PRODUCTION, FINANCE, AND IMPROVED TECHNOLOGY PLUS (PROFIT+)

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OCTOBER 1 2013 – SEPTEMBER 30 2014

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List of Acronyms

AFE	ACTION FOR ENTERPRISE
ASNAPP	AGRIBUSINESS IN SUSTAINABLE NATURAL AFRICAN PLANT PRODUCTS
BEO	BLOCK EXTENSION OFFICERS
CASH	COMMERCIAL AGRIBUSINESS FOR SUSTAINABLE HORTICULTURE
CEO	CAMP EXTENSION OFFICERS
CFU	CONSERVATION FARMING UNIT
COMACO	COMMON MARKETS FOR CONSERVATION
COR	CONTRACT OFFICE'S REPRESENTATIVE
CRS	CATHOLIC RELIEF SERVICES
DACO	DISTRICT AGRICULTURAL COORDINATOR
DFA	DISTRICT FARMERS' ASSOCIATION
DWA	DISTRICT WOMEN'S DEVELOPMENT ASSOCIATION
EMMP	ENVIRONMENTAL MITIGATION AND MONITORING PLAN
EPFC	EASTERN PROVINCE FARMERS' COOPERATIVE
FRA	FOOD RESERVE AGENCY
FSRP	FOOD SECURITY RESEARCH PROJECT III
FTF	FEED THE FUTURE
FTFMS	FEED THE FUTURE MONITORING SYSTEM
FAO	UNITED NATIONS FOOD AND AGRICULTURE ORGANISATION
FY	FISCAL YEAR
ICRISAT	INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS
ICT	INFORMATION COMMUNICATION TECHNOLOGY
IEE	INITIAL ENVIRONMENTAL EX
IFAD	INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT
IFDC	INTERNATIONAL FERTILIZER DEVELOPMENT CENTER
IIP	INNOVATION, INVESTMENT AND PARTNERSHIP
IR	INTERMEDIATE RESULT
MFI	MICRO FINANCE INSTITUTION
MGCD	MINISTRY OF GENDER AND CHILD DEVELOPMENT
LOP	LIFE OF PROGRAM
M&E	MONITORING AND EVALUATION
MAL	MINISTRY OF AGRICULTURE & LIVESTOCK
MCC	MILLENNIUM CHALLENGE CORPORATION
MCTI	MINISTRY OF COMMERCE, TRADE & INDUSTRY
MEO	MISSION ENVIRONMENTAL OFFICER
MFI	MICROFINANCE INSTITUTION
MGWD	MINISTRY OF GENDER AND WOMEN IN DEVELOPMENT
MIS	MANAGEMENT INFORMATION SYSTEM
MSE	MICRO AND SMALL ENTERPRISE
MSME	MICRO, SMALL AND MEDIUM ENTERPRISE
MTZL	MOBILE TRANSACTIONS ZAMBIA LIMITED

QDS	QUALITY DECLARED SEED
SATH	SOUTH AFRICAN TRADE HUB
SCCI	SEED CONTROL AND CERTIFICATION INSTITUTE
USG	UNITED STATES GOVERNMENT
VC	VALUE CHAIN
ZAMACE	ZAMBIA AGRICULTURAL COMMODITY EXCHANGE
ZANACO	ZAMBIA NATIONAL COMMERCIAL BANK
ZARI	ZAMBIA AGRICULTURE RESEARCH INSTITUTE
ZNFU	ZAMBIA NATIONAL FARMERS UNION

1. Introduction

ACDI/VOCA is pleased to present the second Annual Performance Report under the Production, Finance and Improved Technology Plus (PROFIT+) Project in Zambia. The Annual Performance Report describes PROFIT+'s achievements and challenges experienced during the second year of project implementation. It is submitted in compliance with the terms and conditions of Task Order No. 623-I-TO-10-00001, and describes activities undertaken during the period from October 1, 2013, through September 30, 2014.

