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



AGP-AGRIBUSINESS AND MARKET DEVELOPMENT

LIFE OF PROJECT REPORT: 2011 – 2016



USAID
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Expanding Opportunities Worldwide

AGP-AGRIBUSINESS AND MARKET DEVELOPMENT

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LIST OF ACRONYMS

AGP-AMDe	Agricultural Growth Program-Agribusiness and Market Development
AKLDP	A griculture Knowledge, Learning, Documentation and Policy Project
AMSAP	Advance Maize Seed Adoption Program
ARC	Agricultural Research Center
ATA	Agricultural Transformation Agency
BCC	Behavior Change Communication
BoARD	Bureau of Agriculture and Rural Development
C.A.F.E.	Coffee and Farmer Equity Program
CBE	Commercial Bank of Ethiopia
CBO	Cooperative Bank of Oromia
CIG	Common Interest Group
CPA	Cooperative Promotion Agency
CQI	Coffee Quality Institute
CSA	Central Statistics Authority
DA	Development Agent
DCA	Development Credit Authority
DSM	Direct Seed Marketing
ECEA	Ethiopian Coffee Exporters Association
ECX	Ethiopian Commodity Exchange
EDRI	Ethiopian Development Research Institute
EGTE	Ethiopian Grain Trade Enterprise
EIAR	Ethiopian Institute of Agricultural Research
EPOSPEA	Ethiopian Pulses, Oilseeds and Spices Processors-Exporters Association
ESE	Ethiopian Seed Enterprise
EU	European Union
FCA	Federal Cooperative Agency
FCU	Farmer Cooperative Union
FTF	Feed the Future
GAP	Good Agriculture Practice
GoE	Government of Ethiopia
GTP	Growth Transformation Plan
HEA	Home Economic Agent
ICO	International Coffee Organization
IFPRI	International Food Policy Research Institute
KAP	Knowledge, Attitude, and Practice
MFI	Microfinance Institution
MoA	Ministry of Agriculture
MoT	Ministry of Trade
MoU	Memorandum of Understanding
MT	Metric Ton
NGO	Nongovernmental Organization
P4P	Purchase for Progress
PC	Primary Cooperative
PHH	Post-Harvest Handling
PLC	Private Limited Company
SACCO	Saving and Credit Cooperative
SCAA	Specialty Coffee Association of America
SME	Small and Medium Enterprises
SMFM	Sell More For More
SNNPR	Southern Nations, Nationalities, and Peoples' Region
TARI	Tigray Agricultural Research Institute
TMF	Tigray Multipurpose Marketing Federation Cooperatives
ToT	Training of Trainers
USAID	United States Agency for International Development

USD	United States Dollar
USG	Urea Supper Granule
WALN	Women in Agriculture Leadership Network
WEAI	Women's Empowerment in Agriculture Index
WFP	World Food Programme

EXECUTIVE SUMMARY

Feed the Future (FTF) Agricultural Growth Program-Agribusiness and Market Development (AGP-AMDe) was a flagship project of USAID's strategy for Ethiopia and was the U.S. government's largest contribution to the Ethiopian government's Agricultural Growth Program (AGP), which supported the Comprehensive African Agricultural Development Program framework by strengthening agricultural productivity and markets in the four high rainfall regions of Amhara; Oromia; the Southern Nations, Nationalities, and Peoples' Region (SNNPR); and Tigray.

The AGP-AMDe project in Ethiopia used a value chain approach to strengthen the agriculture sector, enhance access to finance, and stimulate innovation and private sector investment. The value chains—coffee, sesame, chickpea, honey, wheat, and maize—were identified for their potential to improve both food security and incomes. The main goal of AGP is to sustainably reduce poverty and hunger and enhance economic growth. These goals are achieved by improving the productivity and competitiveness of value chains that offer jobs and income opportunities for rural households. The project goals were aligned with the AGP goals and the overarching Feed the Future Initiative (FtF) goal, “to sustainably reduce poverty and hunger.”

AMDe means “pillar” in Amharic and symbolizes the importance of agriculture and food security to support households. The value chains—coffee, sesame, chickpea, honey, maize, and wheat—were identified for their potential to improve both food security and incomes.

The objectives of AGP-AMDe were as follows:

- strengthen the competitiveness of the six value chains;
- increase access to finance, thereby encouraging investment, productivity, and trade;
- improve the enabling environment, working closely with the Ethiopian government; and
- expand public-private partnership investments to buy down risks and leverage the impact of innovations.

These objectives were achieved through the following core activities:

- encouraging investment and technology transfer to allow the Ethiopian government, farmer cooperative unions, private companies, and smallholder farmers to achieve competitive advantage on both domestic and international markets;
- helping farmers increase export sales through diverse interventions involving industrial processors, testing and grading equipment, modern warehousing, improved varieties of seed, and information technology; and
- collaborating with farmer organizations and companies using innovative matching grants to select, install, train, and use new technologies that are critical to becoming more efficient and competitive.

AGP-AMDe reinforced activities through technology and skills transfer as well as investments, which allowed the government, farmer unions, companies, and smallholder farmers to gain competitive advantages on domestic and international markets. Since 2011, the project has reached over **1.2 million people**, created over **6,000 jobs** and influenced farmgate sales worth **\$181 million**.

Over the life of project, AGP-AMDe facilitated approximately **\$137 million** in agribusiness loans in partnership with eight Ethiopian financial institutions for **46** farmer unions, cooperatives, and private businesses. **Access to finance** proved critical for these organizations in order to acquire industrial grain processors and mills, food processing factories, warehouses, modern testing and grading equipment, improved varieties of seed, information technology, and the ability to increase aggregation of member grain and produce. New technologies, better infrastructure, better post-harvest handling (PHH) techniques, and improved marketing are some of the upgrades that helped farmers achieve exports valued at **\$326 million**.

AGP-AMDe leveraged more than **\$30 million** in agribusiness investments and delivered **396 co-investment awards** worth over **\$14 million** that allowed farmer organizations and companies to select, install, train, and use new technologies that are critical to becoming more efficient and competitive.

AGP-AMDe worked with lead farmer networks to deliver training on good agriculture practices (GAP), PHH, and better business management skills to farmers, resulting in over **263,000 hectares** managed and cultivated under improved

techniques. AMDe has increased the capacity of **54 farmer cooperative unions (FCU)** representing over **2,500 primary cooperatives (PC)** and **1.9 million members** through training, strategic investments, and market and financial linkages.

ACDI/VOCA served as the prime contractor and lead organization of the implementation team, and assumed the technical lead on the project. Other Support For Food Security Activities (SFSA) consortium members and their contributions were as follows:

- Danya provided strategic communication to influence behavior change and technology adoption
- International Fertilizer Development Center (IFDC) supported the development of commercial agro-input systems and fertilizer blending initiative
- John Mellor & Associates (JMA) assisted with studies for agriculture policy reform
- Kimetrica strengthened the monitoring and evaluation system
- Coffee Quality Institute (CQI) provided targeted technical support to the development of the coffee value chain
- Crown Agents provided studies on export facilitation, and transport and logistical efficiency

Project partners also included the Ministries of Trade and Agriculture, the ATA, the Ethiopia Commodity Exchange (ECX), the Federal Cooperative Agency (FCA), sector associations, farmer cooperatives and unions, input suppliers (including seed companies and new blended fertilizer factories), over 600 private sector companies, traders, processors, transporters, exporters, common interest groups, and research institutions.

Value Chain, Component, and Cross-Cutting Activity Summaries

Coffee Value Chain

- Supported common interest groups and trained selected cooperatives to create coffee seedling nurseries that put over **5 million coffee seedlings** in Ethiopian coffee farms
- Partnered and co-invested with 11 PCs to install 11 washing and hulling stations and 45 pulping machines/drying beds
- Through a public-private partnership, USAID and ECX refurbished **four cupping labs** with quality assurance and grading equipment certified by the Specialty Coffee Association of America (SCAA)
- Set in motion the country's first national **traceability** system in partnership with **ECX**, and expect **60,000 MT of traceable coffee** to be traded in the first year of functionality

Sesame Value Chain

- Co-invested with sesame farmer unions to erect **four 5,000-MT processing facilities**, which radically changed the unions' ability to aggregate, store, clean, and assure quality sesame for export
- Partnered with six sesame farmer unions and federations to install six industrial sesame cleaning factories, and provided **24 sets of grading equipment** as well as input and PHH training for farmer cooperatives
- Supported the Ethiopian Pulses, Oilseeds and Spices Processors-Exporters Association (**EPOSPEA**) to conduct its annual conference for four consecutive years, bringing hundreds of sesame experts, agroprocessors, equipment suppliers, and buyers to Ethiopia each year

Chickpea Value Chain

- Partnered with Ethiopian chickpea and oilseeds processor Agro Prom to install and commission **Ethiopia's first industrial chickpea processing** factory
- Through training and investments in mechanization, AGP-AMDe **reduced post-harvest losses** among partnering farmers from **20 percent to 3 percent**
- Covered over **18,500 hectares** of land with over **1,700 MT** of improved chickpea varieties that will produce nearly **59,000 MT** of chickpea grain and seed

Honey Value Chain

- Trained **17,500 beekeepers** and workers in PHH and improved semi-processing techniques
- Assisted two farmer unions gain **Fairtrade certification** and sponsored participation in **seven specialty food trade shows**

- Facilitated the partnership and investment from international honey giant **Parodi Apicultura** with Zenbaba FCU to establish Ethiopia's largest modern honey processing center in Bahir Dar and begin exporting high-quality honey

Maize Value Chain

- Supported the establishment of **six warehouses, each with 5,000 MT of capacity**, and one 2,500-MT-capacity warehouse with allowing partnering FCUs to aggregate more maize and meet client contracts on time
- Leveraged public-private partnership with U.S. agriculture firm **DuPont Pioneer** to conduct **8,520** hybrid maize seed demonstrations to reach over **164,000 beneficiaries** and created a network of **25 private seed dealers**. Demo plots resulted in yield increases of nearly **200 percent** from an average **2.5 MT/ha** using local maize seeds to **7 MT/ha**.
- Facilitated **market linkages** between **14 FCUs** and the World Food Programme's (WFP) Purchase for Progress (P4P) program resulting in aggregation and sales of **49,000 MT** of maize worth **\$15.4 million**.

Wheat Value Chain

- Covered **1,137 hectares** with basic seed to multiply enough seed to produce over **4,600 MT** of wheat seed and co-invested in one 2,000-MT-capacity **seed warehouse**.
- Introduced and cost-shared **56 portable wheat threshers** for 40 wheat-producing PCs
- Facilitated market linkages between wheat producers and processors resulting in wheat sales worth **\$29.1 million**, and established **historical market linkages** between the Ethiopian Grain Trade Enterprise (EGTE), commercial wheat millers, and farmer unions

Input Supply

- Partners multiplied 202,500 MT of improved seed, which is enough seed to cover 240,250 hectares.
- A total of 14,019 smallholder farmers and five commercial farms directly benefitted from seeds, trainings on blended fertilizer utilization, and demonstrations.
- AGP-AMDe introduced and popularized 11 new seed varieties of maize, wheat, sesame, and chickpea in the four AGP regions.
- A total of **27 FCUs** received seed multiplication training support resulting in **444.6 MT** of wheat, sesame, and chickpea seed and seed multiplication.

Access to Finance

- Supported 45 savings and credit cooperatives (SACCO) to mobilize \$2.5 million in savings and disburse more than \$4.5 million in loans to their 3,140 members
- Facilitated **\$1.6 million in equity financing** for three medium-sized Ethiopian agroprocessing companies and created over **370 new jobs**
- Introduced new financial products into agriculture, including a **warehouse receipt system**, allowing farmers to deposit their produce in warehouses operated by FCUs

Business Enabling Environment

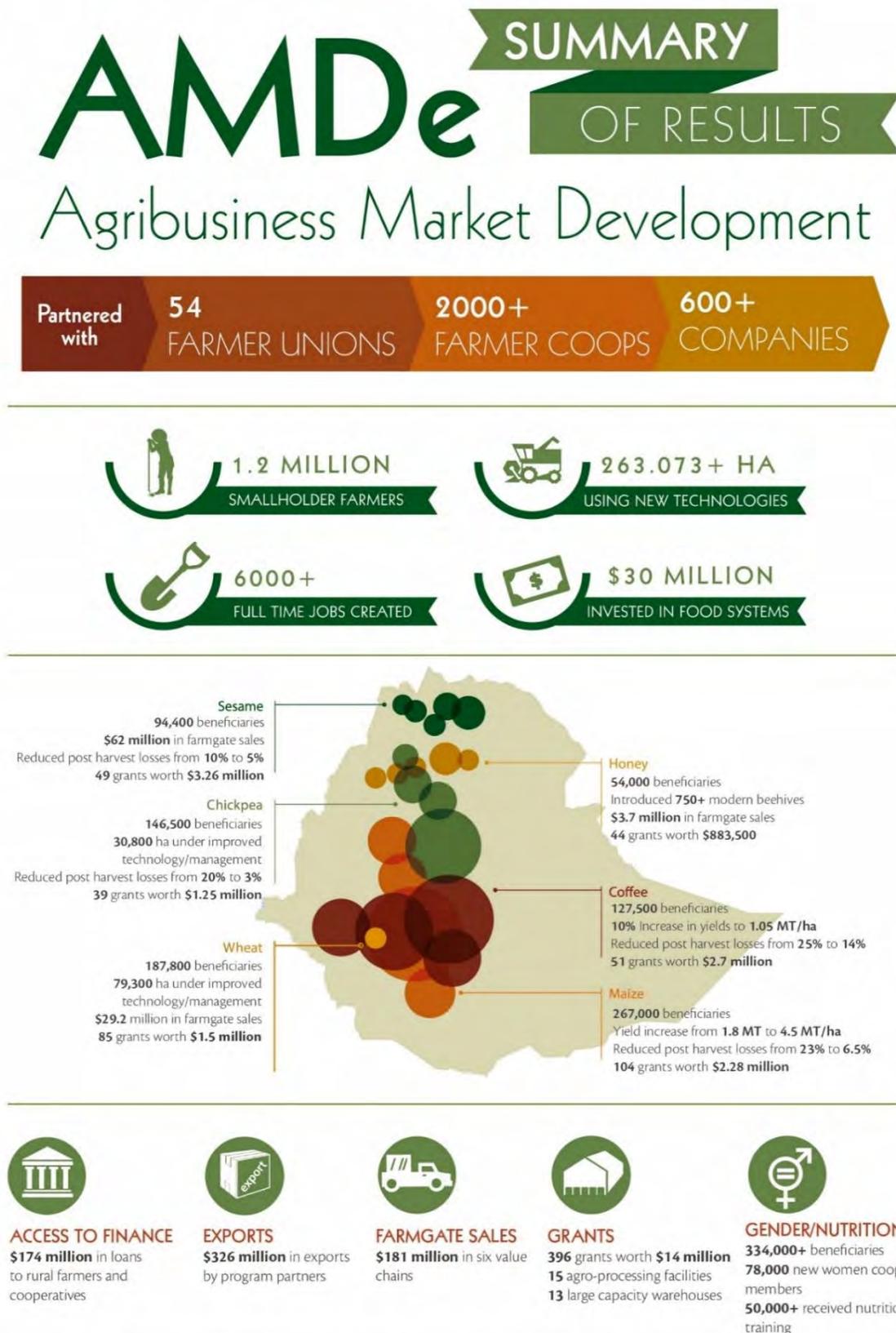
- Provided technical assistance to the Government of Ethiopia (GoE), which resulted in a policy decision to **separate the ECX warehouse system** from that of the ECX trading system
- Contributed to GoE policy change on fragmented coffee institutional structure by deciding to set up the new **Coffee and Tea Development and Marketing Authority**
- Provided technical input on the **Seed Regulation** and informed the ongoing legal, regulatory, and institutional reforms of the seed system at federal and regional levels

Cross-Cutting Activities: Gender, Nutrition, and Behavior Change Communication

- Created the **Women in Agriculture Leadership Network (WALN)**, which reached more than **1,000 women entrepreneurs** with business, finance, and leadership training and mentorship programs
- Led campaign to bring over 78,000 new women members into more than 1,600 farmer cooperatives

- Reached over **50,700 households** with **nutrition-sensitive agriculture** training focused on dietary diversity strategies by using innovative methods and leveraging posters, multimedia, and film

Figure 1. Overall Project Summary Results Infograph



The Agribusiness Market Development—AMDe—program is a USAID-funded, Feed the Future initiative that targets strategic value chains to strengthen Ethiopia's agriculture sector, enhance access to finance and stimulate innovation and investments. AMDe falls under the Government of Ethiopia's Agriculture Growth Program. This magazine presents the cumulative results of AMDe's activities between October 2011 and December 2015.

PERFORMANCE INDICATOR RESULTS TABLE

AGP-AMDe achieved significant results over the life of the project, which ran from May 1, 2011 to August 1, 2016. The following table presents the overall results for priority indicators.

Table I. Indicator Performance Tracking Table (IPTT)

Key Performance Indicators	LOP Target	Life of Project Results (Oct. 2011 – Mar. 2016)	Percentage of LOP Target Achieved
Number of beneficiaries supported by AGP-AMDe-assisted value chains	1,000,144	1,211,738	121%
Value of sales, collected at farm level, attributed to FTF implementation (U.S. dollar (USD)) **	\$156,959,831	\$181,888,872	116%
Number of individuals who have received agricultural or food security training and capacity building	112,301	156,958	140%
Number of hectares under improved technologies or management practices	119,095	263,073	221%
Value of exports of targeted agricultural commodities (USD)	\$148,236,057	\$326,579,219	220%
Value of agricultural and rural loans (USD)	\$39,134,157	\$137,571,951	351%
Number of jobs attributed to FTF implementation	8,144	6,137	75%
Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation	\$32,102,424	\$30,034,425	94%
Number of private enterprises, producers organizations, women's groups, trade and business associations, and Community Based Organizations applying new technologies or management practices	205	921	449%

COMPONENT I: IMPROVING VALUE CHAIN COMPETITIVENESS

Coffee Value Chain

OVERVIEW

Ethiopia leads Africa in Arabica coffee production, yet its contribution to the international market is only about three percent. The majority of green coffee in the country is traded through traditional channels, and farmers growing high quality coffee are missing out on niche market and specialty coffee. Less than 20 percent of Ethiopia’s coffee exports meet the quality standards to receive the value-added prices of specialty coffee. According to government statistics, Ethiopia has 450,000 hectares available for coffee production, approximately five million smallholder farmers working in the coffee sector, and rich varieties to increase the export of quality coffee by more than 75 percent. Reaching this level of specialty coffee exports has the potential to increase coffee farmer earnings by an estimated \$250 million annually.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 2. Coffee Value Chain Overall Results

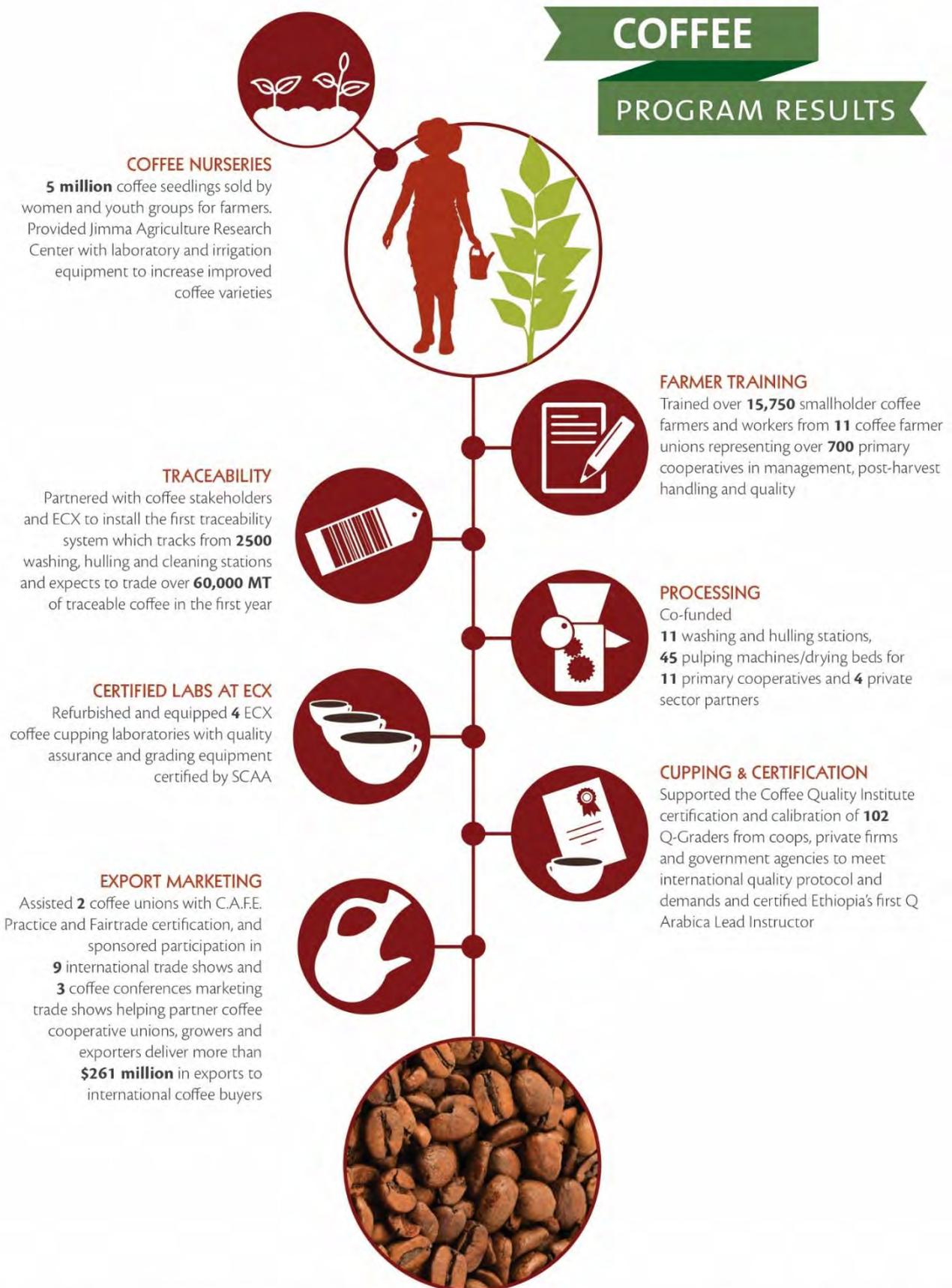
Coffee Value Chain Overall Results	
Total Beneficiaries	127,571 households
Hectares with Improved Technology	17,439 hectares
Total Coffee Partner Exports	\$261 million

- Supported common interest groups (CIG) and trained selected cooperatives to create coffee seedling nurseries that put over **five million coffee seedlings** in Ethiopian coffee farms
- Partnered and co-invested with 11 PCs to procure 11 washing and hulling stations and 45 pulping machines/drying beds
- Through a public-private partnership, USAID and ECX refurbished **four cupping labs** with quality assurance and grading equipment certified by SCAA
- Set in motion the continent’s first national **traceability** system in partnership with **ECX**, and expect **60,000 MT of traceable coffee** to be traded in the first year of functionality

STRATEGY: COFFEE VALUE CHAIN

AGP-AMDe’s coffee value chain strategy contributed to the country’s overall goal of expanding coffee production. A 50 percent increase in Ethiopian coffee exports will generate additional value-added export revenues of over 200 percent by 2020, as outlined in the government’s Growth and Transformation Plan II. Improvements in quality and creating an enabling environment for traceability are considered key competitive objectives. Therefore, the project worked to increase the value of commercial coffee while promoting specialty coffees; develop technology platforms that enable traceability for mainstream Ethiopian coffees; increase efficiency of the ECX platform; and promote new developments in coffee export markets.

Figure 2. Coffee Value Chain Infograph



The graphic represents USAID Feed the Future AGP-Agribusiness Market Development program results collected quarterly from coffee beneficiaries in the period between October 2011 and December 2015, in partnership with the Government of Ethiopia, Ethiopia Commodity Exchange, Ethiopian Coffee Exporters Association, Ethiopia Coffee Growers, Producers and Exporters Association, 10 coffee farmer unions and nearly 200 private companies in the coffee sector.

ANALYSIS: COFFEE VALUE CHAIN

Coffee productivity on smallholder plantations is in decline, sometimes as low as 7 MT/ha, due to aged coffee trees. Production volumes are inconsistent year to year due to a variety of climatic and economic factors. Nonetheless, improved and certified coffee seedlings that are tailored to specific agroecologies can replace old trees and revive and expand over-mature coffee farms. Research centers play a critical role as the starting point in the production of new seedlings; private, certified seedling producers are needed to distribute the seedlings to farmer cooperatives. AGP-AMDe's seedling production in partnership with Limmu Innarea cooperatives and CIGs in SNNPR serves as an example to be replicated in other regions where coffee trees are past their prime.

Ethiopian coffee often loses quality due to improper harvesting, processing, and drying techniques. A perceived lack of incentives for farmers to be more careful about picking coffee cherries perpetuates the problem. Inconsistencies in the coffee pricing system and no premiums for better quality coffee in local markets give farmers little reason to properly pick, process, and dry quality coffee. AGP-AMDe's strategy to collaborate with FCUs ensured that PHH training as well as needed equipment, such as washing and drying stations, ended up in the right hands. Ethiopia's coffee farmer unions are all aiming at specialty markets and know that quality begins with PC farmers and the capacity of their members.

While linkages between Ethiopian farmers and specialty coffee markets are still in the early stages, the lack of a coffee traceability system has hindered progress. To counter this, AGP-AMDe partnered with ECX to set the foundation for a countrywide traceability system, which will facilitate the trading of certified coffee and significantly increase sales and exports to large importers and roasters who, in past years, have demanded increased availability of traceable coffee lots.

An increased awareness of specialty coffee and increased volumes of quality coffee lots translate to higher incomes for coffee farmers, traders, and processors. To achieve this, coffee cupping professionals play a key role in the development, grading, and recognition of specialty coffees throughout the country. AGP-AMDe worked with the Coffee Quality Institute (CQI) to build the capacity and competitive ability of Ethiopian cuppers and to improve overall adherence to international quality standards. As a result of the partnership, the number of Q-Graders (quality coffee graders) in Ethiopia has increased. After Ethiopia gained its first Q-Grader lead instructor, the pool of professional cuppers will continue to increase in the future.

Ethiopia's coffee export performance did not reach the targets set by the government, and coffee experts attribute this to low international coffee prices and an increase in illegal trade throughout the country, which affects the volume of coffee traded through the ECX. In order to tackle the problem, the GoE identified the root causes and solutions to ensure compliance. Firstly, there is no centralized government institution to lead the nation's coffee sector, from production to export promotion, in a well-coordinated manner. The government established the Coffee and Tea Development and Marketing Authority to lead the sector and find solutions for problems in the sector.

The Ethiopian Coffee Exporters Association (ECEA) is supposed to coordinate and support the private sector by encouraging the production of quality coffee, promoting coffee export globally, and resolving problems. The association currently represents over 80 percent of Ethiopia's coffee exporters, who have over 96 percent market share of coffee exports. However, the association is unable to play its role in leading marketing and promotion efforts due to financial, technical, and commitment problems. AGP-AMDe helped the association by organizing two international conferences and supporting its attendance at various global coffee events held by groups including SCAA, the Africa Fine Coffees Association, and the Specialty Coffee Association of Europe for the past four years. Moreover, with the technical and financial support AGP-AMDe has provided to the coffee sector, the fourth International Coffee Organization (ICO)

EXPERT ANALYSIS: ERMIAS ESHETU, CEO ECX (JULY 2015)

“For the majority of coffee buyers, quality is number one followed by sustainability, and traceability is part of that. Through partnerships with USAID, ECX updated labs and training facilities that meet international standards, and this season, we brought over 200 cuppers to recalibrate the skills of our staff at the ECX. We've never had this sort of capability in the history of Ethiopian coffee. Traceability is hard to implement due to a fragmented farming community and lack of infrastructure. There are over five million smallholder coffee farmers, and most have family leases on land. Each generation partitions the land into even smaller holdings. Connecting the dots from ECX to farmers is complicated, but we are moving in that direction. With the new tagging system, we will become more precise in how we manage the warehouses. Now we can identify coffee origin to bag, plus all the other information. ECX has much stronger oversight over inventory.”

conference was held in Ethiopia in March of 2016. Under the theme of “Nurturing Coffee Culture and Diversity,” members of the global coffee community, including 77 ICO members and over 900 other attendees, including coffee growers and representatives from the government, the private sector, and international agencies, gathered in the capital to attend the conference. Attendees participated in a range of discussions related to the theme of the conference.

Higher Quality, Larger Quantity

Comprehensive support to Ethiopia’s coffee sector gives coffee farmer cooperatives a boost at every step in the value chain.

Coffee production in Ethiopia is as much about quantity as it is about quality. Ethiopia has more than 500,000 high altitude hectares of coffee trees, over five million farmers, and thousands of coffee varieties. Add a temperate climate with ample rainfall and Ethiopia appears to have the necessary conditions to nurture a lush and bountiful coffee sector.

Why then are Ethiopian coffee farmers still among the poorest in the world?

The answer to this question is as much about quantity as it is about quality. Farmer incomes are severely limited by historically low productivity, or roughly 700 kg of exportable coffee per hectare, compared to 1,300 kg in other coffee-producing countries. In addition, with limited availability of improved coffee seedlings, yields suffer year to year as trees well beyond their prime are still expected to produce high-dollar cherries.

Quality has always been a sticking point for the Limu Innarea Coffee Farmer Union. Member cooperatives continue to harvest coffee from old plantations. Other cooperatives do not know how to properly dry their coffee and lack modern washing stations. These deficiencies affect the overall quality of the union’s coffee product. In 2013, AGP-AMDe partnered with the Limu Innarea union to first build the capacity of its coffee growers and then fill critical gaps with better coffee plants and modern processing equipment. Through a network of farmer trainers and cascade



Modern drying station in Jimma, Oromia, where farmers dry coffee cherries to process natural coffee.

training, more than 3,000 farmers received practical and theoretical instruction on better production and post-harvest techniques. The training included how to plant and nurse a seedling and manage a mature coffee tree; when to ideally pluck a red cherry from the tree; and better drying best practices. The project also provided the union with coffee testing equipment, including six moisture meters, sample dividers, sensitive scales, and sieves.

“One of the biggest determinants of coffee quality is the timing of the harvest. Together with AMDe, I supervised and led various trainings on cherry maturity. Many of our farmers used to bring harvests with cherries that were not quite ready, reducing the overall quality of our coffee lots,” according to Limu Innarea Union Manager Fekadu Dugassa. “At least half of what we were sending to ECX to be graded had too much moisture. Each time we ended up paying \$50 a day to store and wait for the coffee to dry. Sometimes we were forced to wait up to 20 days. Those were big headaches.”

To assure sustainable quality, the project worked together with the Jimma Research Center—Ethiopia’s center of excellence for coffee varieties—to not only improve the center’s capacity to produce Ethiopia’s most important coffee variety seedlings but also to increase the center laboratory’s ability to test coffee seeds and trees. AMDe then provided Limu Innarea with a grant to purchase approximately 500 kg of certified, tested Limu coffee seed. Armed with seed and training, three PCs planted and produced three million seedlings and sold them to member farmers. “These trees will start producing excellent Limu cherries within three years. The harvest and post-harvest skills acquisition significantly increases the union’s coffee. The quality and [PHH] training has given over 15,000 farmers the basic understanding of how to maintain the quality of their coffee,” explains Bisrat Ermias, AMDe coffee value chain manager.

Quality is King

Between 2010 and 2013, Limu Innarea coffee exports amounted to an average of 180 MT of coffee each year, and approximately 70 percent of that was Limu grades four, five, and six. Coffee graded below three does not attract specialty buyers or have any price premiums.



“A washing station changes the cooperative’s overall efficiency. Before, each farmer managed the processing and drying in his land. For this he needs a storage facility, sun beds and a roof to protect from the rain. With the new washing stations, that cooperative’s farmers can just bring their cherries to one place. The risk of losing quality is much lower,” explains [REDACTED]

institution to be able to provide better services to farmer unions, private coffee companies, exporters, and other members of Ethiopia’s coffee sector.

“The relationship among stakeholders is linear in that farmers sell the coffee cherry to suppliers, and suppliers sell parchment coffee to exporters. There is little collaboration on agronomic practices, import demands, and market information among others,” explains [REDACTED] former general manager of the Oromia Coffee Union. “These gaps lead to unnecessary competition, which results in losses and inefficient allocation of resources.”

Over the past four years, AGP-AMDe has assisted FCUs, private coffee farmers, the Ministry of Trade (MoT), and Ethiopian coffee exporters by sponsoring their participation in international trade shows and symposia as well as organizing national cupping events and ECEA’s annual conferences.

“The AGP-AMDe market access strategy complements the efforts of the Ministry of Agriculture and its goal to improve productivity, sustainability, and quality. We know that if there is no market, there is no incentive for farmers to produce coffee, so we work jointly, find attractive markets and deliver on time. The end result are happy buyers,” explains [REDACTED] director of coffee, tea, and spices at the Ministry of Agriculture (MoA).

For coffee unions like Limu Innarea, the invitation to attend the SCAA annual conference is an invaluable opportunity to meet face to face with specialty coffee buyers and provides the chance to put their improved-quality coffee in the hands of clients. “We visited with roasters and buyers we never knew existed. After the SCAA conference, people were contacting me by e-mail and making contracts for the future. The buyers have confidence in USAID support and tasted our quality,” according to [REDACTED]. At the 2014 SCAA conference, Limu Innarea signed new contracts for 16 containers of coffee.

The more high-quality coffee being exported out of Ethiopia, the better. Under the Limu Innarea Union, PC members receive 95 percent of the sales value.

In 2015, Limu Innarea member cooperatives implemented better PHH techniques, and 100 percent of the Union’s 390 MT received grades one, two, or three. “This is a significant change for our farmers, and it’s all due to an increased awareness of how to treat the coffee post-harvest,” says Limu Innarea Union Manager [REDACTED]

AMDe also helped coffee farmer unions and cooperatives with washing, hulling, and pulping stations as part of its quality-focused interventions in Ethiopia’s coffee sector. AGP-AMDe and Limu Innarea Union added two new washing stations to the union’s network of 18 washing stations. The Deme and Wodessa Cooperatives will begin this season to wash coffee, which increases coffee quality and averages a 30-percent higher price on the world coffee market.

Since 2012, AGP-AMDe has partnered with 10 major coffee-producing farmer unions representing over 500,000 coffee farmers. The project established 11 washing and hulling stations and 45 pulping machines for 11 PCs.

On the World Stage

To improve marketing capacity, AGP-AMDe works hand in hand with ECEA, strengthening the



AMDe sponsored the participation of Ethiopian coffee partners in eight international trade shows and conferences.

“Coffee buyers are more and more interested in who is growing their coffee. Our aim is to promote our producers,” Fekadu Dugassa noted.



Cupping at the Ethiopian booth at the 2015 SCAA event. From left to right: [REDACTED] (ECX quality expert and head cupper), [REDACTED] (CEO of SCAA), and [REDACTED] (State Minister of Trade for Ethiopia).

AGP-AMDe created the Ethiopia Fine Coffees brand to give the coffee sector another resource to promote Ethiopian coffee, and is supporting the ICO and the Ethiopian government to successfully host the fourth Annual World Coffee Conference in March 2016.

Tracing the Future of Ethiopian Coffee

In 2008, the Japanese government banned Ethiopian coffee imports after four types of illegal pesticides under Japanese law were detected on green coffee beans. The ECX, created in 2007, had no way of tracing where the coffee lots originated or the cause of the contamination. The ban lasted nearly two years during which Ethiopian coffee growers lost out on more than 5,000 MT of sales from the country's third largest importer. The hard lesson in coffee traceability did not go unnoticed.

In 2015, a reinvigorated, better-aligned ECX plans to change the future of Ethiopian coffee. While the world of coffee moves toward verification of origin and legal compliance, Ethiopia lags due to underdeveloped infrastructure and a complicated network of smallholder coffee farmers numbering over five million.

In January 2013, the ECX partnered with the AGP-AMDe project and the Sustainable Coffee Program to lay the foundation for a system that will not only give Japanese buyers the name and location of the washing station where the coffee originated but also the date and times spent in each warehouse before being auctioned to a buyer. The system will become the coffee world's first independent and nationally owned system.

By the end of 2015, coffee producers already traded over 142 MT of traceable coffee at the ECX. That means more than five containers of traceable coffee. The early success bodes well for the system currently being piloted, and will encourage Ethiopia's coffee sector as it hosted the International Coffee Organization's World Coffee Conference, which took place on March 6, 2016 in Addis Ababa, Ethiopia.

In the first phase of the pilot, approximately 1,000 coffee processing stations—535 drying and 473 washing stations—are tagging bags of coffee. The processing stations expect to put over 60,000 MT of traceable coffee, or 1 million bags of coffee, on the world market in 2016.

By overhauling the ECX supply chain management, the new system is going to bring consumers closer than ever to the people growing their coffee. Now, finding the source of a contaminated bag is as easy as scanning the tag. Starting with this year's harvest, ECX and AGP-AMDe have distributed over 500,000 bag tags, which are issued to buyers with each purchase of traceable coffee and contain information on the coffee beans. An additional 800,000 tags were distributed to coffee FCUs. In addition, the project provided trainings to exporters on the usage of scanners as part of the traceability mobile application.

The new tagging system—running on IBM technology—links every bag of coffee that is traded through the ECX to one of over 2,500 geo-referenced washing, hulling, and cleaning stations located in Ethiopia's southern, central, and western coffee-growing regions. Each tag's embedded information includes photos of the station as well as names and contact information for the station manager and owners. Since farmers are obligated to sell their coffee to washing stations in their same *kebele*—which cover an average radius of 15 kilometers—each washing station typically processes a uniform coffee type, be it Sidama, Yirgacheffe, Limu, Kaffa, or Tepi, among others.

“True traceability goes beyond the coffee's type or origin to tracing where the coffee has been, where and when it was washed, where and when it was stored, who sampled it, who graded it, which truck it was loaded onto and where it was shipped to. All these facts will improve our ability to move coffee and create premium value for buyers and consumers,” says ECX CEO [REDACTED]. In fact, in the past few years, buyers needing traceability purchased Ethiopian coffee through private farmers and coffee farmer unions, who are allowed to export directly to buyers. The ECX-run traceability system will give the other 90 percent of Ethiopian coffee exports access to bigger and better market channels. Starbucks has a long history of purchasing Ethiopian coffee, and through its Coffee and Farmer Equity Program (C.A.F.E.), the company claims that 99 percent of its coffee is verified as ethically sourced.

“Transparency is critical for Starbucks because it provides insight into the farmers who make up the Starbucks' supply chains, the volume of coffee being sold to Starbucks and key information on the coffee's origin,” according to a Starbucks spokesperson. “The objective is to ensure the reliability of sustainability claims and price transparency, quality,



ECX expects over 60,000 MT of traceable coffee to be traded in the first year of functionality.

social responsibility and long-term supply that enables our ability to source from Ethiopia. We believe these efforts will create long-term stability and a global standard for coffee traceability.”

“A supply chain management system does not automatically give you the coffee’s entire story, but it gets closer than before. It will make business more ethical and create a more equal playing field for everybody,” says [REDACTED] coffee expert from Addis Exporter who exports 20 containers of coffee annually. “Exporters will be held more accountable for what they are promising to buyers. I like to see ECX making these types of improvements. Overall, the system is getting better.”

The price tag for the traceability system and its implementation is approximately \$4.2 million and is being paid through a public-private partnership with USAID, which invested \$1.8 million; the ECX, which invested \$1.2 million; and the Sustainable Coffee Program, a global initiative of buyers, governments, and associations that also invested \$1.2 million.



“The traceability system will improve upon the entire inventory system. We’ll be able to trace the errors and figure out where human error or manipulation occurs,” explains [REDACTED] the Hawassa ECX branch head.

AMDe funded the renovation of modern coffee cupping laboratories in Addis Ababa, Jimma, Hawassa, and Dilla. At each lab, the project provided grinding and roasting machines and moisture testing equipment, all used specifically for grading coffee at ECX delivery centers. The improvements put ECX on the path to SCAA certification as these represent the first SCAA-certified coffee grading labs in Africa. “SCAA lab certification is not only about the right machines, but everything from the lighting to the curtains must be perfect,” says [REDACTED] the Hawassa ECX branch head. “We have achieved that and with our growing number of Q-graders our team is more prepared than ever.” The Hawassa delivery center receives over 50,000 MT of coffee for grading each year, or 25 percent of the country’s coffee.

To complement the new laboratories, ECX and AMDe have funded the certification of over 70 new ECX and private Q-Graders, increasing the number of Q-Graders in Ethiopia to over 100. Q-Grader

certification is the most demanding coffee grading standard in the world.

“We have seen good cupping skills in Ethiopia compared to other developing nations, here the graders are very highly skilled,” says [REDACTED] CQI’s technical director. “The main challenges for cupping in Ethiopia is keeping Q-Grader licenses valid and in good standing every three years, and creating the new generation of cuppers to sustainably carry it into the future.”

