percent, and benefit 60,000 farmers.

PURPOSE:
Adicional will increase the availability of affordable and quality agricultural inputs among smallholder farmers in remote areas and increase the sales of their harvested products to local processors by supporting aggregation through commercial hubs.

APPROACH:
Adicional will establish three new hubs consisting of commercial warehouses to create supply and distribution routes in rural areas. These routes will be used to attract clients who want to distribute their agricultural inputs for sale to rural Mozambique or to source agricultural commodities from those areas to use in value-added processing. By warehousing, grouping, and ensuring distribution both into and from rural areas, Adicional will increase the availability of affordable, high-quality inputs for rural farmers while also giving them a commercial market for their crops.
Export Marketing Company Limited
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: JANUARY 2015 – JULY 2017

ACHIEVEMENTS:
More than 60,000 smallholder farmers accessed storage facilities, market opportunities, quality inputs, mobile data, and mechanized equipment during the program partnership.

PURPOSE:
Strengthen the agro-input market and increase the number of commercial offtakers to free smallholder farmers from being forced to sell through a network of traders, which results in low returns for their crops and insufficient earnings to reinvest in their production systems.

APPROACH:
Export Marketing Company Limited provided farmers with storage facilities, market opportunities, quality agro inputs, and small-scale equipment rental through state-of-the-art retail hubs. Each hub consists of an agro-input retailer, farm equipment dealer, and warehouse facility. The hubs allow smallholder farmers to sell or store maize and beans free of charge for 90 days so they can receive higher sales prices at a later time. The hubs also provide currently unavailable seeds, fertilizers, and pest control products. Another partner, Techno Brain, provided smallholders with a mobile platform that delivers weather forecasts, commodity pricing, pest control advice, and other useful information.

USAID Mission Partnership

Lusosem with iDE and HUB-Assistencia Técnica e Formação
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: NOVEMBER 2014 – JULY 2017

ACHIEVEMENTS:
More than 11,000 smallholder farmers now have access to new agricultural inputs, technical advice, and expanded markets.

PURPOSE:
Provide high-quality imported seeds and other inputs in the Mozambique market.

APPROACH:
The program partnership supported the opening or expansion of 41 agrodealers and trained 203 advisers to provide extension services to smallholder farmers. The partnership aims to achieve a robust and lasting market-based system of agrodealers in the heart of rural Mozambique, where communities are traditionally underserved.

USAID Mission Partnership
National Cooperative Business Association CLUSA, with Phoenix Seeds and Oruwera

IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: NOVEMBER 2014 – JULY 2017

**ACHIEVEMENTS:**
A total of 955 metric tons of seed worth $339,000 was sold to more than 19,000 smallholder farmers during the program partnership.

**PURPOSE:**
Improve access to quality inputs and services for smallholder farmers.

**APPROACH:**
NCBA CLUSA, Oruwera, and Phoenix Seeds developed a multipronged distribution strategy to reach underserved rural farmers with improved inputs and services. They increased the capacity of Oruwera and Phoenix Seeds sales agents and lead farmers to sell improved seed and also held local seed fairs to further increase distribution.

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Opportunity International

ACCESS TO FINANCE
PROGRAM PARTNERSHIP PERIOD: NOVEMBER 2014 – MARCH 2018

**ACHIEVEMENTS:**
At least 5,000 smallholder farmers will be trained in good agricultural practices and will gain access to loans and other banking services.

**PURPOSE:**
Increase smallholder farmer access to loans and other banking services. More than 30 percent of rural Mozambicans live more than three hours from a bank, and many smallholder farmers must borrow from unregulated moneylenders at exorbitant interest rates or sell their future harvest early at significantly reduced value to receive cash.