This Annual Performance Report is intended to complement the PROFIT+ 3rd Annual Work plan, submitted under separate cover and which describes activities to take place during the period October 1, 2014 thru September 30, 2015.

The Project's intermediate results (IRs) are:

1. Increased smallholder productivity
2. Expanded markets and trade
3. Increased private sector investment in agricultural activities.

PROFIT+ targets 6 value chains: maize, groundnut, soybean, sunflower, onion and tomato and operates in Eastern Province (Petauke, Katete, Chipata, Lundazi) and Peri-urban Lusaka (Chibombo, Chongwe and Kafue).

By the end of the Project, PROFIT+ will achieve a **30 percent increase in productivity and income** in targeted value chains; **benefit 200,000** smallholder farmers, processors and other value chain actors; and **increase the value of agricultural sales by $125 million**. It will catalyze **$50 million in new private sector investment** in target value chains and **create 1,000 jobs** in value-added processing. It will target smallholder and vulnerable (i.e., female-headed or HIV/AIDS-affected) households through maize, oilseed, legume and horticulture value chains.

1.1 FY2013 Highlights – At a Glance

Below is a non-exhaustive summary of the Project's major successes and achievements during the second full year of operation:

1. IMPROVED SMALLHOLDER PRODUCTIVITY

- PROFIT+ implemented 690 demonstration sites for field crops (maize, soybean, sunflower and groundnut) and 60 demonstration sites for horticulture (onion and tomato).
- 71, 370 smallholder farmers benefited from the demonstration for field crops and 12,000 from the horticultural demonstrations.
- Several partners such as MAL extension staff, DWAs, DFAs and Cooperatives participated in different activities to develop the competitiveness of the value chains
- Smallholder producers receive farmer to farmer extension services and training from Lead Farmers and some traders use the DHF/FA structure for product marketing.

- FAs and DHFs conduct weekly farmer field school sessions covering crop husbandry practices. Topics included; crop production, seedling production for horticultural crops, post-harvest management as well as safe use of pesticides and other chemicals.
- Green-houses and irrigation equipment were constructed at FA demo sites planting a total of 300,000 tomatoes and 2,500,000 onion seedlings.
- 597 DHFs and 59 FAs received training in technologies promoted by the project, roles and responsibilities of managing demo plots and farmer field schools (FFS) methodology
- 59 Farmer Advisors (FA) were trained in product knowledge and drip irrigation system installation technologies promoted at demonstration sites.
- 598 DHFs and 59 FAs were trained in integrated pest management (IPM), spray service provision (SSP) and environmental mitigation and monitoring plan (EMMP) and raised awareness on environmentally friendly use of chemicals and pesticides.
- FAs invited private sector players such as Hygrotech to train them in the use of new technology and negotiate for discount on the inputs.
- PROFIT+ DHF and FAs hosted Field Days to showcase the results of the technologies demonstrated by the Project and enhance technology transfer among smallholder farmers.
    - 60 Field Days at field crop demonstration sites were conducted successfully with 11,233 (6,199 male and 5,034 female) smallholders attending.
    - 12 (3 per district) horticulture Field Days were conducted for 883 (692 males, 191 females) smallholder farmers in attendance
    - Technologies promoted by the project included: drip irrigation, seedling production, use of blended fertilizers and also received environmental sustainability messages.
    - Field days were also used to communicate post-harvest management messages.
    - 14 Agro input dealers used the opportunity to introduce their products to the smallholder producers who participated in the field days.
    - The project used this opportunity to trained field day participants on environmental compliance during farmer field days. The training included reminding farmers of the EMMP, how to identify negative environmental impacts such as soil erosion and how to avoid or mitigate such impact.
- PROFIT + facilitated the formation of the Provincial Agro-dealers Association. The association will help in the strengthening and coordination of the district agro-dealer networks.
- PROFIT+ developed the Portable Data Assessment Tool for Agro dealers with Siddhi Vinayaki Agri Processing PVT Ltd of India to assess the capacity of rural agro dealer and improve relationships between the retail dealers and large agro input suppliers.
    - 15 agro-dealers from Lundazi and Chipata districts worked with the consultants to provide basic information that assisted in formulating questions to develop the tool.
    - Project staff was trained on how to collect data and use the portable assessment tool.
    - The tool was pre tested in the field on 25 agro-dealers in Katete, Chipata and Petauke.
    - Assessing of the Agro dealers using the agro-dealer assessment tool will continue in year 3.
- Yield data collection and analysis.
    - The Project collected yield data from the demonstration plots and compared with yields between promoted technologies (referred to as commercial) and traditional practices; on average there was a 50% increase in yield from the traditional practices to the commercial ones on the demonstration sites.