When the ECX was created in 2008, exporters feared the commoditization of coffee would undermine Ethiopia’s rich variety of coffee. The exchange platform gave farmers an easier path to international buyers, who quickly adjusted, and celebrates Ethiopia’s coffee diversity.

Improved Yirgacheffe Coffee FCU Looks to Double Exports in 2015/16

New processing plant, USAID support, and financing allow Yirgacheffe Coffee FCU (YCFCU) to meet a higher demand from international buyers.



Over the last several years, the YCFCU has turned away buyers due to its inability to fulfill orders. Both timeliness and quality have hindered the union from realizing the full potential of its members. In 2014, the 26 cooperatives produced approximately 40,000 tons of coffee, of which the YCFCU exported 2,000 tons, or just five percent.

“The buyers wanted more from us, but we couldn’t deliver. Our organization includes over 43,000 farmers. There is a large variety of coffee grades and some cooperatives just don’t have the technology to process that much,” explains the Union’s Planning and Project Officer [REDACTED]

In addition, every year, the YCFCU must lease the sole government-owned processing plant in Addis Ababa to meet orders, for which time is scarce and results unreliable. Times are changing since the union inaugurated its own coffee warehouse and processing plant in Addis Ababa in early 2015. The

YCFCU expects to double coffee exports in 2015 to 4,000 tons.

“We have gone through major changes. Our members have capital, the government is backing us, and farmers are working hard,” [REDACTED] mentioned.

The YCFCU was founded in 2002, four years before the name Yirgacheffe ever appeared on a bag of coffee at Starbucks and other outlets. Each year, the union produces Yirgacheffe, Sidamo, and sun-dried coffee. In 2010, all 26 cooperative members received Organic and Fair Trade certification, and three cooperative members are certified by the Rainforest Alliance.

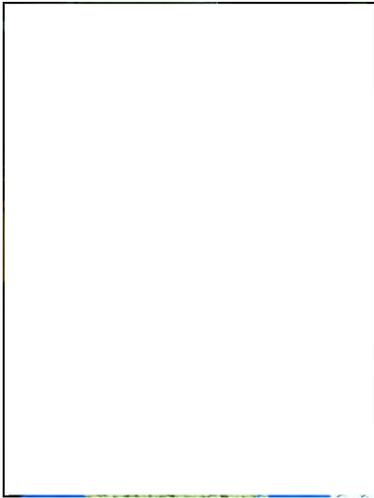
In 2012, the union began partnering with the AGP-AMDe project to strengthen member capacity in production, processing, and marketing. AGP-AMDe first assisted cooperative management and member farmers by providing training on PHH, proper cleaning, sorting, and storage techniques to ensure quality and minimize post-harvest losses. Then, the project provided leadership, marketing, recordkeeping, and operations trainings for cooperative leaders. These workshops culminated in a business and marketing plan.

The project also provided the YCFCU with consultations and in-depth review of its financial needs, and linked the union with the Commercial Bank of Ethiopia (CBE) for a loan worth nearly \$4 million. The union used the money in 2015 to purchase coffee from members.

Ethiopia Gets Its First Coffee Grader Lead Instructor

The future of coffee grading in Ethiopia is in one man's hands.

██████████ is Ethiopia's first Q Certification lead instructor, certified and capable to lead Q Certification courses for future Ethiopian cuppers. ██████████ works as the Quality Operations Manager at the ECX.



██████████ started out as a Q Grader five years ago, became an Assistant Instructor last year and gained the necessary practical experience working side-by-side with CQI instructors to become Lead Instructor.

The historical achievement came in December 2015 when dozens of students were trained by the CQI. Over 50 graders from the private and public sectors are currently working toward becoming licensed Q Graders or renewing their certification, and one instructor has reached the level of assistant instructor.

“There is a common worldwide language in coffee quality, and Ethiopia is now speaking this language,” explains ██████████, who will play a key role in organizing future Grader courses in February 2016.

Over the last three years, the ECX and the AGP-AMDe project have funded the certification of over 70 new ECX and private Q Graders, increasing the number of Q Graders in Ethiopia to over 100. Q Grader certification is the most demanding coffee grading standard in the world.

Q Certification Training is an intensive review of the cupping and grading protocols required of a licensed Q Arabica grader combined with a comprehensive evaluation of an individual's ability to consistently cup and grade green coffee.

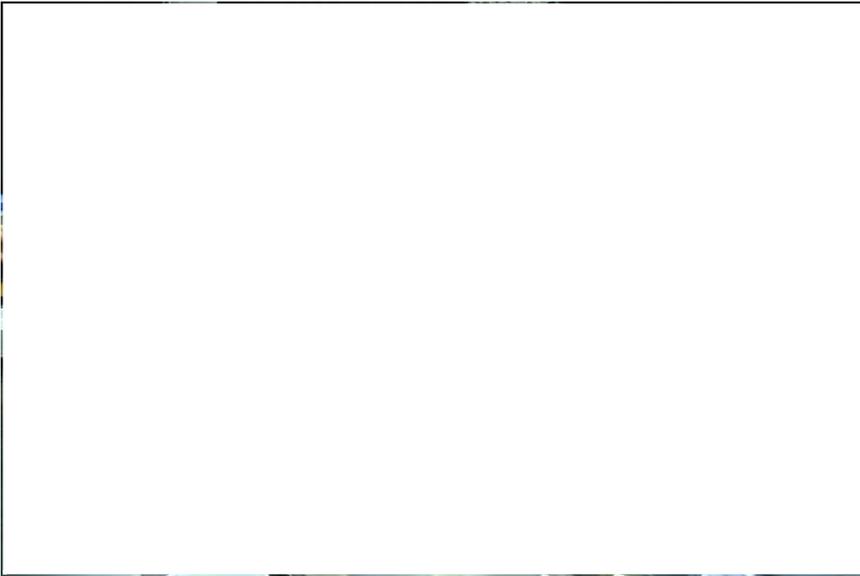
The course combines training and testing to reinforce the student's understanding of the Q Arabica grading process while measuring their ability to evaluate coffee according to SCAA standards.

In addition to grading and cupping, ECX and AGP-AMDe project have made significant progress in upgrading the capacity of ECX's coffee laboratories. AGP-AMDe funded the renovation of modern coffee cupping laboratories in Addis Ababa, Jimma, Hawassa, and Dilla. At each lab, the project provided grinding and roasting machines and moisture testing equipment, all used specifically for grading coffee at ECX delivery centers. The improvements put ECX on the path to certification from the SCAA, and the Addis Ababa lab became Africa's first SCAA-certified coffee grading lab.

“SCAA lab certification is not only about the right machines, but everything from the lighting to the curtains must be perfect,” says ██████████ the Hawassa ECX branch head. “We have achieved that and with our growing number of Q Graders our team is more prepared than ever.” The Hawassa delivery center receives over 50,000 MT of coffee for grading each year, or 25 percent of the country's coffee.

TEN TO SIX: NEW ECX GRADING SYSTEM

In 2014, AGP-AMDe facilitated technical analysis of the ECX coffee grading system, which resulted in the ECX recalibrating coffee grades and reducing the number of grades from 10 to 6. The change will increase efficiency in warehouses, cupping labs, and trading.



“Consistency is critical to the sustainability of Ethiopia’s coffee sector. Improved capacity in grading and cupping have already improved the overall reputation of Ethiopian coffee. Today, when a buyer orders a Grade III, we deliver a Grade III,” says [REDACTED]

A Q Grader coffee cupping course at ECX is part of the overall training in which future coffee graders learn the art of coffee cupping and grading.

International Coffee Organization (ICO) World Coffee Conference

Every four to five years, the ICO holds its high-level World Coffee Conference to enable discussion around critical topics for the global coffee sector. The first three conferences took place in London (2001), Brazil (2005), and Guatemala (2010). With the technical and financial support of AGP-ADMe, the fourth World Coffee Conference was held in Ethiopia after a competitive bidding and application process, and was hosted by the GoE. Under the theme “Nurturing Coffee Culture and Diversity,” 77 ICO members and over 900 other attendees, including coffee growers and representatives from the government, the private sector, and international agencies, participated in a range of discussions related to the theme of the conference.

Over 20 high-level speakers from around the world participated in debates and discussion on issues ranging from gender equality in the coffee sector to the role of public policy in increasing farm productivity. Through the exhibition and the social events, participants were given an opportunity to network with various actors as well as businesses. USAID has been recognized for its support in bringing the conference to Ethiopia and playing a role in its success.



ICO conference participants attend discussions and presentations.

RECOMMENDATIONS: COFFEE VALUE CHAIN

Coffee sector stakeholders should continue to focus on and allocate resources toward improvements in the production and quality of Ethiopian coffee. This means increasing the efficiency and capacity of stakeholders to wash, certify, trace, and promote Ethiopian Fine Coffees (www.ethiopianfinecoffees.com).

Finalizing the organizational structure of the new coffee authority will lay the foundation for a more competitive industry. The coffee authority will assist stakeholders with ongoing work to address structural capacity issues; build a leaner, more efficient, quality-focused system through capacity-building; and organize international tradeshows and conferences to help ensure higher prices in export markets.

The ECEA should establish a clear vision and mission and commit to offer quality services to members. A strengthened export association that is capable of implementing high-impact trainings and international events will enhance the image and reputation of Ethiopia’s coffee sector and build sustainable income streams to fund their own infrastructure and activities.

Cooperatives, private farmers, and CIGs must collaborate with agricultural research centers (ARC) for access to coffee seedlings. Coffee nurseries must be able to continue producing new improved varieties of coffee seedlings as the future of Ethiopian coffee depends on it. Once seedlings are planted on farms and plantations, the country’s extension program must address farmer ability to care for and produce quality coffee.

As the ECX scales up the current traceability system from the current three coffee types to cover the entire country and all of Ethiopia’s coffee types, the coffee authority should play a leadership role in promotion while the ECX and the newly established warehousing enterprise management should oversee day-to-day implementation.

“We have seen good cupping skills in Ethiopia compared to other developing nations. Here the graders are very highly skilled. The main challenges for cupping in Ethiopia is keeping Q-Grader licenses valid and in good standing every three years and creating the new generation of cuppers to sustainably carry it into the future” states [REDACTED] CQI Technical Director.

Now that ECX has its first Q-Grader lead instructor and another on the way, the future of the Q-Grader certification program is in their hands. A large percentage of new graders come from the private sector, which should be responsible for keeping their graders up to date in their certifications. A large contingent of educated, competent cuppers will increase the sector’s ability to deliver and increase the share of specialty coffee exports.

Sesame Value Chain

OVERVIEW

Sesame is Ethiopia’s second most important export, a significant cash crop for about one million Ethiopian smallholder farmers, and earns hard currency for the government, traders, and farmers. Ethiopia’s unique biodiversity and agroecology make it a global center for sesame production. Sesame is grown in Tigray, Amhara, and Oromia and is gaining in popularity in other regions due to favorable climatic conditions. Ethiopia’s Humera/Gonder sesames are in high demand for their color, size, and aroma, while the Wellega type is famous for its oil content. For Ethiopia to maintain its position in production and exports, the government established favorable policies to encourage production and market transactions in local and international markets as well as increase the quality of their sesame. The government also encourages and supports the creation of value-added sesame products like tahini, hulled sesame, and edible oil to reach high-value markets. In 2014/15, over 865,000 smallholder farmers produced nearly 290,000 MT compared to 690,000 smallholder farmers producing 220,000 MT of sesame in 2013/14. In the same period, the amount of land under cultivation increased from 300,000 to over 420,000 hectares, according to the Ethiopian Central Statistics Authority (CSA). Sesame exports increased from 270,000 MT in 2013/14 to 292,000 MT in 2014/15 (MoT), and the major buyers were China, Israel, Turkey, and Jordan.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 3. Sesame Value Chain Overall Results

Sesame Value Chain Overall Results	
Total Beneficiaries	94,390 households
Hectares with Improved Technology	30,253 hectares
Total Sesame Partner Exports	\$62 million

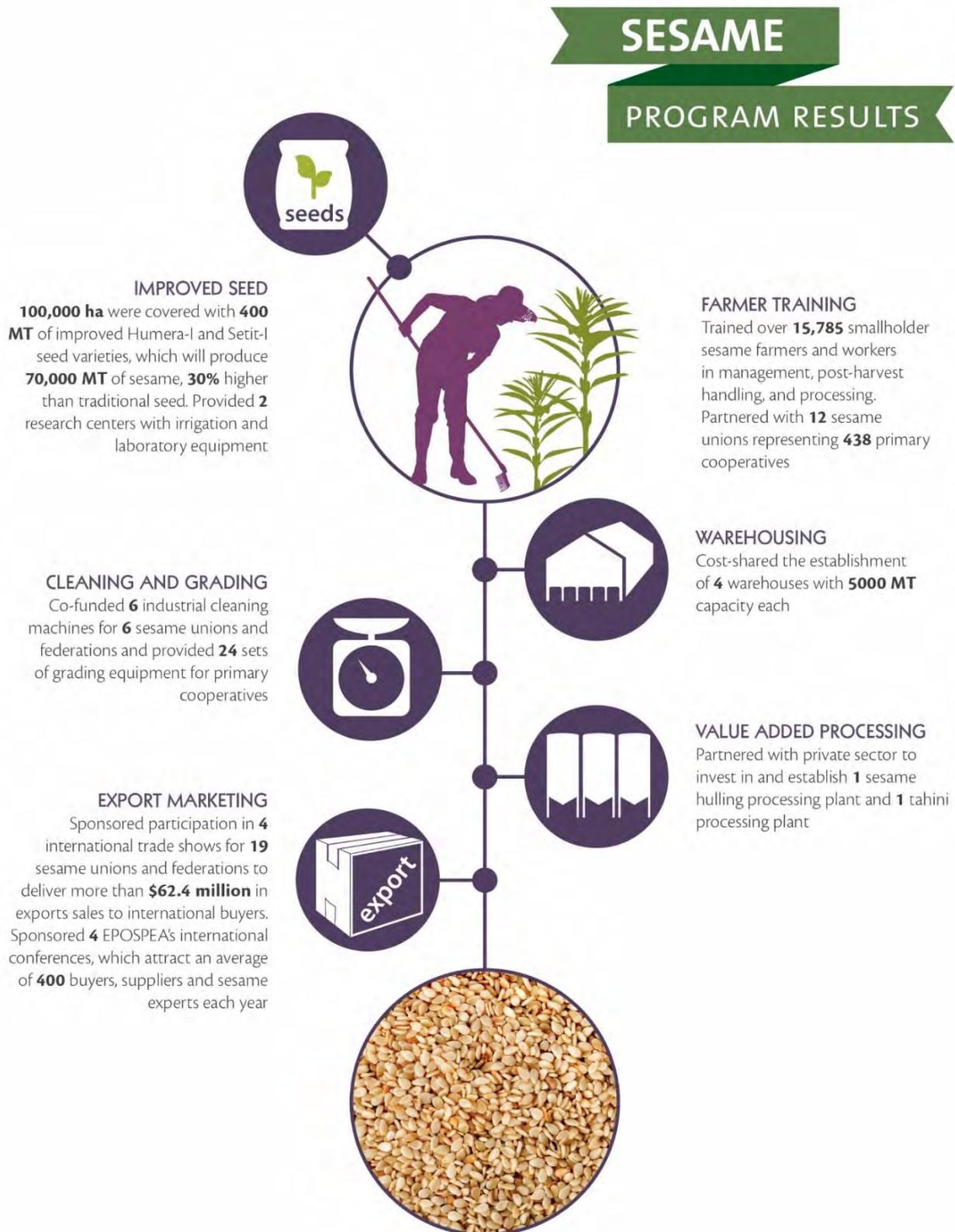
- Co-invested with sesame farmer unions to erect **four 5,000-MT processing facilities**, which radically changed the unions’ ability to aggregate, store, clean, and assure quality sesame for export

- Partnered with six sesame farmer unions and federations to install six industrial sesame cleaning factories, and provided **24 sets of grading equipment** as well as input and PHH training for farmer cooperatives
- Supported **ESPOSEA** in conducting its annual conference for four consecutive years, bringing hundreds of sesame experts, agroprocessors, equipment suppliers, and buyers to Ethiopia each year

STRATEGY: SESAME VALUE CHAIN

AGP-AMDe's sesame strategy strengthened the links between ARCs, seed cooperatives, and private seed companies to increase the amount of improved seed available to sesame producers. AGP-AMDe also worked with a wide range of partners from federal, regional, zonal, and woreda governments as well as representatives from the Bureau of Agriculture and Rural Development (BoARD), the Cooperative Promotion Agency (CPA), FCUs, private producers, exporters, and trade associations to increase the competitiveness of the sector. The project used targeted training for farmers and investments to help the sesame value chain actors become profitable and sustainable. AGP-AMDe supported post-harvest skills through continued training and printed material such as informational posters, stickers, and brochures.

Figure 3. Sesame Value Chain Infograph



The graphic represents USAID Feed the Future AGP-Agribusiness Market Development program results collected quarterly from sesame beneficiaries in the period between October 2011 and December 2015, in partnership with the Government of Ethiopia, Ethiopia Commodity Exchange, Ethiopian Pulse Oilseeds Spices Processors and Exporters Association, 12 sesame unions and more than 20 private companies in the sesame sector.

ANALYSIS: SESAME VALUE CHAIN

There is insufficient support for smallholder and commercial farmers to acquire new technologies, especially improved seed, GAPs, and mechanization for row planting, harvesting, and threshing. Producers use intensive, manual labor for these processes that are costly and increase production costs while affecting quality and post-harvest losses. Sesame production depends primarily on rain-fed irrigation systems, and the unpredictable climate conditions have become difficult for producers. Under these conditions, sesame farmers doubt their ability to compete with other sesame-producing countries.

Sesame-producing countries in Asia and Africa are aggressively working in sesame research, production, and marketing. Without adequate support for producers, traders, exporters, and processors—as outlined in the GoE’s Growth and Transformation strategy—it will be difficult to improve the livelihoods of sesame smallholder farmers.

Ethiopian sesame is exported through the ECX and is a critical source of hard currency. However, in 2015/16, the price decreased at both the farm gate and on the ECX due to higher supply and lower demand on the world market, especially from China, where 60 percent of Ethiopian sesame is purchased. This situation illustrates how Ethiopia’s dependency on a single market can be both dangerous and unreasonable. On the other hand, finding buyers in new countries is difficult due to a lack of trust. In addition, the ECX’s current system of sesame collection is not timely and effective, and sesame sampling and grading procedures are creating mistrust among supplier FCUs and traders. The need for better and more transparent grading must be addressed along with the development of new policies and procedures for fairer results.

The government, including federal and regional CPAs, insisted that FCUs do their own export marketing, and they were trying their best to create market linkages. Due to a lack of capacity, experience in international markets, working capital, skilled management, and accurate local and international market information, as well as too much bureaucratic interference, sesame FCUs were not able to make timely decisions and were not as successful as expected.

Following the GoE’s lead, AGP-AMDe supported sesame partners by introducing new technologies in GAP and providing capacity building and international exposure through international food exhibitions. In addition, AGP-AMDe worked to increase the availability of improved seed and fertilizer and improved agricultural practices among farmers. To create sustainability, the project also trained cooperative management in finance, auditing, and marketing,

EXPERT ANALYSIS:

██████████
SESAME BUSINESS MANAGER,
OLAM (MAY 2015)

“Since 2012, Ethiopia has significantly improved upon its position as one of the largest suppliers of high-quality sesame. The introduction of sesame on the ECX changed the market dynamics, and industry participants have increased. Easy short- and long-term funding, when coupled with interventions from NGO bodies and USAID, strengthen industry infrastructure and improve the ease of doing business. The Ethiopian authorities decide what is best for their economy, and ECX has been a positive change. Amateur exporters are being driven into the industry, not to build an export business but for quick access to foreign currency. Stricter measures to monitor export product quality and contract performance will help the industry. Ethiopian sesame farmers and FCUs have earned a higher price by selling to the ECX than directly exporting themselves. In the short term, it seems good for the sesame farmers, but in the long term, larger exporters may start moving out due to perpetual losses.”



A smallholder farmer and cooperative member removes the sesame from pods after thorough drying.

as well as the intangible skills that lead to increased purchasing and sales, which ultimately improve the income of members. The support of the government and other stakeholders is critical for these activities to continue sustainably.

The majority of Ethiopian sesame is simply cleaned and packed without any value addition and then exported to major buyers, especially China and Turkey. In these countries, agrotraders process the sesame, adding value to produce more marketable products like hulled and roasted sesame and tahini and then reselling it to higher-value markets like the United States.

In Ethiopia, household sesame consumption is less than five percent. Producers prefer to sell sesame and buy cheaper imported edible oils instead of producing sesame oil themselves. Considering the decreased demand for raw sesame and low prices for it on the international market, the government and all actors in the sector should fully support and make value-added products, like oil, a priority. To maintain Ethiopia's position as fourth in sesame production and second in market share globally, the government, the private sector, research institutions, and donors must work together to introduce new technologies that improve production and productivity by reducing overhead and post-harvest losses.

Fine Tuning the Art of Sesame

Investments in improved seed, grading equipment, warehousing, and sesame cleaning technology ensure a better future for sesame farmers.

Every year in Abrehajira when sesame pods are ripened yellow, thousands of laborers open and shake them over large plastic sheets to collect the seeds. Before bagging, farmers do not know if the produce is dry enough to meet buyers' standards. Just a few percentage points of moisture impact the sesame's quality and weight, spelling big losses in sales.

A battery-powered moisture meter that costs less than \$300, coupled with training, changed last season's outlook for the Godebe Abderafi PC. Through this new technology, 500 cooperative farmers were given a real advantage in improving quality and reducing post-harvest losses. Before the meter, cooperative head [REDACTED] estimates that one in every 50 quintals had unacceptable moisture levels, leading to losses in quality and extra costs related to storage and transport. "The instrument makes everything much more efficient. Excess moisture will eventually affect the sesame's color, leads to mold and insect damage and weighs more," explains [REDACTED], whose cooperative sold 100 MT of sesame to Selam Union in 2014.

In 2012, the AGP-AMDe project and the Selam Farmer's Union partnered to address the challenges affecting Ethiopia's sesame sector, from seed to export. [REDACTED] is one of the strongest of the 38 member cooperatives under the Selam Farmer's Union. In 2014, Godebe Abderafi's 500 members sold 100 MT of sesame to the Union, which is a large contribution to the Union's total intake of 1,800 MT of sesame. The moisture meter is a small example of the partnership between the Union and AGP-AMDe.



Selam FCU's agronomist tests sesame for grading using equipment provided by AGP-AMDe.

In 2014, AGP-AMDe and the Union built a 5,000-MT capacity warehouse; a year later, they installed a high-capacity industrial sesame processing machine that cleans sesame to 99.5 percent purity in Abrehajira, a lowland outpost in the heart of Ethiopia's northwestern sesame belt. Before the establishment of the warehouse and processor, the Union transported truckloads of sesame over 250 km to small, government-owned warehouses and eventually to the regional capital, Gondar. Once there, the Union paid to have its sesame cleaned and processed. All this had to be done before they could even consider export options. "It is hard enough to collect our member's sesame in an area covering nearly 200 km. We spend nearly \$10 per 100 kg to get it to a commercial processor where we have to pay \$20,000 each year in fees," explains Union Chairman [REDACTED]

In addition to providing the Union with storage, the warehouse increases the Union's capital assets, providing collateral for financing. With this collateral, local financial institutions are more likely to provide financing to the Union, and more financing allows the Union to purchase more sesame from members. This year, the Union, which counts 18,000 smallholder farmers as members, expects to aggregate a record amount of 5,000 MT of sesame and export 2,500 MT of sesame, an increase of 40 percent over 2014. Union leaders hope to sustain high levels of sesame purity, which could open doors to niche markets. Training from AGP-AMDe has helped farmers reduce the amount of foreign matter in a bag of harvested sesame by 25 percent, according to the Union's chairman.

"Post-harvest training has made a big difference in quality of the sesame our members are producing. We can maintain the level of quality of White-Humera sesame demanded by international buyers, and with the warehouse and processing machine, we reduced wastage and the delivery time to our customers," he says. "We can't buy all the sesame the farmers produce, but with better quality sesame, they too can get better prices from sesame traders."

Seed Multipliers Boost Sesame Value Chain

USAID seed multiplication program provides Ethiopian sesame farmers with sustainable markets and higher chances of success.



Ethiopian sesame farmer and exporter, [REDACTED], multiplied seed for sesame production in partnership with a local government agency back in 2012. After planting, he realized that there was not enough technical support and little guarantee of a market for the seed, so he gave up.

While seed systems for teff and wheat are better developed, Ethiopian sesame farmers have little options for better seeds. In 2014, only 1 percent of all sesame farmers planting over 300,000 hectares used improved seeds. The rest bought seed from their neighbors, made available by word of mouth and through an unregulated network of smallholder farmers.

Several years ago, the government put a 15 percent premium on seed prices, hoping to incentivize sesame farmers to produce and market seed in addition to their sesame crop. Despite this, seed for sesame

production is scarce in Ethiopia, and improved varieties are even more difficult to come by.

In 2013, [REDACTED] partnered with the AGP-AMDe project as part of a new attempt to increase the production and marketing of seed for sesame production. [REDACTED] multiplied 400 kg of Humera-I seed into over 41.5 MT. AGP-AMDe then linked [REDACTED] to sesame producer Tsehay Cooperative Union, which then repackaged and distributed the seed to thousands of farmers in its network. This market linkage proved critical.

In 2014, AGP-AMDe and [REDACTED] partnered again using basic seed from the Humera Research Center to cover approximately 800 hectares on his 2,000-hectare farm, which produced over 150 MT of seed. However, due to rains and other issues, he ended up with 35 MT of seed and sold it to the Ethiopian Seed Enterprise. Despite the pitfall, over the last two years, [REDACTED] has seen revenue increase from \$675,000 to almost \$1 million.

"Seed production requires a whole different mindset. Farmers invest more and work harder. The plants need to be isolated, and the care is more intensive," explains [REDACTED]. "AGP-AMDe provided onsite technical assistance, and I attended skills building workshops to make the process more effective."

Under AGP-AMDe’s value chain strategy, input supply is the first step. In 2014, the project partnered with over 115 farmers like [REDACTED] to distribute approximately 200 MT of Humera-I and Setit-I certified seed varieties. The seed will cover some 50,000 hectares and produce 35,000 MT of sesame, of which up to 20 percent will be used for subsequent cropping seasons.

“The project gave me a lot of initiative to come up with a better farming system. The most important aspect was helping me find a sustainable buyer. As an Ethiopian farmer, I want to deliver better seed to farmers, which will improve the sector as a whole,” he says. [REDACTED] is now working on certification to become an official seed multiplier and supplier, and this year, he applied for a loan to purchase a mechanized row planter for seed multiplication. “Row planting technology is a must for farmers who want to become efficient.” In the coming years, he plans to install a processor and increase the export of value-added sesame products.

Modern Technology Opens Up High-Price Markets for Sesame Cooperatives in Ethiopia



The new sesame cleaning factory can process 8 MT per hour

Marketing federation makes history and looks to export high-quality sesame to Japan.

Although sesame seeds are small, size and color are important. Buyers know the difference in quality, which can be measured by just a few percentage points. The degree to which a seed is cleaned often dictates who will buy it.

Japan is where sesame is most scrutinized. Japanese food requires attention to details, and pure, clean sesame is critical. Ethiopian cooperatives rarely sell sesame to Japanese markets, and until now, processing was the sticking point.

That changed in early 2015 when Ethiopian sesame exporter Tigray Multipurpose Marketing Federation (TMF) inaugurated its latest investment to meet the world sesame market’s highest standards: a cleaning plant. The modern technology, which is equipped with a gravity separator and destoner, raises the degree of purity from 97.5 percent to an impeccable 99.9 percent. The new factory can process 8 MT of

sesame per hour, compared to 4 MT with the old machine. In addition, TMF can sell sesame at prices 10–15 percent higher.

“For now, Japanese buyers are looking at importing 1,000 MT of sesame from TMF. The market price is good, and the relationship represents a sustainable partnership for future exports,” says [REDACTED] TMF’s general manager.

TMF is located in Humera, near the northern Ethiopian border with Sudan and in the heart of Ethiopia’s sesame production area. The inauguration event took place in Humera, but the celebration stretched far and wide across the region of Tigray. The organization, founded in 2010, represents seven FCUs, 38 PCs, and approximately 30,000 smallholder sesame farmer members.

The new machine is the result of AGP-AMDe’s matching grant activities, which were designed to increase the competitiveness of the sesame value chain, Ethiopia’s second most important cash crop after coffee. AGP-AMDe and TMF each paid half of the \$400,000 investment needed for the equipment.

“This new plant will enable TMF to reach niche markets like Japan, Israel, the United States, and Europe, and develop confidence all along the value chain from member PCs and farmers to financial institutions and buyers,” noted [REDACTED]

AGP-AMDe also supported TMF members through capacity-building activities in management and business planning, finance and auditing, quality control, and better warehouse management.

The next step for TMF will be adding a color sort hulling machine that will enable the production of tahini and hulled sesame. AGP-AMDe also helped an additional five sesame cooperative unions in Ethiopia to install modern cleaning machinery and improve their businesses.

Recommendations: Sesame Value Chain

Access to the best quality of improved sesame varieties is critical. The vast majority of producers are forced to use local, inferior, and adulterated sesame types, which affects yields and quality and hinders the income of the producers and the economy in general. To improve the availability of improved sesame varieties, the following institutions must work hand in hand: the Ethiopian Institute of Agricultural Research (EIAR); Tigray Agricultural Research Institute (TARI); Humera Agriculture Research Center, which acts as the nation's Center of Excellence in Sesame; Amhara Region Agricultural Research Institute; Gonder ARC; South Agricultural Research Institute; and Oromia Agricultural Research Institute. These institutions are tasked with working to produce new and higher volumes of high-quality varieties that can reach federal and regional seed enterprises for pre and basic seed multiplication. However, without commercial incentives, seed distribution will always take a back seat to research.

The Ethiopian Seed Enterprise (ESE) and the Amhara, Oromia, and SNNPR seed enterprises must multiply the pre and basic sesame varieties at their respective sites in order for first-generation seeds to be multiplied by licensed FCU and PCs and commercial farmers. First-generation seed is multiplied with technical support, specifically inspection and certification by each regional quarantine inspection and certification department. Certified seed must then be cleaned and packed in 10-, 15-, 20-, and 25-kg bags so producers can buy seed based on land size. The development of a smooth linkage to producers in order to get farmers seed on time is paramount.



In Ethiopia, sesame production is labor-intensive, and an estimated 60 percent of sesame production costs are for manual labor.

The vast majority of Ethiopian sesame types are shattering, making the harvest difficult. New, nonshattering varieties can increase efficiency and reduce costs. The EIAR and TARI/Humera ARC should take the lead to introduce and undertake adaptability trials for multiplication and dissemination. The private sector could make seed multiplication a priority once certification procedures are streamlined.

Demonstration sites and field days at selected model seed multiplying farms help transfer the concept of improved seed and fertilizer application to Ethiopia's sesame farmers. The field days will also help others who do not use improved sesame seed and fertilizer to identify and understand the difference in performance between the new technology and the traditional practice.

Low levels of adoption for technologies like row planters, cultivators, combines, and threshers mean that producers must depend on day laborers. As opportunities in construction increase, there is a growing scarcity of daily labor, in part due to hardship living conditions in the lowland producing areas. Day laborers are demanding higher wages, which would increase the crop's production overhead, and producers find it hard to compete on the ECX trading floor.

Post-harvest loss is a major problem and has the potential to reduce farmer incomes. From harvesting, threshing, bagging, transporting and storage, training of trainers (ToT) must be given to target farmers and development agents and then cascaded to producers. The campaign should be supported with posters, brochures, and fliers in local languages that can reach agricultural experts and farmers. The more high-quality sesame produced and delivered, the more Ethiopia's reputation improves. Sesame must be inspected and graded with modern equipment throughout the sesame's journey from field to ECX. To do this properly, equipment and training are necessary. The awareness to pay attention and maintain crop quality and proper warehouse management helps producers avoid infestation and losses.

Cooperative management, finance, and auditing as well as writing bankable business plans are important to running a successful FCU. If the PCs are profitable and members get dividends, they will also develop confidence and linkages among themselves for a higher degree of sustainability. FCU managers and marketing experts must be qualified and know

their clients' trade requirements. With improved business acumen, FCU management needs to be granted the freedom and ability to make autonomous decisions about purchasing and selling. Efficiency in a free marketplace will benefit the FCU and its members by increasing trust among buyers.

To date, the linkages among farmers, PCs, FCUs, and regional marketing federations have not been successfully implemented. As a result, traders and middlemen take advantage of the situation. Establishing a forum for discussion on Business-to-Business (B2B) will lead to the development of sustainable partnerships. Federal and regional CPAs should take the lead in partnership with donors and other nongovernmental organizations (NGO). Multisector platform meetings with concerned government representatives, private sector stakeholders, and partners throughout the year allows sesame value chain actors to identify the problems, challenges and solutions.

Agroprocessors working in sesame value addition, like hulled sesame, oil extraction, and tahini, have problems securing quality sesame that is uniform in color and size from the ECX auction floor. This is in part due to the unavailability of traceable sesame stock. In fact, 20 to 30 percent is lost as byproduct during the value-addition process, and this is a big loss to processors that hinders their competitiveness in the export market. A traceability system has the potential to change the situation for processors. To encourage both the existing and newcomer processors, the agreement between sesame producing FCUs, PCs, and processors must be obeyed by both parties to avoid default. For successful and sustainable results, support and follow-up is critical from MoT, Ministry of Industry, and all levels of the Bureau of Agriculture and Cooperative agencies.

FCUs, marketing federation managers, regional marketing agencies, exporters, and trade associations that participate in international trade shows like Gulf Food, ANUGA/Germany, and SIAL/Paris introduce their products to potential buyers. The creation of engaging marketing material like brochures and business cards are part and parcel of competing in the world's marketplace. These types of opportunities must be paired with skilled management personnel who can communicate effectively. Cost-sharing grants have proven to motivate and encourage partners to take action since they are not in a position to construct warehouses and acquire processing plants due to lack of working capital. AGP-AMDe partnered with FCUs, private processors, and banking institutions to acquire these technologies. The new warehouses and plants have saved the FCUs money in rent, transport, processing, and post-harvest losses. The facilities are also a potential source of income by delivering services to other producers and exporting companies.

Chickpea Value Chain

OVERVIEW

Chickpea is one of the main crops in Ethiopia both in terms of its share of the total cropped area and its role in direct human consumption. It is planted immediately after the harvest of cereals and grows under residual moisture thus giving farmers a second crop where only one crop would traditionally be grown. The chickpea is Ethiopia's third pulse crop after fava and haricot beans, and accounts for 16 percent of the total pulse production in the country. In today's Ethiopia, over one million farmers produce 400,000 MT of chickpea on an estimated 222,000 hectares every year. The importance of the crop in the Ethiopian diet has also been significant. Producing chickpea earlier under full or supplemental irrigation could help to improve the productivity of the crop and contribute to increased production in the area.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 4. Chickpea Value Chain Overall Results

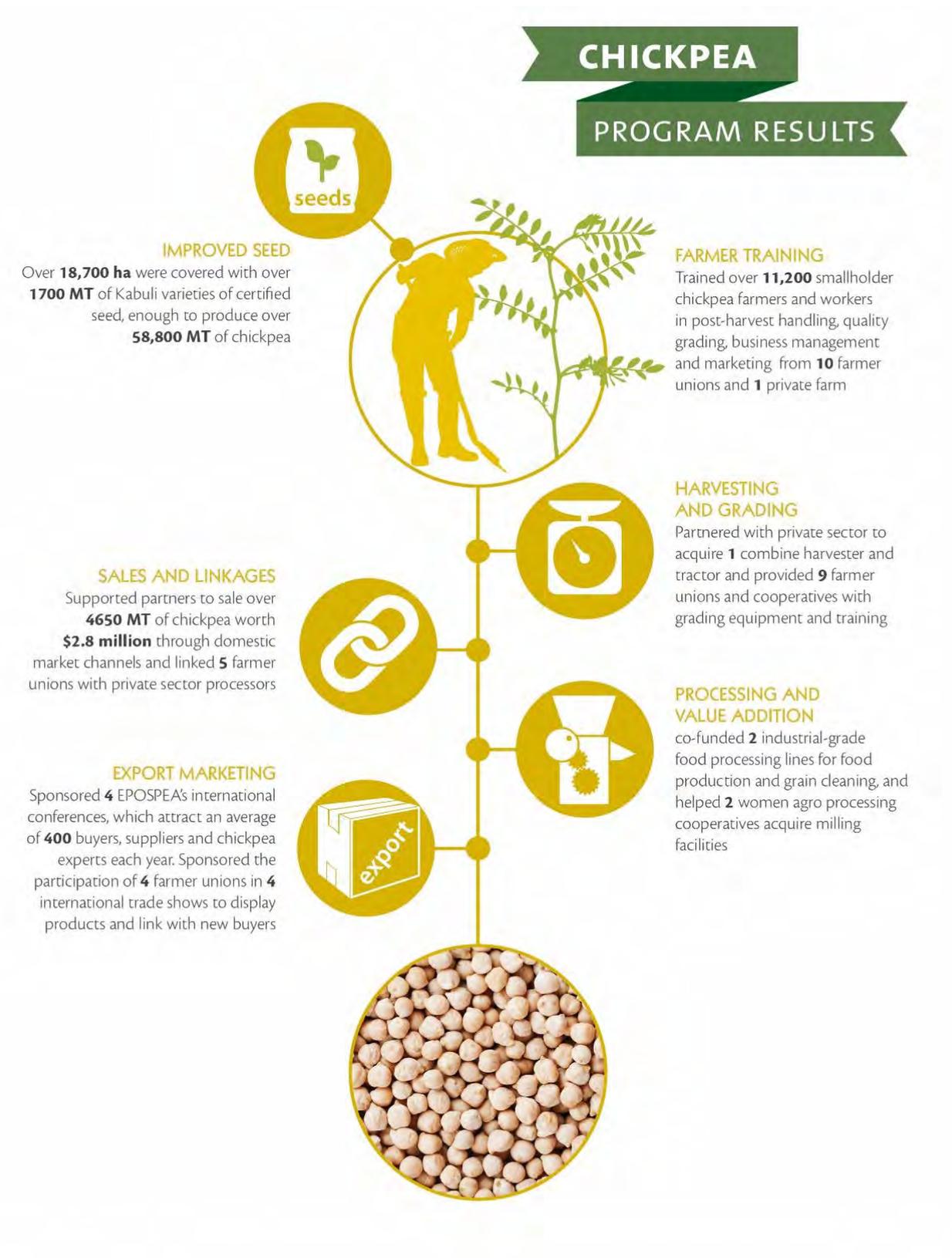
Chickpea Value Chain Overall Results	
Total Beneficiaries	146,461 households
Hectares with Improved Technology	30,819 hectares
Total Chickpea Partner Domestic Sales	\$2.8 million

- Partnered with Ethiopian chickpea and oilseeds processor Agro Prom to install and commission **Ethiopia's first industrial chickpea processing** factory
- Through training and investments in mechanization, AGP-AMDe **reduced post-harvest losses** among partnering farmers from **20 percent to 3 percent**
- Covered over **18,500 hectares** of land with over **1,700 MT** of improved chickpea varieties that will produce nearly **59,000 MT** of chickpea grain and seed

STRATEGY: CHICKPEA VALUE CHAIN

The chickpea value chain strategy leveraged the pulse's role in strengthening food security and its potential as an export. In Ethiopia, the chickpea enjoys strong demand on both local and international markets and is able to build long-term economic stability for smallholder farmers. The introduction of new improved chickpea varieties, improved agronomic practices, mechanization, and post-harvest techniques are among the major interventions by AGP-AMDe to support the transformation of the chickpea value chain.

Figure 4. Chickpea Value Chain Infograph



The graphic represents USAID Feed the Future AGP-Agribusiness Market Development program results collected quarterly from chickpea beneficiaries in the period between October 2011 and December 2015, in partnership with the Government of Ethiopia, Ethiopian Pulse Oilseeds Spices Processors and Exporters Association, 10 chickpea farmer unions and more than 10 private companies in the chickpea sector.

ANALYSIS: CHICKPEA VALUE CHAIN

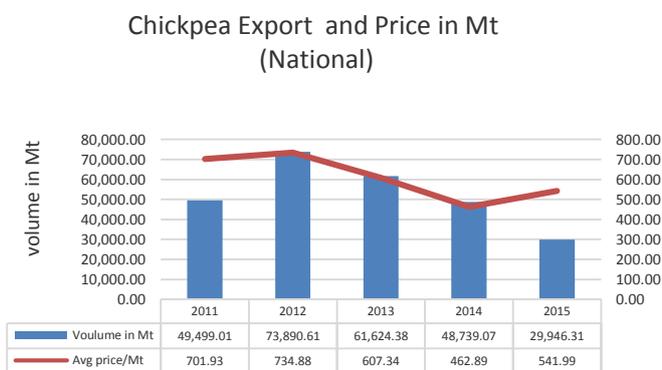
In Ethiopia, the research and development of farm implements for on-farm production and post-harvest processing of chickpea is still in the early stages. The production of improved seed is insufficient to reach chickpea producers on a wide scale; as such, farmers are obliged to use local varieties. In addition, farmers have limited access to capital and cannot afford improved seed and other inputs, such as quality fertilizer and pesticides. At the same time, the lack of efficient mechanisms for delivering market information between producers and traders on production levels, demand, seasonal prices, and quality requirements continues to hurt the competitiveness of the chickpea sector.