**APPROACH:**
Opportunity International, through a private local financial services provider, Banco Oportunidade de Moçambique, is working during the program partnership to provide sesame and soybean farmers with financial and banking services including loans, savings accounts, and mobile money services. And by providing farmers with training on good agricultural practices and financial literacy, Opportunity International is increasing the likelihood of loan repayment.
**Tecnologia e Consultoria Agro-Pecuária**

**IMPROVED INPUTS AND PRODUCTION**

**PROGRAM PARTNERSHIP PERIOD: AUGUST 2016 – JULY 2018**

- **ACHIEVEMENTS:**
  By establishing three new farmer houses, Tecnologia e Consultoria Agro-Pecuária (TECAP) will reach 18,750 farmers with improved inputs and access to mechanization services and will generate at least $2.8 million in sales of agricultural inputs and mechanization services.

- **PURPOSE:**
  Strengthen the agricultural market’s weak agro inputs distribution network to increase farmers’ access to improved seed, fertilizers, pest management products, and equipment.

- **APPROACH:**
  TECAP is scaling up its network of one-stop agriculture service centers, called farmer houses, from a single location in Maputo to locations in Manica, Nampula, and Tete as part of the program partnership. TECAP plans to further expand the distribution of inputs through a network of 50 agrodealers, 20 franchisees, and 250 agriculture development agents.

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**Txopela Investments**

**IMPROVED INPUTS AND PRODUCTION**

**PROGRAM PARTNERSHIP PERIOD: AUGUST 2016 – JULY 2018**

- **ACHIEVEMENTS:**
  The Sociedade Beneficiamento Sementes (SBS) facility will produce and sell 450 metric tons of improved soy, pigeon pea, sesame, and common bean seeds during the program partnership. SBS customers will include 3,600 farmers, 20 percent of them women.

- **PURPOSE:**
  Develop a profitable supplier of certified seed and other agricultural inputs in Mozambique.

- **APPROACH:**
  Txopela Investments and the cooperative COPAZA are investing in the creation of a business called Sociedade Beneficiamento Sementes. With TechnoServe’s support, SBS will establish a facility for cleaning, grading, storing, and packaging improved seed. SBS will distribute other agricultural inputs and provide training, mechanization, offtaking, and other services to smallholder farmers in the Alta Zambezia region.
Hester Biosciences Nepal Private Limited (HBNPL)

RESILIENCE

PROGRAM PARTNERSHIP PERIOD: MARCH 2019 – FEBRUARY 2021

ACHIEVEMENTS:
Hester will produce and distribute 400,000 thermostable vaccine doses to prevent Peste des Petits Ruminants (PPR) in Nepal, improving the incomes of 100,000 Nepali herders by reducing mortality and morbidity of goats and sheep.

PURPOSE:
Extend the reach of PPR vaccine to remote areas by commercializing a thermostable formulation that is easily transported without refrigeration to increase resiliency in farming communities.

APPROACH:
Hester will produce a thermostable version of the PPR vaccine, and sell it through a network of community-based animal health workers that will spearhead a mass awareness campaign on the threat of PPR and the benefits of vaccination. Because it does not depend on unreliable cold chains to preserve the vaccine, the new thermostable formula is available to smallholders in remote areas for the first time. As more sheep and goats remain unaffected by PPR, farmers in previously underserved areas will be better equipped to respond to changing climatic and economic conditions.
ColdHubs Limited
RESILIENCE
PROGRAM PARTNERSHIP PERIOD: MARCH 2019 – FEBRUARY 2021

ACHIEVEMENTS:
ColdHubs will establish 20 new cold rooms in 10 new sites with the potential to improve the resilience of 2,000 beneficiaries and save approximately 22,000 tons of food from spoilage per year.

PURPOSE:
Expand ColdHubs’ network to introduce affordable cold storage near farms and markets to allow farmers to better respond to shocks and stressors, reduce high rates of food spoilage, and increase smallholder incomes.