- PROFIT+ partnered with the Zambia Research Institute (ZARI), to take soil samples in 105 agricultural camps for the 2014-2015 planting season; the Project will use the samples to identify the integrated soil fertility management technologies it will promote in Year 3.
- Post-Harvest Handling (PHH) training and practices.
    - 19,504 (8,892 males and 10,612 females) smallholder farmers received training in post-harvest handling and management of the four field crops.
    - In conjunction with SATH (Southern Africa Trade Hub), the Project organized and trained 36 processors in aflatoxin removal in groundnuts. Reduced incidences of aflatoxin, particularly in groundnuts, will increase farmers' access to higher value markets.
- In conjunction with ZARI and IITA Zambia, PROFIT+ implemented an Aflasafe pilot in Eastern Province in conjunction with 4 partners: ETG, WFP, COMACO and Jungle beat; and 4 District Womens Development Associations (DWDAs)
    - Aflasafe is applied during production to reduce the incidence of aflatoxin in groundnut production and was specifically designed for Zambian soil by IITA and ZARI.
    - 9mt of Aflasafe, packed in 2.5kg bags, were sufficient for over 900 hectares and 3,600 farmers.
    - ZARI and IITA analyzed soil samples to ascertain the efficacy of the Aflasafe. ZARI will publish the results before the end of the calendar year to benefit the coming planting season

EXPANDED MARKETS AND TRADE

- Increased access to agricultural markets:

Sales data from some aggregation Centers

	Value of Sales (US$)	Volume of sales (MT)	Area planted (Hactares)	Total Production (In MT)	Total input costs across all hectares
Soya Bean	38,683	135	712	184	98,703
Sunflower	261,620	46	553	131	79,759
Groundnuts	105,984	185	2,499	221	141,628
Maize	4,367,053	1,023	7,597	1,702	2,773,536
Onion	33,296	80	1,346	140	61,168
Tomato	13,931	26	5,843	40	23,148
Grand Total	4,820,567	1,494	18,551	2,418	3,177,941

- The project held discussions with several buyers and processors (of groundnuts, maize and soy) and two financial service providers for trade finance of up to $1 million.

    - Collection of production figures
    - Linkage of producers and traders
    - Market linkage activities focused on facilitating meetings between smallholder farmers and traders to discuss prices and volumes of commodity to be aggregated
- Aggregation study and aggregation centers
    - The study was conducted and draft was reviewed. The preliminary results of the study are already been applied to identify gaps in management of aggregation centers.
    - The existing aggregation centers were used to link producers and traders to trade in the commodities.
- Capacity Building of producers and agro input dealers
    - Strengthening existing member-based organizations is a priority for PROFIT+; the Project assessed 3 cooperatives, 14 farmer groups, 1 District Women Association and 1 District Farmers Association to understand their capacity building needs.
    - 1,670 (763 male and 907 female) smallholder farmers from 44 organizations were trained in Sell More for More (SMFM): Membership, Marketing, Money and Management modules. The training aims to improve farmer organizations' capacity to establish and fulfill buyer contracts through improved product quality and larger quantities.