Existing chickpea varieties do not possess the ideal combination of high-yielding, superior market traits and wide scope of adaptation. Strengthening and accelerating varietal development for improved varieties of both the Desi and Kabuli types will be a crucial task in order to develop and increase stability in the chickpea export sector.

AGP-AMDe supported the Tsehay, Ghion, and Wodera FCUs in the Amhara region to become licensed seed dealers. As a result, improved chickpea seed multiplication increased FCU income and helped fight the shortage of chickpea seed in the region. Surrounding chickpea-producing FCUs had access to the improved Kabuli seed variety at an affordable price for the first time ever.

Promoting new varieties of chickpea that can withstand moisture and stress while producing high yields in challenging environments will be crucial. While chickpeas can survive intermittent drought stress caused by breaks in main season rainfall, this crop has difficulty with terminal drought stress, which results in declining soil moisture during the late stage of the crop. As the climate and rainfall become more and more unpredictable, FCUs and private farmers need ways to meet the government’s request for drought-resistant crops. Improved chickpea varieties have the potential to become drought-resistant crops that can meet the needs of food-insecure populations.

Figure 5. Chickpea Export Prices (per MT)

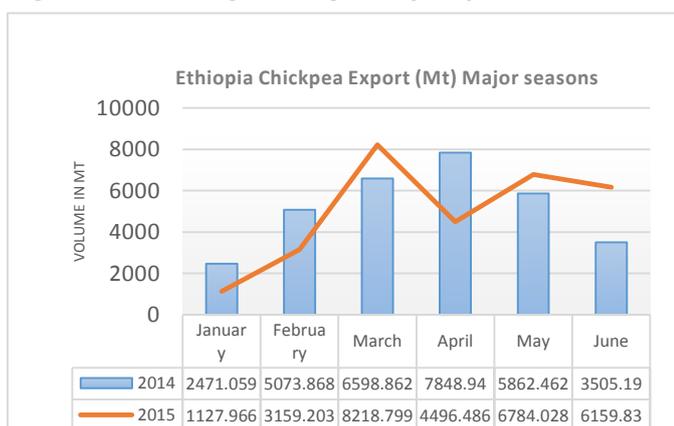


Chickpea price volatility has affected Ethiopian producers over the past five years (see graph). The price of chickpeas dropped drastically from an average price of \$607 per MT in 2013 to \$462 per MT in 2014. The lower-than-average price forced Ethiopian producers to sell at lower prices to domestic traders. In the same period, the unions that purchased chickpea from members were also obliged to store their grain for more than three months in anticipation of better prices.

The sudden and dramatic increase in demand and price in 2015, by Sudan in particular, allowed FCUs to sell their leftover stock to traders at an average price of \$630 per MT—34 percent higher than any price in the previous three quarters. The recovery came as good

news for farmers even though they were out of adequate stock in the season. Price inconsistencies in the period and the sudden spike reveals that chickpea farmers can increase production and still enjoy relative safety in future seasons, especially if they have adequate storage facilities.

Figure 6. Chickpea Export (MT)



Sudan, Turkey, Israel, and Djibouti have increased imports of Ethiopian chickpea in recent years. The increase in export volumes and the price of chickpea can also be attributed to an increased demand for chickpea from neighboring Sudan. Food insecurity due to conflicts, displacement, and poor harvests have made Ethiopian chickpea more attractive. No significant change was observed between the total volumes of chickpea exported between the months of January to June in both 2014 and 2015.

The contributions made by women to the sector cannot be overlooked. Since chickpea plays a major role in both restaurants and traditional products such as *shiro*, AGP-

AMDe ensured established levels of female participation in both chickpea production (30 percent) and PHH (50 percent) trainings. Extension training has enabled these female farmers to acquire knowledge and skills on agronomic practices, PHH, and entrepreneurship. The creation of the Women in Agribusiness Leadership Network has given chickpea processors and traders a support group and visibility in the domestic market.

Making Chickpea Synonymous with Ethiopia

Ethiopian agribusiness will target high-value markets with Ethiopian chickpea and oilseeds.



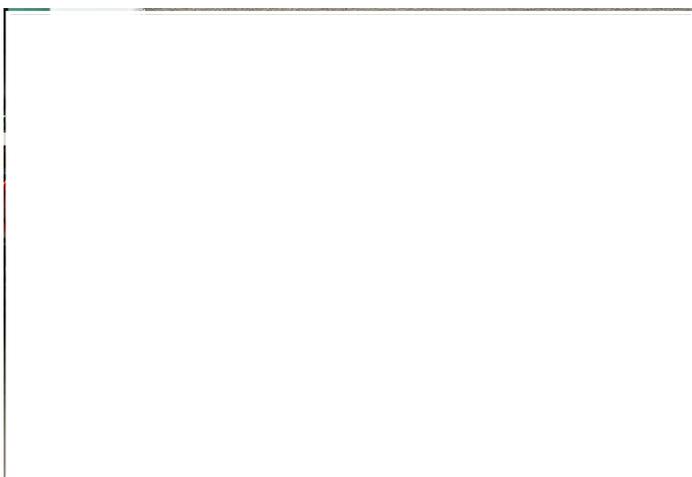
With the processing equipment, Agro Prom is poised to sell to the more demanding and higher-value U.S., European, and Middle Eastern markets.

Even though Ethiopia leads Africa in production of chickpeas and is sixth in the world, low productivity and lack of processing hinders the chickpea's path from farmer to consumer as well as the sector's ability to put quality chickpea on the international market. In 2014, one million Ethiopian farmers produced over 450,000 MT of chickpea and exported around 60,000 MT. Due to these gaps in quality, Ethiopia chickpea exports go to lesser value markets. In addition, exporters sell to high-volume food processing companies in India and Pakistan, where the chickpeas end up bulked with other chickpea lots.

Ethiopian food processor and exporter Agro Prom has plans to change the course of Ethiopian chickpea history by establishing the country's first industrial chickpea processing and cleaning machine in Adama, 100 km southwest of Addis Ababa. Agro Prom invested over \$1 million in the warehouse and processor in partnership with AGP-AMDe, which invested nearly \$200,000 under its matching grants program.

The machinery cleans chickpeas to above 99 percent purity using gravity separators and electromagnetic technology to remove soils and other impurities. While the Ethiopian chickpea is smaller than most chickpeas on the world market, it makes up for size with its rich taste. Within the next two years, Agro Prom plans to turn its cleaned and sorted chickpeas into value-added products, especially hummus, before exporting.

“Quality is our biggest problem preventing us from entering the big markets. Yes, the Pakistanis buy from us, package it and sell it for more to better markets. Now that will change. If we want to reach quality standards, we had to put up a quality machine. We now have that machine,” says Agro Prom Founder and CEO [REDACTED]



CEO of Agro Prom, [REDACTED] and USAID Mission Director, [REDACTED] inaugurate the factory.

Agro Prom has been in the pulse and oilseed business for 10 years and exported 1,000 MT of chickpeas in 2014. While the majority of Agro Prom's revenue comes from sesame, CEO [REDACTED] sees this changing over the next five to 10 years as the company shifts its focus to chickpeas. Agro Prom's first export target in 2016 is 4,000 MT of quality chickpea to high-value markets such as the United States and Europe.

“USAID's partnership with Agro Prom is a prime example of the new model of development in which the private sector is making big investments. These types of partnerships guarantee better prices for farmers and are important for the entire value chain,” explains [REDACTED], USAID/Ethiopia's director.

Over the past five years, these activities reached over 11,200 chickpea farmers with training and support, and helped farmers sell approximately 5,000 MT of chickpea at

the farm gate worth \$2.8 million.

How to Find a Sustainable Source

In 2005, Agro Prom became the first Ethiopian agroprocessor to use contract farming with nearly 5,000 smallholder sesame farmers in northern Ethiopia. For chickpea, Agro Prom used the same contract farming model to source grain for the new processing plant. Under the contract farming arrangement, Agro Prom provided financing, guaranteed price, provided on-site agronomists, and trained farmers.

“Agro Prom is replicating the same contract farming model with Ethiopian chickpea farmers. We need to link the entire value chain to guarantee fair distribution of the benefits and nurture sustainability,” said [REDACTED] “As the first chickpea producer in Africa, Ethiopia should be a major player in the export market. With higher returns, farmers will be less likely to turn to other less-valuable crops like cereals.”

While USAID uses development funds to stimulate these types of investments, perhaps more valuable to Agro Prom was the project’s initiative to link Agro Prom with chickpea farmer cooperatives under the Erer Farmer Union. Agro Prom and the Farmer Union signed contracts to provide 2,000 MT of chickpea to Agro Prom in the first year, an activity that benefits over 2,000 farmers.

Under the contract, Erer Farmer Union Manager Mekonnen Hailu can guarantee income for two of the union’s member PCs representing over 1,000 farmers each. “The advantages are that farmers do not have to worry about a market for their produce and when they get better prices, they are encouraged to increase production,” [REDACTED] says. In 2016/17, Agro Prom and each cooperative will increase the contract to 1,500 MT, which will allow the Erer Farmer Union to incorporate more PC members into the chickpea supply chain.

“Agro Prom is doing everything it can to work with local producers to guarantee quality chickpea for processing and has agreed to pay premium prices to the farmers,” explained [REDACTED]. “Locally, the biggest challenge is finding a sustainable source.”

Indeed, few Ethiopian farmers produce the Kabuli chickpea variety, which is in high demand on international markets. To this end, Erer and eight more farmer unions partnered with AGP-AMDe to multiply certified Kabuli chickpea seed and produced 550 MT of seed leading to the production of over 22,500 MT of chickpea.

Ethiopian Chickpea Sector Takes Giant Step Forward in Mechanized Agriculture

Africa’s largest chickpea producer must improve quality to compete in global markets.

In Ethiopia, chickpea is typically harvested by uprooting the entire plant. Pulling out the roots deprives soils of nitrogen-fixing benefits. Once collected, farmers allow the plant to air dry and then thresh piles of chickpea on the ground using animals; the week-long process is arduous, and the chickpeas suffer in terms of quality and quantity.



A combine can increase [REDACTED] chickpea harvest by approximately 15 percent compared to a manual harvest.

Ethiopia is Africa’s leading producer of chickpea and the sixth largest in the world. One of the most popular dishes, shiro, is made from chickpea. Still, a lack of financial capital and technological know-how has kept the chickpea value chain from realizing its full potential.

In February 2015, [REDACTED] made history when he harvested 75 hectares with a combine harvester. [REDACTED] owns the [REDACTED] farm located in the Oromia region in southeastern Ethiopia. It was the first mechanized chickpea harvest in Ethiopia. Bale Green’s combine was made possible due to a matching grant from AGP-AMDe, which matched [REDACTED] investment of \$55,000.

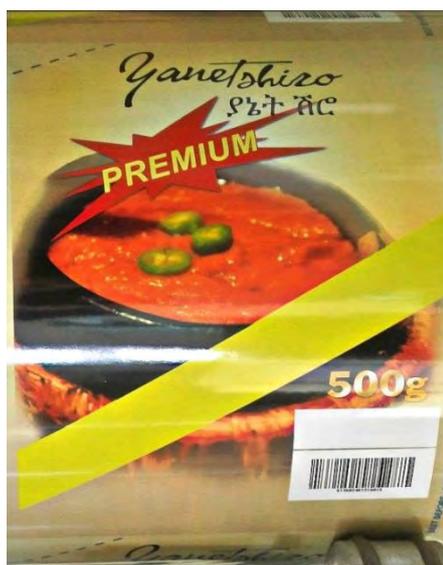
After several days, [REDACTED] harvested, threshed, and winnowed 125 MT of chickpea. Area farmers came and witnessed so they too could understand the benefits and opportunities of the new farm

machinery. As Ethiopia's chickpea farmers increase production, new technologies such as combines and cleaning machinery are necessary in order to meet export quality standards.

“This has been a great contribution to [REDACTED] and represents a turning point in the development of the chickpea agricultural sector. We will serve as a model for others trying to expand into mechanized farming,” explained [REDACTED]

AGP-AMDe uses an integrated value chain approach to increase production and marketing all along the chickpea value chain. This season, Bale Green planted ACOS (50 ha) and Ararti (25 ha) in order to multiply seed for other Ethiopian chickpea farmers. AGP-AMDe supports [REDACTED] to attain a seed business license in order to distribute seed to area farmers. In the next planting season, more than 1,000 farmers could benefit through Bale [REDACTED]'s seed multiplication activities.

How to Promote Ethiopia's Most Famous Dish



Through innovative marketing and quality ingredients, Guts expects the Yanet Shiro line to represent half of the company's revenue by 2020.

Engidu Legesse has big plans for Ethiopian chickpeas. His food processing company, Guts Agro Industry, has a product that he's convinced everyone will love. His biggest worry is not being able to meet the demand of 100 million Ethiopians.

Ethiopians love chickpeas. They eat them raw and cooked. The blend of chickpea powder and spices is one of Ethiopia's most well-known dishes and consumed regularly all over the country. Despite this, Yanet Shiro is Ethiopia's first branded, mass-produced shiro, according to [REDACTED] CEO of Guts.

“There are no brands of shiro in Ethiopia. People may have a favorite store where they buy it, but they don't necessarily know the name, or in most cases the shiro doesn't have a name,” he explains.

Yanet Shiro comes as a result of the company's partnership with the AGP-AMDe project, which assisted the company through strategic grants and linkages with chickpea farmers. AGP-AMDe facilitated a link with two chickpea-producing farmer unions, Lume Adama and Becho Woliso, and in the first year, Guts purchased 300 MT of Kabuli chickpea worth \$120,000.

Under a matching grants program, AGP-AMDe also contributed \$60,000 toward the acquisition of a packing and packaging machinery. Guts invested over \$150,000 to add sieving, cleaning, and other equipment to the food processing line.

In addition to the grant, AGP-AMDe provided the company with a technical expert, who specializes in snack food and who helped Engidu and staff with flavors using local spices for Yanet Shiro and a roasted chickpea snack. Yanet Shiro has since become the company's big hope. It took three years for Yanet Shiro to reach the current 5 percent of the company's sales, which total over \$750,000 each year.

“All those condominiums the government is building prove the people are moving to the cities and adopting a new kind of lifestyle. None of them will have time to prepare their own shiro. The biggest challenge is marketing,” he says. He has an innovative plan for that as well. By using women on bicycles as wholesalers, Guts has designed a consumer-targeted campaign to spread the savory goodness of Yanet Shiro initially to 12 large cities across Ethiopia. Nearly half of Guts sales come from the company's Super Mom line of supplementary food for infants and children and ready-to-use-supplemental products for the WFP. For these products, the company is sourcing maize, soya, and chickpea from Ethiopian farmers. Guts also specializes in salt processing, which currently represents 35 percent of company revenue.

RECOMMENDATIONS: CHICKPEA VALUE CHAIN

The major focus in the coming five years should be strengthening the technical and organizational capacity of farmer cooperatives through the creation of more effective and profitable links with domestic and international markets. Linking smallholders with agribusiness enterprises through contract farming, identifying feasible agroprocessing and value addition opportunities—such as Ethiopian processors Agro Prom and Guts Agro—and engaging local processors and investors has the potential to motivate farmers to increase production and be more concerned for quality.

Creating investment incentives in agroprocessing and developing favorable policies have the potential to increase the sector's output. An overall better business-enabling environment also improves the vertical value chain linkages, creates value addition, and enables smallholder farmers to capture a greater percentage of the ultimate price consumers pay for raw chickpea and chickpea-based products.

The performance of AGP-AMDe's female beneficiaries served to raise the interest of other female farmers in their communities. Thanks to farmer field days, many women became interested in seed and grain production and chickpea processing. Empowering female farmers to innovate in chickpea agribusiness should be a priority since women hold most, if not all, of Ethiopia's cultural and traditional knowledge in the preparation of chickpea-based products such as shiro.

Improvements can be made in marketing and financing chickpea. The length of time it takes FCUs to make decisions on sales prices of Kabuli variety chickpea results in loss of significant price advantages in international markets. Insufficient attention is given by FCUs to the chickpea seed repayment despite government participation in this activity, mostly due to being overburdened by other responsibilities and priorities.

The development of adapted pre- and post-harvest farm implements combined with scaling up of seed multiplication for high-potential Desi and Kabuli varieties may help farmers increase production and eventually profitability. Farmer cooperatives need to increase storage capacity and PHH skills to be in a position to better negotiate prices and make decisions on the open market.

The lack of access to finance for most FCUs to increase chickpea aggregation, storage, and mechanization continues to inhibit sector growth. The development of savings and credit schemes for acquiring farm inputs can help farmers to access capital they need for these investments.

Once farmers are producing better varieties of chickpea, a countrywide standard with consistent quality specifications will make marketing uniform and fair for all actors. A starting point is defining a scale of chickpea quality grades based on export requirements and demand. A clear grading scale will make educating smallholder farmers, cooperatives, and traders on chickpea quality easier.

Domestic processing of chickpea continues on a very limited scale, and there are few recognized Ethiopian brands of shiro, hummus, or other chickpea-based products. In addition, these products are not being marketed for export. The chickpea sector will flourish once value chain actors have identified and increased value addition in processing.

Future programs should make delivering market information to all actors in the value chain a priority. Establishing an effective market information system will equip farmers with the knowledge to support the decisions to sell or store their grain. Once better information systems are created, partners and government can strengthen the link between chickpea-producing smallholder farmers and cooperative unions, and the link between unions, exporters, and exporter associations. At the same time, higher capacity of exporting FCU and trader associations will increase Ethiopia's reach to international

EXPERT ANALYSIS:

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FOOD PROCESSING
SPECIALIST,
ACDI/VOCA

Ethiopian agro-industry and food manufacturers are facing a unique opportunity to cash in on the uptake of processed foods. Rising rates of urbanization, increased transport times, and more women in the workforce have created more interest in ready-to-eat foods. A wider offering of innovative and value-added healthy food products will not only benefit these companies, but also farmers, traders and a variety of actors along Ethiopia's primary crop value chains. These products have the potential to make a significant impact on improving the overall nutrition and food security of Ethiopian consumers. As food crop production expands in area cultivated as well as yields, Ethiopian cereals and pulses, especially chickpea, are ripe for expansion in processing. In actuality, the risk of product innovation is low. Processors need to emphasize stylistic quality, taste and packaging. Product innovation, technology adoption, and improvement in marketing will allow food processing companies to open the doors on a growing processed food market.

markets. Exporter associations should institute a market intelligence unit to track, analyze, and disseminate information to traders, processors, and FCU management, much like the system that exists in the sesame sector through EPOSPEA.

Honey Value Chain

OVERVIEW

Despite its long history in the country, beekeeping in Ethiopia is still underdeveloped. Farmers’ knowledge and skills related to honey production and honey and beeswax extraction remains limited, and more than 90 percent of beekeepers still produce honey using traditional hives. As Africa’s top honey producer, Ethiopia has an immense opportunity to support a robust apiculture industry. Only five percent of Ethiopian honey is exported. In fact, the majority of Ethiopian honey ends up in *tej*, a popular honey-wine drink. However, as the adoption of modern technologies increases, honey sector businesses and cooperatives become more productive and competitive. The industry will continue to increase honey exports and employment opportunities.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 5. Honey Value Chain Overall Results

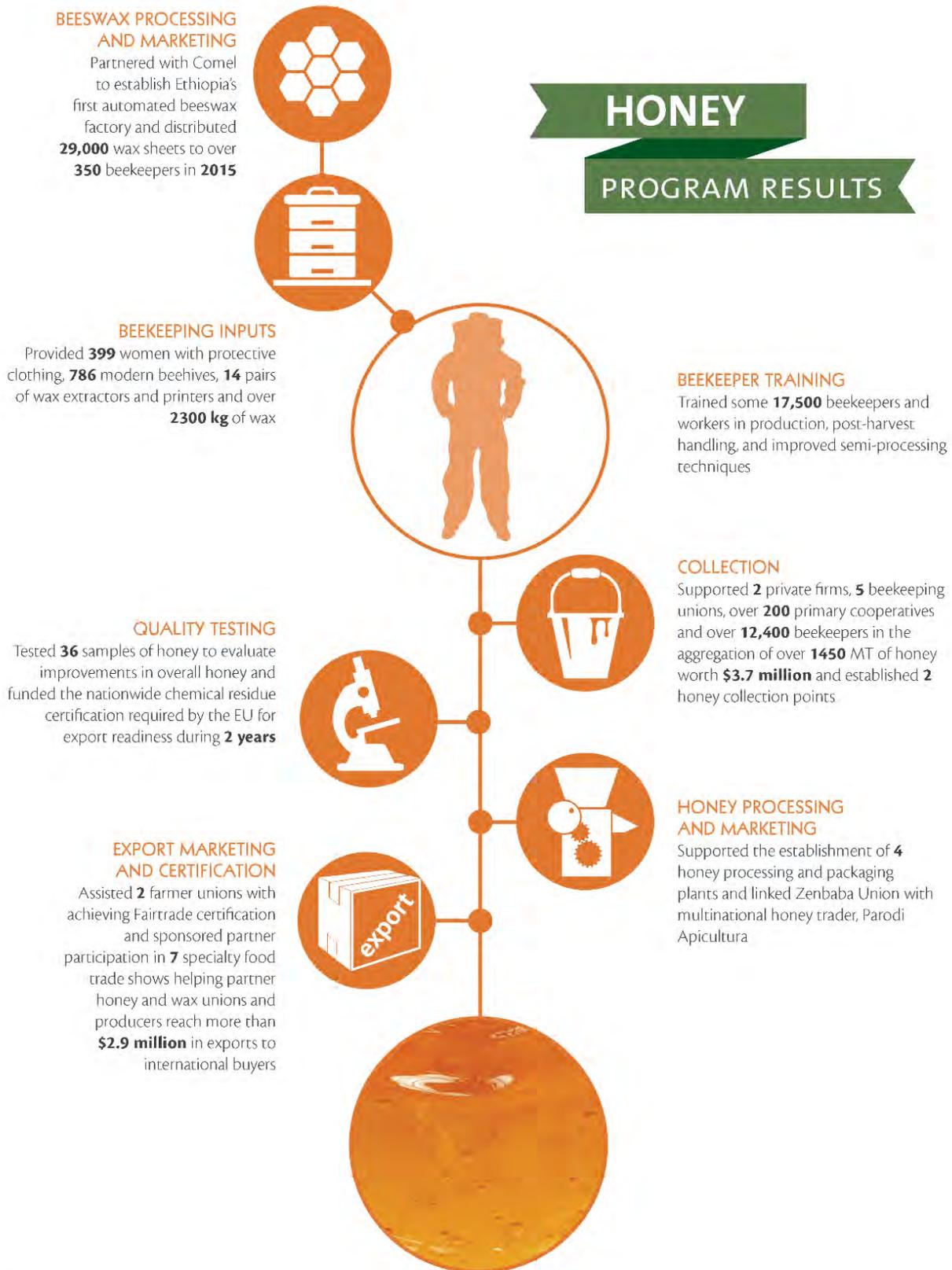
Honey Value Chain Overall Results	
Total Beneficiaries	54,053 households
New Technology Transfer	786 modern beehives
Total Honey Partner Exports	\$2.9 million

- Trained **17,709 beekeepers** and workers in PHH, improved semi-processing techniques
- Assisted two farmer unions gain **Fairtrade certification** and sponsored participation in **seven specialty food trade shows**
- Facilitated a partnership and investment from international honey giant **Parodi Apicultura** with Zenbaba FCU to establish Ethiopia’s largest modern honey processing center in Bahir Dar and begin exporting high-quality honey

STRATEGY: HONEY VALUE CHAIN

AGP-AMDe used a comprehensive approach to increase the competitiveness of bee products, such as honey and beeswax; enhance access to finance; and stimulate innovation and private sector investment in the honey sector. In most activity areas, AGP-AMDe used a “light touch” facilitation technique and supported intervention by current and potential stakeholders rather than directly intervening. AGP-AMDe’s strategy for the honey value chain was to upgrade producer quality and quantity of honey production to meet the demand for high-quality table honey in domestic and international markets. Project interventions included developing strategic partnerships, introducing modern technology, beekeeper training, creating new market linkages and promoting honey products.

Figure 7. Honey Value Chain Infograph



The graphic represents USAID Feed the Future AGP-Agribusiness Market Development program results collected quarterly from honey and wax beneficiaries in the period between October 2011 and December 2015, in partnership with the Government of Ethiopia, the Ethiopian Apiculture Board, Ethiopia Beekeepers Association, Ethiopian Honey and Beeswax Producers and Exporters Association, 5 beekeeping unions and over 10 private companies in the honey sector.

ANALYSIS: HONEY VALUE CHAIN

Ethiopian beekeeping is still very much rooted in traditional production systems, and more than 99 percent of bees are kept in traditional hives despite the various limitations. Although Ethiopian beekeepers can produce thousands of tons of honey each year, the majority of it is poorly managed and unattractive in appearance. This is often due to poor PHH techniques as the time between harvest and market is crucial for processing. The methods of honey harvesting and storage continue to be a major challenge for honey producers and cooperatives.

The promotion of honey and wax is still very weak. In fact, huge numbers of honey producers are disconnected from marketplaces and lack knowledge related to pricing, market demands, and other important aspects of market intelligence. Their business is based on traditional practices, and they often succumb to traders and brokers who dictate the terms of sale.

AGP-AMDe worked with regional and zonal marketing agencies, cooperatives, unions, private consolidators, exporters, and transporters to establish supply chain networks that feed into larger, more reliable, and more profitable marketing channels. The project facilitated the formation of linkages between input suppliers and cooperatives to enable partners to identify input needs in a timely manner. AGP-AMDe assisted women and youth cooperatives and FCUs like Hashenege, Zenbaba, Sheka, and Kaffa Forest Honey in organizing sales groups among their members, which enabled FCUs to consolidate small volumes and increase their bargaining power in the marketing process.

Before AGP-AMDe, the majority of value chain actors had no awareness of the importance of having international certificates like Organic and FairTrade, among others. These certificates allow companies to access premium markets and obtain better prices for their honey and wax in the international market. To respond to this issue, AGP-AMDe provided technical and financial support to two honey FCUs to acquire FairTrade certification.

At the beginning of the project, prices of crude and refined honey hovered between \$0.50 and \$1.00 per kilogram. By the end of 2015, the prices had quadrupled to between \$2.00 and \$4.00 per kilogram. The increase in price is largely the result of aggressive promotional work and market-linking activities that are happening in the sector. Despite the higher prices, the amount of honey being exported is still low due to quality issues and unattractive market prices. The maximum price for 1 MT of honey is under \$4,000, and honey producers and traders can sell more honey to the local market.

AGP-AMDe organized and sponsored participation in regional, national, and international trade shows including Gulfoods, Apimondia, ApiAfrica, and ApiEthiopia. These fairs allow producers to get exposure to new clients and learn about international honey marketing. As a result of these efforts, potential honey importers came to the country to purchase Ethiopian honey and beeswax. International honey giant, Parodi Apicultura, “discovered” Ethiopian honey as a result of these trade shows and partnered with Zenbaba FCU to invest in new processing equipment for honey export. The two partners signed an export sales agreement into the future, which benefits the PCs of Zenbaba.

In 2011, national honey production reached approximately 40,000 MT and rose to 49,000 MT in 2015. There is little room to increase yields in traditional hives, which yield 5 kg per hive. The rise of honey production is due, in part, to the gradual adoption of modern hives, which yield between 15 to 25 kg per hive. AGP-AMDe’s distribution of modern hives coupled with technical training has brought qualitative and quantitative changes in apiary management to Ethiopia.

As beekeepers expand apiary sites, combining traditional and modern hives, and pay closer attention to post-harvest techniques, they are also increasing their skills to properly process and store honey. Previously, high moisture content and excessive smoking were major challenges in honey post-processing. Thanks to projects like AGP-AMDe, skills training,

EXPERT ANALYSIS:

**GENERAL MANAGER,
PARODI APICULTURA**

“There are still more traditional hives than modern hives in Ethiopia resulting in lower honey yields. However, this means even small changes in modern beehive adoption would boost volumes and could put Ethiopia among the five largest honey producers of the world. Beekeeping is such an integral part of Ethiopia’s traditions, we believe the beekeepers are prepared for the jump to modern beekeeping. The inappropriate use of smoke is a major problem, it gives the honey an unpleasant smoky aroma and makes it difficult to sell. Also, the use of excess heat to separate honey from beeswax results in unacceptable levels of key honey parameters such as [hydroxymethylfurfural] levels and diastase activity. Parodi introduced a new technology in Ethiopia as part of our commitment with Zenbaba Union to process honey gently in order to improve its quality. That was a milestone in Ethiopian honey industry, and we will see results soon in terms of higher acceptance of Ethiopian honey by the international market.”

and a wider awareness of international standards, the situation is improving. This has been proven by frequent testing of honey by the Ethiopian Conformity Assessment Enterprise and based on feedback from honey-importing countries. Before the project, post-harvest loss was nearly 21 percent among project participants. After four years of hard work, AGP-AMDe beekeepers reduced losses to 14 percent.

Honey aggregation is still a mostly cash-based business; some producers even prefer to sell their honey by the “spoonful” for a lower, albeit instant, return. The lack of capital and access to financial services is another major constraint for the sector that stifles expansion into modern beekeeping. Modern hives and other technologies such as extractors, molders, queen excluders, and protective clothing are mostly nonexistent at the household level.

For the honey sector to flourish, honey producers and traders need to find diversified agroprocessing channels that add more value to the product than tej. By embracing the global demand for honey—especially organic honey—along with modern hives and improved post-harvest techniques, Ethiopian beekeepers are in a position to meet the quality requirements of international markets. As cottage processors continue to grow and modernize, Ethiopia’s large honey supply base can grow without the need to cannibalize existing markets, such as tej.

Beekeeping is frequently perceived to be a male activity, since handling traditional beehives usually requires climbing trees and is difficult to manage without the right equipment. That is changing as more and more people see the benefit of beekeeping and the ease of modern hives. More beekeepers, including women and youth groups, are entering the growing sector, proving that for people with limited land, beekeeping is a strong income earner that requires relatively low amounts of labor. AGP-AMDe selected 220 women organized under farmer cooperatives to learn beekeeping and/or expand their already-existing apiary sites.

Parodi Sticks a Hand into Ethiopia’s Honey Pot

Honey giant and beekeeper union launch partnership to bring Ethiopian table honey to consumers around the world.



Regardless of quality, the majority of Ethiopian honey ends up in tej, local honey wine popular around holidays.

Every year, beekeepers from the Tana Zuria cooperative sell most of their 10 tons of honey to traders passing through their town, which lies on a rural stretch of dirt road in northern Ethiopia. The traders are not the beekeepers’ preferred customers. Regardless of the quality of their honey, the majority ends up in tej, local honey wine popular around holidays. In fact, selling their honey on the merit of its quality is the stuff of dreams for Tana Zuria beekeepers—until now.

Tana Zuria is a member of the Bahir Dar-based Zenbaba Farmer Union, which represents 20 honey-producing cooperatives and over 13,000 beekeepers. Until this year, Zenbaba had never been able to purchase more than 20 percent of the cooperative’s total honey production, but a new combination of capital investments, strategic partnerships, and improved beekeeping capacity have put Zenbaba at the forefront of Ethiopia’s honey export economy.

In March 2016, honey giant Parodi Apicultura received its first shipment of high-grade, Fairtrade Ethiopian honey through its investor-partnership with Zenbaba Union. Parodi Apicultura, the second largest honey trader in the world, sources over 25,000 MT of honey from more than 20 countries and has operations on every continent.

Parodi’s incursion in the Ethiopian honey sector comes as a result of the grooming and preparation of Zenbaba Union and its member cooperatives by the AGP-AMDe project. Training in sales and marketing helped union members promote their honey as a unique product in the context of global honey. In order to attract important buyers like Parodi, AGP-AMDe assisted Zenbaba and its cooperatives to achieve Fairtrade certification, which assures concerned consumers that their honey meets certain environmental, labor, and developmental standards.

“The major weakness among Zenbaba and member cooperatives was the complete lack of a records system. Before the partnership, Zenbaba had no clear business plan and one staff member covered accounting, honey purchasing, and administration,” explained Assefa Amaldeg, AMDe’s national honey value chain expert. Strategic management training

helped union and cooperative members develop realistic business plans while overhauling the union's organizational structure and its accounting and financial recording systems.



Zenbaba's farmers hope that there are markets for their honey aside from local traders looking to produce tej.

Then in 2013, at the Gulfood international trade show in Dubai, Zenbaba's General Manager Sintayehu and Parodi Apicultura's General Manager Santiago Herrero came face to face. The hard work to improve management and marketing paid off, and an extra degree of professionalism convinced Parodi of the union's potential. In June 2013, Parodi came to Ethiopia to examine Zenbaba's honey processing facilities and products, and visit honey producers in Tigray, Amhara, and Oromia.

"Zenbaba board members and its union manager share our vision and are business oriented. We saw immense potential, and with the backing of AGP-AMDe we felt comfortable creating a strong partnership that will last well into the future," said [REDACTED].
"For Parodi, Ethiopia represents the future of beekeeping."

Following the visit, Parodi matched investments from AGP-AMDe to purchase and install an industrial-sized honey homogenizer and a modern hot room and to refurbish Zenbaba Union's processing center. In addition, Parodi signed a memorandum of understanding (MoU) to purchase 500 MT of honey in the first year and increase that to 1,000 MT in the following year.

The success has not been without obstacles. Over a period of 10 months, AGP-AMDe and Zenbaba worked to transition a forgotten library into a honey factory. AGP-AMDe also used expert staff to design the facility's floorplan and equipment layout to ensure efficiency as the honey goes from hot room to the separator before homogenization.

"The hot room was one of the biggest problems. During setup, we were still unaware how much power was needed to achieve 45-55 degrees Celsius for 12 hours straight. All of this equipment uses a lot of energy, and Zenbaba is relying on the local grid to satisfy significant export orders," explained [REDACTED] AGP-AMDe's food processing expert who designed the facility. Due to countrywide energy constraints, the usage of each machine must be carefully managed in order to not overload the electric grid and lose current.

"To think that Zenbaba, who has never done anything like this before, is now positioned to achieve global standards for food processing such as ISO 22000:2005 and [Hazard Analysis Critical Control Point (HACCP)]. They have really come a long way," noted [REDACTED].

Once the machinery was installed, processing and packaging was delayed due to problems in acquiring food-grade steel barrels, one of Parodi's export requirements. In early 2016, Zenbaba was finally able to ship 40 MT of honey to Parodi's offices in Italy. Since then, the export contract has given Zenbaba's farmers hope that there are interested markets aside from local traders looking to turn their honey into tej.

"We needed a way to solve the marketing problems of our [PCs]," says [REDACTED] female beekeeper and board member of Zenbaba Union. "The local traders try to cheat us and offer us low prices for honey of this quality. We know our honey is special because of its taste, color, and moisture content. Now the rest of the world will know this, too."

As a result of the partnership, Parodi opened a local office under the name of its local affiliate Matrunita, which will also market honey in local and neighboring markets. Parodi and Zenbaba want to see Matrunita introduce Ethiopian honey to the world. Perhaps more importantly, the partnership means more cash flow for Zenbaba, which means more frequent investments in upgrading member farmers' hives and equipment.

Transition to Modern Hives



The uptake of modern beekeeping equipment by farmers is slow due to lack of accessibility and rising prices.

Tana Zuria cooperative member and beekeeper, Yemiker Ambelu, has been collecting honey for over five years. Most of her hives are traditional, long woven baskets that are usually hung high off the ground in trees and produce an average of 10 kg of honey each year. This year, she saved enough money to invest in a modern hive, which has easy to remove panels; these hives make honey collection simple and extend the life of the hive. She expects to more than double honey production.

“The modern hive is cleaner and easy to harvest. In the traditional hives, I find it difficult to separate the honey from the bee larvae, everything is mixed and it’s very dark inside the hive,” she says.

Poor access to modern beekeeping equipment makes it difficult for Ambelu and her fellow beekeepers to achieve significant growth. The

majority of Ethiopian honey producers are going through the same thing: inefficient hives producing small quantities.

Since 2012, AGP-AMDe has worked with Ethiopian beekeepers from 200 cooperatives to increase the sector’s capacity and motivation to move from traditional to modern hives. In addition to providing over 750 modern hives, the project’s beekeeping training has encouraged over 17,000 beekeepers to adopt modern hives and improved practices to increase hive productivity and honey quality. Over three years of intervention, project beekeepers have seen hive yields go from an average 10 kg per hive to 50 kg per hive.

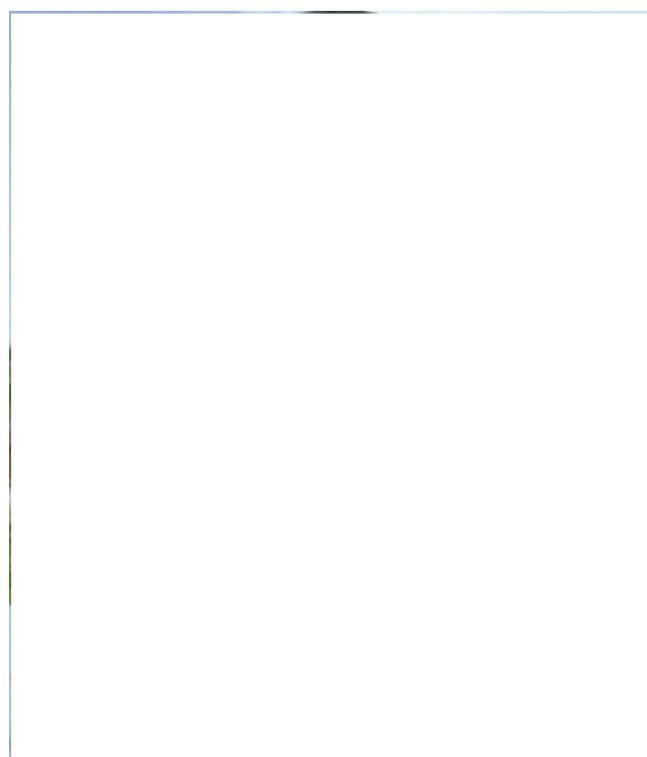
Modern beehives, which have the capacity to produce over 25 kg of honey each harvest, were priced at \$40 in 2014 and jumped to \$75 in 2015.

Quality Testing

Just as harvesting traditional hives is complicated, artisanal processing is problematic. Because so much of Ethiopian honey ends up fermented for honey wine, beekeepers are less concerned with the initial processing; over-smoked table honeys are common throughout Ethiopia. To better gauge project-supported beekeepers’ progress, AGP-AMDe tested their honey to ascertain the main challenges in quality.

“We found that to meet export-quality measures, we needed to place a stronger focus on semi-processing and smoking. That’s why we also provided beekeeper cooperatives with mechanical honey extractors and the basic equipment needed to get their honey ready for the next step on the honey supply chain,” says AGP-AMDe’s honey expert, Assefa Amaldegn.

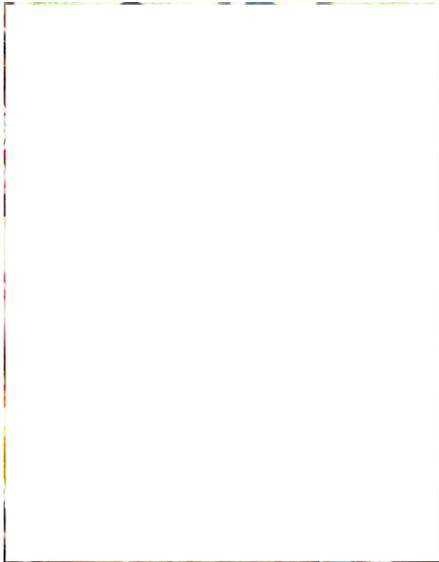
The production of honey in Ethiopia has a long history, and the over 50,000 MT of honey produced each year makes it Africa’s top producer, representing 25 percent of African honey. Currently, less than 5 percent of that is exported. New buyers are emerging, and in 2015 Ethiopian honey exports reached buyers in Japan, Europe, the United



Beekeepers from the Tana Zuria honey cooperative.

States, and the Middle East. Private sector players like Parodi Apicultura are joining Ethiopia’s honey sector in the early stages, and it’s just a matter of time before 25,000 MT of Ethiopian honey reaches consumers everywhere on the globe.

Modern Hives Give Women Farmers New Vocation



Ethiopian farmer [REDACTED] 55, joined the [REDACTED] farmer cooperative because she believed she had better chances to improve her quality of life as part of a group. She’s married with six children and has a fifth-grade education. She and her family have always been farmers.