APPROACH:
ColdHubs will establish 10 new hubs with 20 new cold rooms capable of cold storing fresh produce from local farmers. Each hub will operate in a pay-as-you-go basis, allowing smallholder access at an affordable price. ColdHubs will facilitate workshops to educate farmers and vendors on best practices in food storage that extend shelf life to maximize incomes. By raising awareness at the community level, ColdHubs will encourage farmers to take advantage of cold rooms in marketplaces and near farms to make farmers and supply chains more resilient.
**Babban Gona**  
**IMPROVED INPUTS AND PRODUCTION**  
PROGRAM PARTNERSHIP PERIOD: MAY 2016 – JULY 2018

**ACHIEVEMENTS:**
A total of 20,000 smallholder farmers will be formalized into cooperatives with collective new incomes of $2 million.

**PURPOSE:**
Help rectify smallholder farmers’ low economies of scale to increase their access to the credit required to purchase agricultural inputs, their access to appropriate information on best practices to optimize yields, and their ability to delay the sale of their produce to attain a higher price as the product value appreciates postharvest.

**APPROACH:**
Babban Gona is forming smallholder farmer cooperatives called trust groups for maize, rice, and soybean farmers as part of the program partnership. Babban Gona provides member farmers with services designed to optimize crop yields, production costs, and prices of agricultural outputs, thereby increasing profitability and improving household food security and livelihoods.

**Chi Farms**  
**ANIMAL HEALTH AND PRODUCTIVITY**  
PROGRAM PARTNERSHIP PERIOD: SEPTEMBER 2016 – AUGUST 2018

**ACHIEVEMENTS:**
A total of 1,000 smallholder fish farmers will gain access to high-quality inputs, including fingerlings. Chi Farms will purchase commodities from 2,700 soybean farmers and 3,600 maize farmers.

**PURPOSE:**
Increase Nigeria’s domestic fish production to meet growing demand.

**APPROACH:**
Chi Farms is expanding its capacity during the program partnership to produce high-quality inputs for smallholder fish farmers. Smallholder farmers will have access to high-quality juvenile catfish from Chi Farms’ multiple hatcheries, as well as aquaculture management training and financial tools to provide the knowledge necessary to build successful aquaculture businesses. Chi Farms is also expanding its feed production to include high-quality aqua feed, which will benefit not only fish farmers but also soybean and maize farmers supplying raw material for the feed.
Hello Tractor
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: JUNE 2016 – JULY 2018

ACHIEVEMENTS:
During the program partnership, 24,500 smallholder farmers will access tractor services; 50 youth entrepreneurs will be trained in the business of owning a fleet of Smart Tractors; and 15 youth technicians will be trained to repair Smart Tractors to provide tractor owners with timely maintenance.

PURPOSE:
Increase access to mechanization. A majority of Nigerian smallholder farmers, who make up more than 70 percent of the total farming population, do not have access to mechanization that would make farming more efficient.

APPROACH:
Hello Tractor designed a versatile Smart Tractor to serve farmers throughout the farm production cycle. Each tractor is fitted with a GPS antenna, local SIM card, hard drive, and telematics capabilities, enabling Hello Tractor to pair farmers in need of services with a Smart Tractor owner nearby. Smallholders can access affordable tractor services to increase their productivity, while Smart Tractor owners are given the opportunity to earn additional income with their machine.

Niji Foods
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: SEPTEMBER 2016 – APRIL 2018

ACHIEVEMENTS:
Niji Foods completed the construction of three cassava peel processing sites and is conducting training courses for 750 female cassava peelers and processors during the program partnership.

PURPOSE:
Fill a market gap by producing livestock feed from cassava peels and selling the mash to animal feed businesses as a low-cost substitute for maize. Nigeria is the world’s leading producer of cassava, but peels are left unused and wasted during processing.

APPROACH:
Niji Foods, with the International Livestock Research Institute, is establishing three cassava peel processing centers. It is recruiting and training staff on critical operations and business management, not only creating the processing centers but also providing long-term local employment. In addition, it will ultimately hand over partial ownership of the centers to at least three women’s groups.
PortaScience
ANIMAL HEALTH AND PRODUCTIVITY
PROGRAM PARTNERSHIP PERIOD: AUGUST 2013 – NOVEMBER 2014

ACHIEVEMENTS:
PortaScience sold more than 4,200 individual UdderCheck dipsticks during the program partnership and learned how to commercialize in this large and underserved East African market, while Africa Breeders Services Total Cattle Management trained more than 600 farmers in good dairy management practices.