2. INCREASED PRIVATE SECTOR INVESTMENT

- 275 SILC groups out of a target of 400 groups in year two were formed.
    - 5,022 (3,775 female and 1,247 male) members are now participating in village savings and lending activities. A target of 800 was set for year two. The SILC groups provided financial literacy training to smallholder farmers and training on access to credit to small businesses.
    - The value of cumulative borrowings at the end of the quarter was USD $122,000.
- Memoranda of Understanding were signed with:
    - The Project has partnered with United Nations World Food Program (WFP) on rural agriculture enterprise development activities that promote productivity and marketing.
    - The Zambian National Farmers Union (ZNFU) has partnered with PROFIT+ to collaborate on gender mainstreaming, horticulture value chain development and increasing access to finance activities for Lusaka-based DFAs through the LIMA credit scheme.
    - Kick start has partnered with PROFIT+ to expand the adoption of KickStart's irrigation pumps by women in the PROFIT+ districts.
    - ASNAPP is collaborating with PROFIT+ to facilitate the adoption of productivity-enhancing technologies and good agricultural practices in onions and tomatoes.
- Established links between Vision Fund, a local MFI, to various segments of project beneficiaries and an initial 228 horticulture farmers (192 females and 36 Males) accessed credit for inputs valued at $20,133.33 from Vision Fund.

    - 9 agro dealers in Chipata district benefited from PROFIT + trainings and established strategic alliances with input companies to increase their access to inputs.
- In response to its publically advertised Annual Program Statement (APS), PROFIT+ received 51 concept notes; 9 concepts were recommended for the second stage of completion and 25 concept notes were rejected (the balance are in the process of being

reviewed). The total value of all the nine proposals is USD$1,367,000 and estimated grantee leverage is USD$2,506,000.

3. INCREASED PRIVATE SECTOR INVESTMENT

- To facilitate access to finance for horticulture producers, the Project supported the formation of 43 horticulture producer groups, with 209 female and 340 male members.
- 63 members (58 males and 5 females) accessed treadle pumps from Kick Start valued at $7083.33. PROFIT+ will continue to foster relationships between these groups and partner MFIs such as Vision Fund and other input providers.
  - Initial cash and in-kind loans were made by Kick Start and Vision Fund International to PROFIT+ horticulture farmers; so far 110 farmers had received credit by the end of the reporting period with a total value of $30,766.

- Increased Savings and Investment
  - 5,781 individuals engaged in SILC activities in Katete and Petauke, 1,403 male and 4,378 female since project inception in October 2013.
  - A cumulative total of 308 groups has already been formed since the start of the project with 188 groups having already started saving while the rest still continue with start-up group trainings.
  - Community sensitization, mobilization and formation of additional new groups by Field Agents (FAs) continue to take place within the two districts in order to reach required targets.

4. GENDER MAINSTREAMING

- The Project continued to collaborate with Katete District Women Development Association (DWDA), MAWA, CARE, Chipata DWDA and Mfumbeni Development Association to incorporate messages on good nutrition and HIV/AIDs prevention and care into its regular training sessions
- Female representation was encouraged in Group Formation, Governance and Leadership, Sell More For More and Post-harvest handling training resulting in 46% of women being trained..
- In peri-urban Lusaka, the Project provided a five-day Group Formation, Governance and Leadership training to 45 (26 female and 19 male) partner trainers from local member-based organizations. These partner trainers have sofar rolled out the training to 5,463 (male 2,223 and females 3,240) in year 2 of the planned 12,600 smallholder farmers by end of the project.
- 3 cooperatives were provided with a groundnut Sheller donated by ICRISAT. The groundnut shellers will reduce labor demanded of women to shell groundnuts. It is envisioned that reduced time taken to shell groundnuts will encourage more groundnut production.
- In Year 1, the project trained 38,916 (13, 423 male and 25, 493 female) households and in the period under review assessed the outcome of the Group Formation, Governance and Leadership training conducted in Eastern Province in Year 1. The assessment found that both women and men responded very well and report more equitable roles in decision-making at the household level and increased participation of women in decision-making within community associations.