[REDACTED] has one hectare of land that has deteriorated significantly over the years due to soil erosion and lack of maintenance. She has seen a decrease in maize and teff yields while her mango and avocado trees are bearing less fruit every year. Although the Ethiopian government facilitates fertilizer distribution, [REDACTED] cannot afford inputs to upgrade her soil’s fertility. In fact, most of the farmers in the farmer cooperative struggle with soil fertility. That’s why [REDACTED] and 19 other women now embrace beekeeping as an alternative method for increasing their income.

“Since our farm lands are poor quality and we can’t afford fertilizers, beekeeping is an alternative way for me to take care of my family since I can produce more income with this new skill. Our [PC] will improve, too,” she said.

The activity starter kit gives each member two to three modern hives, beekeeping attire, and three kg of wax, and provides the group with a beeswax molder, honey extractor, and queen excluders.

In August 2015, the AGP-AMDe project provided [REDACTED] and 19 women in her cooperative with beekeeping equipment and technical training. Each woman then commits to purchasing two more beehives.

In addition, the project trains the new beekeepers in advanced honey production techniques. On the first day of training, the women received a handbook and guide to beekeeping. The women participate in a practical session on the second day stamping wax panels and setting up the modern hives. During the training, the women were excited, and their enthusiasm turned to smiles during the practical training. Most of the women farmers do not have an education beyond the fifth grade.

“Learning the methods of using modern hives will help us achieve more and increase my income. I am excited to produce honey,” explained farmer [REDACTED]

Since 2014, AGP-AMDe has provided materials and training for over 320 female beekeepers in four regions: Oromia (40), SNNPR (60), Amhara (120), and Tigray (100). Some of the women were already keeping bees while others, like [REDACTED], are learning the trade for the first time. In total, the 320 women received 760 modern beehives to promote their beekeeping business. If done properly, one hive can produce 25 kg of honey per harvest. In an average season and with four modern hives, [REDACTED] can get two harvests and an extra \$200 in addition to the sales from her annual maize and teff harvests.

“In recent years, beeswax has become scarce in Oromia. The women can capitalize on this and with their excess honey they can make tej or sell it for table honey,” explained [REDACTED] regional beekeeping and livestock expert. [REDACTED] expects to have her hives buzzing soon.

Beeswax Bounces Back

The creation of a beehive is based on perfect geometric patterns that are best sized for the production of honey. The recreation of wax panels is not an easy task, and even less so in rural Ethiopia where farmers lack access to time-saving machinery.

Mekele-based honey processor, Comel, has ramped up the production of wax panels in the hope of giving farmers a big break this year. As beekeepers change their traditional hives for modern ones, wax panels are key to better production and

can save a farmer days of work. A sustainable industry devoted to creating wax panels could give farmers succor from the difficulties of stamping inexact panels.

“This is part of our value chain. If there is no beeswax, there can be no honey. And if there’s no honey, we have nothing to process,” explained Comel Managing Director [REDACTED]

In 2013, Comel partnered with the AGP-AMDe project to establish Ethiopia’s first automated beeswax factory. The partnership invested in wax melters, drying beds, cutters, and stamp machinery. The machinery can easily produce 2,000 sheets a day.

In 2015, Comel distributed 29,000 panels to over 350 Tigray-based beekeepers earning approximately \$38,000. Before, farmers had to share manual equipment, often resulting in messy panels. If managed properly, the panels can remain in a beehive for up to two years.

“Our prices are very low. We need to do our part to keep beekeepers going. The regional government is providing modern beehive skills training,” said [REDACTED] “If we all work together, we’ll create a competitive and

Beekeepers often have to share manual equipment, resulting in messy panels. If managed properly, the panels can remain in a beehive for up to two years.

sustainable industry.”

If more beeswax processors emerge in Ethiopia, Comel will consider sending its beeswax abroad. The cosmetic industry is one market where organic-certified beeswax is in high demand. For now, the panels will stay in Ethiopia.

AGP-AMDe also assisted Comel in finding new markets through international conferences and exhibitions in Dubai and Germany. Comel expects to export three containers of high-quality honey to Europe this year, representing 80 percent of the firm’s honey production.

RECOMMENDATIONS: HONEY VALUE CHAIN

In Ethiopia, apiculture sector constraints occur at all levels of the value chain, ranging from low-capacity production and processing methods to poor quality, poor hygiene, and a lack of accredited laboratories for verifying the quality and safety of raw and processed products. Due to the constraints of traditional production systems, it is necessary for beekeepers to learn more and improve the way they handle bees and their hives and harvest honey. Modern hives and post-harvest equipment currently represent the biggest opportunity for the country’s honey sector to leap forward.

For example, some beekeepers face problems with bees absconding when they transfer colonies from traditional to modern hives. As an unsolved issue, new beekeepers remain unconvinced about modern hives. The practical training that builds the capacity to remedy these types of problems is simple; however, delivering it to Ethiopian beekeepers who are spread out across the country is a different matter. It is worthwhile to conduct a better needs assessment before distribution of new technologies. The establishment of regional beekeeping training centers would also give beekeepers a valuable resource.

Ethiopian honey and wax exporters continue to fail to comply with their clients’ quality requirements, and delays in meeting deadlines and contract requirements frequently occur. This problem is also associated with adulteration, the rise in domestic honey prices, and subsequent supply shortages. As such, creating sustainable market linkages with exporters has become a major challenge for exporters. Part of the solution is finding a way to improve follow-up from regulatory bodies and create an effective and capable testing laboratory. Another part of the solution is creating a honey traceability system to prevent unethical traders and producers from adulterating honey. A system that allows buyers to track honey would sort out the pervasive fraud that occurs throughout the Ethiopian honey sector.

There are currently no industry associations that can genuinely assist beekeepers, cooperatives, and unions. There is a clear lack of mandate and responsibilities among the industry associations that do exist, and among them, support to their members is limited. Brokers take advantage of farmers and negotiate larger shares of the profits. The government and donors need to continue with capacity building for associations and beekeeping unions. Value-addition services are still vastly underdeveloped. This is due to a lack of skilled personnel, technology, poor infrastructure, access to land, and access to financial services. Most of the bottlenecks indicated could be easily resolved with stronger collaboration between government organizations and the private sector. Technical working groups and multi-stakeholder platforms will give all actors in the sector an opportunity to discuss issues.

Conservation efforts by the government are creating favorable conditions for beekeeping that could help increase honey and beeswax production in the future. While interest in beekeeping is on the rise, unions, cooperatives, and the private sector could further help the sector by promoting beekeeping among youth and women.

The lack of food-grade honey barrels is a major concern for exporters. Currently there are no firms in Ethiopia that manufacture these barrels, although there is interest. Under European Union (EU) regulation, European-based traders require honey exporters to certify that their honey is free from chemicals, antibiotics, and other residues. These are some of the most stringent criteria in the world. The EU is the hardest market to access, but at the same time it is a high-value market for producers of high-quality honey. To test chemical residue, Ethiopia has no accredited laboratory, and samples must be collected from all over the country and sent abroad for testing. Associations, at this stage, are not able to cover the cost. They will need both financial and technical support to run the test and get the EU certificate.

Maize Value Chain

OVERVIEW

Maize is Ethiopia's most important cereal in terms of land coverage and production share, and is cultivated by some nine million smallholder farmers across 2.2 million hectares of land, which results in more than 6 million MT of maize harvested each year (CSA 2011/12). Maize grows under a wide range of environmental conditions between 500 and 2,400 meters above sea level. Most maize farmers in Ethiopia are growing it on a subsistence basis, and 75 percent of all maize is consumed at the household level. Maize is also the cheapest source of caloric intake in Ethiopia, and is estimated to represent over 20 percent of the population's daily caloric intake (International Food Policy Research Institute (IFPRI), 2010). The existing national annual average yield of maize is 3.2 MT/ha, while farmers using hybrid maize and other inputs have raised yield above 5 MT/ha. Ethiopia has not imported maize since 2008; however, neighboring countries are currently importing maize for consumption. The available regional market is an opportunity, but the high price of maize grain on the local market continues to make it challenging.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 6. Maize Value Chain Overall Results

Maize Value Chain Overall Results	
Total Beneficiaries	267,035 households
Hectares with Improved Technology	105,278 hectares
Total Maize Partner Aggregation	78,000 MT of maize

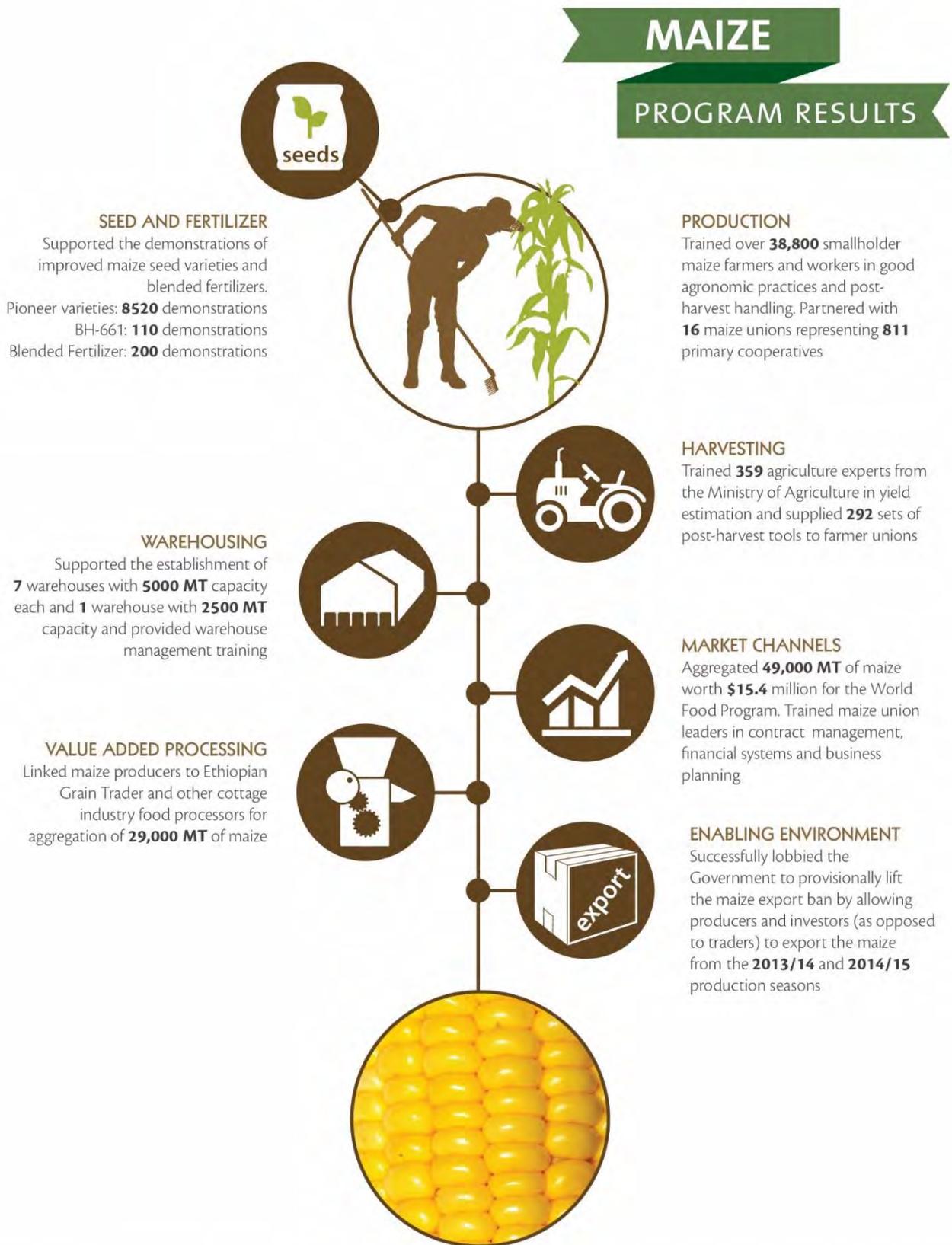
- Supported the establishment of **six warehouses with 5,000-MT capacity** each and one warehouse with 2,500-MT capacity allowing partnering FCUs to aggregate more maize and meet client contracts on time
- Leveraged public-private partnership with U.S. agriculture firm **DuPont Pioneer** to conduct **8,520** hybrid maize seed demonstrations to reach over **164,000 beneficiaries** and created a network of **25 private seed dealers**. Demo plots resulted in yield increases of nearly **200 percent** from an average **2.5 MT/ha** using local maize seeds to **7 MT/ha**.
- Made **market linkages** between **14 FCUs** with the WFP's P4P program resulting in aggregation and sales of **49,000 MT** of maize worth **\$15.4 million**

STRATEGY: MAIZE VALUE CHAIN

AGP-AMDe's main objective in the maize value chain was to increase the productivity of maize farmers through strategic partnerships and ultimately to strengthen food security for their families and their communities. The major interventions included introducing new hybrid maize seed varieties that improve yields per unit of cultivable land. In addition, the

project worked on reducing post-harvest losses that stem from poor storage, lack of infrastructure, and poor agronomic practices. Technology transfer was supported through demonstrations using lead farmers' plots where the project demonstrated improved seeds to visiting farmers and neighbors. The demonstration plot activities were supervised and coached by the respective village development agents under the existing MoA extension system.

Figure 8. Maize Value Chain Infograph



The graphic represents USAID Feed the Future AGP-Agribusiness Market Development program results collected quarterly from maize beneficiaries in the period between October 2011 and December 2015, in partnership with the Government of Ethiopia, World Food Program, 16 maize farmer unions, and over 20 private companies in the maize sector

ANALYSIS: MAIZE VALUE CHAIN

Traditionally, maize was used as the main ingredient of local drinks and as the staple for many lowland communities, especially in the south and southwest of the country. However, as the price of other cereals increase, maize is slowly becoming a cost-effective replacement for wheat- and teff-based products. Roadside maize consumption is the most popular street food in the country.

Since the major end markets for Ethiopian maize are direct consumers through traders and distributors, maize farmer cooperatives are not able to capitalize on the maize harvest of Ethiopia's smallholder farmers. In addition, financial constraints and warehouse capacity limit FCU management from increasing aggregation of more than 10 percent of smallholder farmer maize. Even those FCUs with warehouses are not purchasing enough maize to fill the capacity. It is impossible then for the maize that misses this important market channel to end up at feed plants or in the hands of food processors. Indeed, maize producers need more market channels, and linking farmers with potential buyers should be priority.

The yearly maize supply in terms of quantity and quality is unsustainable and without an organized marketing structure. Suppliers, such as FCUs, have a hard time meeting business commitments on time and meeting quantity standards. Delivery times are extended, and quality and quantities are compromised. The entire situation should signal to the government and experts that farmers are in desperate need of support to increase productivity and improve the quality of their produce.

Hybrid maize seed technology has proven to be one of the more sustainable ways to increase maize productivity. However, the transfer of skills needs to be synchronized with proper and timely input supply. AGP-AMDe's implementation of the Advanced Maize Seed Adoption Program (AMSAP), in partnership with DuPont Pioneer, was able to increase farmer demand for the demonstrated varieties of maize.¹ If the supply of improved hybrid maize seed is on time, farmers are encouraged to cultivate more land and increase their maize supplies beyond subsistence and local market absorption capacity. A massive surplus of maize will lead to new opportunities within the region.

AMSAP demo plots resulted in yield increases of more than 150 percent from an average 2.5 MT/ha using local maize seeds to 6.8 MT/ha in 2013 and 7 MT/ha in 2014. Strong performance in AMSAP's first two years encouraged the steering committee to continue funding and expansion of AMSAP. As the program continues, it is crucial to identify additional AGP woredas that fit the agroecological needs of Pioneer hybrid seeds. Due to the success of AMSAP, three development agents were selected from the best-performing woredas for advanced training in the respective regions and commenced post-graduate studies.

Table 7. AMSAP Results Summary

Result of Three Years of AMSAP Interventions in Hybrid Seed Transformation				
Description	2013	2014	2015	Total
Average yield: metric ton per hectare (MT/ha)	6.8	7.3	7.7	7.3
Quantity of seed used by indirect beneficiaries (MT)	205.1	371.4	654.3	1231.8
# indirect beneficiaries (smallholder farmers)	32,820	59,424	104,684	196,928
Change of quantity of seed as a result of demonstration (qt)		1,663	2,829	4,492
Change of # beneficiaries as a result of demonstration @ 6.25 kg per household		26,604	45,260	92,244
# lead farmers	320	3,200	5,000	8,520
# indirect beneficiaries	3,349	56,224	99,684	159,257
Total direct and indirect beneficiaries	3,669	59,424	104,684	167,777

There are various reasons for poor and inconsistent seed quality in the maize sector. Despite its growing popularity, there is relatively little research on maize plant protection and optimal agronomic management on the part of agriculture research centers. The same institutes have conducted limited research on developing widely adapted early- and intermediate-maturing varieties, as well as varieties for special end uses and challenging environments. Because of this, a

¹ <http://ethioagp.org/amsap-documentary/>

significant proportion of maize farmers know little to nothing about new varieties, especially quality protein maize varieties.

The participation of private seed dealers and the gradual privatization of the country’s seed input business has strengthened the value chain. Two years after the AGP-AMDe’s BH-661 popularization campaign in the Amhara region, private seed companies are now capable of supplying Amhara maize farmers with certified seed. Similar campaigns could be replicated in other regions.

Low productivity remains the main reason for the high price of maize. Increased yields would increase maize supply and decrease the price, making Ethiopian maize more attractive in regional markets. The government would have to lift the export ban. Experts argue in favor of a maize export ban since production cannot satisfy national demand. Other experts argue the opposite, submitting that there is enough maize through the informal sector; so much, in fact, that maize is regularly smuggled to neighboring Kenya, Uganda, and South Sudan. AGP-AMDe’s value chain intervention was limited to working with white grain maize and not with industrial maize varieties, which are commonly used for a variety of agroprocessing. There are still opportunities for maize processing using other varieties such as yellow maize and sweet corn. The focus on white maize turned out to be a limitation of the maize value chain, which started in 2011.

Table 8. Maize Sales Summary to WFP

Maize Contracted and Delivered to WFP as a Result of AGP-AMDe			
Season	Contract Volume (MT)	Delivered Volume (MT)	Value in USD (in millions)
2012–13	22,000	20,420	7.4
2013–14	24,000	21,787	6.7
2014–15	16,800	6,800	1.3
Total*	62,800	49,007	15.4

*Maize FCUs expect to deliver an additional 10,000 MT of maize worth \$3.4 million in 2016.

As maize-growing FCUs improved the quantity, quality, and delivery time of their maize supplies, the AGP-AMDe linked them with WFP’s P4P program. The 14 FCUs participating used AGP-AMDe’s value chain support—hybrid maize seed, Sell More For More (SMFM) training, PHH and yield estimation trainings, coaching, harvesting equipment, warehouse construction, and the facilitation of access to finance—to go above and beyond the commitments made with the WFP.

DuPont Pioneer and USAID: Grains of Progress

Public-private partnership strengthens maize sector and offers farmers certified maize seed and services.

In 2007, Ethiopian agricultural input dealer ██████ answered a DuPont Pioneer ad to begin offering hybrid maize varieties in Wolega, which is located in the fertile plains of western Ethiopia. In his first year, he sold 10 quintals of seed, enough seed for about 80 farmers.

“The farmers were not trusting, so I gave them a money-back guarantee. By the second year, they were showing other farmers what the seeds did for them and talking about doubling their yields,” noted ██████

Gemechew did not see any profits from the seed for six years. It was not until DuPont Pioneer partnered with the AGP-AMDe project and launched AMSAP that, finally in 2014, ██████ and his three subdealers sold 1,500 quintals (150 MT) of hybrid seed, reaching over 12,000 farmers.

“Although I have dozens of farmers who have purchased seed from me for the past eight years. This year and last, the demand skyrocketed. Now they all want Pioneer varieties and are trying to increase the size of their plots. In five years, Pioneer seed will be my number one selling product,” he predicted. Pioneer seed sales represent 25 percent of his total revenue today.

██████ has seen a change in his farmers, too, as they expand their farms, buy tractors, and send their kids off to university. “The poorest farmers who doubted the seeds the most, have replaced their mud huts with better houses and zinc roofing. Higher yields made their lives better,” he said.



In AMSAP's third year, the program expanded demonstrations from 3,200 to 5,000 lead farmers.

The early success with hybrid maize seed is part of AGP-AMDe's strategy to increase productivity in Ethiopia's maize sector. The partnership between DuPont Pioneer, USAID, and the Ethiopian government provides sample seed on demonstration plots and field training sessions to advance the utilization and acceptance of high-quality hybrid maize seed, inputs like fertilizer, and improved production techniques.

Ethiopian farmer [REDACTED] 45, has been planting varying amounts of maize on four hectares of land in Wolega for the last five years before she witnessed a seed demonstration. In 2014, she tried the hybrid seeds on a quarter of a hectare to not "risk" too much of her harvest. She planted just over 6 kg of seed and produced 1,350 kg of maize, more produce than she had ever coaxed out of one hectare of land.

harvest for her. "We'll eat plenty of it, and the rest will go to the market to pay for our children's school fees and then whatever else I can make, I'll use to stock my small business," she explained.

In 2015, she adjusted her strategy and planted two hectares with two varieties of hybrid seed. She expects over 20 MT, a record maize

In AMSAP's third year, the program expanded demonstrations from 3,200 to 5,000 lead farmers. AMSAP demonstrates two Pioneer hybrid maize varieties, Shone and Limu, in lead farmer plots in low- and medium-altitude areas. Hybrid maize seed demos yield an average of 7 MT/ha—compared to the baseline study results of 2.5 MT—and have encouraged USAID and DuPont Pioneer to extend AMSAP's activities to 2018. The AMSAP Pioneer hybrid maize seed activities take place in 27 woredas and reach over 300,000 beneficiaries.

To date, DuPont Pioneer and USAID have created a network of 25 private dealers, like [REDACTED] as well as 13 dealers embedded in farmer unions. Under its strategy to increase the seed network, the company provides one-on-one and group training for new and existing dealers every year.

"Our strategy is to select and train the best farmer dealers who have planted our products for at least two seasons and who can tell others their experience and connect them to our Pioneer Extension partners," explained [REDACTED], DuPont Pioneer Ethiopia's operations manager.

Conditioning the Best Seed

The DuPont-USAID partnership exemplifies the type of public-private partnership envisioned in President Obama's FTF initiative. DuPont has invested more than \$5 million in seed multiplication, awareness campaigns, seed demonstrations, and a seed conditioning plant in Ethiopia.

After parental seed lines are imported from DuPont Pioneer seed centers in South Africa and approved by the Ethiopian government, the hybrid seeds are multiplied in Ethiopian soil and then conditioned at the seed plant, which is located outside of Addis Ababa, before being packaged and put on the market.



“The AMSAP program has done a lot to increase demand. More and more farmers are seeing the yield advantages of hybrid seeds, and with our modern seed facility, the seeds in Ethiopia are as good as Pioneer seeds offered anywhere else in the world,” stated [REDACTED]

The seed plant is the first plant of its kind in Ethiopia and includes automated seed cleaning, treating, and packaging as well as gravity sorting and grading. Operating at full capacity, the plant provides much-needed employment to permanent skilled workers as well as seasonal laborers. DuPont Pioneer’s investment also includes a new seed and grain warehouse where farmer dealers can store small amounts of seed—necessary to increase seed availability—and where farmers can store their grain to wait for improved market prices.

In 2013, when DuPont-Pioneer made inaugurated the seed conditioning plant and launched AMSAP, the company sold 4,000 MT of hybrid seed and then nearly doubled sales in 2014. In 2015, the company sold out of its 6,000 MT stock of seed and expects seed volume sales to reach 10,000 MT in 2016.

“The Ethiopian market is still flooded with inferior seed at cheaper prices, and there is a lack of knowledge, which AMSAP is addressing. We believe farmers are willing to pay higher prices for quality,

reliable seed,” explains [REDACTED]. DuPont Pioneer seeds are on the market at \$25 for 12.5 kg of seed, which covers half of a hectare.

“Connecting Ethiopia's smallholder farmers with modern agronomic practices and products, including improved seed and storage facilities, is a pivotal step in helping them to increase their production and improve their livelihoods. DuPont's investment in the Ethiopian agriculture sector, particularly in conjunction with the country's newly amended seed proclamation, is an important step in helping us do just that,” said [REDACTED] head of the Ethiopian Agricultural Transformation Agency.



President Barack Obama visiting the AMSAP program July 2015

“With just a few smart interventions, a little bit of help, farmers can make huge improvements in their overall yields,” President Obama said after meeting with AMSAP farmers during a site visit in July 2015. Obama said the project’s goal is to work more intelligently and take a comprehensive approach to food systems, strategically partnering with the private sector.

Under AMSAP, AGP-AMDe also improved the operational capacity of maize FCUs while building up their infrastructure, especially through the construction of strategic processing warehouses. The facilities enable unions to ramp up purchasing and reduce post-harvest loss significantly as well as provide capital assets that are critical to accessing financial services, such as loans. The USAID project also facilitated market channels for maize farmer unions.

The 2015 Annual Survey of 2,400 smallholder farmers showed post-harvest losses have been reduced by 20 percent in four years as a result of PHH training and the addition of quality warehousing. Higher yields and the reduction of post-harvest losses are proving to be the catalysts that help transition smallholder farms from subsistence to self-sustaining operations.

Modern Warehouse Enables Cooperative Union to Meet Delivery Deadlines



Inauguration of Gibe Dedessa FCU Warehouse

In 2012, the Gibe Dedessa FCU restructured the management when the union could not meet a contract deadline to supply 1,200 MT of maize to WFP. The union, which represents 36,000 farmers from 111 cooperatives, is located in Nekemte in Western Oromia, a rich agricultural area home to thousands of smallholder maize farmers. The management missed the mark not due to issues in production but due to the FCU's limitations related to storage, cleaning, and delivery.

At that time, Gibe Dedessa was leasing a series of smaller-sized warehouses throughout the town to meet its storage needs. Some of the warehouses were as far as 20 km away, making aggregation, processing, and delivery expensive and time consuming. The following year, having learned a few lessons, the union met its contractual obligation of 1,000 MT, but just barely.

In 2014, Gibe Dedessa partnered with the AGP-AMDe project to build a modern warehouse with a storage capacity of 5,000 MT of grain. Under a matching grant agreement, AGP-AMDe matched the union's investment of \$236,000 to pay for the warehouse, an office, bathrooms, showers, and a cafeteria for employees. The new warehouse, which was completed in December 2014, is divided into three large spaces where grain is stored, processed, and prepared for delivery.

As a direct result, this season, Gibe Dedessa requested the original 1,200 MT contract. By May 2015, the union had already delivered on its contract, two months ahead of the deadline.

“In the past, they were not the best-performing union. We had problems reaching price agreements, and they were affected by drought. In 2012, they had warehousing and financial issues and couldn't deliver on their end, but with the new warehouse we have confidence to give them a larger contract and could give them an even larger contract next year,” explains WFP Procurement and Partnership Officer [REDACTED]

The Gibe Dedessa's partnership with AGP-AMDe goes beyond the warehouse structure. Starting in 2012, AGP-AMDe began training union members in improved PHH and management and marketing practices while providing the

organization with grain quality inspection equipment. AGP-AMDe worked side by side with the union to develop bankable business plans. The union went on to leverage its WFP contract to secure loans from CBE.

In 2014, AGP-AMDe selected seven strategic farmer unions representing over 100,000 smallholder farmers and built them modern warehouses to increase storage, processing, and delivery efficiency. Through market linkages with WFP, a total of 14 farmer unions, representing over 2,000 PCs, have delivered over 49,100 MT of maize since 2012. These linkages put \$15.4 million in the pockets of tens of thousands of farmers.

“Warehouse capacity has always been an issue with our partners. Today, they no longer have that problem,” says WFP’s

New Maize Seeds Produce Amazing Yields

Ethiopian maize farmer marvels at crop stand that nearly quadrupled maize yield.



■■■■■ tells the local media about his amazing crop stand and yield.

■■■■■ a young farmer in southern Ethiopia, had never harvested more than 0.6 MT of maize grain from a plot of land next to his house that measures out to approximately one-fourth of a hectare. In fact, Ethiopian maize farmers average approximately 3.2 MT of maize per hectare, or just enough to feed a large family and not nearly enough to make a profit.

Last season, ■■■■■ took part in a new seed popularization campaign led by AGP-AMDe to demonstrate the high performance of the new hybrid variety, BH-661. For months, ■■■■■ worked with a development agent from his area in field preparation, planting, weeding, and cultivation. He worked hard and plowed the plot five times with oxen; followed proper spacing techniques of 40 cm between plants and 80 cm between rows; and worked with his neighbors to stay on top of weeds.

After three months, ■■■■■ began harvesting his little plot. After just a few rows, he passed 2 MT and kept filling sacks with corn. The cobs were large with big seeds that were uniform in color. By the end of the harvest, Geremew had harvested 29 quintals, which represents a yield of 11.6 MT/ha.

■■■■■, which means “amazing” in the Amharic language, was amazed. “Many farmers have little access to good seeds. Today the supply of good seed is critical for farmers. New hybrid maize varieties give farmers the chance to produce more maize

and sell more in the market.”

The demonstrations are part of a popularization campaign carried out by the AGP-AMDe project. The campaign aims to show smallholder farmers in targeted areas of the SNNPR and Amhara regions a new hybrid maize seed called BH-661, which was released locally in the Bako ARC located in central Ethiopia. During the field day at ■■■■■’s farm, some 250 farmers came to witness the maize crop stand and learn about the new seed variety.

The campaign encourages the use of the new BH-661 maize hybrid variety among more than 100 demonstration sites in the Amhara and SNNPR maize-growing regions. BH-661 produced an average yield of 7 MT/ha, which is 60 percent larger more than the most popular variety then in use, BH-660.

In order to support the maize value chain, AGP-AMDe also supports government and private seed companies to access and multiply BH-661. After the demonstration on ■■■■■’s farm, he and other farmers committed to making advance payments for seed.

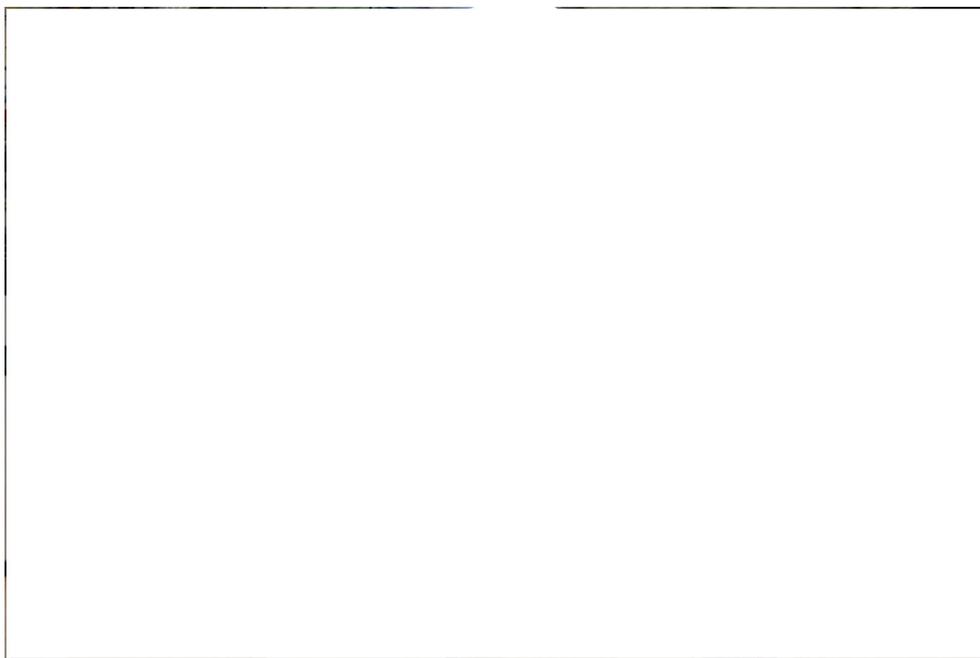
After his harvest, ■■■■■ took 2.9 MT of his maize produce to the local market in Ameya and sold it for Br 12,600—more money than he has ever collected from a single harvest. With the money, he plans to improve his house for his wife and son and add a storage space that he can rent to neighboring farmers.

RECOMMENDATIONS: MAIZE VALUE CHAIN

Maize has risen from subsistence to cash crop. Hybrid maize seed is now in demand and has created a market for seed and input suppliers. The success of not just farmers and improved productivity but of seed dealers and processors encourages

farmers and investors to be in the sector. A renewed focus on productivity and quality will increase the amount of support and market linkages coming from the sector and ensure sustainability.

Warehouse construction has proved to be the maize FCU’s most essential asset. The FCU used the warehouses not only to increase purchasing among members and reduce post-harvest losses but also as collateral to access financial resources. The warehouse intervention was based on a government request but requires the FCU to play a strong role in the ownership of the facility on a cost-sharing basis.



U.S. senators and representatives visiting the DuPont Pioneer plant and warehouse site

A delegation consisting of U.S. senators and representatives from the U.S. government visited DuPont Pioneer’s seed conditioning plant and warehouse, located outside of Addis Ababa, as part of a visit to key USAID program partners and sites in Ethiopia.

Wheat Value Chain

OVERVIEW

The GoE gives due attention to improve the agronomic practices of wheat farmers and thus the productivity of wheat. The MoA agricultural extension system provides training to farmers in improved agricultural practices like row planting. Projects like AGP-AMDe supplement these services by opening and widening the availability of newly released, highly productive seed varieties and linking farmer unions with new market channels.

AGP-AMDe goals for the wheat value chain were to replace the large quantity of imports that are required annually to meet the increasing demand for wheat products in the country. The strategy primarily aimed at stimulating farmer cooperatives, agribusinesses, traders, and processors within the value chain to be able to work collaboratively, effectively respond to market signals, and become more productive and competitive in order to capture profit opportunities that can be exploited in the possible shift from the prevailing import to domestic sourcing.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 9. Wheat Value Chain Overall Results

Wheat Value Chain Overall Results	
Total Beneficiaries	187,786 households
Hectares with Improved Technology	79,284 hectares

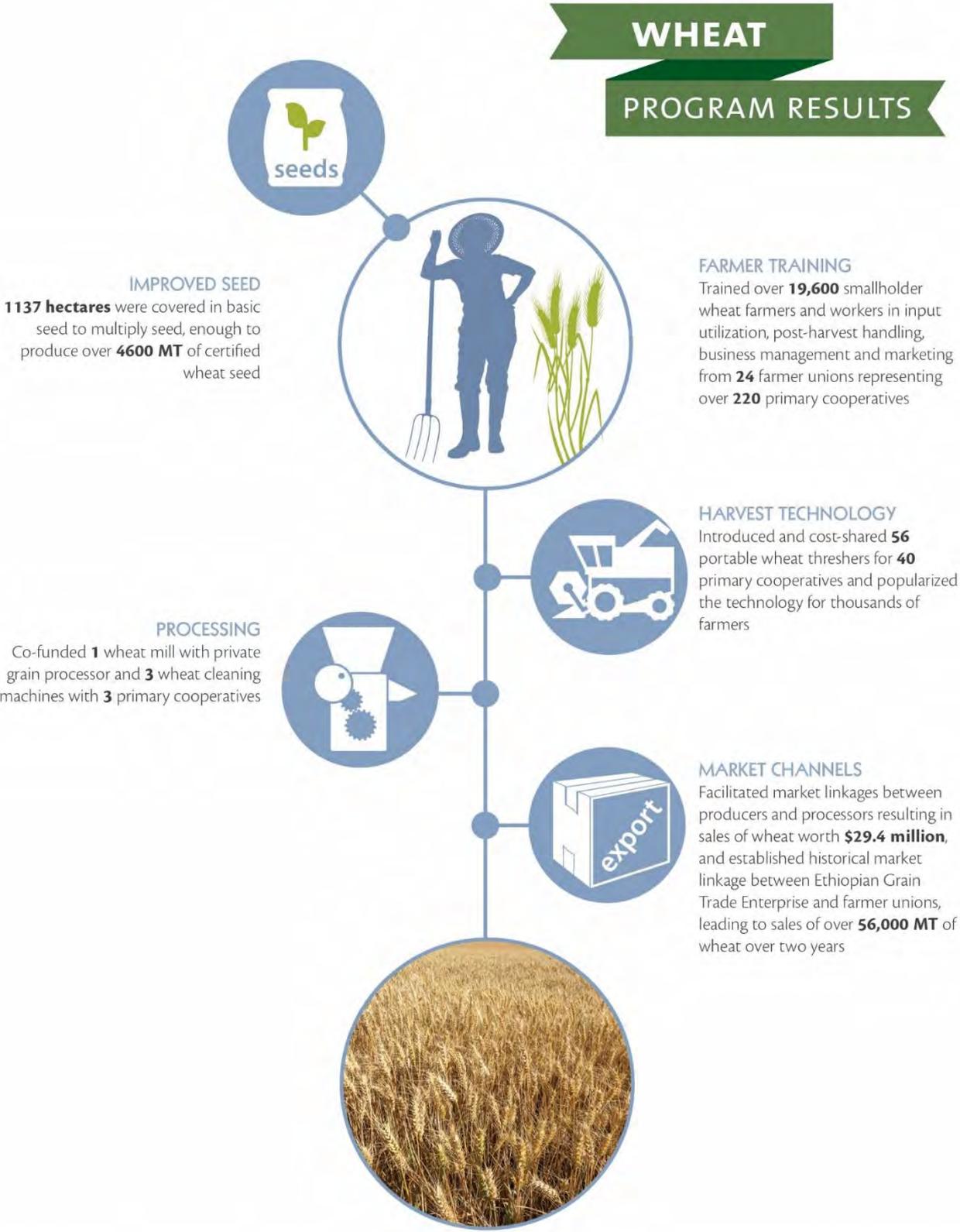
- Covered **1,137 hectares** with basic seed to multiply enough seed to produce over **4,600 MT** of wheat seed and co-invested in one 2,000-MT capacity **seed warehouse**

- Introduced and cost-shared **56 portable wheat threshers** for 40 wheat-producing PCs
- Facilitated market linkages between wheat producers and processors resulting in sales of wheat worth **\$29.1 million**, and established **historical market linkages** between the EGTE, commercial wheat millers, and farmer unions

STRATEGY: WHEAT VALUE CHAIN

AGP-AMDe's overarching goal for the wheat value chain was to replace the large quantity of wheat imports required to meet the national demand for wheat-based products. The strategy aimed at stimulating farmer cooperatives, agribusinesses, and processors within the value chain to work collaboratively and effectively with growers and respond to market signals. To achieve this, AGP-AMDe provided technical assistance to smallholder farmers to increase sales and supply of wheat for processors and to support the distribution of seed to beneficiary farmers for seed multiplication. The project also co-invested with wheat FCUs to acquire portable wheat threshers. The machinery gave FCUs a way to develop sustainable services while benefitting area farmers. In addition, the project worked to integrate the efforts of MoA, AGP, FCUs, cooperative promotion agencies, and other stakeholders to streamline the distribution of blended fertilizers.

Figure 9. Wheat Value Chain Infograph



The graphic represents USAID Feed the Future ACP-Agribusiness Market Development program results collected quarterly from wheat beneficiaries in the period between October 2011 and December 2015, in partnership with the Government of Ethiopia, Ethiopian Grain Trade Enterprise, 24 wheat farmer unions and more than 10 private companies in the wheat sector.

ANALYSIS: WHEAT VALUE CHAIN

The main challenges in the wheat sector continue to be low capacity of human resources among partner FCUs and respective PCs; weak integration among development practitioners; duplication of efforts; high demand and insufficient supply of wheat for processors; a shortage of standard warehouses; and a lack of structured market linkages. In addition, big price fluctuations affect the value chain and erratic rain patterns affect the quality of the grain. There are still weak market linkages and distrust between farmers and processors. In particular, a sudden spike in wheat prices scared FCUs away from aggregating more wheat in 2014/15.

The government has given due attention to improving the production and productivity of wheat farmers and sector players. Currently, the agricultural extension system provides training to a large number of farmers in improved agricultural practices. The availability of improved cultivars and the expansion of highly productive seed varieties is a good start.

Currently, the domestic price of wheat is relatively attractive to producer farmers and private farms; this encourages farmers to produce more and supply to the market and industry in higher volumes in the coming years. This is a business opportunity for domestic wheat producers and processors as well.

AGP-AMDe attempted to smooth relationships between wheat-producing FCUs and large-scale wheat buyers. The market linkages brought FCU managers to the negotiation table with the EGTE. For many, it is the first time that they have done business together. The marketing effort resulted in sales of over 89,000 MT of wheat grain to the EGTE.

Planting the Seeds of Self Reliance

More seed, warehousing, and processing increases productivity and competitiveness and improves the government's chances of weaning the country off of foreign wheat.

Ethiopians eat a lot of injera; however, they also eat a lot of bread. As the country's population rises, it is the latter that concerns agriculture experts. Ethiopia leads sub-Saharan Africa in wheat production with an estimated 4.5 million wheat-growing households, yet cannot satisfy the population's demand for wheat. Each year, the government imports more and more foreign wheat to guarantee wheat supplies. In 2014, the government imported over 500,000 MT of wheat and plans to increase that to 650,000 in the following year.