PURPOSE:
Sell PortaScience’s UdderCheck mastitis detection dipstick and udder hygiene kits to smallholder dairy farmers so that in less than two minutes they can detect early-stage mastitis, a common inflammatory disease in cows. Udder inflammation caused by mastitis is the most costly disease that dairy farmers face. PortaScience demonstrated that an improved hygiene regimen for cows can reduce the incidence of mastitis by an average of 50 percent and lead to increased productivity and income for Rwandan smallholder dairy farmers.

APPROACH:
With its Rwanda-based partner, Africa Breeders Services Total Cattle Management, PortaScience completed farmer training and is selling the kits through local milk collection centers. To lower UdderCheck’s price, PortaScience purchased production equipment, identified a manufacturer, and created Rwanda-specific packaging with fewer dipsticks. The partnership also provided education on the risks of mastitis as well as ways to improve dairy cow health, and it highlighted the financial benefits of cow health, rather than focusing primarily on milk quality.
Purdue University, with EcoPlastics
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: MARCH 2013 – MARCH 2014

ACHIEVEMENTS:
Plastics recycler EcoPlastics had sold more than 116,000 Purdue Improved Crop Storage (PICS) bags to more than 58,000 farmers in Rwanda, including more than 92,000 by the end of the one-year program partnership. EcoPlastics also is expanding production and sales to reach more than 250,000 farmers in Rwanda, Burundi, and eastern Democratic Republic of the Congo in five years.

PURPOSE:
Increase smallholder grain producers’ use of PICS bags to reduce postharvest losses, improve their ability to store grain for household food security, and provide farmers the option to delay grain marketing to capture increased commodity prices between harvest seasons. When sealed, PICS bags virtually eliminate insect damage for stored grain and other crops.

APPROACH:
The university used local private sector partners to market the product to the smallholder customers. The PICS bags, developed by Purdue University, provide small-scale hermetic grain storage to reduce postharvest pest damage. Made of two high-density polyethylene inner bags that fit inside another bag, PICS bags can be used by smallholder farmers to store either a few kilograms or a full 50 or 100 kilograms of grain.
Compatible Technology International
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: JULY 2013 – JULY 2014

ACHIEVEMENTS:
During the program partnership, Compatible Technology International (CTI) sold 86 threshers and 102 grinders to farmers and farmer cooperatives, reaching more than 1,000 smallholder households. Since then, CTI has sold hundreds more and is now working with a local manufacturer to reduce the sales price, with a goal of reaching 16,200 individuals within five years.

PURPOSE:
Introduce the nonprofit’s pearl millet tools to Senegal’s smallholder farmers. CTI’s pearl millet tools are mechanical, hand-operated tools that include a manually operated stripper, thresher, winnower, and grinder that in minutes process pearl millet from seed heads into clean, unbroken grain. The thresher alone allows users to process 1 kilogram of grain in less than half the time as threshing manually and results in close to zero grain loss.

APPROACH:
With the help of an industrial designer, CTI’s team held farmer focus groups, paying special attention to feedback from women, who account for the majority of the country’s pearl millet producers. As a result, CTI combined the grain stripper, thresher, and winnower into a less expensive, more compact single unit that is easier for women to turn, even while carrying babies in slings on their backs. During this process, CTI also learned that some communities were using its grinder component for groundnuts, so the business began selling the grinder to women’s groups as a standalone unit.
**UKRAINE**

**Agrico Ukraine**

**IMPROVED INPUTS AND PRODUCTION**

**PROGRAM PARTNERSHIP PERIOD:** AUGUST 2015 – AUGUST 2017

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**ACHIEVEMENTS:**
Agrico Ukraine more than tripled its storage capacity to 4,250 metric tons of high-quality seed potatoes during the program partnership, leading to 487 farmers’ purchasing seeds and increasing potato yields by 30 percent. Agrico increased its revenue by 50 percent.