5. ENVIRONMENTAL COMPLIANCE

- The Project conducted training in Integrated Pest Management, Spray Service Provision and Environmental Mitigation and Monitoring Plan to 538 smallholder famers. The purpose of this training that targeted the Demo-Host Farmers and the Farmer Advisors (FAs) was to demonstrate technologies introduced and supported by the project.

6. MONITORING & EVALUATION

Table1: DASHBOARD OF PROJECT PROGRESS AGAINST TARGETS AND SELECTED INDICATORS October 2013 to September 2014

Indicator Source	Indicator Name	Actual October 2012-September 2013	Year 2 Targets	Actual October 2013-September 2014	Actual Cumulative to Date
4.5(2)	Number of jobs attributed to FTF implementation	110	450	183	293
FtF 4.5.2-11	Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance	352	432	1,096	1,448
4.5.2(12)	Number of public-private partnerships formed as a result of FTF assistance (S)	87	140	131	218
FTF 4.5.2-13	Number of rural households benefiting directly from USG interventions (S)	39,890	117,000	31,218	71,108
FTF 4.5.2-14	Number of vulnerable households benefiting directly from USG assistance	31,912	86,250	33,724	65,636
4.5.2(42): (4.5.2-28)	4.5.2(42): (4.5.2-28) Number of private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance (RIA) (WOG)	107	1,120	1,021	1,128
FtF4.4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	13,100	74,000	57,405	70,505
FtF4.5.2-7	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	48,501	86,250	22,869	71,370
PROFIT	Number of demonstration plots established	400	3,004	2,380	2,780
FtF 4.5.2-28	Agriculture and Rural Loans	$1,800,000	$9,925,926	$67077.5	$1,867,077.5

Indicator Source	Indicator Name	Actual October 2012-September 2013	Year 2 Targets	Actual October 2013-September 2014	Actual Cumulative to Date
FtF 4.5.2-2	Number of hectares under improved technologies or management practices as a result of USG assistance	5,230	70,000	61,775	67,005[1]
FtF4.4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	13,100	74,000	61,027	74,127[2]

1.2 PROFIT+ Project Team and Partners

The successes of Year 2 could not have been achieved without the efforts of the entire PROFIT+ consortium. Each of our subcontractors brings perspective set of skills and expertise, and their diverse experience has helped deliver results across PROFIT+ activities. The PROFIT+ consortium constitutes the following organizations:

- **ACDI/VOCA** is leading program management, value chain analysis and development, market and trade expansion, and financial services activities.
- **IFDC is** offering extensive experience in commercial agro input systems and will play a strong role in Component 1 (smallholder productivity).
- **CRS** is contributing to the gender analysis and implementation of the SILC program which will facilitate the development of savings and internal loans groups for the purpose of integrating them into the economic mainstream of their communities.
- **Danya** developed a strategic communications plan to inform PROFIT+'s use of communication tactics to promote positive behavior change, to promote adoption of new technologies and facilitate learning.

1.3 Target Group and Operational Areas

PROFIT+ is targeting 200,000 smallholder farmers in four districts of Eastern Province (Chipata, Katete, Lundazi, and Petauke) and three Peri-urban Lusaka districts (Chibombo, Kafue and Chongwe).

In Eastern Province, the Project is focusing on all six value chains (groundnuts, sunflower, soybeans, maize, tomato and onions), while in Peri-urban Lusaka, the focus is primarily tomato and onions only.

[1] Please note that this results are tentative and will be validated after the completion of the outcome survey
[2] Please note that this results are tentative and will be validated after the completion of the outcome survey

The four districts were selected due to the high poverty levels in comparison with other districts in Zambia. The districts are also proximate to markets, transportation, infrastructure and complementary programs, so as to realize immediate impacts, identify solutions to biggest challenges faced by the value chains and make the business case for private sector engagement with the communities.