The wheat shortage has resulted in several policy changes including a ban on cereal exports and the distribution of subsidized cereals through flour mills. The AGP-AMDe project worked with partners toward replacing imported wheat with locally grown wheat by stimulating cooperatives and processors within the value chain. Technology adoption, improved input supply chains, and market linkages moved Ethiopia toward a more productive, competitive sector, therefore contributing to future wheat independence.

Seeds of Improvement

Storage is critical for seed. Proper conditions can make a big difference in the lifespan and effectiveness of the seed. The Edget Cooperative Union, which is composed of 19 certified wheat seed-multiplying cooperatives, meets approximately 30 percent of the wheat seed demand in the SNNPR, enough to cover the land of 40,000 farmers. Despite the role Edget's members play in Ethiopia's wheat value chain, every year the union is forced to store member's grain and seed in seven separate sub-standard storage facilities due to a lack of warehousing.

Thanks to AGP-AMDe, the seed can be stored in a centralized and standardized warehouse. AGP-AMDe co-funded construction of a 2,500-MT warehouse in the town of Butajira, south of Addis Ababa. The warehouse allows Edget to increase the amount of seed collected from members and reduce post-harvest losses.

EXPERT ANALYSIS:

██████████
HEAD OF PLANNING,
EGTE

“EGTE plans to purchase more wheat from farmer cooperatives. The government strategy is to meet the wheat demand of the people without importing, and the only way to do this is through local production. The farmer cooperatives play a critical role. The goal is to remove our dependence on wheat imports within five years. Unlike with other crops, EGTE waits to hear from the Ministry of Finance, Economy and Development for the purchase price to be offered. In the past, most unions have not been able to aggregate enough wheat to fulfill EGTE orders. When wheat supplies are low on the national market, EGTE is forced to withdraw in order to avoid unnecessary competition with millers and private traders so as to avoid rising prices. Wheat processors first look to subsidized wheat to source for milling and food processing because it's cheaper. If they still need wheat they may look at FCUs, who still can't fulfill large supply contracts.”

“We can’t simply pile seed in shoddy warehouses. Seed is grain with life. And deserves a higher degree of attention,” explains Edget General Manager [REDACTED]

AGP-AMDe’s three-year partnership with Edget showcases a significant role the project plays in Ethiopia’s wheat sector. Although Ethiopian average wheat yields of 2.5 MT/ha are relatively high for East Africa, they are low when compared with major wheat producers in North Africa and Asia. The availability of good seed is a powerful first step in increasing wheat production.

Since 2012, AGP-AMDe trained union lead farmers in PHH (ToT) and members in marketing. In 2014, AGP-AMDe provided a grant to purchase 30 MT of basic wheat, which cooperative members planted and turned into 800 MT of seed for its members. To assure seed quality, AGP-AMDe also provided the union with seed quality testing equipment like moisture meters and seed sample dividers. “Wheat farmer unions like Edget have years of experience in quality seed production. With just a little investment and the acquisition of modern farming equipment, they can really change the reach of their seed, benefitting thousands of farmers each year,” explains Dr. [REDACTED] AGP-AMDe’s wheat value chain team leader.

“Edget’s main objective is to increase our members’ access to certified wheat seed, who then sell seed to thousands of regional farmers. We’ve come to see seed multiplication as a business, and the sector relies on us to provide quality seed,” [REDACTED] said.



For [REDACTED] the wheat shortages are opportunities and have led him to expand the business into milling in order to get more of his neighbors’ wheat onto the market.

away as Addis Ababa.

“The capability of Ethiopia’s wheat processors is heavily impacted by low wheat supplies, and they usually end up operating below capacity. These processors will be able to compete with the imported wheat if the local wheat producers are incentivized for production and can access improved seed varieties, inputs, and better technology,” according to Dr. [REDACTED] AGP-AMDe’s wheat expert.

Farmer to Processors

Historically, the relationship between farmer and miller has been marred by distrust. To change this, AGP-AMDe developed and led a multistakeholder approach to bring wheat producers and processors to the same table. The first link was made in 2013 when AGP-AMDe, seven Oromia-based wheat farmer unions, and the Ambo Multipurpose Wheat Processing Union sat down to discuss wheat supply. At the talks, the two parties signed a contract for the sale of 1,800 MT of wheat in the same season. The millers paid a small premium of \$1.25 per MT, and the unions assured the millers that future wheat would go to them. Behind the agreement were over 9,000 wheat farmers and millers.

The Wheat Belt

The western part of the Amhara regional state—known as West Gojjam—is one of Ethiopia’s main wheat-growing regions. Here, Baye Mekonnen and his family own over 850 hectares and have been producing wheat and maize for generations. To accelerate business growth, AGP-AMDe partnered with Baye to procure a high-capacity flour mill worth \$115,000, in Bahir Dar, the regional capital. Under the agreement, Baye invested over \$275,000 of his own money into the facility’s warehouse and paid for the transport and installation of the mill.

“We plan to establish distribution centers in strategic points. We know that there is a national shortage going on, and we have access to one of Ethiopia’s main wheat-growing regions. We are also working to improve our farmers’ production by increasing the offer of improved seed,” explained [REDACTED]

Baye planned on purchasing 9,000 MT of wheat from West Gojjam-based farmer unions when the mill becomes operational in 2016. The farmer unions represent over 50 PCs, some of which also received training in PHH and marketing from AGP-AMDe. Once the wheat is milled and packaged, [REDACTED] will distribute some flour in West Gojjam, and will sell the rest to new markets as far

“Our factory has been working at 40 percent of its full capacity due to lack of supply. This is a significant step towards a sustainable supply of wheat,” said [REDACTED] the Ambo Processors Union manager.

Over four years, AGP-AMDe facilitated market linkages between wheat producers and processors in Tigray, Oromia, SNNPR, and Amhara, resulting in more than \$29.1 million in sales. AGP-AMDe scored perhaps its biggest goal by facilitating a historic supplier contract between EGTE and 24 wheat-producing unions across Ethiopia.

“AGP-AMDe was critical in bringing EGTE and farmer unions to the table. At first we started with a small amount not more than 250 MT, and then in 2014 we scaled up the supply thanks to the arrangement made through AGP-AMDe. We now reach out to more farmer unions in more areas, and they have become a dependable supplier of Ethiopian wheat. We think the relationship will last. For the unions, the linkage created a strong market channel for their producer members,” according to EGTE Head of Planning [REDACTED]

Since the landmark agreement, EGTE has sourced more than 80,000 MT of wheat, benefitting over 14,000 smallholder farmers.

Threshers Increase Efficiency and Grain Quality



The portable thresher saves them approximately two-thirds of their threshing labor budget.

In the 2013/14 wheat-growing season, Wodera Cooperative Union farmers threshed over 700 MT of wheat worth over \$10,000. The activity is important because it is the first time in history that union members used this type of technology to thresh and prepare wheat. The new machine also chopped leftover straw into animal feed.

“The threshing machine has relieved not only the individual farmer and his family members from days of work, but also our cattle from such heavy task,” explained [REDACTED] lead farmer and member of the Wodera Union. “Farmers used to spend many days threshing and grinding the wheat stalks to feed cattle. The thresher is a big advantage for us.”

Traditionally, Ethiopian wheat farmers thresh grain using oxen, trampling the grain for hours. This process often results in a lower quality grain mixed with pebbles and dirt. Women then spend days winnowing the pile to separate the grain from the straw resulting in further post-harvest losses. With a portable thresher, a pile of wheat that would take a farmer 10 days to thresh now takes less than a day.

The portable thresher—which Wodera Union farmers estimate saves them approximately two-thirds of their threshing labor budget—is part of AGP-AMDe’s intervention in the wheat value chain. In 2014, AMDe provided 14 threshers to PC members of the Wodera FCU in the Amhara Region.

In total, the project provided 56 portable threshers to benefit approximately 50,000 wheat farmers in four regions of Ethiopia. Each machine represents an investment of \$3,150, and each union committed to matching the investment by purchasing another thresher or a tractor. They also paid transport, training of operators, and other associated costs such as fuel.

[REDACTED] the president of the University of Debre Birhan, saw the Wodera farmers threshing their wheat at a public demonstration in February 2015. He realized how a simple technology could save both time and energy. After the demonstration, he further researched the technology with the union and a local vocational college. The thresher could be used in demonstrations for agriculture students, and he said he would look at designing parts for the machines. Being able to maintain the machines will extend the technology’s lifespan and provide marketable skills to Ethiopian youth.

RECOMMENDATIONS: WHEAT VALUE CHAIN

AGP-AMDe executed targeted activities to tackle issues including strengthening seed cooperatives, reducing post-harvest losses, introducing new technologies, and creating sustainable market linkages along Ethiopia’s wheat value chain.

AGP-AMDe chose strategic partners to increase the availability of wheat seed for farmers, including wheat unions, cooperatives, and private seed growers. By providing seed grants to increase seed production, the project helped bring thousands of new farmers into seed production and over 1,000 new hectares of land for seed multiplication. Many seed-multiplying cooperatives were able to produce certified seed that was approved and accepted by the certifying government official bodies with technical support provided by AGP-AMDe. Today, these seed growers are producing over 4,000 MT of seed, which benefits nearly 30,000 farmers. As long as agriculture research centers can continue producing basic seed and innovating new seed types, the number of seed producers in the wheat value chain will continue to grow.

The introduction of new technology and the mechanization of the sector, including the introduction of processing equipment and threshing machines, has the potential to streamline post-harvest wheat processes, increase wheat stocks, and ultimately put more money in the pockets of farmers. The portable threshers provided by AGP-AMDe enabled farmers to thresh crops in a much shorter period of time and reduce labor costs, particularly the time spent by women threshing and winnowing the grain. Continued efforts to popularize these types of technologies will benefit farmers and their communities.

The wheat value chain in terms of market development is decentralized, and there is little power exerted among traders unilaterally. The sector is essentially controlled by government parastatals EGTE and ECX. FCUs and farmers can now check directly on pricing to determine strategies as to when to sell and how best to sell to market. Given this degree of interseasonal price variation, the logic behind storing grain for later sale is obvious. The reasons that more farmers, cooperatives, and traders do not store grain is related to cash-flow and liquidity constraints after borrowing for inputs and other expenses during the pre-harvest and cropping season.

The Ethiopian government has a unique opportunity to provide the wheat sector with the support necessary to succeed and become self-reliant. The decision made in 2008–2009 and again in 2010–2011 to import large quantities not only stifled the ability of the wheat-farming community and processors but also impacted the strength of the currency reserves that the country needs. Sometimes, importing wheat is inevitable; however, the lack of information and accurate data sources to create an early warning system need redress. In addition, the lack of a thorough assessment and diverse data from all available sources has impacted the food security of the country, causing the recovery process to take longer than expected.

Importing wheat should only be done if domestic prices are expected to be higher than import parity. Likewise, the Ethiopian government should procure locally if domestic prices are expected to be lower than import parity. The wheat-processing community operates below capacity. Their ability is heavily impacted by the availability of both hard and soft wheat. They seek to compete directly with the imported products and can do so if the local industry is incentivized for production with improved productive seed varieties, fungicides, fertilizer, and better technology for growers and processors. The ability to harness the power of both large growers and smallholders should collectively be developed for the overall development of the industry.

INPUT SUPPLY

OVERVIEW

AGP-AMDe objectives were aligned with the commercialization of agricultural inputs. The role of inputs such as fertilizers, crop protection products, and improved seeds are crucial in enhancing agricultural productivity. However, the supply and utilization of agricultural inputs by smallholder farmers in Ethiopia is minimal. In recognition of gaps in input usage, AGP-AMDe considered soil fertility analyses, fertilizer technology (blended and urea briquettes) demonstrations, seed multiplication of improved crop varieties, and agricultural input marketing as the vehicles to achieve project objectives. AGP-AMDe carried out agricultural input activities in AGP woredas in the four target regions.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 10. Input Supply Overall Results

Input Supply Overall Results	
Total Hectares to be Covered with the Improved Seed Produced	240,250 hectares

Input Supply Overall Results

Total Amount of Improved Seed Produced	202,500 MT
Farmers Reached with Fertilizer and Seed Demonstrations	9,200 households

- Partners multiplied 202,500 MT of improved seed, enough seed to cover 240,250 hectares
- A total of 14,019 smallholder farmers and five commercial farms directly benefitted from seeds, trainings on blended fertilizer utilization, and demonstrations
- AGP-AMDe introduced and popularized 11 new seed varieties of maize, wheat, sesame, and chickpea crops in the four AGP regions
- A total of **27 FCUs** received AGP-AMDe seed multiplication training support resulting in **444.6 MT** of wheat, sesame, and chickpea seed and seed multiplication

STRATEGY: INPUT SUPPLY



Fertilizer ingredients piled high at the blending factory in Bahir Dar.

AGP-AMDe partnered with the Ethiopian government and other stakeholders to increase reliable and commercial access to improved inputs including fertilizer and seed. AGP-AMDe supported and demonstrated the use of yield-enhancing inputs and techniques to farmers and other stakeholders in several value chains. Increasing usage of fertilizer and access to quality seeds is central to meeting the GoE's targets for crop production. Initially, AGP-AMDe's activities focused on training FCUs and PCs on improved input supply management and demonstrating improved fertilizer and seed in field sites. The promotion and scaling up of these demonstrations are part of the transformation process for cooperatives to become commercial businesses that promote products and services to their farmer members, giving producers more options and decision

making power on output and income. These experiences were then transferred as lessons learned for strategy planning with regional partners from MOA and ATA to help them design interventions in both seed and fertilizer sectors. The project also coordinated with AMSAP through blended fertilizer trials and seed popularization, and partnered with public research institutions to install irrigation and seed laboratory equipment that enables them to increase the quality and quantity of early-generation seeds.

ANALYSIS: INPUT SUPPLY

In 2014/15, the government launched its plan to establish blended fertilizer plants in the four regions aimed at bringing much needed inputs and awareness to rural areas while increasing the demand for blended fertilizers. In addition to the production plants, the ATA also launched a soil mapping and analysis campaign across the four major regions. Information on soil health helps extension workers, farmers, and cooperatives better address the need to apply blended fertilizers to the right crops. Support and collaboration among stakeholders is at an all-time high, and the federal government is in favor of supporting input production and adoption. AGP-AMDe's activities contributed to and fed off these developments. Raising awareness among lead farmers on both improved seed and blended fertilizer are critical to the success of the production plants and seed multiplication activities around the country.

In support of the GoE's fertilizer blending initiative, AGP-AMDe invested \$1.2 million to install the first fertilizer blending plant at the Becho Woliso FCU in Oromia in 2014. In 2015, AGP-AMDe provided international management contract services for four more plants in order to optimize operations and ensure maximum quality and delivery to smallholder farmers. Under each contract—worth \$230,000 each—FCU leaders and staff received hands-on skills, experience, and management training for approximately 10 months.

Table I I. Blended Fertilizer Production and Distribution Summary

Amount of Blended Fertilizer	Enderta FCU	Melik FCU	Becho Woliso FCU	Gibe Didessa FCU	Merkeb FCU	Totals
Produced (MT)	103	131.4	29,631.8	437.2	469.1	30,772.5
Distributed (MT)	103	-	29,589.8	437.2	434.7	30,564.8
Stock	-	131.4	42	-	34.4	207.7

During the first two years, each factory expects the demand for blended fertilizer to increase above 100,000 MT. In 2015, AGP-AMDe launched popularization campaigns for blended fertilization by establishing lead farmer demonstration sites for wheat, maize, chickpea, and sesame. Popularization of the use of blended fertilizer and urea briquettes using farmer field days have attracted the interest of farmers, extension agents, and administrators in all four regions. The project carried out a field performance evaluation of blended fertilizer and urea super granule (USG) demonstrations in various regions on several crops. The objective was to evaluate the performance of the blended fertilizer when compared with traditional usage of urea granules.

Figure 10. Seed Sector Infograph



Seed Multiplication

Of the 14 million hectares covered in crops nationwide, only about 1.1 million hectares, or 8 percent, is covered with improved varieties, according to the Central Statistics Agency. This is due to shortages of early-generation seeds, which are usually produced by federal and regional research institutions and certified seed producers such as public and private seed enterprises, FCUs, and seed cooperatives. Other challenges include lack of infrastructure, poor distribution systems, and regulatory obstacles.

For smallholder farmers, investing in improved seed varieties and modern inputs is a critical step toward increasing production and productivity. AGP-AMDe improved seed and fertilizer demonstrations at farmer training centers and on lead farmers' plots, resulting in yield increases of between 100 and 200 percent as compared to the use of traditional and unimproved varieties with very little or no fertilizer use. These demonstrations reached over 9,000 farmers.

To address the source of the problem, AGP-AMDe supported four research centers to establish and install irrigation systems, which allow the centers to produce early-generation seeds at least two times per year. In addition, the project supported 11 federal and regional research centers by supplying complete seed laboratory equipment, which is used to maintain the seed quality per established standards and the Seed Regulation.

The project also supported eight FCUs in achieving competence certificates, which is a requirement to be licensed in seed multiplication and marketing of crops as a business. The unions hired agronomists to inspect seed production and processing as per the Seed Regulation. Twelve FCUs, seed cooperatives, and commercial private farms were supported in purchasing and installing seed processing plants.

AGP-AMDe seed multiplication partners planted a total of 15,884 hectares of seed toward multiplication. Yields increased by 50 percent to 100 percent.



A farmer shows two maize cobs from two fertilizer treatments. Left is USG and right is conventional urea.

AGP-AMDe arranged capacity-building sessions for Oromia Seed Enterprise management to review improved seed production, seed marketing, and future trends in Ethiopia. Similar trainings were arranged for Bale and Arsi Agricultural Development Enterprises, which are transitioning from grain to seed-producing enterprises under the Oromia Seed Enterprise.

AGP-AMDe also introduced and test-marketed certified seed in small packs, which are more affordable for smallholder farmers. Two FCUs, Bokra and Hashenge, were linked to ESE's Tigray branch and have started direct marketing and distribution of small packs of wheat seed. ESE supplied 10 MT of Picaflor and Danphe bread wheat seed varieties in 18.75-kg packages for planting on 0.125 ha. The direct sale and small package approach can significantly shorten the supply chain and address farmers' demands for small hectare area and affordable packages.

New Varieties of Sesame

In 2014, AGP-AMDe and Humera Research Center researchers visited the fields of a new sesame variety being cultivated by a local farmer who participated in one of the project's sesame field days. The variety, which was not known to the researchers, performed well when in comparison with current sesame varieties in the region, including Setit-I, Humera-I, and Hirhir. After conducting initial assessments at the green stage and at harvest, the new variety proved to be more tolerant to water logging and bacterial blight. The sesame research team agreed to further test the variety and conduct verification trials in other sesame-growing areas. Researchers will likely propose that the varieties be released to the National Variety Release Committee in 2016.

RECOMMENDATIONS: INPUT SUPPLY

Experts say Ethiopia will need at least 18–20 blending facilities to address the nutrient deficiencies throughout the country. Before this is implemented, the success of the first five facilities will determine how soon the others will get built and commissioned and will provide lessons learned moving forward. The blended fertilizer is expected to attract foreign investments in agriculture, and five fully functional blended fertilizer plants could be enough to attract the private sector. Encouraging private sector investment will increase the strength and resilience of the activity and the agriculture business.

Much of the future of blended fertilizer will depend on the ATA and the overall results of soil testing. After that has been completed, creating awareness among farmers is critical to fertilizer sales and distribution channels. Demand for fertilizer is generally high; however, since fertilizer distribution has a low profit margin, FCUs have backed away from participation.

Ethiopia still has an ineffective agri-input marketing system and few points of sale in rural areas, reducing incentives even more. As better infrastructure spreads so will access to blended fertilizer, which will increase sales. In terms of farmers, the lack of access to credit for farmers to purchase inputs has also led to poor usage. Those that are available are often too far for farmers, who must travel long distances. Choosing the Becho Woliso Cooperative Union as the site for the first blending facility was a strategic decision since the demand for fertilizer in the area is high and the location of the facility is close to Addis Ababa and not far from Adama, a transportation hub in Oromia, making it ideal for distribution.

As the government gradually moves toward the privatization of the seed industry, increasing the collaboration between government agencies, research centers, and private sector seed producers is the only way to meet the agriculture sector's demand for improved seed. The ATA piloted a Direct Seed Marketing (DSM) program in 22 woredas to address multiple inefficiencies in the current seed distribution system. The program allows seed producers and distributors to use their own outlets and private agents, which enhances competition in quality and marketing. The end result is for seed producers and marketers to become more accountable, and help reduce the burden on government-run seed enterprises and research centers. AGP-AMDe partnered with ATA to deliver on DSM and recommends scaling up the program.

COMPONENT II: ACCESS TO FINANCE AND INVESTMENT

OVERVIEW

The financial sector continues to suffer from a long-standing treasury bond purchase requirement for private banks. The problem is exacerbated by recent internal memos requiring all private banks to keep their short-term lending portfolios at 40 percent of the total outstanding loans. The effect of this short-term lending requirement has increased the amount of treasury bonds that private banks are required to buy, thereby wiping out surplus liquidity and increasing the cost of borrowing as banks now have a much larger number of borrowers than they had in the past. In addition to these directives and internal memos, the government's decision to award the entire housing project financing arrangement to CBE resulted in millions of dollars of deposits fleeing from private banks to CBE and a general stagnation of savings at private banks. The result of the directives and memos are multiple: 1) banks are more selective in what sector they finance and who is allowed to access critically needed financing (agriculture and agribusiness do not fall under critical); 2) lower financial performances, and although there is no decline in earnings, growth rates are much lower than in the past; and 3) some banks, especially the smaller ones, struggle to meet the directive that requires them to increase paid-up capital to \$25 million.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 12. Access to Finance Overall Results

Access to Finance Overall Results	
Total Amount of Loans Facilitated to FCUs and Smallholder Farmers by 8 Partner Banks	\$137 million
Total Amount of Loans Facilitated by SACCOs	\$4.5 million
Total Venture Capital Financing Facilitated by AGP-AMDe	\$11.3 million

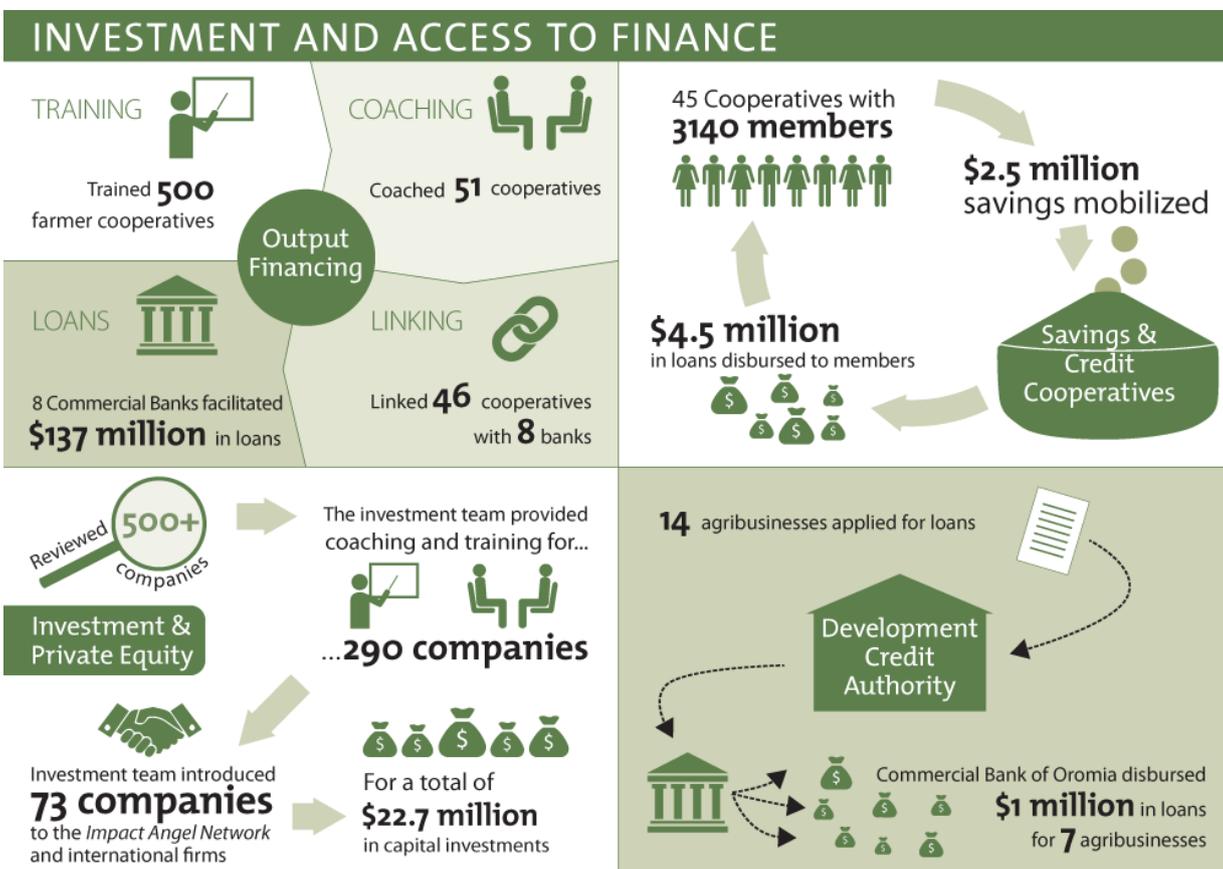
- Supported 45 SACCOs in mobilizing \$2.5 million in savings and disbursing more than \$4.5 million in loans to their 3,140 members
- Facilitated **\$1.6 million in equity financing** for three medium-sized Ethiopian agroprocessing companies and created over **370 new jobs**

- AGP-AMDe introduced new financial products into agriculture including a **warehouse receipt system** allowing farmers to deposit their produce in warehouses operated by FCUs

STRATEGY: ACCESS TO FINANCE AND INVESTMENT

The AGP-AMDe access to finance component was to address systemic constraints of rural and agricultural finance by building upon small successes in facilitating working capital loans for FCUs and focusing on individual coaching to improve financial management capacity. The project also focused on building linkages with financial institutions to ensure timely disbursement of financing for harvest, which requires a large amount of funding to support the flow of commodities from smallholder and commercial farmers to the market. The project worked to improve the financial capacity of agricultural actors through the revision of audit systems in the cooperative sector and through expansion of microfinance institutions (MFI) and savings and credit cooperative services. The project was able to expand leasing services by linking these services with lending products and producer organizations to buy down risk (leasing for mechanization promotion with the Development Credit Authority (DCA) and other guaranty programs).

Figure 10. Access to Finance and Investment Infograph



The graphic represents USAID Feed the Future AGP-Agribusiness Market Development program results collected quarterly from beneficiaries in the period between October 2011 and July 2015, in partnership with the Government of Ethiopia, 45 savings and credit cooperatives and 8 Ethiopian banks.

ANALYSIS: ACCESS TO FINANCE AND INVESTMENT

Before AGP-AMDe implementation, there were few FCUs (and by extension smallholder farmer members) who had access to formal financial institutions, especially loans for output financing and project investment purposes. The reasoning behind this has as much to do with farmers as it does with banks.

Demand: FCUs are still institutionally weak and lack the skilled manpower to prepare bankable business plans, to project and analyze their cash flow, to update their internal bylaws, and to professionally communicate with commercial banks.

Supply: Ethiopian banks are in a privileged position to prioritize lending and continue to view agriculture as risky and unpredictable. Banking experts hold a historical misperception that FCUs and their smallholder farmers are not bankable and reliable.

After nearly five years of intervention, all partner FCUs are capable of developing bankable business plans and preparing the necessary documentation to apply for bank loan. As a result of the trainings and the coaching services provided by AGP-AMDe, the majority of partner FCUs accessed bank loans for the first time in their histories.

Banks' perceptions and hasty generalizations about the bankability of FCUs and their ability to administer, utilize, and repay bank loans has changed, thanks in part to AGP-AMDe. Now, FCUs are treated on a case-by-case basis. Even relatively smaller and weaker FCUs are receiving bank loans as they have participated in project capacity-building trainings and coaching on developing bankable business plans and presenting sound business cases. The banks issuing successful loans to FCUs and their members have served as examples for other banks that are now interested in lending to FCUs.

Despite the gains, there are still issues related to the sustainability of the activity. There is a lack of proactive, strategic thinking and action on the part of FCU staff, especially managers, when it comes to improving their businesses. Even though AGP-AMDe provided a complete training package on the most important topics including planning ahead of each harvesting cycle, financial management, business plan development for working capital loans, output marketing plan and analysis, and pricing strategy, some FCU managers could not genuinely build on the new knowledge and skills. After the training, some managers still could not develop business plans and finish the paperwork in a timely manner. In some cases, managers showed up at the bank at the last minute with incomplete paperwork, and in some instances, AGP-AMDe accompanied managers to the bank to help facilitate meetings with bank loan officers.

AGP-AMDe partners faced other types of obstacles such as the existence of overdue, nonperforming loans belonging to FCUs. These loans had to be paid off before the FCU could access capital. Some of the loans were more than 30 years old and taken by member PCs as opposed to the unions themselves, making it difficult to gather adequate evidence to convince the current leadership to pay them back.

Cooperative promotion offices, especially in SNNPR and the Oromia region, created obstacles in the loan application and approval processes by causing delays in auditing services and report submissions to FCUs. The autonomous nature of cooperatives is challenged by huge interference from regional governments, which deter successful unions from moving forward as successful business organizations. High staff turnover, especially among managers, as well as inadequately skilled man power, low salaries, and weak institutional capacity keep FCUs trapped in an uncompetitive position in high-stakes markets.

**FEYERA EJETA,
VICE PRESIDENT,
CBO**

“The main challenges lie in the capacity of the farmers. Through our partnership with AMDe, we have improved the financial capacity of unions, but only at the highest level. To make it more sustainable, we need to go further and cascade down to all farmers the skills in financial management, the importance of saving, and early repayment. It is a challenge. We have to go further to bring them up to our expectations and show them how to make their money more productive. I tell farmer unions that you do not need collateral to turn farming into a business. CBO looks at the merit of the farmer union's business plan. That is the main way CBO has broken the perception that agriculture is risky. We believe in business and if it returns profits, there is no problem. Farmers are smart and have been doing this for many years. They know their market. We are not financing collateral, we are financing business.”

Table 13. Amount of Project Facilitated Loans Approved and Disbursed

Value Chain/Region	Total Loans Approved (USD)	Total Loans Disbursed (USD)
Coffee	67,299,160	60,431,029
Honey	250,186	250,186
Maize	14,362,696	13,043,586
Sesame	65,412,668	45,595,877
Wheat	10,330,869	9,774,455
Chickpea	8,712,532	8,712,532

Value Chain/Region	Total Loans Approved (USD)	Total Loans Disbursed (USD)
Total	166,368,110	137,807,665
Addis	2,401,789	2,401,789
Amhara	21,983,766	18,438,994
Oromia	58,595,680	58,532,619
SNNPR	35,797,729	25,526,869
Tigray	47,589,145	32,907,393
Total	166,368,110	137,807,665

AGP-AMDe Investment Team

The AGP-AMDe investment team met with and worked with almost 600 companies. Each meeting with a company involved learning about their business, providing them with feedback on their investment plans, and advising them on how to access sources of finance. Very few of these companies make it into the investment pipeline and even fewer go into the active pipeline where they are fully analyzed and presented to investors.

Thanks to these efforts, AGP-AMDe secured equity investments for three agroprocessing companies worth more than \$1.6 million and debt financing worth \$9.6 million, and created 374 jobs.

In 2015 alone, the investment team met with more than 346 companies: nearly 100 received one-on-one coaching, and 25 companies were taught how to pitch their businesses to investors. These 25 were introduced to the Impact Angel Network, and were also profiled and “floated” to other investors, funds, and foundations. When an investor expresses interest in a company, the team begins due diligence on the company. The process is intensive and can last up to six months. The process involves conducting market surveys, building financial models, gathering data and building “data rooms” for investors, and preparing a formal due diligence report.

In 2015, AGP-AMDe performed deep-dives on Golla (wax), Guts Agro Private Limited Company (PLC) (food processing), and KROTAJ (sesame). AGP-AMDe helped these companies develop their business strategies; assess market trends; establish and run their boards; build strategic alliances; hire and fire key managers; prepare annual budgets and forecasts; analyze investments; develop financial policies; set up companies’ accounting systems; and hire and train accountants and CFOs. If needed, AGP-AMDe acts as the company’s CFO until they have a quality finance manager. AGP-AMDe also helps the company professionalize their marketing and sales units, launch marketing campaigns, build websites, run sales calls, and bring in partners to help companies improve their operations.

Although it feels like there were large gaps in between investment closings, the investment team built a rung to address the missing middle of Ethiopia’s capital market. Since 2012, the Investment Team has seen impressive growth in investments, investors, and jobs created by the portfolio. The true impact of these investments will come years down the road, but the investments are paying off. Every \$1.00 spent on the investment project has attracted \$19.00 into local companies. The project built a portfolio of seven companies, brought on more than 90 families into the angel network, created almost 500 jobs, and supported more than 1,000 jobs.



AGP-AMDe provided nearly 100 companies with one-on-one coaching. Among these, 25 companies were taught how to pitch their businesses to investors.

Making Agriculture Bankable



Smallholder farmers have little to no recourse for accessing even small amounts of capital, leaving them vulnerable to emergencies and events that require relatively large sums of money.

Sisay Yohannes, the general manager of Sidama Elto Farmer Union, has heard all the reasons why banks decline to give his organization a loan. “No collateral,” “too risky,” and “no business plan” are among the most popular. Thousands of iterations of this scenario happen every day and have as much to do with the farmer organizations as they do with the banks.

Farmers’ inability to adequately present their financial needs has resulted in automatic rejections all over Ethiopia, and the refrain “agriculture is risky” has been ingrained in every banker’s mind. Sidama Elto Farmer Union, created in 2004, is an example of a farmer union that had no working relationship with any Ethiopian banks, despite having 20,000 members from 87 member PCs and working with a variety of commodities. The lack of collateral, such as a warehouse, has always gleaned rejections from banks.

The New Paradigm

Despite encouraging growth in Ethiopia’s agricultural sector, access to financial services in rural Ethiopia remains difficult. The majority of Ethiopian farmers have little formal education and lack the knowledge of how financial services work. At the same time, Ethiopian banks have few risk management mechanisms, limited linkages with other financial service providers, and limited product innovation. With a strong grasp of these challenges, the AGP-AMDe

project modeled an approach to access to finance that takes a fresh look at the gaps and needs of the banks and the farmers.

The first step was to promote loans guaranteed with future sales contracts. CBO regularly loans to farmer unions based on provision of reasonable business plans and buyer contracts. In partnership, AGP-AMDe promoted the concept among other banks and farmer unions.

“Loaning for business is the main way CBO has broken the perception that agriculture is a risky business. We believe in business and if that business returns profits, there is no problem,” explained CBO Vice President Feyera Ejeta.

AGP-AMDe matched investments in warehouse and processing equipment that allowed borrowers to upgrade the quality of their products and services, and trained over 400 key staff from farmer cooperatives and unions in accounting, business planning, and management.

All this was easier said than done. Institutionally, FCUs do not have the skilled man power to prepare bankable business plans, to project and analyze their cash flows, to update their internal bylaws, and to communicate professionally with commercial banks. To create a platform for farmer unions to even be considered for a loan, AGP-AMDe supported the unions by first restructuring old debts and passing new bylaws to make the necessary adjustments.

“Some of our [FCUs] didn’t even know they had outstanding debts. Others didn’t know under whose names the debts were sourced. We realized to restructure these unions, cleaning the slate was necessary,” explained ██████████ AGP-AMDe deputy chief of party and access-to-finance lead.

AGP-AMDe held stakeholder workshops on agricultural financing and presented lessons learned to policy makers, industry associations, and a network of interested financial institutions. A clearer understanding of cooperative unions and strong business acumen on the part of farmers convinced financial institutions to take action, though only at first in conjunction with AMDe support.

Over four years of partnership, AMDe facilitated the disbursement of over \$174 million to over 50 organizations, including unions and small businesses, through eight banks. Those four years of capacity building gave partners the tools to create bankable business plans, mitigate risks, and make sound capital investments in purchasing, new technology, and business expansion.

“Our partner banks’ perception about the risk of farmer unions and farming changed from the first year to the fourth year. Even smaller unions are getting bank loans, and the number of banks interested in lending to agricultural actors is increasing,” said [REDACTED].

Today, thanks to trainings and the coaching services provided by AMDe, over 40 partner farmer unions and cooperatives accessed bank loans for the first time in their histories.

Business Collateral

In 2012, under its partnership with AGP-AMDe, Sidama Elto union members received training in finance and business planning, quality, and PHH. By linking the union with the WFP and a resulting contract, AGP-AMDe assisted [REDACTED] with the union’s first loan.

“We had no collateral, but the CBE accepted the WFP contract and loaned us over \$350,000, which we used to aggregate and store our members’ maize and deliver to WFP,” explained [REDACTED] the union’s general manager.

Thanks to the loan, the union met WFP’s contract of 4,000 MT of maize, and in 2013, AGP-AMDe supported [REDACTED] again to apply for a bank loan, this time for \$670,000.



Over four years of partnership, AMDe has facilitated the disbursement of over \$175 million to more than 50 organizations, including unions and small businesses, through eight banks. Those four years of capacity building have given partners the tools to create bankable business plans, mitigate risks, and make sound capital investments in purchasing, new technology, and business expansion.

BANKING ON RURAL FARMERS

The CBO is mostly owned by farmers and farmer unions, and provides financial services to rural communities. Towns in the Oromia region, like Bedele and Agaro, previously had no CBO branches despite being centers of agricultural commerce. As partners, AMDe and CBO selected the two towns due to their strategic location in the heart of coffee- and maize-growing areas.

As a way to expand the financial reach of CBO to rural farmers, AMDe and CBO matched funds to open new branches in each town in order to give over 1.2 million people the chance to access bank loans and services. According to a feasibility study conducted by the bank, both branches showed potential for profitability within the first three years of operation. In the first two years of operation, the new branches created 18 jobs and reported over \$1 million deposited in bank accounts.

“The customers are out there. AMDe helped us see that and helped us reach our goals. They taught us that there is room for innovation in the financial services sector,” says CBO Vice President Feyera Ejeta.

“In addition to the WFP contract, AGP-AMDe showed us how to write a business plan, how to communicate with loan officers,” he says. “We always knew that we had to buy more to make more, but didn’t know how to access the capital; now we know.” In 2014, the union took \$860,000 and paid it back within five months.

In 2015, AGP-AMDe co-funded the construction of a 5,000-MT-capacity warehouse with the union, which gives the union critical space to store members’ grain and reduce post-harvest losses while providing the union with a new asset to reach even higher levels of capital. Sisay and his team prepared a bankable business plan and submitted a loan application for \$1.4 million once the warehouse was completed. This time, they did it all without the support of AGP-AMDe.

Savings Coop Expands to Entire Village

In Ethiopia, rural savings and credit cooperatives—known as SACCOs—have poor performance records due to constraints such as limited access to technology, poor infrastructure, and low levels of institutional capacity.

The basic tenet of any SACCO is for members to save their money together and make loans with reasonable interest rates. Money earned from interest on loans covers the cost of administration of the loans.

Especially for farmers, SACCOs provide a valuable service in rural areas where other financial services are nonexistent. Hadas Belay is a member of the Embaba Haya SACCO, which is located in a rural area of Tigray in northern Ethiopia. Hadas has five children and farms wheat, maize, and sorghum on less than one hectare of leased land.

She has never looked at farming as a business or as a source of expendable income and relies on her husband for spending money as well as money to support her children.



Like her neighbors, she joined the Embaba Haya SACCO over 10 years ago because there were no readily available financial services in her village. In mid-2014, she took out a three-year term loan worth \$1,400 and purchased two oxen to plough her field as well as one cow and six sheep. In the first year, she expanded her herd to three oxen, three cows, and 14 sheep.

Now she offers her oxen to other farmers at a fee, earning nearly \$400 in the first season. With the money, she purchased a television and an electric stove and ran a water line to her home.

The Embaba Haya SACCO was created in 2003 and currently serves some 1,500 people, or literally every household in the SACCO's coverage area. Before 2013, the community savings and loan group never had the capacity to make loans over \$500.

The Embaba Haya SACCO was created in 2003 and currently serves some 1,500 people, or literally every household in the SACCO's coverage area. Before 2013, the community savings and loan group never had the capacity to make loans over \$500.

“All the transactions were made using paper, nothing was automated or stored in a database. In fact, blanket processes such as applying interest to all savings payments regardless of the deposit date was actually losing money for the SACCO,” explained [REDACTED] AGP-AMDe's access-to-finance expert. “They urgently needed to be updated.”

AGP-AMDe started by training six SACCO employees in basic computing skills including how to use Excel. The second phase of training provided the organization with Peachtree accounting software and computers. Finally, the project refurbished the SACCO's office building, adding a wall-to-wall counter with teller windows and office furniture. The professionalization of the organization created confidence among members to save more frequently. During the partnership, Embaba Haya increased loan disbursement by 112 percent and savings mobilization by 79 percent between 2013 and 2015.