**PURPOSE:**
Increase the use of fresh, certified seed among small- and medium-size farms in Ukraine, one of the world’s largest producers of potatoes. Most of these farms use old, noncertified seed, and the seed potato market is characterized by poor infrastructure and high prices that limit their access to high-quality planting materials.

**APPROACH:**
Agrico produces and stores high-quality seed potatoes for sale to small- and medium-scale farmers. It also has provided them with training and support in effective planting, cultivation, and harvesting of potatoes.

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**USAID Mission Partnership**
Agrobonus
INFORMATION AND COMMUNICATIONS TECHNOLOGY
PROGRAM PARTNERSHIP PERIOD: JULY 2015 – JULY 2017

ACHIEVEMENTS:
A total of 1,435 small- and medium-size farmers received fertilization and field management consultations during the program partnership, resulting in a 30 percent increase in income from input cost reductions and crop yield increases.

PURPOSE:
Provide small- and medium-size farms in Ukraine with access to services that comprehensively analyze their soil, providing information that can increase their productivity and efficiency.

APPROACH:
Agrobonus expanded its services to include soil, plant, and water analysis aimed at improving incomes and productivity. The business offers these services through a state-of-the-art central laboratory and 16 mobile laboratories.

Bayer Ukraine and the International Finance Corporation
INFORMATION AND COMMUNICATIONS TECHNOLOGY
PROGRAM PARTNERSHIP PERIOD: OCTOBER 2015 – SEPTEMBER 2017

ACHIEVEMENTS:
More than 840 sales representatives and 6,000 farmers were trained during the program partnership, resulting in a 10 percent increase in distributor sales and an 8 percent increase in Bayer Ukraine sales.

PURPOSE:
Provide small- and medium-size farms with information about good farm management practices so they can effectively use quality inputs.

APPROACH:
Bayer and the International Finance Corporation designed, field-tested, and implemented 11 training modules for improved agribusiness practices in human resources, precision farming, and financial management for small- and medium-size farmers. Twenty agricultural distribution partners provided training. By working through its distributor network, Bayer was able to reach thousands more farmers than it could using its own staff. Through this process, Bayer also gained a better understanding of its customers’ needs.
International Charitable Fund – Community Wellbeing, with Danone Ukraine

ANIMAL HEALTH AND PRODUCTIVITY

PROGRAM PARTNERSHIP PERIOD: JULY 2015 – SEPTEMBER 2017

ACHIEVEMENTS:
During the program partnership, 74 family farms received new equipment and training to increase milk production and income by 40 percent. An additional 935 smallholder dairy farmers used milk cooling tanks, improving product quality and increasing their incomes by 20 percent.

PURPOSE:
Improve milk quality.

APPROACH:
International Charitable Fund – Community Wellbeing and its partners, including dairy product business Danone, trained family farmers in state-of-the-art milk production, such as the use of improved breeds, cooling tanks, milking machines, and other modern equipment. Danone purchases milk produced by these farmers to create higher-quality milk products.
AGCO
POSTHARVEST PROCESSING AND STORAGE
PROGRAM PARTNERSHIP PERIOD: MAY 2014 – NOVEMBER 2015

ACHIEVEMENTS:
The partnership raised awareness of improved postharvest storage options for smallholder farmers by installing demonstration units for small-scale grain silos.

PURPOSE:
Provide better postharvest storage solutions to Zambian smallholder farmers, who produce 80 percent of the country’s domestically consumed maize but lose up to 30 percent of their maize due to inadequate handling and storage practices. Better storage also increases the farmers’ ability to sell their grain for higher prices at a later time.

APPROACH:
Through the Bags2Bulk project, AGCO worked with local distributor GSI Africa during the program partnership to sell small-scale metal grain storage silos to village-based grain traders who lease storage to smallholder farmers. The partnership also installed demonstration units with aggregators, providing a direct relationship between farmers and the market, and AGCO provided training on equipment operation and the grain management business.
Amatheon Agri Zambia
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: MARCH 2017 – AUGUST 2018

ACHIEVEMENTS:
Amatheon Agri Zambia is integrating 6,000 additional smallholder farmers into its outgrower scheme during the program partnership, providing them access to higher-value markets, enhancing productivity and incomes, increasing access to finance and inputs, and improving food security and nutrition.