1.4 PROFIT+ Results Framework

The PROFIT+ has a results-based Monitoring and Evaluation approach is results-based built on the results framework in the table below.

Table 2: PROFIT+ Results Framework

IR_1	Improved Agriculture Productivity	
	IR_1.1	Farmers, processors and other VC actors apply improved technologies and management practices.
	IR_1.2	Improved post-harvest handling process and access to services in the PROFIT+ value chains
	IR 1.3	Farmers, processors and other VC actors have increased access to financial services.
IR_2	Expanded Markets and Trade	
	IR_2.1	Increased access to agricultural markets
	IR_2.2	Enhanced capacity of producer associations and rural agro enterprises.
IR 3	Increased Private Sector Investment in Agricultural Related Activities	
	IR 3.1	Producer associations and rural enterprises receive services from the private sector
	IR 3.2	Enhanced public private partnerships
Cross-cutting	Environmental Compliance, Gender, and HIV/AIDS	

2. Implementation Overview

2.1 PROFIT+ Technical Approaches

In PROFIT+' Year 2 Annual Work Plan, the project refined the key approaches it would use to achieve increased productivity, expanded markets and increased private sector investment as follows:

Facilitative Market-Driven Value Chain Approach

PROFIT+ continued to take a **facilitative approach**, partnering with local and private sector entities to enable value chain actors to pursue market opportunities sustainably. We directed resources to local partners while leveraging their on-the-ground knowledge, relationships and capacity to generate tangible results.

Pathways Out of Poverty Approach

PROFIT+ activities are targeted primarily at "vulnerable but viable" smallholders, helping these households to transition from subsistence farming to farming as a business.[3] Our VC interventions support a variety of upgrades at farm production, post-harvest, processing and market levels. Recognizing the challenges of linking vulnerable populations to market opportunities, the project employs a Pathway out of Poverty approach. "Push" strategies are aimed at the very poor and directly address the constraints limiting market engagement. To this effect, we promote savings and lending schemes (through SILC), and opportunities to provide access to productive assets, and transferring knowledge through demonstration farms and group training (drawing from IIP fund resources). "Pull" strategies, which are aimed at smallholders who are more market ready, focus on processing and income-generating activities, mechanization services, improved handling and storage, access to financial and business development services, and stronger market linkages. The project supports private sector participation through financial literacy training of the smallholder producers, capacity building for producer organizations, access to inputs through the out-grower schemes and access to credit.

In Year 2, PROFIT+ engaged agro dealers in training and assessments to enable them to improve relationships with agro input supplier and t link them up to demonstration sites to expand their market base. Linking agro dealers to input suppliers has enhanced confidence in the input suppliers to dealer with the community agro dealers. Facilitating organization of the agro dealers into associations is reducing transactional costs associated with dealing with individual dealers and enabling local retail dealers to negotiate deals collectively with input suppliers.

Demonstrating improved agro input technologies and good agricultural practices through the DHF and FA models have enabled a large number of farmers to be exposed to these technologies and improve their crop production and productivity. The DHF model has been used as a platform for demonstrating technologies as well as for cross learning amongst the participating farmers. In Year 2, the Project began to see adoption of technologies promoted at Year 1 demonstration sites and in

[3] The typical smallholder farms on less than 3 ha and grows multiple crops. The staple crop is maize, complemented, particularly in Eastern, by soy, groundnuts, cereals, cotton, sunflower, legumes and tobacco. Vegetables are grown in kitchen gardens.

Year 3 we expect to see an even stronger adoption of technologies given this year's large demonstration presence throughout PROFIT+ districts.

To enhance produce marketing, PROFIT+ continued to support farmers to aggregate their commodities through linkage to traders. PROFIT+ provided production figures to potential traders and informed farmers of the requirements by traders of each commodity. In year three, the project will collaborate with farmers to build capacities to manage the aggregation centers as well as improve on the infrastructure to bolster trade at these centers. Improvement of the infrastructure at the aggregation centers will facilitate trade and build confidence in both parties.