“This is no longer a SACCO, it's more like a rural bank,” exclaimed Tigray Regional President [REDACTED] at the inauguration of the new facility in 2014.

Figure 11. Investment Summary of Results

Employment	Jobs Created 325	Smallholders Supported 2,566
Exports	Containers Exported 17	Export Revenue Generated
Financing	Financing \$6.7 Million \$1.3 Million Equity \$5.4 Million Debt	Expected Financing \$15.5 Million \$3.5 Million Equity \$12 Million Debt
Civic	Students Supported 478	Teachers Supported 10

The loans and savings have allowed farmers like ██████████ to expand agricultural activities and make production more efficient, and the profits from these activities are changing the village. “I will take a larger loan next and help my son to open a metal workshop in the village. He has received training and will be the first blacksmith in our village,” she says.

Now, her husband and two oldest children are SACCO members, and her two younger children are enrolled in the SACCO’s children’s savings program. The program is designed to teach children the virtues of saving and allows them to use the savings when they are older.

METAD: Investing in Coffee

In October 2013, members of the Impact Angel Network closed an investment into METAD Agricultural Development PLC, an Ethiopian specialty coffee company. Aman Adinew, the CEO of METAD, immediately went to work establishing the Hambela farm and securing the Gedeb processing facility. Within a year, METAD had established agreements with 453 smallholder farmers, and now sources cherries from and supports more than 2,566 smallholder farmers.

Focused on developing Ethiopia’s specialty coffee value chain and realizing a vision for crop-to-cup coffee, Aman worked on establishing relationships with international buyers, such as Intelligentsia, Royal Coffee, and Blue Bottle. As a result, METAD generated \$2.2 million in export revenue by selling 17 containers of coffee in less than two years.

METAD has also created full- and part-time employment opportunities in the local community, including 35 full-time and 290 part-time jobs.

As a result of this early success, the Impact Angel Network closed a second round of investment in METAD in December 2015, and METAD also attracted an additional equity investment and debt financing for total financing of \$6.7 million. METAD is in the final stages of attracting another \$3.5 million of equity investments for the equity portion of a \$15.5 million expansion plan. The impact of this latest investment will be to add an additional 183 full-time and 115 part-time employees. The company also anticipates that it will buy from an additional 2,500 smallholder farmers, for a total of more than 5,000.

The company has also been instrumental in bringing positive social change to the community. METAD has helped purchase equipment and uniforms for children at a local school, and has helped support the salaries of the teachers in the community. METAD is now supporting 478 students and 10 teachers.



██████████ CEO of Metad Coffee, meets with retired U.S. General David Petraeus at investment event.

Ethiopian Sesame Company: Betting on Tahini

Members of the Impact Angel Network and another U.S. investment groups recently closed an investment in the Ethiopian Sesame Company, a sesame manufacturing and exporting company based in Addis Ababa, Ethiopia. The Ethiopian, Israeli, and U.S. investors participating in the opportunity anticipate that over the next five years, the Ethiopian Sesame Company will support more than 10,000 small farmers, strengthen the sesame industry in Ethiopia, generate \$32 million in export sales, and create more than 60 direct jobs in the manufacturing sector.

“We are excited to participate in the great potential of the sesame industry in Ethiopia, and about the impact this investment will have,” said a member of the network.

The investment, like others that the Impact Angel Network has made into small and medium enterprises (SME) in East Africa, is anticipated to have a significant impact on the local economy. Support from USAID/Ethiopia through its AGP-AMDe project, which aims to stimulate the growth of SMEs in Ethiopia, helped make this investment possible.

“My family and I are grateful for the support from USAID, the Impact Angel Network, our Israeli partners, the Ethiopian government authorities, and our bank in establishing a tahini factory here in Ethiopia,” commented the owner. “We are confident that this partnership will benefit our employees, our investors, and international buyers who are seeking high-quality sesame products. We believe this investment will encourage more foreign investors to be involved in agroprocessing in Ethiopia.”



This was the Impact Angel Network’s fourth investment in Ethiopia and its fifth investment in East Africa since 2013.

RECOMMENDATIONS: ACCESS TO FINANCE AND INVESTMENT

Nearly all FCUs, with the exception of coffee-producer FCUs, are multipurpose, and the management has a difficult time focusing on one single crop. If FCUs were more specialized on single crops, they could better focus and address the technical and cross-cutting problems related to that crop across the value chain like inputs, trainings, finance, market, PHH, and pricing. Trying to deal with multiple commodities stretches resources and time and makes FCUs less efficient; this situation also makes FCUs appear to be unreliable partners to financial service providers and other business partners.

FCUs and partners should continue working closely with commercial banks and MFIs to convince them to make financing the agricultural sector as normal as any other sector. Banks that ignore the agriculture sector are missing opportunities to finance farmers with specialized access to finance trainings and individualized coaching services tailored to the needs of value chain actors.

While new technologies like “branchless” and mobile banking are still largely ignored by the banking sector, these technologies could enable service providers to reach rural communities without incurring high overhead costs.

For those smallholder farmers who are not members of successful PCs and unions, community SACCOs increase access to financial services at the grassroots level and are strong alleviators of poverty.

New tools like the community receipt system should be piloted in other regions where crop surpluses end up stored and unused as capital. In addition, the USAID-created loan guarantee program, known as the DCA, has the potential to help value chain actors who lack physical collateral.

Investing in Ethiopia

The Investment Team met with hundreds of prospective impact investors to elicit interest in investing in SMEs in Ethiopia. While the growth of the Impact Angel Network continues to accelerate, many investors still want to see that the team can deliver results before they commit to making investments. Thankfully, the Investment Team has now helped investors generate both social and financial returns, which is helping accelerate growth of new members in the network.

Investors should spend considerable time educating entrepreneurs, banks, and government offices on private equity and their objectives, as few have done it in the past. Many individuals and organizations distrust private equity because they do not understand what it entails. Investors must clearly communicate how equity will help the company grow, help the country achieve their Growth Transformation Plan (GTP) targets, what role equity investors will play, and how they will make their returns. Investors should have an in-country senior member who focuses on pipeline development and government relations. This should help overcome the distrust local companies have toward fellow Ethiopians and send a message to companies and the government that the firm is serious about investing in Ethiopia. Investors should expect to spend a considerable amount of time—an average of 24 months—building a relationship with a family-held company.

Investors should rely equally, if not more, on their relationships with entrepreneurs and all of the owners rather than legal contracts and data. The team evaluates an owner/operator on whether they are coachable and scalable. When both scores are high, the deal is worth pursuing. Chances are if the owners trust the investor, negotiations will be smooth, and they will likely trust what the investor's legal team prepares. If trust is not established, efforts will be futile and decisions will be irrational. If an investor finds himself or herself in a drawn-out negotiation, chances are they need to go back to building more trust. Investors should always check multiple times, with multiple sources, whether a deal is permitted by the government for foreign investors.

Dealing with the government and obtaining approvals can go either way. Do not rely on the investment proclamation, local lawyers, or past experiences to determine whether an investment will be approved. This process could cause considerable frustration and confusion with investors, as each approval office and government staff will likely have their own interpretation of a policy. Thus, investors will hear multiple answers when they ask whether they will be approved to invest in a company. If a majority of the answers are “no,” chances are that the investment is not allowed. If answers are mixed, investors will only know once they begin trying to close the investment. The Consumer Protection Agency, a new office for all foreign investments, is one of the first hurdles for approval. The Document Authentication and Registration Office is another hurdle. If investors make it through these, then chances of approval are high.

Still, each time investors close a deal it will be a unique experience. Be prepared for a long and tedious closing process that requires considerable energy to navigate the dynamic, bureaucratic, and ambiguous regulatory environment. If the desk officers at the relevant agencies are familiar with an investor, chances are that the investor will obtain approvals faster than if they are trying for the first time. Repetition has benefits in Ethiopia. Do not complain or become frustrated with the staff, or there will be resistance on the next visit. Use simple investment structures and legal documents; good foreign attorneys can work with local attorneys to come up with appropriate deal documents, but these will expose investors to risks and omissions they may not be used to. The firm's legal team will need to be adaptable and creative to hedge such risks using new structures and side agreements. Finally, it is recommended that investors give power of attorney to a trusted member of their local team to sign documents on their behalf.

Investors will find that they must take a very hands-on role with their portfolio companies, acting at times as a board member, a marketing and sales manager, a quality manager, a finance manager, and a strategic planner for the firm. Investors must first be consultants and also shareholders. Over time, investors will become recruiters and help build middle management at the company. Trust is again a major prerequisite. The owners will likely be hesitant to bring on locals in senior positions, but they will also make decisions based on whatever the less expensive option is; investors will have to work on helping owners see that good talent is expensive.

Investors should plan multiple exit routes before closing because the likelihood that an exit will be challenging is high due to the lack of a public exchange, an inactive private equity market, and hard currency issues.

COMPONENT III: IMPROVING AGRIBUSINESS ENABLING ENVIRONMENT

OVERVIEW

The enabling environment component complements value chain-specific and cross-cutting activities by advancing policy priorities that increase competitiveness in support of the first Growth and Transformation Plan's targets for agricultural growth and GoE policy commitments under the New Alliance for Food Security and Nutrition.

The enabling environment component's goal was to increase competitiveness through the following:

- Enhance private sector participation in input markets
- Promote agricultural finance and investment
- Reduce output market distortions
- Increase efficiencies in transportation and logistics
- Strengthen the institutional structure and capacity of selected commodity value chains
- Encourage greater public and private sector engagement in relevant value chain policy reviews

To achieve these goals and ensure sustainability of project interventions as policy reforms are multi-year efforts, the project's enabling-environment activities were planned in collaboration and partnership with key government institutions including ATA, MoA, ECX, MoT, and FCA.

STRATEGY

The critical first step in affecting policy in Ethiopia is changing the mindset of major stakeholders in the policy-making matrix. The government does not welcome outside intrusion into the policy-determining processes but is interested in international experience relevant to Ethiopia. Therefore, AGP-AMDe's strategy for resolving administrative, policy, regulatory, and institutional barriers to agribusiness growth in the targeted value chains involved providing high-quality technical support through major conferences: the project organizes the conferences at which it presents analytical policy work, including benchmarking and international best practices, in the presence of key stakeholders ranging from policy-making matrix stakeholders to key government partners. The project also worked with industry associations to prepare them for engagement with the government on creating an improved enabling environment for private agribusiness in Ethiopia.

AGP-AMDe conducted a comprehensive analysis of administrative, policy, regulatory, and institutional barriers to agribusiness growth in the targeted value chains that was presented and validated by key stakeholders at the beginning of the project. This business-enabling environment assessment together with subsequent requests from key project partners were the basis for selection of the policy areas that AGP-AMDe has worked on throughout the project. These policy areas are essential to the achievement of GTP I targets for the agricultural sector and GoE policy commitments under the New Alliance for Food Security and Nutrition.

SUMMARY OF LIFE OF PROJECT RESULTS

Through policy analysis, exposure to international best practices, and informal consultations, AGP-AMDe contributed to the advancement of the following policies and initiatives during the life of project:

- Completed a comprehensive analysis of administrative, policy, regulatory, and institutional barriers to agribusiness growth in the project value chains that was the basis for selection of project policy areas
- Informed GoE policy decision to separate the ECX warehouse system from the ECX trading system. The decision was informed by lessons learned from the AGP-AMDe-organized benchmarking trip to South Africa and Colombia
- Informed GoE policy decision to implement an ECX traceability system that allows all coffee and sesame to be electronically coded and marked for sale
- Contributed to GoE policy change on the fragmented institutional coffee structure by deciding to set up a new Coffee and Tea Development and Marketing Authority

- Provided technical input on the Seed Regulation and organized a seed system international benchmarking trip to Bangladesh and Vietnam for senior officials from the MoA and regional bureaus of agriculture; the trip informed ongoing legal, regulatory, and institutional seed system reforms at federal and regional levels
- As a result of AGP-AMDe efforts to raise awareness among policymakers about the need for private sector participation in fertilizer distribution, the MoA/ATA team prepared and presented a policy proposal for revision of the national fertilizer policy and re-establishment of the National Fertilizer Industry Agency to key stakeholders
- Partly as a result of an AGP-AMDe policy push, GoE provisionally lifted the maize export ban in November 2014 by allowing producers and investors (as opposed to traders) to export the maize they produced in the 2013/14 and 2014/15 seasons¹
- Ethiopia is now using both Djibouti and Port South ports to import fertilizer, which was partly informed by recommendations from the AGP-AMDe analysis for improved transport and logistics of Ethiopia's fertilizer imports
- Based on an analysis of the price policy for cereals, including wheat subsidies and the cereal export ban, the project developed a policy brief on ending wheat imports
- Completed transport and logistics study as part of the AGP-AMDe value chains analysis and developed policy recommendations for improvement
- Played a key role in putting together policy recommendations (including those of AGP-AMDe) for a Revised New Alliance for Food Security and Nutrition Framework for Ethiopia

AGP-AMDe Overall Progress in Supporting an Improved Enabling Environment (By Stages of Development)

Table 14. Summary of Enabling Environment Project Activities

	Policy Area	Specific Policy Targets	Approach	Development Stage	Remark/Note
1	Inputs/Seed	Seed system that supports the growth of the private seed industry	Provide technical support to MoA and work with the Ethiopian Seed Association to put the Association in a better position to engage with the government on creating a better enabling environment for the private seed industry	Stage 4: Passed/approved	Seed Regulation (which implements the Seed Proclamation) with AGP-AMDe's specific inputs has been passed by the Council of Ministers
2	Warehousing	Regulatory framework for a third-party warehouse and grading system	Work with ECX, the ECX Board, and industry associations	Stage 5: Passed; being implemented	Ethiopian Agricultural Commodities Warehousing Services Enterprise has been established through the Council of Ministers Regulation and is up and running. This separates the ECX warehousing system from the ECX trading system, which would be the first step in the evolution of a warehousing and grading system that supports the growth of third parties (i.e., private sector warehousing and grading)
3	Outputs	Export ban on maize	Work with MoT, MoA, and industry associations	Stage 4: Passed/approved	The MoT had lifted the export ban on maize for commercial producers, FCUs, and the EGTE until it was reintroduced again recently.
4	Coffee	Institutional coffee structure	Work with MoT, MoA, and the Coffee Exporters Association	Stage 5: Passed, implementation has begun	A new Coffee and Tea Development and Marketing Authority has been established.
5	Coffee	Traceability system	Work with ECX, MoA, MoT	Stage 5: Passed	Coffee Traceability Directive
6	Transport and Logistics	Improved fertilizer transport and logistics	Work with ATA/MoA, the Agricultural Input Supply Enterprise, and the Ethiopian Maritime Affairs Authority	Stage 5: Passed, implementation has begun	Ethiopia is now using both Djibouti and Port South ports for import of fertilizer, which was partly informed by recommendations from the AGP-AMDe analysis on improved transport and logistics of Ethiopia's fertilizer imports.
7	Transport and Logistics	Enhance efficiency of transport and logistics to	Work with ATA/MoA, FCUs, and industry associations	Stage 2: Drafted and presented for	Transport and logistics in project value chains analysis was completed; recommendations were vetted by key stakeholders

	Policy Area	Specific Policy Targets	Approach	Development Stage	Remark/Note
		improve competitiveness of value chains		public/stakeholder consultation stage	
8	Inputs/Fertilizer	Address restrictions for private sector to engage in fertilizer production and marketing by providing input to the ongoing amendment of the Fertilizer Manufacturing and Trade Proclamation and overall review of fertilizer policy	Provide input to MOA on the ongoing review of the national fertilizer policy and amendment to the proclamation as well as work with regional bureaus of agriculture, trade, and industry to roll out a pilot on fertilizer distribution by grain traders in selected woredas	Stage 2: Drafted and presented for public/stakeholder consultation stage	MoA has prepared and presented a policy proposal for revision of the national fertilizer policy and re-establishment of the National Fertilizer Industry Agency, which was dissolved as redundant in 2006, to stakeholders.
9	Output	Wheat import subsidies	Work with MoT, MoA, the Ethiopian Development Research Institute (EDRI)/IFPRI, and Millers Association	Stage 2: Drafted and presented for public/stakeholder consultation stage	AGP-AMDe developed a policy brief on reducing wheat imports.
10	Agricultural Finance	Provision of a national agricultural finance system to meet the needs of small commercial farmers	Work with FCA and MoA	Stage 2: Drafted and presented for public/stakeholder consultation stage	

Life of Project Performance

SEED REGULATORY FRAMEWORK

Provided technical input on the Seed Regulation and organized a seed regulatory framework benchmarking trip to Bangladesh and Vietnam

AGP-AMDe has supported the ongoing seed regulatory system reform in Ethiopia. The project has undertaken an in-depth international comparative analysis of the new Seed Proclamation and the draft seed regulations. The analysis compared and contrasted the new Ethiopian seed regulations with regulatory best practices from selected countries and the Common Market for Eastern and Southern Africa Seed Harmonization Agreement. The analysis further assesses to what extent the new seed law creates a policy environment that enables the private sector to generate and meet market demands for seed, identification of best practices for the development of private seed sector, and development of specific recommendations to improve the evolving seed regulatory framework in Ethiopia in general and the draft seed regulations specifically.

One of the key recommendations of the study is for Ethiopian policymakers to focus efforts on introducing best practices to allow the private seed sector to develop, including easing barriers to introduction of new seed varieties while continuing to support the development of public seed systems. Bangladesh, India, and Turkey were the countries identified by the AGP-AMDe comparative analysis that had weak seed industries a few decades ago. These countries successfully transformed their seed sector by introducing policies that favored private seed sector development while not interrupting the development of the public seed sector.

AGP-AMDe organized a seed system benchmarking study tour to Bangladesh and Vietnam for senior officials from MoA, other relevant federal agencies, and regional bureaus of agriculture. The main purpose of the study tour was to learn best practices in Vietnam and Bangladesh in order to improve and address critical challenges in the Ethiopian system to create a dynamic and effective seed system.

The key lesson from the Bangladesh and Vietnam visit is that smallholder farmers' demands for quality seed will be met only when governments create a level playing field for public and private seed companies to compete. Governments should limit their role to seed quality control and inspection, and they should only regulate selected strategic crops.

The best practices gathered from the study visit are believed to have informed and influenced the ongoing legal, regulatory, and insitutional seed system reforms in Ethiopia both at federal and regional levels. These reforms are creating an improved enabling environment for private seed companies.

AGP-AMDe also directly provided technical input in the drafting of the Seed Regulation, which implements the Seed Proclamation that was issued by Ethiopia's parliament in 2013. The MoA organized last-round consultations on the final draft Seed Regulation with key stakeholders. AGP-AMDe team actively participated in this consultation forum and provided input by proposing specific amendments to the final regulation.

In its final year, AGP-AMDe organized an informal session to present its work on the seed regulatory framework, including a presentation on best practices gathered during the study tour, for representatives from MoA, ATA, and the Ethiopian Seed Association. The project handed over all seed policy related reports to both the MoA and the Ethiopian Seed Association to ensure the sustainability of AGP-AMDe's seed policy work. The Seed Regulation was passed by the Council of Ministers during the project's final year.

Separating the ECX Warehouse System from the ECX Trading System

In the framework of the AGP-AMDe project, USAID/Ethiopia and ECX signed an MoU to identify areas of collaboration with an overall objective of improving the ECX system to better benefit smallholder farmers. The MoU covers sustainable, traceable coffee; Q lab certification; advocacy for policy change for a third-party warehouse and grading system; and warehouse efficiency. Implementation of activities under the MoU is expected to bring increased efficiency to the ECX system in particular and a number of policy changes for the Ethiopian coffee industry in general.

AGP-AMDe worked with ECX on steps to divest warehouse operations from ECX, which would be a first step toward a warehousing and grading regulatory system that supports the growth of third-party (i.e., the private sector) warehousing and grading, in addition to the ECX system. As part of this effort, AGP-AMDe organized a study tour to South Africa and Colombia for ECX Board members and management to observe international warehouse best practices in order to better inform the separation of the ECX warehouse system from the ECX trading platform.

Based on lessons learned from the trip to South Africa, Colombia, and Brazil, regulations to establish a new warehouse public enterprise, Ethiopian Agricultural Commodities Warehousing Services Enterprise, were developed by a committee comprised of MoT and ECX. The committee submitted the draft regulation to the MoT for review, and subsequently the regulation was passed by the Council of Ministers.

Creating a Competitive Fertilizer Distribution System

Since its inception AGP-AMDe worked on private sector participation in fertilizer distribution. The project consistently made the case for addressing implicit restrictions for private sector (grain traders to be specific) participation in fertilizer distribution. AGP-AMDe organized a national conference on fertilizer at which AGP-AMDe presented its analytical work to key stakeholders in the policy-making matrix and continued informal consultations with MoA and ATA. AGP-AMDe reinforced the need for private participation not only in fertilizer marketing but also in fertilizer production following GoE adoption of the blending fertilizer initiative.

In parallel, MoA/ATA set up a technical committee drawn from MoA and ATA to review national fertilizer policy and the Fertilizer Proclamation. It is this committee that drafted the revised Fertilizer Proclamation and proposed re-establishment of the National Fertilizer Industry Agency, which was dissolved in 2006. The committee's proposal was presented to selected stakeholders in Year 4. After incorporating feedback from the stakeholders, the committee submitted its draft national fertilizer policy as well as draft proclamations to revise the Fertilizer Proclamation and Establishment of the National Fertilizer Industry Agency to the MoA.

Compared to the current fertilizer proclamation of 1998, the revised draft proclamation encourages private sector participation in fertilizer production (including blended fertilizer) and trading. Furthermore, the proclamation calls for re-establishing the National Fertilizer Industry Agency, which, among other things, will “advocate, lobby and coordinate for improving the private sector, unions and primary unions’ involvement in the fertilizer industry” and “develop strategies for creating competitive fertilizer production and trade system.” The draft amendment to the Fertilizer Proclamation is currently under review by the MoA.

Policy change on institutional structure for the coffee sector

Coffee constitutes the backbone of Ethiopian export earnings, but the sector is not growing rapidly enough to meet the GTP targets. In addition to AGP-AMDe's efforts to improve the value chain's productivity, quality, PHH, and marketing capacity, the project supported the MoA-led review of the institutional structure for the coffee sector.

In Ethiopia, oversight and promotion of the sector is spread across several government agencies, but there are not enough synergies between these departments to strategically advance the coffee sector. To address this well-known concern, the MoT, MoA, and the Jimma ARC established a committee to review how the government's oversight, promotion, and engagement with the coffee sector is currently organized and to recommend areas of improvement. To support this initiative, in Year 3, AGP-AMDe undertook a best practices in coffee institutional structure analysis and offered to organize a study tour to a select number of Arabica coffee-producing countries that have been able to transform their coffee sectors to reach wider export markets while at the same time benefitting smallholder coffee producers.

After the Inter-Ministerial Committee completed its work and recommendations, the MoT and the MoA separately attempted to address institutional structure issues by setting up a new directorate dedicated to coffee within each of the two ministries.

Toward the end of Year 4, the Prime Minister's Office decided on the re-establishment of the Coffee and Tea Development and Marketing Authority under the MoA. This new authority is in charge of the coffee sector mandate, which has been shared among different government entities. The new Coffee and Tea Development and Marketing Authority was established by a Council of Ministers regulation in Year 5 of AGP-AMDe. In its final year, AGP-AMDe also supported the MoA in the preparation of the International Coffee Conference.

Price policy for cereals including wheat subsidies and cereal export bans

The AGP-AMDe team, in coordination with IFPRI and EDRI, organized a major conference on cereals price policy followed by a mini-conference at which conclusions were drawn. The 11-chapter proceedings were issued and distributed to key stakeholders from the policy-making matrix in Ethiopia.

The proceedings are unique in two respects: 1) they analyze cereals price policy in the context of rapid agricultural growth; and 2) they emphasize cereals market prices as signals for a wide range of government actions rather than focus on support prices and subsidies to change price relationships from those determined by the market.

Three key price policy recommendations came out of the conferences:

1. Government imports of wheat should end gradually over a period of time in the context of measures to solve the import substitution problem of ensuring an adequate supply of milling-quality wheat to processing industries. The AGP-AMDe project provided the data and the analyses that led to a clear statement of policy by the government to gradually stop wheat imports on government's account.
2. The government should continue its current low-cost program of minimal intervention in the cereals markets to provide support prices and storage for cereals. The project provided the government with the data and analysis to stand up to intense pressures to enter into large-scale, expensive support and storage programs for cereals.
3. The present policy of maximizing government efforts to maintain very high cereals growth rate should continue. The government should minimize diversion of resources to price-support activities to ensure rapid growth in cereals through a major emphasis on intensive livestock feed. The conference papers provide a detailed analysis of these issues. AGP-AMDe believes that its analyses ensure rapid, high-level support of the new five-year plan for growth in livestock production and especially in the intensive production areas where the bulk of the impact will be felt. Livestock growth will become essential to maintaining cereals prices and hence the growth rate in cereals production.

The project developed a comprehensive fertilizer procurement and distribution strategy to improve the efficiency of fertilizer supply chains with short- and long-term recommendations.

AGP-AMDe undertook analytical work on developing improved transport and logistics for Ethiopia's fertilizer imports. The conclusion of the AGP-AMDe analysis is that Ethiopia seems likely to become self-sufficient in all three major plant nutrients by 2015 and thereafter have the capacity export potassium, but not nitrogen or phosphates. However, it will continue to import sulphur and minor plant nutrients until 2020. The analysis provided a set of short-, medium-, and long-term recommendations to improve Ethiopia's fertilizer imports.

AGP-AMDe work on improved transport and logistics for Ethiopia's fertilizer imports was presented and validated in the presence of key government stakeholders including the director generals of the Agricultural Inputs Supply Enterprise and Ethiopian Maritime Affairs Authority; the CEO of ATA; the director of the Input Marketing Directorate within the MoA; and the deputy CEO of the Ethiopian Shipping Lines and Logistics Enterprise.

Partly informed by recommendations from the AGP-AMDe' analysis on improved transport and logistics, the government decided to use both Djibouti and Port South ports to import fertilizer in 2014.

Completed Transport and Logistics in AGP-AMDe Value Chains analysis and developed recommendations for improvement

Addressing transport and logistics bottlenecks is essential for improving the competitiveness of the six value chains targeted by AGP-AMDe. The efficiency of transport and logistics is important in determining the success of income generation for producers of crops in these value chains. Fast, low-cost marketing channels will increase value chain competitiveness, both nationally and globally.

In order to address transport and logistics bottlenecks, AGP-AMDe undertook a domestic transport cost analysis and developed interventions for improvement. The domestic transport cost study analyzed "farm gate to market" transport and logistics costs, including opportunity costs and detailed analysis of the impacts of delays and limited logistics infrastructure. In Year 4, AGP-AMDe carried out an analysis of domestic transport costs for all project value chains. A report on this activity was included in Year 4 annual report. The report also identified weak links in the marketing, storage, and processing for each of the six commodities and contained seven key conclusions and recommendations.

Inclusion of AGP-AMDe policy agendas in policy recommendations for a revised New Alliance for Food Security and Nutrition Framework for Ethiopia

Following the New Alliance for Food Security and Nutrition Progress Review in 2014, the ATA and USAID's Agriculture Knowledge, Learning, Documentation and Policy Project (AKLDP) were mandated by the Private Sector Development Task Force. This taskforce is mandated to coordinate, harmonize, and support implementation of private sector

investment and interventions in the agricultural sector; and to facilitate stakeholder meetings among private sector, civil society organization, and development partner stakeholder groups to identify policy recommendations for a revised New Alliance Cooperation Framework for Ethiopia.

AGP-AMDe worked proactively with ATA and AKLDP to leverage life-of-project policy efforts to be sustained in Ethiopia's policy commitments under a revised New Alliance Framework. The project also proactively participated in compiling and synthesizing policy recommendations proposed by other stakeholders that were endorsed by both the MoA and the MoT.

Once the GoE has endorsed the revised policy commitment areas, the next step is to identify development partner resources (technical, financial, or otherwise) to work on each of the eight policy reform and institutional-strengthening areas. Some development partners, including USAID, have indicated which policy areas they are interested in supporting.

Inclusion of most of the project's policy agenda in the revised New Alliance Framework has given AGP-AMDe a stronger basis on which to advance ongoing policy work in the remaining life of the project. Most importantly, the revised New Alliance Framework is as an excellent platform to ensure that the policy agendas that AGP-AMDe has been advancing continue beyond the life of the project.

RECOMMENDATIONS: BUSINESS ENABLING ENVIRONMENT

As evidenced by AGP-AMDe data and analyses, the government should continue on the path toward the gradual phasing out of wheat imports. The government should also continue its current low-cost program of minimal intervention in the cereals markets in providing support prices and storage for cereals.

The present policy of maximizing government efforts to maintain very high cereals growth rate should continue. The government should minimize diversion of resources to price-support activities to ensure rapid growth in cereals through a major emphasis on intensive livestock feed. The conference papers provide a detailed analysis of these issues. AGP-AMDe believes that its analyses ensure rapid, high-level support of the new five-year plan for growth in livestock production and especially in the intensive production areas where the bulk of the impact will be felt. Livestock growth will become essential to maintaining cereals prices and hence the growth rate in cereals production.

AGP-AMDe undertook analytical work on developing improved transport and logistics for Ethiopia's fertilizer imports. The conclusion of the AGP-AMDe analysis is that Ethiopia seems likely to become self-sufficient in all three major plant nutrients by 2015 and thereafter have the capacity export potassium, but not nitrogen or phosphates. However, it will continue to import sulphur and minor plant nutrients until 2020. The analysis provided a set of short-, medium-, and long-term recommendations to improve Ethiopia's fertilizer imports.

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Following the New Alliance for Food Security and Nutrition Progress Review in 2014, AGP-AMDe worked proactively with the ATA and USAID Agriculture Knowledge, Learning, Documentation and Policy program to leverage life of project policy efforts to be sustained in Ethiopia's policy commitments under a revised New Alliance Framework as well as proactively participated in compiling and synthesizing policy recommendations proposed by other stakeholders that were submitted to the MoA for endorsement by the government.

Inclusion of most of the policy agenda in a revised New Alliance Framework has given AGP-AMDe a stronger basis to advance ongoing policy work in remaining life of the project. Most importantly, the revised New Alliance Framework is as an excellent platform to ensure that the policy agendas that AGP-AMDe has been advancing continue beyond life of the project.

COMPONENT IV: GRANTS TO STIMULATE INNOVATION AND INVESTMENT

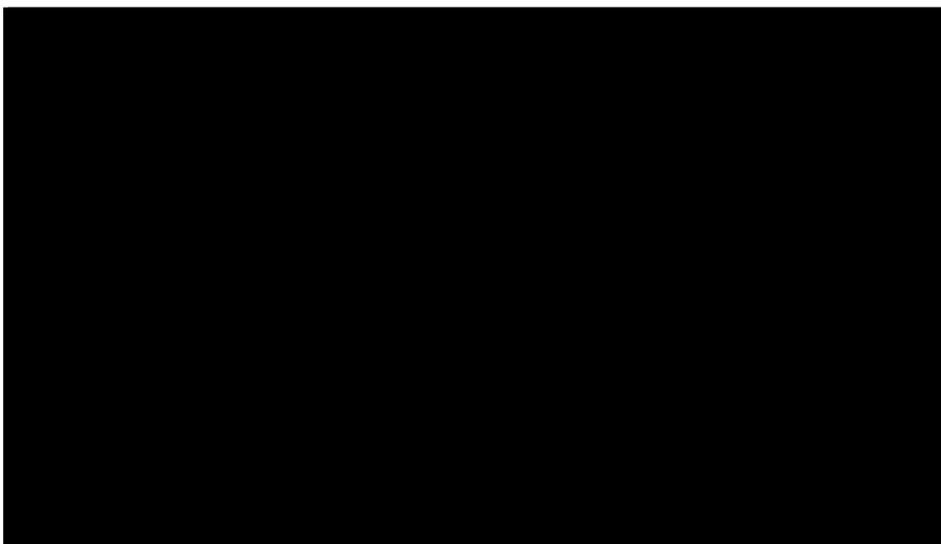
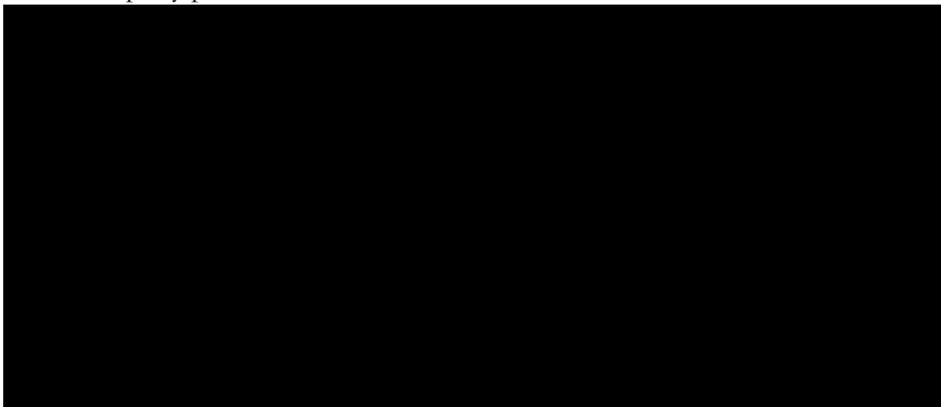
OVERVIEW

The Innovation Fund was a key resource to facilitate investments in a broad range of competitiveness-enhancing activities with a focus on innovative approaches and technologies. The project identified leverage entry points in each value chain by collaborating with strategic partners for innovative grant interventions.

The innovative activities funded by AGP-AMDe grants will lead to expansion of service networks and increased value addition to create demand pull and improved service delivery for farmers. This will result in access to new resources, information, and markets and will subsequently lead to adoption of new technologies and increased income opportunities for smallholder farmers. This will also lead to changes in the processes and mindsets of project partners with built-in capabilities for sustainability of the initiatives beyond funding periods.

SUMMARY

Under Component 4, AGP-AMDe awarded 396 grants and construction contracts totaling \$13,812,362² through the Innovation Fund. AGP-AMDe innovation grants will attract about \$19 million in matching contributions by grantees and third-party partners.



ANALYSIS: GRANTS

AGP-AMDe made significant contributions, in line with the country's GTP II objectives, to Ethiopia's agriculture and agroprocessing sectors through the introduction of new technologies, management practices, and systems; addressing storage and warehousing capacity constraints; improving public seed research system capacity; and attracting and leveraging investments in agroprocessing and value addition.

² This number is preliminary and will be finalized once VAT refunds are booked and project books are closed

In partnership with ECX and international coffee buyers, AGP-AMDe laid the foundation for Ethiopia's first, large-scale coffee traceability system. The national digital traceability system is run and managed by ECX, and will boost coffee export earnings and ultimately increase smallholder coffee farmer incomes. The system is not limited to coffee and will be applied to sesame and perhaps other commodities.

As global food systems evolve to place a higher importance on knowing and understanding the source of ingredients, this system gives Ethiopian farmers an invaluable resource that justifies premium prices. This initiative demonstrates a unique public-private partnership between AGP-AMDe, which contributed \$1.8 million; international coffee buyers through the Sustainable Coffee Program/IDH (SCP/IDH) SCP/IDH, who contributed over \$1.3 million; and ECX, which is investing over \$1.4 million in the initiative.



Program warehouse initiatives increased the national storage capacity by 64,000 MT.

state-of-the-art irrigation and seed quality testing laboratory equipment. The investment, which was worth \$728,858, is a small step toward catalytic potential. The ability of these centers to carry out trials on new basic and improved seed and to increase seed multiplication and distribution is the basis of the value chains.

In 2014, AGP-AMDe, in collaboration with ATA and the MoA, established the first fertilizer blending plant in Ethiopia under the Becho Weliso FCU, located in Tulu Bolo, Oromia. Over the course of the next year, four additional fertilizer blending plants were established through World Bank funding in partnership with AGP-AMDe, ATA, MoA, and farmer unions. At all five factories, AGP-AMDe introduced state-of-the-art management systems by funding one-year management contract services that deploy competent local and international experts to manage the plants, transfer skills, and build the capacity of the unions. AGP-AMDe was a pioneer in the initiative and worked closely with government agencies to lay the foundation for the expansion of a sustainable blended fertilizer industry. AGP-AMDe's investment totaled \$1.6 million.

Innovation Grants Awarded by Type of Partner

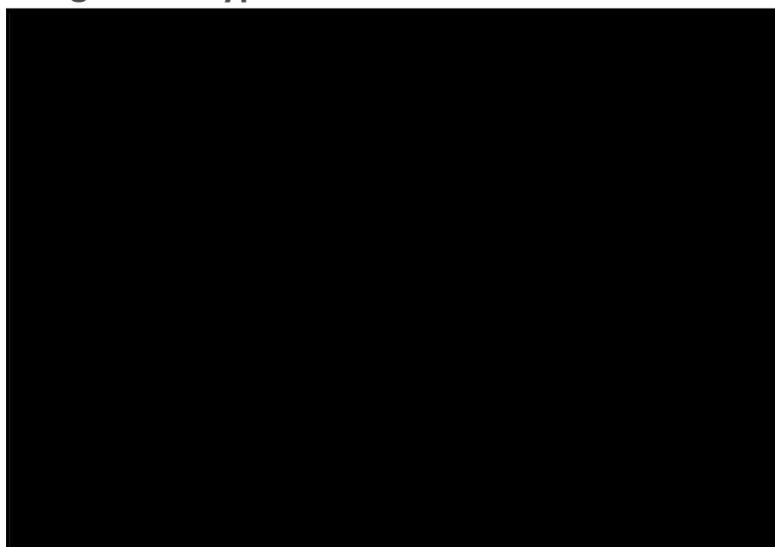
AGP-AMDe also made innovative choices to encourage the adoption of new agroprocessing and farming technologies, equipment, and facilities. In some cases, these investments are small but have the potential for replication by other value chain actors. In the case of wheat threshers, the project complemented the investment with farmer field days and popularization campaigns.

The SMFM training used a ToT and cascade approach to reach large numbers of farmers. It directly trained lead farmers who in turn trained a wider base of farmers at the farm-gate level. This cascade approach was identified to address a lack of capacity. FCU and cooperative management facilitated the cascading of the SMFM training for cooperative

AGP-AMDe built 16 large warehouses to address a critical storage crisis facing a number of farmer unions nationwide. Warehouse infrastructure enables farmer unions and partners to meet volume and quality requirements set by local and international buyers. Modern warehouses give union managers an invaluable resource that reduces post-harvest losses and increases union balance sheets, translating into increased access to capital through bank loans. Storage facilities were built for maize-, sesame-, wheat-, and chickpea-producing unions. The warehouses were built in strategic locations taking into account market access and operational efficiency. AGP-AMDe's investment of \$3,917,125 leveraged \$2,755,802 worth of partner investments to build the 16 warehouses.

Eleven ARCs, known as the centers of excellence, for the five AGP-AMDe value chain crops were equipped with

Figure 12. Type of Innovation Grants



members. A total of 96 SMFM grant activities were successfully implemented in partnership with farmer unions and cooperatives.

Grant Summary

Coffee Innovation Grants

AGP-AMDe implemented 51 grants [REDACTED] to support innovative interventions in the coffee value chain. These innovation grants catalyzed partner investment that improved coffee-processing capacity by establishing 12 coffee washing stations and one hulling station (both equipped with modern coffee washing and hulling equipment) as well as over 45 mobile coffee pulpers and drying beds. The coffee value chain grants include the following:

- 12 coffee washing stations equipped with modern coffee processing equipment procured and installed
- One coffee hulling station with modern equipment procured and installed
- 45 coffee pulping machines and drying beds installed and in use
- 4 ECX labs (Addis, Jimma, Hawassa, and Dilla labs) furnished with modern laboratory equipment for certification by SCAA
- Facilitated C.A.F.E. Certification for Oromia Coffee Union
- 5,000,000 improved variety coffee seedlings distributed
- One ECX cooperatives annual conference facilitated
- Two international coffee conferences conducted

Sesame Innovation Grants

AGP-AMDe implemented 49 grant activities worth \$3,260,529 to support innovative interventions in the sesame value chain. The following are grants supporting the sesame value chain:

- Four 5,000-MT-capacity sesame warehouses
- Five sesame-processing plants with the capacity to process 5–7 MT per hour were procured and installed and are currently in operation
- Two international conferences sponsored



The program co-invested in four 5000 MT capacity sesame warehouses and five industrial sesame processing plants.