PURPOSE:
Integrate more smallholder farmers into Amatheon’s outgrower scheme. Amatheon Agri Zambia has a large-scale farm and supplements its production by sourcing commodities from small-scale outgrowers.

APPROACH:
Amatheon is establishing 20 new rural aggregation and input depots and one new seed bank to expand its outgrower scheme, which provides free training in conservation farming and business skills, increases access to inputs and markets, and facilitates linkages between emerging farmers and financial services.

Community Markets for Conservation, with TechnoServe
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: DECEMBER 2016 – JULY 2018

ACHIEVEMENTS:
The partnership will initially train 10,000 farmers, including introducing them to new revenue streams such as honey production and poultry rearing.

PURPOSE:
Increase the production capacity of farmer cooperatives that supply raw agricultural commodities for Community Markets for Conservation’s “It’s Wild” brand.

APPROACH:
Through its innovative cooperative structure, Community Markets for Conservation (COMACO) provides market opportunities for its farmer suppliers. To increase and secure its capacity to improve the livelihoods of smallholder farmers, COMACO is working with TechnoServe during the program partnership to develop an improved program for providing business and agricultural training to member farmers. TechnoServe is also providing business and marketing training to COMACO.
Good Nature Agro  
**IMPROVED INPUTS AND PRODUCTION**  
PROGRAM PARTNERSHIP PERIOD: MARCH 2017 – AUGUST 2018

**ACHIEVEMENTS:**  
Good Nature Agro will add 5,200 smallholder farmers to its outgrower network and train an additional 80 private extension agents during the program partnership.

**PURPOSE:**  
Address one of Zambia’s biggest agricultural challenges by increasing the availability of high-quality early generation and certified seed, in the right quantities and at the right time, for smallholder farmers.

**APPROACH:**  
Good Nature is expanding its seed outgrower and private extension agent networks, and providing soil analysis and creating an organic fertilizer blend specifically targeted to smallholder legume seed farmers. The limited supply of foundation seed is a key bottleneck in the legume value chain in Zambia, so Good Nature is also developing its own foundation seed farm that will allow it to deliver high-quality foundation seed in a timely manner to its outgrowers.

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iDE, with Toro  
**WATER RESOURCE MANAGEMENT**  
PROGRAM PARTNERSHIP PERIOD: SEPTEMBER 2013 – OCTOBER 2014

**ACHIEVEMENTS:**  
MRI AGRO Zambia Limited, which has 580 local agricultural supply shops, purchased 500 drip irrigation kits from Toro and sold more than 200 of them to smallholder farmers.

**PURPOSE:**  
Commercialize a small-scale drip irrigation kit for sale to Zambian farmers, so that farm productivity and returns will not be limited by unpredictable and inefficient water delivery to their fields.

**APPROACH:**  
Working with iDE during the program partnership and using human-centered design, Toro incorporated smallholder feedback to redesign the kit to support 500-square-meter plots. iDE, a nonprofit with two decades of experience working with Zambian smallholder farmers, also enlisted its extensive networks to promote the Toro-branded drip irrigation package to local suppliers and distributors. This paved the way for Toro to team up with private retailer MRI AGRO Zambia Limited to offer the drip kits to the farmers along with quality seed, chemicals, and extension services.
MRI-Syngenta
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: MARCH 2017 – AUGUST 2018

ACHIEVEMENTS:
MRI-Syngenta is setting up 20 seedling production and propagation facilities that are owned and operated by entrepreneurial young plant raisers, who will conduct extension, training, and marketing field days for more than 12,000 smallholder farmers.

PURPOSE:
Meet the rising demand in Zambia for horticultural products, like tomatoes and cabbage. By growing and promoting hybrid seed, MRI-Syngenta is also addressing a lack of quality seed availability and the understanding among farmers of the value of using hybrid seed, increasing farmer productivity and incomes.

APPROACH:
MRI-Syngenta is using the program partnership to build a lasting seedling production and distribution model for horticultural crops. MRI-Syngenta is supplying young plant-raiser entrepreneurs with everything they need to be successful, from greenhouse equipment to proper soil for seedlings. In exchange for the equipment and training provided, the entrepreneurs commit to buying MRI-Syngenta products exclusively for five years, allowing MRI-Syngenta to recover its costs and grow its market.

Stewards Globe
IMPROVED INPUTS AND PRODUCTION
PROGRAM PARTNERSHIP PERIOD: APRIL 2016 – APRIL 2018

ACHIEVEMENTS:
During the two-year program partnership, Stewards Globe will establish contractual relationships with 220 seed outgrowers, more than half of whom will be women. The business will promote new legume varieties by installing 200 demonstration plots and training agrodealers, and will provide 60,000 smallholder farmers with access to seed through sales of 600 metric tons of soybean, sunflower, cowpea, groundnut, and common bean varieties.

PURPOSE:
Increase production of Stewards Globe’s certified seed varieties so its capacity can meet demand.

APPROACH:
Stewards Globe is using an outgrower scheme to increase certified seed production while raising awareness of its brand through demonstration plots, field days, and promotional materials.
PARTNERSHIPS BY SECTOR

CURRENT PARTNERSHIPS

RESILIENCE
- Agri Seedco Limited
- ColdHubs
- Hester Biosciences Nepal Private Limited
- Neumann Gruppe GmbH
- Takaful Insurance of Africa Limited

IMPROVED INPUTS AND PRODUCTION
- Adicional Mozambique
- ATEC* Biodigesters International
- Semilla Nueva

POSTHARVEST PROCESSING AND STORAGE
- Acceso Oferta Local - Productos de El Salvador, S.A. DE C.V.

COMPLETED PARTNERSHIPS

ACCESS TO FINANCE
- Grameen Foundation and Musoni
- Mercy Corps, with Rana Labs
- Opportunity International Bank Malawi
- Opportunity International

ANIMAL HEALTH AND PRODUCTIVITY
- Chi Farms
- EthioChicken
- International Charitable Fund – Community Wellbeing, with Danone Ukraine
- Moana Technologies
- PortaScience
- Surehatch

IMPROVED INPUTS AND PRODUCTION
- African Agricultural Technology Foundation and seven local businesses in Kenya, Tanzania, and Uganda
- Agrico Ukraine
- Agro-Input Suppliers Limited
- Amaetheon Agri Zambia
- Babban Gona
- Community Markets for Conservation, with TechnoServe
- Good Nature Agro
- Lusosem with iDE and HUB-Asistencia Técnica e Formação
- MEA Fertilizers
- MRI-Syngenta
- National Cooperative Business Association CLUSA, with Phoenix Seeds and Oruwera
- Netafim, with Amiran Kenya Ltd.
- Popoyán
- Servicios de Post-Cosecha
- Stewards Globe
- Tecnologia e Consultoria Agro-Pecuária
- Txopela Investments
- Zamorano University

INFORMATION AND COMMUNICATIONS TECHNOLOGY
- Agrobonus
- Bayer Ukraine and the International Finance Corporation
- Mercy Corps, with Syngenta Foundation for Sustainable Agriculture and with Farmforce
- Solutions S.A., with GeoNova
- Twiga Foods

POSTHARVEST PROCESSING AND STORAGE
- AGCO
- Compatible Technology International
- Export Marketing Company Limited
- Hello Tractor
- The Metal
- Niji Foods
- Prometheus Power Systems
- Purdue University, with Bell Industries
- Purdue University, with EcoPlastics
- Rab Processors
- Store It Cold
- Tolaro Global
- Universal Industries

WATER RESOURCE MANAGEMENT
- Driptech
- iDE, with Toro

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