Chickpea Innovation Grants

AGP-AMDe implemented 39 grant activities worth \$1,252,296 to support innovative interventions in the chickpea value chain. The grants supporting the chickpea value chain include the following:

- One large warehouse (5,000 MT capacity) completed for Becho Woliso FCU at Tulu Bolo, Oromia
- 277.7 MT of improved chickpea basic seed distributed
- 3 tractors and agricultural implements procured and in operation
- One large agroprocessing factory (Guts Agro Industry in Hawassa) implemented and in operation
- One seed cleaning and packing machine installed and in operation
- One large chickpea processing and packing plant including color sorter (Agro Prom International PLC) delivered, installed, and in operation
- 2 small-scale chickpea processing millhouses (for two female farmer coops)—prefab facility installed and equipment installed

Maize Innovation Grants

AGP-AMDe implemented 104 grant activities worth [REDACTED] to support innovative interventions in the maize value chain. Major maize value chain financing is designed to address systemic storage constraints across the value chain to meet market requirements. These grants enabled partners to meet volume and quality requirements set by the WFP P4P program and other institutional buyers. The following grants supported the maize value chain:

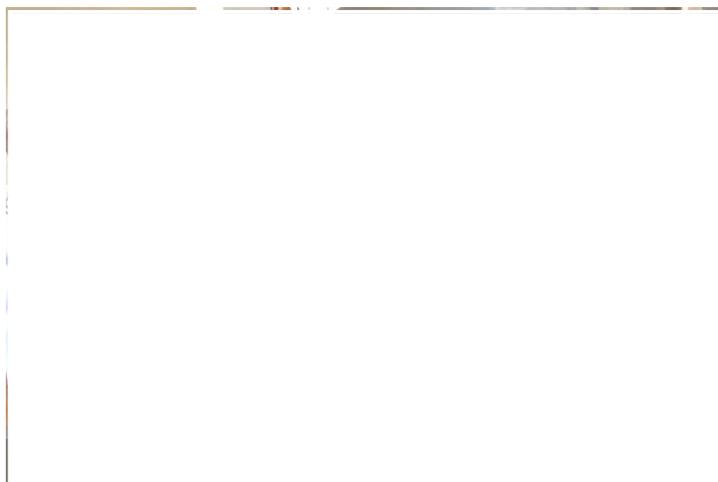
- 8 maize warehouses (six 5,000 MT-capacity warehouses, one 2,500 MT-capacity warehouse and one 1,500 MT-capacity warehouse) for the following FCUs: Gibe Didesa, Becho Woliso, Sidama Elto, Merkeb, Admas, Damot, Oyessa Dawro, and Gozamen
- 5 seed cleaning and packing machines

- One large flour mill plant commissioned and in operation
- One tractor including agricultural implements procured and in use

Honey Innovation Grants

AGP-AMDe implemented 44 grant activities worth \$883,493 to support innovative interventions in the honey value chain. These innovation honey grants introduced new technologies and equipment to improve honey processing quality and enhance honey export. The following grants supported the honey value chain:

- One modern honey processing plant for the Zenbaba union installed and currently in operation
- 4 grants for modern honey equipment
- 4 modern apiary sites and processing and technology centers implemented
- 2 honey trade shows
- 2 EU accreditations and certifications
- 1,500 modern beehives with beekeeping accessories for female beekeepers
- Research center provided training to three farmer groups
- One honey storage and processing center rehabilitation completed



Zenbaba honey processing plant is now Ethiopia's largest honey processing plant.

Wheat Innovation Grants

AGP-AMDe implemented 85 grant activities [REDACTED] to support innovative interventions in the wheat value chain. The innovation wheat grants attracted investments from partners to improve wheat productivity, introduce good harvesting practices, and enhance seed-processing capacities. The following are grants to support the wheat value chain:

- 5 tractors and agricultural implements procured and in use
- 2 seed processing and packing machines installed and in operation
- 57 wheat threshers delivered and in use
- One 1,100 MT-capacity seed warehouse constructed
- 120 MT of basic seeds distributed

Input Supply Innovation Grants

AGP-AMDe implemented 11 grant activities [REDACTED] to support input supply market improvement and enhance localized blending of fertilizers that will result in immediate national production advantages across multiple value chains. The following grants support the input supply value chain:

- One blended fertilizer factory installed with the capacity to blend 50 MT per hour
- One warehouse to house the blended fertilizer factory completed
- 5 blended fertilizer management contracts to introduce new technology and management practices in blended fertilizer manufacturing, operation, and marketing

Access-to-Finance Innovation Grants

AGP-AMDe implemented five grant activities worth [REDACTED] to support innovative interventions to improve access to finance across the six value chains. Innovation grants were designed to improve access to finance, introduce new technologies and mobile banking practices, and increase rural savings and credit mobilization. Twenty-four SACCOs also get capacity-building support through partnerships with CBO. The following grants support access to finance:

- 24 SACCOs were provided rural finance support and capacity building
- 2 branch offices in rural AGP-AMDe woredas—completed
- One SACCO received capacity-building support to graduate it to a rural bank (Embaba Haya)—completed

Grading and PHH Equipment and Tools

To improve farmer unions' and cooperatives' capacity to meet the contract delivery requirements of the WFP P4P program, 15 grant activities provided new equipment and introduced good PHH practices through provision of 15 sets of PHH equipment to participating unions. Moreover, 39 innovation grants also provided new grading and quality testing equipment for 39 unions to enable them to improve their harvesting practices and meet market quality standards. Both the PHH equipment and the grading and quality testing equipment were distributed to 54 beneficiaries during Year 4. The following is a summary of agricultural equipment provided to 15 unions:

- 31 fumigation sheets; 24 knapsack sprayers; 24 portable sack stitching machines; 16 grain cleaners; and 16 maize shellers
- 39 sets of quality testing and grading equipment and tools
- 162 moisture testers; 162 riffle sample splitters, 178 bag triers (sample drawer), 162 top load balances (compact scales), 178 sieves and bottom pans
- 29 maize shellers to AMSAP cooperatives

CROSS-CUTTING ACTIVITIES: GENDER

OVERVIEW

Both women and men are actors in agricultural value chains in Ethiopia, yet their roles, responsibilities, and limitations are often determined by gender norms, often to the disadvantage of women. There are numerous gender-based constraints that disproportionately affect women, particularly related to access to and control over productive resources, including land, inputs, labor, technologies, information and technical assistance, cooperative systems, extension systems, credit, and water. Women are also greatly disadvantaged in comparison to men in accessing the services provided through agricultural cooperatives. According to the Ministry of Women's Affairs, only 12 percent of cooperative members are women. This is likely due to the fact that almost all cooperative members are household heads. In addition, men are five times more likely than women to hold a leadership position within a cooperative. Women are disproportionately affected by HIV/AIDS, illiteracy, gender-based violence, and traditional practices including early marriage, rape, abduction, large family sizes, and heavy workloads including domestic work, subsistence farming, and income-generating work. The Global Gender Gap index ranks Ethiopia at 122 out of 130 countries in gender equality.

STRATEGY

AGP-AMDe supported the development and adoption of organizational systems and tools to identify and address inequality, build public and private sector awareness and capacity, strengthen networks of individuals and organizations promoting gender equity, create public awareness, and target innovation investments in areas that benefit women. This strategy was implemented through three interwoven interventions: 1) targeted, strategic actions that empower women along the value chains and across all components; 2) support and facilitation of mainstreaming efforts to positively influence institutional policy, systems, and practices; and 3) development of a women leadership network with capacity building in entrepreneurship and leadership that enables mentor-mentee relationships and linkages with regional and international women's networks.

SUMMARY OF LIFE OF PROJECT RESULTS

Table 17. Gender Summary of Results

Gender Overall Results	
Total Women Trained	62,482 households
Women Participation in Farmer Training (Average)	36%

- Created **WALN** reaching more than **1,000 female entrepreneurs** with business, finance, and leadership training and mentorship
- Designed and implemented an intensive multilingual campaign to increase female membership in farmer cooperatives to more than **78,000 women**

ANALYSIS: GENDER

From the start, the AGP-AMDe project put in place a comprehensive approach to gender mainstreaming within the project to ensure that stakeholders were given equitable access to project resources and capacity building. This has been done through a two-pronged approach. First, the team worked to mainstream gender equity across project components and ensure that women participated equitably. Second, staff applied a targeted approach that designated specific activities and resources toward bridging the inequality gap between women and men.

An internal impact assessment in November 2015 produced findings that were overwhelmingly positive, although the data was primarily qualitative. The project started before the Women’s Empowerment in Agriculture Index (WEAI) was introduced and therefore could not track impact on key WEAI domains such as women’s leadership, access to and control over assets, or decision-making authority within the household or community in a systematic manner. Overall, however, AGP-AMDe applied a gender-inclusive strategy that contributed to economic security, increased women’s membership and participation in the cooperative structure, and built sustainable networks among female agribusiness leaders.

The environment for engaging women at project start-up was very challenging given the economic and cultural constraints faced by women in Ethiopia. Since then, the GoE, donors, and other civil society actors have invested heavily in gender equity and women’s empowerment. AGP-AMDe was able to capitalize on this. Leverage and collaboration is invaluable, and understanding what roles public and private sector actors are playing as well as what resources are available to support gender equity and women’s empowerment can enable a project to expand its reach and impact. Thanks to this support, we observed shifts in attitudes, norms, and values. For example, men became more open to their wives carrying out livelihood activities and having women in leadership positions, as they became aware of the resulting benefits to households and communities. The project’s drive to increase female membership in cooperatives laid the groundwork for even greater impact on women in the second phase of AMDe.

It is important to note that issues can differ from region to region, and even community to community. Having dedicated staff on the ground who understand the specific issues and are able to respond as needed allows for the development of relevant solutions. The assessment revealed that project staff work closely with the beneficiary groups they support, are familiar with their specific needs, and adapt the approach as required. AGP-AMDe worked through farmer organizations, including FCUs and PCs, with a specific emphasis on both adoption of new technologies for increased productivity and support to cooperative leadership to improve their capacity to serve their members. In line with the overall AGP gender target, the team set a quota of 30 percent for female participation in trainings and other activities. In all trainings, the project accounted for women’s lower education levels by designing materials that illiterate beneficiaries can understand.

The table below shows the numbers reached through training programs. On average, the project achieved 36 percent female participation in trainings, which is over the 30 percent target. Only in the sesame and chickpea value chains was female participation below target.

Table 18. Total Amount of Women Trained Under Project

Total Number of Women Trained through the Life of Project			
Value Chain	Total Trained	Women Trained	% of women
Wheat	19,645	6,976	36
Maize	38,885	12,540	32
Coffee	16,566	4,550	27
Sesame	15,185	2,479	16
Chickpea	13,730	5,782	42
Honey	17,580	6,276	36
Nutrition	52,007	23,879	46
Total	173,598	62,482	36% (Average)

Women participated more heavily in trainings that were short and close to home. It was more difficult to have women attend trainings that were held in regional urban centers and that lasted more than one day, either because husbands would not allow it or because the women had other responsibilities to attend to. Creating an environment where women are able to attend all trainings should be emphasized going forward. The SMFM training is also captured in these numbers. That training included a module on gender-sensitive coop leadership, which was positively received by male and female cooperative members.

The data shows that women benefitted from AGP-AMDe’s capacity-building support. Of the total number of beneficiaries who applied new technologies or management practices as a result of U.S. government assistance, 28 percent were women. According to data on yield per hectare by value chain, there is no statistically significant difference for men and women. This fact confirms that women are accessing and benefitting from the improved technologies and increasing gross profit per hectare. Project support also generated the following jobs for women:

- Operators of processing and cleaning equipment, which was received through grants to cooperatives
- Other full-time jobs in cooperatives such as agronomists, storekeepers, and cleaners

- Coffee seedling producers
- Jobs related to the development of market linkages in different value chains

Of the total 6,000+ full-time equivalent jobs created since the beginning of the project, 40 percent were filled by women.

In 2014, the GoE established a 30 percent target for female membership at PCs and FCUs as a way to emphasize the increased efficiency that these groups would enjoy through active participation and leadership from women. As registration is both the first step and one of the biggest challenges to increasing women’s participation, beginning in early 2014, AGP-AMDe’s behavior change communication (BCC) staff designed and implemented an intensive multilingual BCC strategy targeting four AGP regions—Amhara, Oromia, SNNPR, and Tigray. The project offered incentives such as scarves for women who signed up and umbrellas for current members who recruited five or more women to join. Additionally, the campaign offered walking tractors and motorcycles to the PCs that showed the highest increase in female participants. Over 78,000 women joined cooperatives in nine months; AGP-AMDe verified more than 43,700 of these registrants.

Women’s membership in PCs varies by region.³ According to partner FCUs, as of September 2015, female membership is highest in Tigray at 28 percent, followed by SNNPR, Amhara, and Oromia, at 16, 15, and 9 percent, respectively. The numbers also vary by value chain.

Table 19. Percent Increase Female Membership to FCUs Per Value Chain

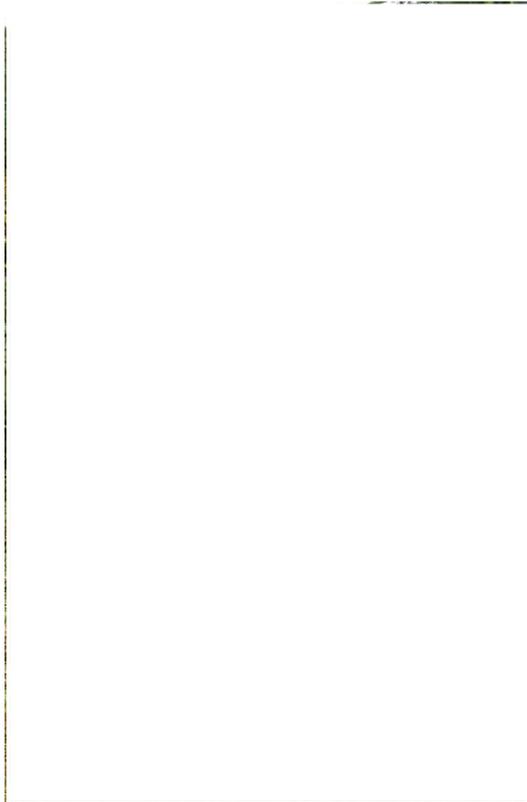
Value Chain	# of FCUs	Female Membership (%)
Sesame	7	21%
Maize	12	12%
Wheat	9	12%
Chickpea	1	10%
Honey	3	20%
Coffee	8	11%
Mixed	11	15%
Total	51	14% (Average)

Aside from the incentives offered for joining and recruiting others, female farmers already are reporting increases in income and benefits thanks to their new membership with PCs and FCUs. Women interviewed during the assessment highlighted the economic and social benefits of cooperative membership, including access to affordable inputs as well as staple goods such as sugar and oil at geographically convenient locations; transportation to move their commodities; marketing services; and technical training. They also talked about feeling confident speaking in public and aspiring to leadership positions. Interestingly, male members of cooperatives with significant female membership are enthusiastic about female members, claiming that they are hardworking, trustworthy, and good farmers, and have improved the overall performance of the organizations by joining and/or leading them. However, the number of women in leadership positions remains low. The exception was in cooperatives where members and leaders had received gender mainstreaming support from other projects or the GoE.

AGP-AMDe was able to reach the extremely vulnerable through CIGs by bringing together landless youth and women in groups for activities such as beekeeping and growing coffee seedlings. The project provided technical capacity-building support to CIGs and opportunities through linking with cooperative and FCU partners in an effort to bring them into commercial supply chains. The various technical, agronomic, and management trainings provided resulted in improved farmers’ incomes. The activities also contributed to the development of the targeted value chains. Most of the groups formally registered or in the process of registering so that they can benefit from project and GoE support (land, training, oversight). Some members participated in WALN and are helping the groups to develop business plans with ambitious plans for the future.

³ <http://ethioagp.org/agp-amde-promoting-women-members-in-cooperatives/>.

Female Honey Production Groups



The Agunta PC in Dangla woreda in the Amhara region has 682 male members and 1,166 female members. Many are couples and around 350 are widows. AGP-AMDe worked through six women's groups in the PC, which were originally formed six years earlier by Oxfam. Each group had 20 members. They met monthly and rotated leadership to give everyone a chance to make decisions. They participated in savings and credit and adult education where they covered topics like health and nutrition, agriculture, and education. This is another example of the ability to leverage gender work carried out by another organization. AGP-AMDe provided group members with hives, wax molders, extractors, and other equipment. All women interviewed say they have increased their family income as a result of this support. As the PC grows, they expect more benefits.

Selling alone to traders, they had to deal with incorrect weights, low prices, and late payments. Now they get paid right away, and they also receive dividends with increased sales, as well as access to credit, equipment, and training. Last year the PC sold 43,500 kg to Zenbaba FCU. This year, local traders are offering better prices.

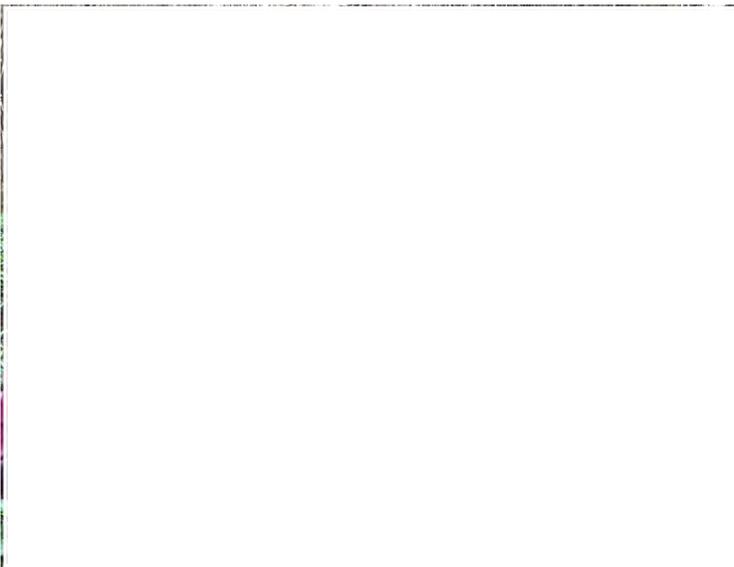
Female members told the assessment team that they manage household income together with their spouses. They typically spend money on food and school fees and are now able to save. They benefitted from empowerment trainings from the GoE and other NGOs, and AGP-AMDe was able to build on that.

The women in the group say they learn more than beekeeping. Through this intervention, they develop skills to operate independently.

Discovering a New Business: Coffee Seedlings

Edget Besira CIG, based in Beko village in Oromia, was formed in 2012 with the support of AGP-AMDe. The coffee seedling-producing group

has two objectives: to provide sustainable livelihoods for its members and to address the shortage of healthy coffee seedlings. The group started with 20 members and today has 17, of which 41 percent are women. The members were selected from among the most vulnerable. Some are students while others were jobless. Some of the older women are widows or divorced and had no land and no way to earn money. Members' ages range from 18–35 years old.



In the first year, AGP-AMDe provided the group with 230,000 seedlings along with technical assistance. Group members contributed their labor and the local materials, which went into the construction of the protective structure. The project also helped them to formalize the group so that they could access government support and other benefits. Since then, the government has given the group one hectare to carry out their work.

The seedlings take 9–12 months to cultivate. Their target market is local farmers. In the first year, they sold all their production. They earned \$6,100, out of which each member received an ox worth \$235 and a \$100 dividend. The remainder was used to purchase 120,000 seedlings from the GoE at a slightly subsidized price. They decided to plant fewer seedlings than last year to manage their risk. The seedlings are now five months old.

The CIGs have faced several challenges including pests and hail, but their training served them well and the plants are healthy.

Members say they are all satisfied with the performance of the group. They intend to continue to meet local demand for seedlings and also hope to install a small pulper. This activity has not only benefitted Ethiopia's coffee value chain by increasing the availability of new plants, it has

also transformed the lives of extremely vulnerable community members. However, the chairman and three committee members are men. There is one woman on the control committee. According to the men, the women have other responsibilities and are too busy to participate in leadership roles. Given the percentage of female members in the group, it is important for them to engage actively in the decision-making process going forward. Through its grants program, AGP-AMDe distributed 3 million coffee seedlings in Oromia and 2 million in SNNPR valued at \$198,000 to seven groups, which includes 1,000 women. As a result of these grants, approximately 100 jobs were created for women.

Women’s Agribusiness Leadership Network

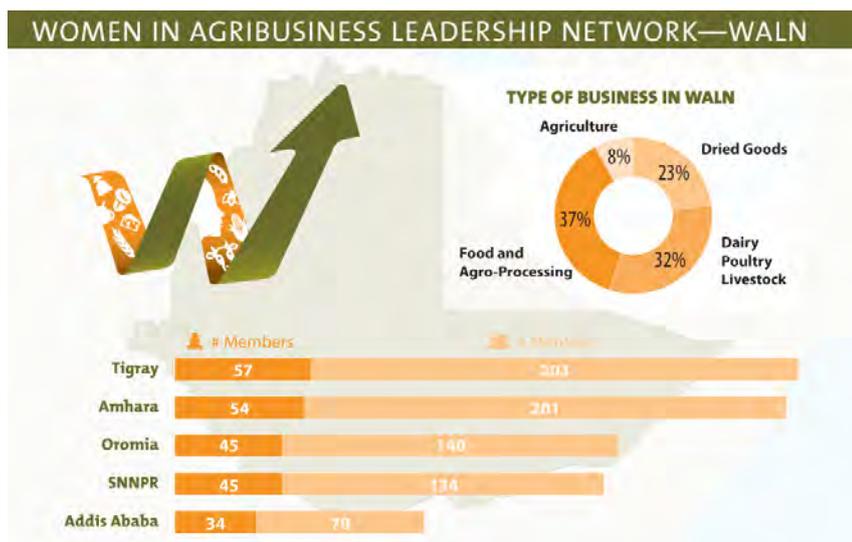
AGP-AMDe designed and developed WALN programming according to an overall business alliance-building model coupled with targeted training, access to finance, and networking support. The WALN initiative sought to economically empower women through innovative capacity building designed to increase their income, productive assets, technology adoption, network participation, leadership, and access to viable markets and quality business services. The overall objective of the initiative was to build capacity among businesswomen owning and operating businesses of various sizes in key food security value chains. The objective was supported by programming that sought to enable the business success of WALN participants in four ways:

- Build skills and knowledge for successful, well governed, and transparent business management and operations
- Develop enhanced leadership capability to drive business success and sustainability
- Develop a sustainable internal mentorship culture where successful business women share experiences, skills, and knowledge to enable and facilitate business success for all women working in agribusiness
- Establish professional networks to enable women working in agribusiness to join forces for the success of their agribusinesses and to build wide-reaching and impactful business-to-business relationships among women working in agribusiness

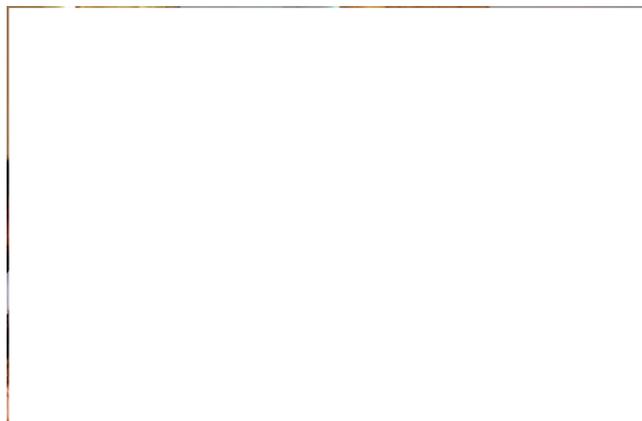
Beyond enabling agribusiness women to join forces when addressing the significant challenges to their agribusiness performance and growth, WALN programming introduced very significant opportunities for cascading reciprocal learning mentorship activities by WALN participants.

In the first round, 94 women from the four regions completed the training program. Each of the graduating mentors introduced three to four new participants into the programming and mentored them. A total of 125 women joined the network in the second round and committed to mentoring 375 women. Over two years, the network reached over 1,000 women with business development services and support.

Figure 13. WALN Summary of Results



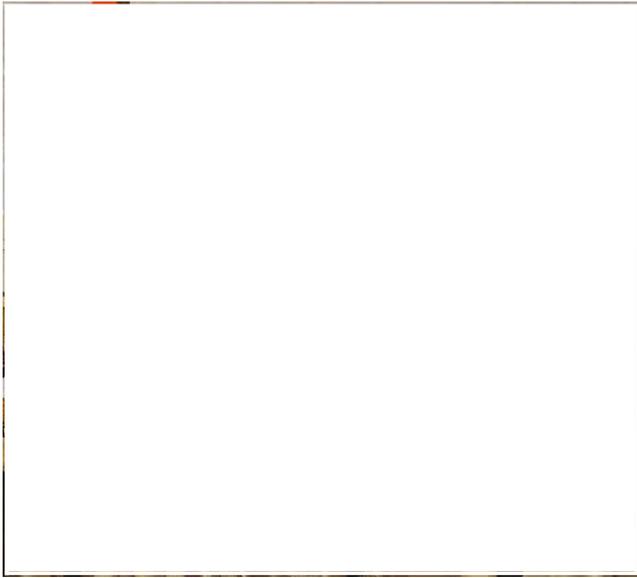
The first and second WALN conferences were held in Addis Ababa in early and late 2015 respectively. At that time, WALN participants strategized about the future of WALN. Participants decided that the best way to ensure the sustainability of the network as well as the relationship- and business-to-business-building progress realized during the first cycle of WALN mentor and mentee support was for WALN to transition from a project initiative into a full-fledged industry alliance.



The members also discussed the bylaws and agreed to push forward on the registration of WALN in the region as well as at federal level to become a national or federal association. They agreed to elect regional and national executive bodies according to the Articles of the Association. Accordingly, each region divided into groups and elected their executive bodies of five members. The chair of each region automatically becomes a member of the national executive body. The assembly then elected [REDACTED] as the president and [REDACTED] as the vice president. National and regional bodies vowed to finalize the legalization of the network in their respected regions. With support from the project, the women submitted an application to the MoT to receive recognition as a sectoral association and are currently awaiting the response.

Because of the innovative approach to gender-driven capacity building, the World Bank's Africa Region Gender Innovation Lab conducted a randomized controlled trial impact evaluation of WALN. The study examined the impacts of mentoring on both mentors and mentees based on four broad research outcomes: 1) knowledge and skills; 2) psychosocial outcomes such as self-confidence and trust; 3) business outcomes including business performance, access to needed resources, and asset accumulation; and 4) networking outcomes (e.g., participation in business and community networks). At the second WALN national conference, the World Bank's Gender Innovation Lab Field Coordinator, Adiam Hagos Hailemicheal, made a brief presentation on the analysis of the WALN interventions. Overall analysis indicated that the beneficiaries improved their business management skills and increased revenue, profits, and new clients while developing self-confidence in decision making, communication, and networking skills.

Likewise, a senior technical director of ACIDI/VOCA stated that lessons learned could apply to overall project gender support. As described below, the mentor training was a resounding success. All the mentors who the team met with spoke of expanding, diversifying, and improving their businesses as a result of the project. Even the more sophisticated women



"There are approximately 22 million Ethiopian women doing everything they can to support their community, but do we see them? No, because the visible actors are nearly always men. Agriculture is considered men's work, but who is really doing all the work? The women," noted AGP-AMDe Chief of Party [REDACTED] speaking with new members. "There is no limit to your vision. WALN could one day cross borders to include women in Kenya, Sudan, or Uganda."

exposes them to successful women.

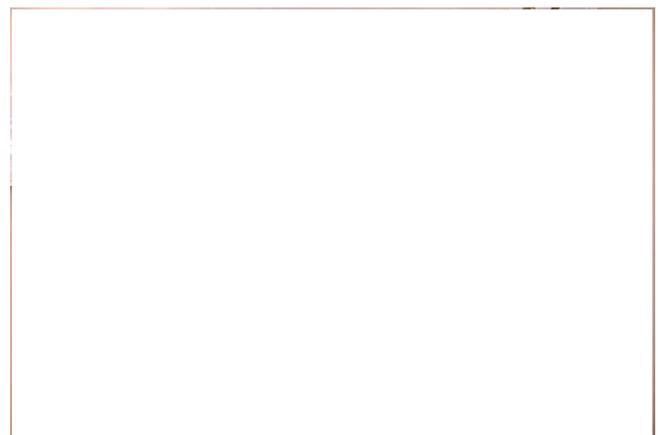
The mentorship program was a little less smooth. Despite very transparent briefings by WALN staff, many of the mentees expected grants and also believed that their mentors received financial support to mentor them that they were not sharing. This created an uncomfortable environment for some mentors. Some of the mentors found the commitment to mentor three to four women overwhelming. Nevertheless, there have been successes. A number of the mentors described close relationships, saying they were able to help their mentees improve their businesses. They were proud to be in that position and also learned from the experience. As this is a new concept in Ethiopia, complete success was unlikely.

Mentees in the second round should have more realistic expectations of the program, as they will have heard about the first round from other mentors and mentees. More support from project staff may smooth over some of the issues. Beyond the mentorship program, many of the women shared what they had learned with their husbands, children, and colleagues. This led to learning as well as support to family businesses or even new business initiatives. If this is not being tracked in the Gender Innovation Lab impact evaluation, it should be if the project is extended, as the indirect impact appears to be significant. Most women talked about wanting to spread the knowledge to other women or requested WALN to expand, both for businesswomen like themselves and women not active outside the home who they believe have great potential.

were surprised at how much they had to learn. Most are now keeping records and using their business plans as a strategy tool. They mentioned other "hard" skills such as managing staff and "soft" skills such as increased self-confidence. Many said they now know how to access credit. Others have been able to tap into land grants through AGP-AMDe or GoE offices, which have helped them to expand their businesses.

While some of them understood what they were getting into, not all of them did. Some expected WALN to provide grants and/or credit. Others were not prepared for such an intensive curriculum. Nevertheless, the majority quickly saw value in the knowledge they were gaining and committed to the experience: only 12 women dropped out during Phase I while 94 graduated.

The women valued the relationships they have developed as much as the economic benefits. Many of them became close friends and call each other regularly to talk about personal issues and ask for advice. Hearing that other women face similar challenges and learning how they addressed them helped them solve issues and become more confident. Some of the women also developed promising business relationships. Many of these women have supportive husbands, but they say that not all Ethiopian men are like that. They believe men could benefit from training that



Women in Agribusiness Grow with Professional Network

WALN highlights the importance of women's roles in agriculture in Ethiopia while providing a space for members to innovate their business plans and markets



The concept of the business network, simply known as WALN, was created by AMDe in 2013 as an innovative way to promote gender parity in a sector where men usually make the decisions and women do everything else.

agricultural cooperatives countrywide. They have less access to resources, financial services, and land than their male counterparts. WALN provides members with the support and resources needed to better plan and manage their businesses as well as information on savings and loan services. Even a successful business woman like ██████████ used WALN to advance the progress of Diamond Coffee.

“When I joined WALN, I already had a five-year plan in my head, but it was just a bunch of ideas. The training allowed me to put the plan on paper and begin achieving my business goals,” she explained.

The inaugural group incorporated 110 women from around the country, from a variety of agribusinesses ranging from food processing and production to dried good shops and poultry. Over a period of six months, AGP-AMDe trainers and experts helped the entrepreneurs build skills in business planning, management, marketing, negotiation, and communication.

WALN is more than just business skills. Ethiopian women are generally passive and have little to no experience in public speaking. Developing these types of skills can greatly influence a woman's ability to gain new clients.

“WALN taught me to speak in front of people,” ██████████ explained in English. “I was shy and had a difficult time speaking to buyers. I am no longer worried about negotiating.”

WALN also gave ██████████ the opportunity to attend a specialty coffee trade show in Kenya and a female coffee vendor exhibition in Brazil. Currently, ██████████ is preparing her business to obtain organic coffee certification by designing and developing a coffee traceability model. She is also a member of the new Ethiopian Women in Coffee organization, which was created by WALN members.

As part of the trainings provided by the project, members choose budding female entrepreneurs from their communities to participate in WALN's mentorship program, in which members share their experiences and skills about business management. “A lot of women think there is a finite market out there, but Ethiopia and Africa are enormous. There is enough room for everybody to find their place. I always tell the women I mentor that anybody can copy your product but nobody can copy you,” she explained.

██████████ is the face and owner of Diamond Coffee Enterprise, a 200-hectare coffee plantation in Kaffa in southern Ethiopia. She markets forest green coffee as well as the coffee from neighboring outgrowers. Last year, she exported one container of specialty coffee to Germany and is looking to expand production by 50 percent in 2015.

In 2014, ██████████ joined WALN. She exemplifies the perfect type of candidate for this organization: a strong leader, manager, and owner of a successful coffee business—a subsector within Ethiopia's agriculture economy that is practically dominated by men.

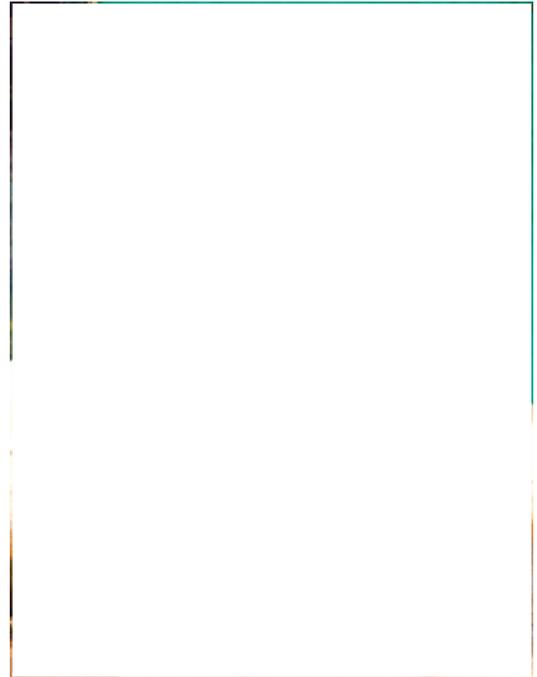
Although women in Ethiopia make up nearly half of the agriculture work force, they represent less than 15 percent of members of

██████████ another female coffee entrepreneur from southern Ethiopia, was on the receiving end of WALN's mentorship program. Her mentor, ██████████, met with ██████████ once a month to share ideas on how to better market her coffee and manage her books. ██████████ oversees 80 permanent staff and 300 temporary workers. Her coffee farm, Fahem, produces over 170 MT of specialty coffee for export and aggregates another 3,000 MT of coffee for the domestic market. Under her current plan, she hopes to increase her exports, but to do this, she needs to interact with international buyers, usually in English.

“My WALN mentor helped inspire me to become a better negotiator. WALN also gave me a group of people I could rely on for information and business contacts. Thanks to WALN, I was able to send a sample of 2.5 kg of my specialty coffee to the Specialty Coffee Association of America's annual conference,” explains ██████████

The future is bright for WALN members. Since inception, 90 percent of the women successfully completed the program. The group is currently registering itself with the Ethiopian government and building a cadre of agribusiness leaders who are watching out for the interests of Ethiopian women, proving there is an urgent demand for women-specific business organizations and support.

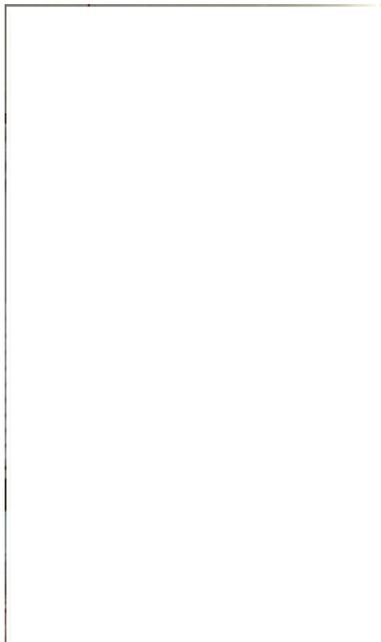
“It is vital to see the continuation of WALN in order to link producers with traders, traders with exporters. There are members at every place in the supply chain,” said ██████████ chairwoman of the Ethiopian Women's Exporter Association.



In 2015, WALN more than doubled its numbers bringing an additional 130 high-potential women leaders and over 400 mentees from across the country to receive business leadership training and coaching.

Poultry Supplier Gains Confidence, Income

WALN prepares female entrepreneurs with business and leadership skills to benefit their families and communities



...she recently acquired a freezer to expand her business.

██████████ 55, grew up on a sugar cane factory after her father—a trader and store owner in the eastern Ethiopian city of Dire Dawa—went bankrupt and took a job processing sugar. On the plantation, ██████████ finished grade school, and her parents supported her to obtain a business management diploma. Her real passion is food, and it was her mother who taught her everything she knows about it.

After several jobs, in 2005 she and her husband moved to Adama, southeast of Addis Ababa, where he found a job in a warehouse. She started her own business buying live chickens, then cleaning and processing them. “Cooking is my passion, when we were poor I knew we needed to start a business, so I focused on poultry and created *Tsehay’s Prepared Chickens*.”

██████████ ran the business out of her home with her two sisters, providing her neighbors and local restaurants with ready-to-cook poultry. Despite being precise and as safe as possible, her business grew very slowly, plateauing at 100 chickens a month and an average monthly revenue of \$300.

In 2013, she joined WALN to take advantage of the organization’s business network and to better plan, manage, and grow her business. Over a 10-month period, through a series of workshops and business trainings and by sharing work experiences, ██████████ learned ways to better manage her finances, create a business plan, and find the confidence to address issues affecting her business.

“WALN taught me to separate my personal and household finances from my business finances. Before, I just had all the money together and took what I needed,” she explained.

WALN workshops also engaged ██████████ in critical thinking exercises in order to develop new business ideas, increase promotion, and expand operations. Instead of just processed poultry, she began adding value to her products by selling prepared meals that she cooked with passion and joy. While each processed chicken is worth \$6.50, a roasted chicken is valued at \$20, and in a stew, it’s worth \$25.

During the first year of WALN membership, ██████████ more than doubled her institutional clients, including half a dozen hotels in Adama. She did business with several supermarkets but found their prices to be too low, and she made the business decision to quit supplying to them. The overall improved cash flow allowed the business to acquire a new freezer and rent a small shop in downtown Adama. The cleaning and preparation still takes place in her kitchen, but now she has a distribution point to reach her growing portfolio of customers.

Every month she now sells 900 chickens, and over the past three months, revenues are more than \$800 per month. Using the business plan training, she and her sisters took out a \$900 loan from a local MFI to launch a new business line of Ethiopian spices and dry goods, from beans to chickpea powder. They have already paid off half of the loan.

“WALN gave me the confidence to get a loan. Ethiopian women are usually too frightened to take loans from official sources, too afraid they won’t be able to pay it back,” she said.

In addition to helping themselves, WALN women are also giving back to their communities. Each WALN member is tasked with mentoring up to four women to transfer the technical and leadership skills they gleaned from WALN, ultimately resulting in a stronger network of female leaders. ██████ mentors three women from her community, church, and business networks.

“I give them practical lessons about how to keep records. They lack advertising and promotion skills. The biggest advantage to being in WALN is the raised profile. Members gain the ability to reach more and more people.”

██████ and her sisters are now working hard to prepare their storefront, and she continues to win new hotel clients while grooming her teenage daughter and son to take over the business within a few years. Her husband still works in the same warehouse, earning half of what ██████ makes.

“He’s supportive of our business and smiles when I provide money for my children’s school fees and can buy them new clothing. My father’s business went bankrupt, I want to make sure that mine doesn’t.”



██████ and her sisters in front of her new storefront in Adama, Ethiopia.

In 2015, AGP-AMDe launched a second round of WALN training to bring another 125 women business leaders from a variety of agribusiness subsectors into the network which completed in 2016.

CROSS-CUTTING ACTIVITIES: NUTRITION

OVERVIEW

In Ethiopia, the limited availability of nutrient-dense foods compounded by economic barriers and a general lack of nutrition knowledge prevents smallholder farmers from attaining adequate nutrition. With these challenges in mind, the AGP-AMDe project constructed an innovative nutrition-sensitive agriculture training module, mimicking the existing ACDI/VOCA SMFM tool kit, which uses a cascade approach, to reach over one million smallholder farmers. The training covered proper nutrition and hygiene practices, and addressed their interconnectedness using analogies that connect agriculture and human development. In an effort to measure the impact of the training, AGP-AMDe developed the Knowledge Attitude and Practice (KAP) survey, which measures how much knowledge participants gained and identifies changes in behavior following the training.

The nutrition-sensitive agriculture training had two goals. First, it targeted smallholder farmer members of AGP-AMDe-affiliated cooperatives to improve their knowledge of nutrition-sensitive agriculture. Cooperative members are predominantly men and may not have been exposed to nutrition education in prior AGP-AMDe programming. Since men are often the gatekeepers of household production and how it is used (sold or consumed) along with income and how it is spent (nutrition, health care, or other), the module was designed specifically to target nutrition behavior change among men.

Second, the training addressed barriers to improved household nutritional practices identified in the baseline survey and barrier analysis, which was conducted by ACIDI/VOCA staff. The training highlighted three major messages: improved diet diversity, nutritional needs of a household, and improved hygiene.

All of the training messages built on conceptual linkages between nutrition and agriculture so that new and complex nutrition concepts were easier for farmers (especially men) to understand. Instructors emphasized appropriate analogies: for example, instructors linked the benefits of diet diversity with the benefits of crop diversity. In another instance, the training used metaphors comparing the importance of fertilizer for plant growth to diverse diet micronutrients for the proper growth of children. Through these comparisons, instructors used participant’s skills, experiences, and knowledge about farming to ensure better comprehension of covered material.

SUMMARY OF LIFE OF PROJECT RESULTS

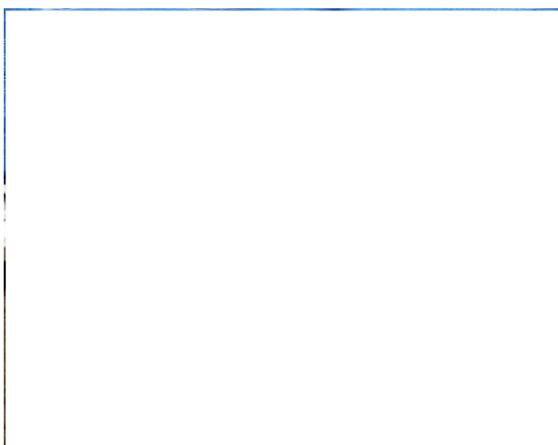
Table 20. Nutrition Activity Overall Results

Nutrition Overall Results	
Trained on Dietary Diversity Strategies	50,703 households
Trained Nutrition Trainers	1,212 farmers

- Developed nutrition cookbook based on value chain commodities and distributed 750 copies to home economic agents, lead farmers, and partners
- Developed and distributed more than 1,500 posters with nutritional messaging in local languages to lead farmers and development agents

ANALYSIS: NUTRITION

AGP-AMDe’s nutrition-sensitive agriculture training was a highly effective intervention to educate smallholder farmers on proper nutrition and diet through a cascade methodology. Aside from basic instruction on nutrition, the training explored important intersections between nutrition, agriculture, human development, and hygiene, helping smallholder farmers to understand these interconnected themes and empowering them to make more informed decisions about their diet and overall health. In order to measure the effectiveness of the training, the AGP-AMDe team created a series of evaluation tools, including a KAP survey, focus discussion groups, and interviews, to determine the training’s impact and acquire feedback across various levels of the cascade framework. As proven through these tools, the training helped to build awareness regarding important nutrition behaviors, and increased adoption of nutrition behaviors including eating healthier foods, increasing diet diversity, planting home gardens, and improving handwashing. In addition to effectively building nutritional awareness among smallholder farmers and increasing adoption of healthier eating and hygiene behaviors, the training and evaluation tools also demonstrated the effectiveness of the cascade mechanism in amplifying important messaging with few resources.



Nutrition-sensitive agriculture training explored intersections between nutrition, agriculture, human development, and hygiene.

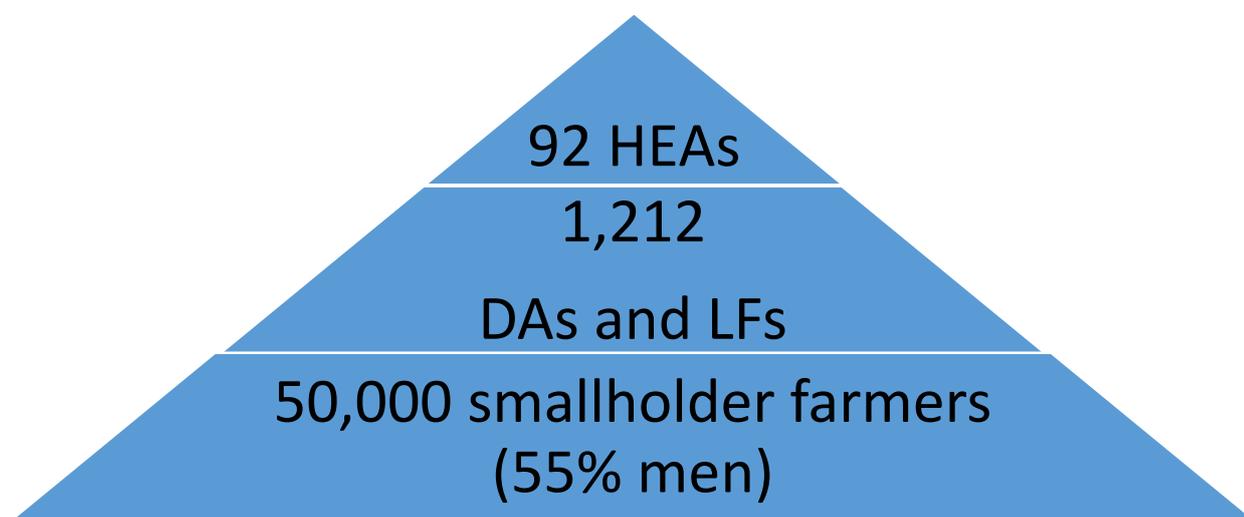
Aside from helping to build the nutritional awareness of smallholder farmers, the training helped AGP-AMDe build important partnerships in the community and strengthen ties with local government, influential stakeholders, and innovative support organizations like Peace Corps. Through these relationships, the project was able to leverage influential resources while also expand their support network for future programs and training iterations. The training helped fulfil an unoccupied niche in the local government’s extensive curriculum on agricultural assistance and improvement. As identified by field staff, nutrition had not been previously selected as a major topic of importance for inclusion in the annual work plan at the woreda level. Although nutrition and the harmful effects of malnutrition were discussed at a national level, the topic had not received the focus it deserved. By rolling out the nutrition-sensitive agriculture training, the AGP-AMDe project helped ignite important discussions on agriculture and how it affects nutrition and human development, filling an important national void and improving smallholder farmer diets and health.

Cascade training was designed so that the largest group possible could receive the training while also conserving valuable resources (see Figure 14 below). ToTs included MoA Home Economic Agents (HEA) and Development Agents (DA). Through additional ToTs, the project then trained approximately 20 lead farmers from FCUs, who then went on to each train 40 smallholder farmers. A wide array of high profile guests also participated in the training, such as FCU managers and heads of MoA regional and woreda agriculture offices.

To assist trainers with cascade trainings, AGP-AMDe produced the Scalable Tracker for Imparting Certified Knowledge and Skills (STICKS) tool—a durable, waterproof training aid that visually outlines the most important takeaway lessons as cues for the trainers to deliver the messages. The tool also collects contact information on each farmer trained for easy follow-up.

The roll-out of the nutrition-sensitive agriculture training module began in December 2013 and continued through August 2015. Participant numbers and type are shown in Figure 14 below.

Figure 14. Summary of Nutrition Training Delivery



***An additional 63 FCU managers and agriculture office heads were also trained**

Outcome: Increased Awareness of Nutrition and Diet Diversity

Overall, nutrition-sensitive agriculture trainings improved smallholder farmers’ understanding of proper nutrition behaviors. Focus group discussions confirmed that prior to the training many smallholder farmers were unaware of proper nutrition and sanitation and its importance for their general health and development. According to the survey, 81.7 percent of farmers who attended the training were able to identify food and food groups that help the body grow and maintain itself, while only 43.8 percent of untrained smallholder farmers were able to correctly identify these groups. Similarly, 87.6 percent of farmers who received training were able to correctly identify foods and food groups that help protect against disease, while only 54.2 percent of untrained farmers were able to correctly identify these groups.

Not only did smallholder farmers report increases in knowledge and adoption of important nutrition behaviors, but they appreciated the nutrition-sensitive agriculture methodology of the training. Many focus group discussion participants reported that the training provided them with essential information and helped demonstrate how they could improve their nutrition through appropriate means. Facilitators reported that through focus group discussions, many respondents praised and reported back that the use of appropriate analogies was very effective in their comprehension of the lessons. Comparing crop diversity with nutritional diversity, as well as crop growth and health with human development and health, was especially salient for smallholder farmers, as it helped translate these lessons by comparing its application to other known processes and relationships. Through the use of these familiar processes and topics, farmers were able to more easily grasp new curriculum, increasing their awareness of diet diversity and its importance for overall health and development.

Improved Household Diet Diversity and Diverse Agricultural Practices

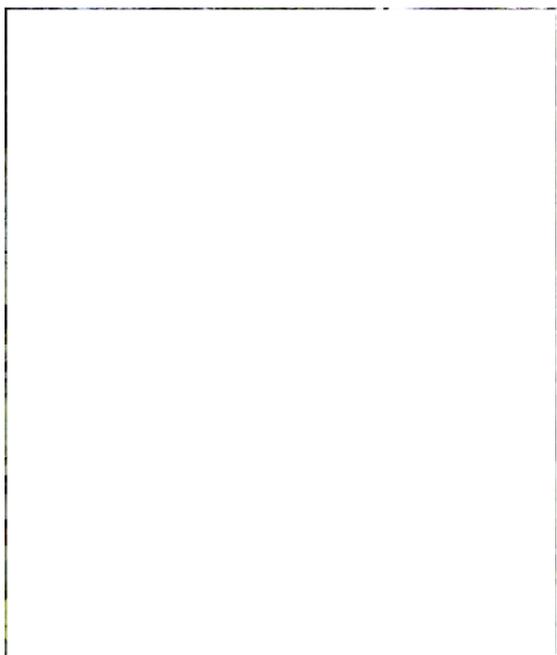
Evidence also suggests that household diet diversity improved as a result of the trainings. Both the survey and focus group discussion reported a variety of changes in trained smallholder farmers’ diet diversity and hygiene behaviors. For example, focus group discussions indicated that trained smallholder farmers were eating a wider diversity of cereals, vegetables, and pulses than prior to the training. Survey results suggest that 88.1 percent of trained participants now consume dark-green vegetables at least once a day, compared to 75.8 percent of untrained smallholder farmers who consume the same foods. This change suggests that a training participant is 2.36 times more likely to consume at least one dark-green vegetable a day than an untrained smallholder farmer. Additionally, discussions revealed that smallholder farmers are now also consuming more fruits, rather than selling them at market. Survey data supported these findings, determining that 51.5 percent of smallholder farmers who attended the training now consume fruit and vegetables at least once a day, making them 2.13 times more likely to consume fruits and vegetables than those who did not attend the training. Only 33.2 percent of their untrained peers consume the recommended amount of vegetables or fruit per day. These findings suggest that overall, trainings have led to greater diet diversity in fruit and vegetable consumption.



These results are important because they show that trainings have increased the willingness to make a financial tradeoff for more diverse diets. Those who previously sold nutritious foods like vegetables, fruits, and eggs—sometimes selling their whole stock for profit without saving any for household consumption—reported keeping more of these nutritious foods for household consumption as a result of the nutrition training. They now sell only excess nutritious foods at market. This demonstrates that smallholder farmers are potentially attributing increased importance to their health and placing a financial value on these new habits

A STICKS nutrition poster is used to show diet diversity strategies and is printed in Tigrinya.

through their election to primarily consume their produce and take only remaining products to market. The trend was also reported widely in groups of women: these women indicated that instead of selling all their collected fruits at market, they were now also making a conscious effort to give fruit to their children for daily consumption.



A majority of smallholder farmers began intercropping pulses and kale with maize and enset as a result of the training.

In addition to instruction on diverse diets and hygiene, the training also provided practical methods to increase diet diversity. One of the methods encouraged was the concept of intercropping, its importance for soil health, and the potential this practice has to diversify diets. After attending the nutrition-sensitive agriculture training, many data collectors reported that a majority of smallholder farmers began intercropping pulses and kale with maize and *enset* (false banana) as a result of the training. These focus group discussion findings are supported with quantitative data from the survey: results indicate that 63.2 percent of trained smallholder farmer participants began practicing intercropping in the past year, compared to 37.4 percent of their untrained peers. These figures demonstrate that the odds that a trained participant will practice intercropping this year are 2.86 times greater than for an untrained smallholder farmer.

Data collectors also suggest that home gardening has grown in popularity due to the training. During the training, participants were advised on the importance of planting home gardens to provide diverse foods for household consumption. By separating a home garden from a smallholder farmer's field, farmers were also presented with an opportunity to experiment with crops other than their major cash crops. Farmers are also more willing to take risks and experiment on a smaller plot of land. During the training, facilitators

marketed various fruits and nutritious vegetables as great crops for home gardens, encouraging participants to plant nutrient-dense crops as covered in the training. During focus group discussions, data collectors reported that many of those participating smallholder farmers began home gardens with carrots and cabbage, and that farmers talked enthusiastically about the ease of caring for their home gardens. This technique was adopted by 79.7 percent of trained smallholder farmers compared to only 45.5 percent of untrained smallholder farmers. These figures demonstrate that the odds that a trained smallholder farmer will practice home gardening are 4.7 times greater than a smallholder who was not reached by the training.

The focus group discussions indicated that even more trained smallholder farmers would have practiced these activities had more fruit and vegetable seedlings been made available locally. Most local vendors do not generally carry vegetable and fruit seeds, typically keeping stock of more prominent regional cash crop varieties. For this reason, these seeds are already challenging to locate in rural and local areas. In addition to being rare, many smallholder farmers also reported that the training caused an increase in the demand for these types of seeds, overwhelming an already minimal supply. As a result of the compounding affect, farmers found it even more difficult to locate these recommended seeds, as local vendors were not readily able to satiate demand. This increase in demand for nutritious seeds can be viewed as a successful sign that smallholder farmers are beginning to care more about their health and are making the decision early on to start growing healthier options for household consumption.

Improved Hygiene Practices

In addition to nutrition lessons, the nutrition-sensitive agriculture training also incorporated lessons on proper hygiene and its importance to overall health. The main messages provided in the hygiene trainings were critical handwashing times, keeping livestock in separate living quarters, and proper storage of grains to prevent pests. Handwashing, especially after using the toilet and before food preparation and meal time, was used as a proxy for improved hygiene practices. According to the survey, 87.6 percent of trained participants always practice handwashing after using the toilet, while only 64.9 percent of untrained smallholder farmers reported performing this practice. Based on this, a trained smallholder farmer is 3.87 times more likely to always wash hands after using the bathroom than farmers who did not attend the training. Additionally, trained smallholder farmers are three times more likely to wash their hands before feeding a child than untrained smallholder farmers.

Nutrition-Sensitive Agriculture Training Structure

Overall, results from the interviews demonstrated that regional and woreda staff learned many of the same things from the training and gained the same insights as smallholder farmers. Participants reported learning a great deal about malnutrition, the current state of national nutritional trends, how agriculture can improve nutrition, various nutritional needs throughout human development, and how best to ensure that distinct nutrient needs are met.

Participants also provided commendable feedback on the training's structure and format. They enjoyed watching and learning how the "cascade" method functioned and how it could be used to amplify correct messaging with few resources. Many of the leaders mentioned that they looked forward to using the same techniques on future trainings covering a wide variety of other pertinent agricultural topics. Regional and woreda staff enjoyed the incorporation of appropriate analogies in the training and enjoyed how the tool built off of agricultural information already known by farmers, using it to draw comparisons as a springboard to new learning. They also provided great feedback on the tools used, especially the waterproof STICKS tool for its practicality and durability in a rural environment. They felt the tool helped to condense lessons and worked well as both a curriculum guide for facilitators while simplifying learning for participants as a visual aid.

Diet Diversity Inspires Farmer to Rethink Her Farm

Ethiopian farmer takes nutrition training to 40 members of her community to teach them simple ways to increase nutrient intake

Wudinesh Tilahun, 35, is blessed with fertile land and a perennial stream near her home. On her land, she has always grown one crop at a time. After harvesting, she would plant another crop. Ever since she was a young woman, she has been growing corn and potatoes this way in Boji Gebissa, located in Oromia, west of Ethiopia's capital Addis Ababa.

Wudinesh is a mother of four and since corn and potato are always in abundance, she never gave much thought to the nutritional aspects of what she and her children were eating. In fact, nutrition had always been an ambiguous concept. Social wisdom gave credence to the ideas that meat made children strong, corn kept them alive, and vegetables were simply less beneficial.

Then in mid-2015, she was selected to attend a two-day nutrition training taught by the local agriculture office. Trainers used visual aids that promote dietary diversification, displayed critical foods that support key human development stages, and highlighted the importance of crop diversity, home gardens, and simple agronomic practices that are easily implemented and bring real change, especially for experienced farmers like Wudinesh.

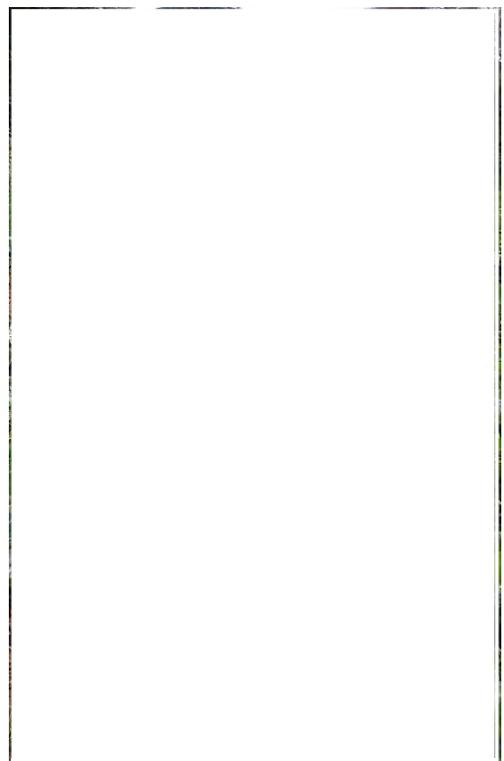
The training is part of AGP-AMDe's approach to integrate nutrition education and dietary diversity into the project's main activities. Over the last year, more than 38,000 (17,000 women) smallholder farmers across Ethiopia received some form of nutrition training. Trainings are carried out in villages, farmer training centers, and schools. AMDe plans to reach 57,000 farmers by mid-2016.

Wudinesh also received two posters in the local language, Afan-Oromo, so that she can spread these nutritional concepts to people in her village. She organized a training near her home for 40 farmers from her village and even took the participants to visit her farm, where she had a variety of crops laid out, including cabbage, carrots, and peppers. She also has mango trees near her house.

"Now I have separate, well-managed gardens that I use for feeding my family and for selling in the market. When I prepare a meal, I have choices from many vegetables, and try to incorporate eggs and milk products," she said.

RECOMMENDATIONS: NUTRITION

AGP-AMDe learned a great deal about how to improve future interventions. Developing training materials, especially the STICKS tool, in other local languages is one major recommendation. The STICKS tool was originally produced in three



"The training got me interested in the relationship between my family's health and farming. Following the presentation on the dietary diversity strategies, I went back to my farm and worked on a layout to incorporate more crops on the same plot instead of just planting one crop every season," she explained.

languages: Amharic, Tigrinya, and Oromifa. In an effort to simplify the training material for the audience, smallholder farmers recommended that the project translate this tool into additional local languages, especially Sidama and Gurage.



AMDe created a cookbook using the value chain crops and nutritious ingredients.

Another recommendation suggested longer training times. Farmers felt that one- and two-day trainings are rushed, sometimes hurrying participants through important topics and not leaving sufficient time for question-and-answer sessions. Many participants and facilitators alike wished that they had more time to fully discuss and cover topics, ensuring full and active participation for all attendees while also adequately covering all topics and themes.

Alternatively, headquarter staff recommended breaking trainings into a larger number of modules spread over the course of multiple meetings. This structure would give participants time to discuss but would also not demand as much time as a longer meeting. Focus group discussions also recommended that community facilitators provide contact information and follow-up regularly with smallholder farmers. This would allow for participants to feel more connected to facilitators and provide farmers with increased opportunities to engage instructors and discuss the material, solidifying lessons learned.

One final recommendation is the importance of linking smallholder farmers with quality seeds. Many interviewees responded that smallholder farmers could not locate reliable fruit and vegetable seeds and seedlings, as reliable suppliers do not exist in the regions. Participants advised that if AGP-AMDe leadership were able to link farmers with these kinds of resources, many more trained

smallholder farmers would have grown home gardens with the nutritious fruits and diverse vegetables mentioned in the training. Another alternative recommendation is that AGP-AMDe establish and support nurseries throughout intervention regions that could produce and raise those plants, much like the project does in other value chains.

FCU leadership and members should be more deeply involved in facilitating and attending these trainings, as these organizations are the most sustainable way to spread messaging. Respondents also recommended the use of media outlets, wishing to incorporate radio and printed materials to amplify trainings. If incorporated, respondents felt that more smallholder farmers would be exposed to these lessons and adopt these behaviors as a result of reinforcement through these mediums. The next project should expand instruction on PHH and its impact on nutrition, incorporating lessons on the preservation of fruits and vegetables for consumption outside of the harvest season.

The nutritional training sessions are lacking in practical experience. Repetitive cooking demonstrations would be a good way to complement learning and a way to instruct participants on how to incorporate these foods into their diet. The project would have the chance to address the mechanics of cooking new vegetables while providing new recipes to smallholder farmers that could be tailored to local tastes. Cooking demonstrations would give attendees the opportunity to actively participate and taste new foods, potentially increasing adoption of cooking methods and also giving facilitators a forum to expand lessons on other barriers to adequate nutrition, like overcooking nutrient-dense foods. These types of interventions should be repeated throughout the year with facilitators incorporating new and exciting recipes.

Upon first identifying new nutritious foods, many farmers are excited to begin eating better but are unsure how to take the first step. Smallholder farmers need guidance on how to incorporate these new foods into their diets and how to make these new foods taste good. The cookbook has the potential to do this, instructing and advising on proper nutrition. The cookbook also serves as a tangible resource that can be circulated to family and friends, imparting nutritional wisdom to more than just participants and providing healthy and nutritious meals appropriate for the whole family. The next project should expand the reach of the cookbooks.

CROSS-CUTTING ACTIVITIES: BEHAVIOR CHANGE COMMUNICATIONS

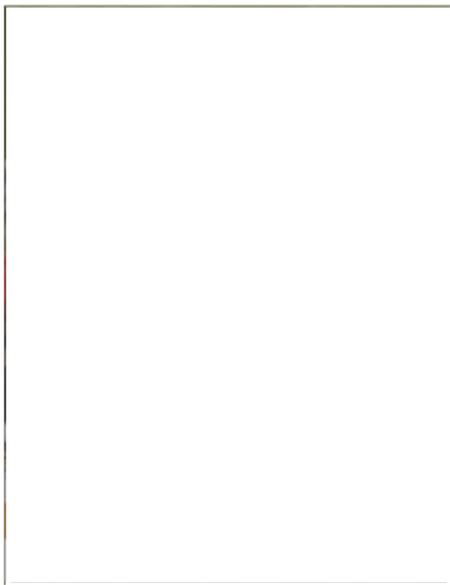
OVERVIEW

The BCC component implemented evidence-based, effective, scalable, and innovative campaigns to support value chain activities. AGP-AMDe empowered individuals and groups to adopt advantageous behaviors that ultimately improve production, food security, livelihoods, and quality of life. Linked to both the Gender and Nutrition components, the BCC approach involved a mix of strategies, including large-scale approaches that expanded the reach of messaging as well as a tipping-point approach that first targets early adopters and uses lessons learned to reach larger numbers of people. BCC interventions also maximized impact by focusing on those FCUs that are better integrated and have more flexibility among staff. For more effective and direct access to farmers, BCC linked outreach and messaging with project activities like training and events. In addition, BCC outreach targeted high-traffic rural markets and gathering points.

AGP-AMDe led behavior change campaigns for three key behaviors: increased participation of women in farmer cooperatives, increased utilization of agricultural inputs (fertilizers and improved seeds), and improved nutritional intake of farming households.

SUMMARY OF RESULTS

BCC Gender Campaign



Campaign material for the registration contest.

AGP-AMDe collaborated with the FCA and regional governments to promote and facilitate the inclusion of more female members in farmer cooperatives in the four regions in 2014/15. The campaign aimed to increase female membership in farmer cooperatives to a minimum of 30 percent—the Ethiopian government's national target. AGP-AMDe collected and verified the names of over 40,000 new women members registered in farmer cooperatives, while the GoE reported 78,000 new women members. Over 1,600 cooperatives from approximately 50 unions participated.

The campaign also featured a contest to identify the PC that added the most female members. To provide all PCs with an equal opportunity to win, winners were selected based on total number of women registered and percentage of the eligible population registered. The winning PC (FCU) then traveled to the Gulfood 2015 trade show in Dubai to promote their export products. First- and second-place cooperatives won walking tractors with full accessories and a training package, while the third- and fourth-place winners won off-road motorbikes. The first round of women to register at cooperatives received scarves, while members, including men, who enlisted five or more women to join received umbrellas.

The largest numerical increase was reported in Amhara with 30,573 new women joining. The Yem Tebaber FCU in SNNPR recorded the highest increase in female membership by number and by percentage, registering almost a quarter (24.7 percent) of the eligible female population in their coverage woreda. The highest reported increase in percentage was recorded in SNNPR, which saw an upward swing of 85 percent. The average increase by percent across the four regions is 46 percent. Material distributed for the campaign included 16,800 posters, over 26,000 fliers and leaflets, over 7,800 scarves, and 1,700 umbrellas.

Agricultural Inputs Campaign

In 2014/15, AGP-AMDe collaborated with MoA, ATA, and regional bureaus of agriculture to carry out an inputs promotion campaign targeting the members of 43 FCUs in the four project regions. The campaign promoted the application of fertilizer with improved seeds for increased agricultural productivity. Messages were produced for each specific value chain crop, translated into local languages (Amharic, Oromifa, and Tigrinya), and distributed. The material communicated to farmers the benefits of using improved seeds, blended fertilizers, and the appropriate farming techniques, as well as the specific locations of distribution centers where farmers can buy these inputs.



Sample fertilizer application guide distributed to farmers.

In the four regions, the project distributed over 29,700 fertilizer application pocket guides; 5,700 maize fliers and posters; 6,900 wheat value chain promotional fliers and posters; 2,200 chickpea posters and fliers; and approximately 1,000 sesame fliers and posters to FCUs, PCs, regional bureaus, farmers attending meetings and trainings, and at marketplaces.

Feedback from regional agriculture bureaus as well as FCUs indicates that the materials were useful and that the quantity should be increased for future campaigns. An evaluation of the campaign in 2014 showed positive continuum of change from message exposure and recall to self-reported practice.



Leaflets promoting the use of improved seeds and blended fertilizer (also NPS) and indicating location and distribution centers of unions where farmers can buy the seeds and the fertilizer – maize, wheat, sesame, and chickpea.

An evaluation of the AGP-AMDe input campaign in November 2014 found that 1,827,350, or 31.9 percent, of farmers in the project zone of influence were reached with BCC messages. A total of 332,345 farmers from the zone of influence (5.8 percent) reported practicing the recommended action (i.e., using improved seed and/or fertilizer) based on the campaign messages and products.

Nutritional Messaging

AGP-AMDe used a participatory video and radio programs to allow beneficiaries the opportunity to explain simple, actionable steps to diversify diets and improve nutritional intakes to their neighbors and communities.



Film demonstrating food preparation for pregnant mothers among members of the Melike FCU in SNNPR.

AGP-AMDe partnered with Merkeb and Admas FCUs from Amhara and Melik and Sidama Elito FCUs from SNNPR and targeted the following woredas: Dangila and Debub Achefer in Amhara; and Mirab Azernet and Wendo Genet in SNNPR.

The beneficiaries produced 16 nutrition BCC films in Amharic. Each film was eight to 14 minutes long and demonstrated five best practices. The films were then shown on several occasions to 3,100 farmers in the four woredas. Feedback shows farmers are increasingly interested in seeing these films, and the attendance rate increased significantly over time.

The campaign videos focused on the benefits of food micronutrients and proper budgeting to meet family dietary needs. The five main practices are designing and developing home gardens and intercropping; designing and developing closed poultry production systems (includes cage systems, egg storage, and consumption); diversified diet cooking demonstrations (includes cereals- and staple-based nutritious meal preparation); complementary food preparation for infants from six to 24 months; and hygiene and sanitation practices.

AGP-AMDe selected the woredas based on the need for support in nutrition programming, accessibility for support and management, willingness of FCU and woreda government staff to allocate time to BCC activities, and their potential for change.

The project provided basic film production training for 20 representatives from the FCUs, woreda offices, and health bureaus in collaboration with Digital Green to leverage their success in rural India. Following the production training, AGP-AMDe also conducted a nutrition BCC film dissemination training to 128 representatives from PCs under the participating FCUs, local development agents, and health extension workers.

In addition to using visual tools, the project produced 10 radio programs that were broadcast in Amhara and SNNPR. The radio programs focused on the same five practices and included basic descriptions about the impact of the nutrition practices followed by questions from farmer listeners. Focus group discussions were conducted in which farmers' questions and experts' answers were recorded and broadcasted. All radio programs were broadcast on existing agriculture programs that aired from 7:00 p.m. – 8:00 p.m. on Amhara Mass Media Agency and South FM in May and June 2015.

AGP-AMDe also produced and printed 8,000 copies of a graphic-heavy nutrition brochure. The brochures were distributed to farmers who saw the films and who live in adjacent locations. The aim is for farmers who saw the films to share what they learned with their peers and neighbors and use the brochures as a tool to better explain and communicate the recommended behaviors.

BCC Impact Studies

In June 2015, AGP-AMDe conducted an evaluation of the effectiveness of the gender and nutrition BCC campaigns to document their contributions and potential to address two AGP-AMDe indicators: number of farmers and others who have applied new technologies or management practices as a result of U.S. government assistance, and number of beneficiaries supported by AGP-AMDe-assisted value chains.

The evaluation targeted farmers in two woredas in Amhara and two in SNNPR where nutrition and gender campaigns were implemented. Questionnaires were administered to 321 respondents who were sampled for individual household interviews. Eight focus group discussions were also held: two from each of the four woredas. The study produced the following highlights:

Gender campaign:

- 19.9 percent (or 1,139,946 people) were **reached**
- 18.1 percent (or 1,036,835 people) could **remember** the campaign messages
- 17.4 percent (or 996,736 people) **believed** the messages
- 16.2 percent (or 927,996 people) **practiced** the behavior

Nutrition campaign:

- 45.8 percent (or 250,578 people) were **reached**
- 44.9 percent (or 245,654 people) could **remember** the campaign messages
- 42.4 percent (or 231,976 people) **believed** the messages
- 41.4 percent (or 226,505 people) **practiced** the behavior

Challenges to Joining Cooperatives

Lack of awareness or information on the presence and benefits of FDGs, PCs, and FCUs was cited by 40.2 percent of the respondents as the factor that historically made it difficult for them to join the group(s). A total of 25.2 percent reported that they had no specific reasons that made them not want to join the groups earlier, while 1.2 percent reported that it is only men who should be members of such groups, with a similar number reporting that they did not see the need to join since their spouses were already members.

Other reasons given for late group membership were:

- Not much benefit to being a member (3.7 percent)
- Lack of interest or opportunity (2.8 percent)
- Groups/associations were few (1.9 percent)
- Time constraint/busy raising children (1.8 percent)

Among the respondents and group members, 10.3 percent (12.6 percent female, 1.5 percent male) reported to have leadership roles in their focus group discussions, PCs, or FCUs. The leadership positions occupied included chairperson (4.4 percent), secretary (2.2 percent), executive committee member (1.2 percent), treasurer (0.3 percent) and other (2.2 percent). Cheap and easy access to farm inputs, especially seeds and fertilizers together with household items, was reported by 40.7 percent of respondents as the main benefit to households being members of the groups.

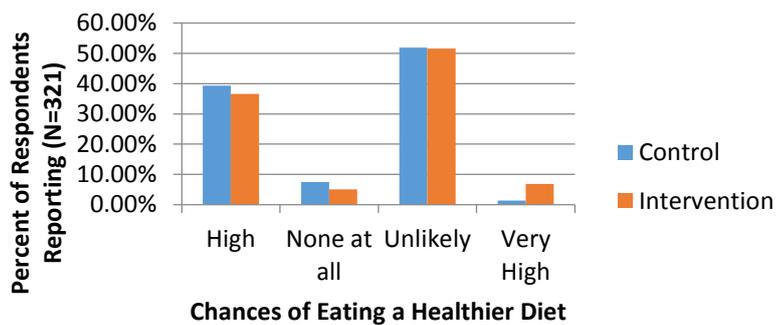
Challenges to Household Food Diversification

A low-income level, which was reported by 70.4 percent of respondents, was the main reason why households do not diversify their diets to eat healthier foods. Other reasons include the following:

- Lack of knowledge or education about diversification (32.7 percent)
- Food variety not available (24.9 percent)
- Traditional beliefs about food and diets (13.4 percent)
- No reason (3.7 percent)

A total of 12.1 percent of respondents reported the presence of beliefs, customs, or attitudes toward healthy eating among their communities. One common custom cited by four percent of the population was the fasting season for Orthodox Christians. Others customs include children and pregnant women must be provided with healthy foods (1.6 percent); meat and chicken should be eaten during holidays, especially Epiphany and the annual “Fiche Chambalal” festival, which is a day of community and cultural celebrations (1.9 percent).

Figure 15. Chances of Eating a Healthier Diet



Although more than half of the respondents from both control and intervention groups reported that it is unlikely that they will eat a healthier diet, a greater percentage of farmers in the intervention (6.8 percent) reported a “very high chance” of eating a healthier diet, compared to only 1.3 percent in the control area.

AGP Knowledge Management Portal



AGP-AMDe led the development of the AGP Knowledge Portal (<http://ethioagp.org/>), which is a source of accurate and timely market information, agribusiness and agriculture news, key reports, and trade promotion material. Target audiences include international markets, the Ethiopian government, partner agencies, the private sector, exporters, industry associations, and the general public. In the four years since the portal was established, the portal helped audiences find accurate information about AGP-AMDe and AGP-Livestock Market Development value chains.

Portal development achievements include the following:

- Agreement on a shared vision and design of the portal with AGP leadership and partner stakeholders
- Approval of the portal content strategy by the portal working group, including timely updates of news, reports, and other information
- Agreement with the MoA, the technical committee, and the working group on a transition plan toward MoA management of the site. The ownership of the site has been transferred to the MoA. AGP-AMDe also provided capacity building for data center operations.

AGP Knowledge Portal is a source of timely market information and agricultural news

Strong Women, Strong Cooperatives

There are millions more working in the fields, harvesting coffee cherries, and processing grain by hand every day. The vast majority of these women have no representation or group to rely on for market channels and information as well as support.

In order to give more of these women access to inputs, markets, and support, in 2014 AGP-AMDe collaborated with the Federal Cooperative Promotion Agency and regional governments to promote and facilitate the inclusion of more women into farmer cooperatives in Tigray, Amhara, Oromia, and SNNPR.

The campaign, which targeted 54 farmer unions and some 1.7 million smallholder farmers, aimed to increase female membership from 15 percent to a minimum of 30 percent—the Ethiopian government's national target. The project collected and verified the names of 45,000 new female members registered in farmer cooperatives, and the federal cooperative agency reported a total of 78,000 new female members in over 1,600 cooperatives of some 50 unions in just nine months.



Female farmer inspecting quality

“As a result of this membership campaign, AMDe helped build our institutional capacity to achieve federal government targets, and we will use this campaign as a starting point to base future campaigns to mobilize women membership. In our strategy, cooperatives are a critical mechanism to ensure equitable participation and benefits for women in the agriculture sector. In Ethiopia there are over 60,000 cooperatives under 300 unions,” according to [REDACTED] the director general of the Federal Cooperative Promotion Agency.

Over the course of four months, the project used printed materials in local languages as well as other incentives such as scarves and umbrellas to motivate cooperative

members to recruit female farmers. In the region of Tigray—where the membership drive had the most success—more than 8,000 female farmers joined cooperatives signifying an increase in female membership from 25 percent to 34 percent.

Wheat-producing Bokra Union, located in southern Tigray, increased the representation of women in its PCs from 40 percent to 52 percent among a total of 21,000 farmers. The membership drive helped add 4,000 female farmers to the union's cooperatives. In Amhara, participating unions reported adding 30,500 female members to its cooperatives, and the Yem Tebaber Union, located in SNNPR, registered 25 percent of the eligible women in its coverage area, increasing women's representation by 85 percent.

“We knew we had to come up with an innovative approach to change the mindset of the male members. This approach involved incentives but also basic awareness on the benefits of more members, a more cohesive community, and equal participation of women farmers,” noted [REDACTED] AGP-AMDe's farmer cooperative expert.

As a result of the campaign, wheat farmer Silass Gidey joined the Bethlehem PC, which is part of the Bokra Union. Throughout her life, she had never been directly invited to join a cooperative, but the obvious benefits were enough to convince her to join.

“I didn't know anything about cooperatives or how they work. My neighbor told me the cooperative would help me get a better price for my crops and that I could buy sugar, oil, and even a refrigerator and TV from the cooperative at lower prices than in the market,” she said.

The campaign made it clear to cooperative managers and board members that gaining new female members not only benefits the members but the cooperative as well, since new members expand capital, purchasing power, and overall volume.

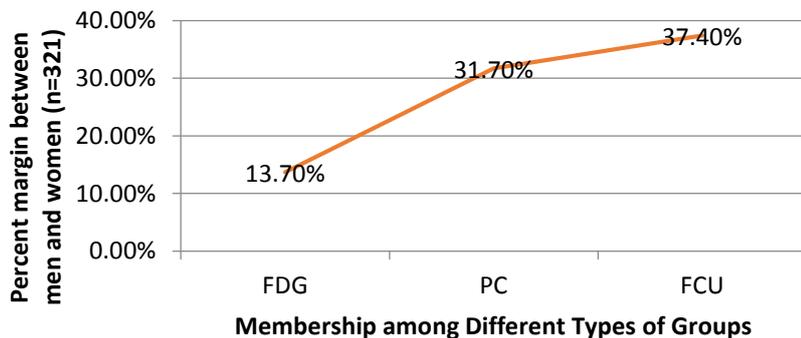
“By promoting and adding new women members, our union collected over \$2,500 in capital to increase our union’s capacity to buy more. We will continue to mobilize more women members because they are part of our communities and they strengthen our cooperatives,” said [REDACTED] manager of the Robi Berga Union in Oromia.

RECOMMENDATIONS: BCC

Low literacy levels among the target population—nearly half of the population (48.3 percent) has not attained any level of education, most of whom are women—may continue to pose challenges to women in cooperative group leadership positions. This is because low literacy among women is one of the three main reasons given for the small number of women in focus groups, cooperatives, and union leadership positions. Therefore, advocacy toward the government and NGOs on the need for adult literacy classes should be encouraged among all stakeholders as 53 percent of the population believes that female leadership would add value to groups.

Although there are more male members of FDGs, PCs, and FCUs compared to women, the membership margin increases as one moves from a smaller group, such as a focus group, to a bigger organization like an FCU, as depicted in the graph below. The scenario in this graph points toward less gender inclusivity and should be reversed by continuous campaigns. It is not clear why the margin gets wider starting with smaller groups and going toward FCUs.

Figure 16. Percentage Margin Difference Trends between Men and Women in Group Membership



Easy and cheaper access to farm inputs, such as fertilizers and seeds, together with access to basic household items, including sugar and cooking oil, were cited as the main benefits to households of joining groups. This was followed by access to information on modern crop production and proper farm management. Therefore, most households should be encouraged to join the groups as it will be critical in increasing their productivity.

Several respondents, especially those in SNNPR, expressed the wish that the video campaign was done in their local Siltigna language, instead of Amharic, for better understanding. This is something to take note of for future BCC programming.

The lack of awareness or information on dietary diversity and preparation of nutritious foods was one of the main challenges to household nutrition. Therefore, raising awareness through continuous campaigns is recommended, possibly through the use of videos. The populations reached through the campaign using videos had many positive comments and requested continuous demonstration at both household and kebele levels.

Individuals outside the project’s zone of influence or those that were not deliberately targeted by the two BCC campaigns reported being aware of, can recall, believe in, and practice the promoted behaviors. Although radio was one of the communication channels used in the gender campaigns, the two campaigns were effective in reaching populations outside their targeted zones of influence.

Conducting three campaigns in four regions targeting millions of farmers was a challenge, particularly considering the size of the populations and the unequal distribution of partner cooperatives in the four regions. To meet the high demand for information and to support broad, equitable dissemination of information, the BCC team developed and nurtured a team of regional dissemination agents to organize and plan events, liaise with regional offices, and ensure distribution to beneficiaries. Through these agents, who are often young Ethiopians from the different regions who are fluent in the local language and familiar with the cultural dynamic within each region, the BCC team was effectively able to have “boots on the ground” in all target regions throughout the year, which accounts for the high number of beneficiaries reached.

Involving the federal and regional government offices for agriculture, cooperatives promotion, and culture in the development stages of the campaign materials, as well as during the distribution stage, helped to strengthen relations with the project and paved the way for direct and quick access to target farmers and unions. It also facilitated safety and security support when conducting promotional events and materials disseminations at marketplaces and high-traffic farmer areas. In addition, the involvement of government structures was critical in the success of the gender campaign.

AGP-AMDe trained woreda- and kebele-level officials in film production for the nutrition visual tools campaign. When actual film production and dissemination at woreda and kebele levels took place, most participants were willingly and positively doing the work as part of their job descriptions and responsibilities. However, some refused to cooperate with the project, demanding more payment. In addition, some resigned from the offices. The project provided quick trainings to alternate staff when initial trainees moved on. In addition, uncooperative staff were also replaced in consultation with their superiors.

One of the biggest challenges, for both the gender and nutrition campaigns, was the 2015 elections. Election campaigning started in September 2014, and most officials supporting the gender and nutrition campaigns had to divert their attention to the elections, which affected data collection. In May, all activities were stopped temporarily.

ⁱ The maize export ban has, however, been reintroduced temporarily with the objective of mitigating the effects of the current drought in the country.