To increase market off-take, the project linked processors to producers as well as utilized the IIP Fund to increase investment in improved technologies and processing capacity. In Year 2, the Project began piloting relationships between beneficiaries and financial institutions and equipment suppliers, which it will build off of and scale in Year 3. Increased access to finance enables the smallholder producers, processors and traders to increase investment in value chains activities such as production, post-harvest, processing and aggregation.

Sustainability

Each of the pathways of change from poverty contributes to the sustainability of the strategies employed by the project. The facilitative approach allows partners, especially local organizations, DWDAs, DFAs and cooperatives to acquire skills, knowledge and experience to continue to implement strategies beyond that project life.

Key sustainability approaches include:

- The DHF/FA model creates learning and trading platform that is run and management by the smallholder farmers themselves. Private sector partners are utilizing this platform to conduct training and product knowledge of technologies that they supply. This direct linkage between smallholder producers and private sector is mutually beneficial, with each party able to increase profits as a result of their business relationship and therefore is likely to continue after the project. In a similarly way, the participation in selection, training and mentoring of DHF and FAs by the Ministry of Agriculture and Livestock (MAL) Camp Extension Officers (CEOs) and Block Extension Officers (BEOs) has created demand by the farmers to call on the MAL staff for extension support and information on new technologies on the market..
- Development of aggregation centres and the linkage to a market information system has improved trading relationships at these sites. The training of smallholder producers in gross margin calculations has equipped a total of 649 farmers (419 males and 230 females) enabling them to set and negotiate profitable prices more confidently. Similarly, the SMFM training has equipped the farmers to understand market dynamics, contract negotiation at group level as well as record keeping.
- Development of a regional agro dealer association that is linked to input suppliers is ensuring that improved and certified seed varieties continue to be available in a timely manner to smallholder farmers. Input suppliers are seeing their transnational cost reduced as they would have to do business with the agro dealer association as opposed to many individuals.

- The facilitation of a groundnut seed revolving fund with EPFC and 3 private partners is an exciting development that will ensure availability of improved or certified groundnut seed; private companies involved in groundnut processing have a stake in provision of seed to their supply base and improved production will help them meet the throughput capacity at their processing plants.

2.2 Value Chain Analysis

A summary of the key upgrades and strategies for each value chain is provided below:

Maize

Maize production is constrained by poor soils, the absence of fertilizers that are blended based on soil testing, poor agronomic practices and limited accessibility to inputs. To increase yields, the project is recommending use of appropriate (blended) fertilizers based on soil type and analysis. Demonstrating the use of this technology through the DHF model as well as strengthening the input supply network will encourage investment in these upgrades to the maize value chain.

Soybeans

Current soybean productivity is low (i.e. 0.9MT/Ha) attributed to low agronomic knowledge of the crop by smallholder farmers, use of recycled seed due to perceived high cost and low household usage of the soya bean, and a market for soy that is seen as more risky as soy is not a consumable product. The potential yield for Soy bean is 4MT per Ha. Technology demonstration, Market identification for soybeans and the introduction of smallholder famers to buyers has encouraged them to grow more of crop and invest scare household resources in soybean inputs. Many soybean buyers, domestically and regionally, use soybean for feed production and are looking to smallholders in PROFIT+ districts as they have difficulty sourcing enough soy from commercial producers.

Groundnuts

The average groundnut yield per hectare is low (0.5MT/Ha) caused by recycling of seed and poor crop management practices. The groundnut seed revolving fund will create predictability among the smallholder famers about where and when to purchase seed. The readily available seed made possible by the collaboration between ZARI and private sector will ensure availability of improved/ certified groundnut seed. Access to improved groundnut seed will result in improved yields, increased incomes for women who are the majority groundnut growers and more groundnuts to process by the processors.

Sunflower

Recycling of seed contributes to low productivity of sunflower while perceived lack of demand for sunflower limits the expansion of sunflower production. The project has embarked on building capacities of processors so that they can be able to understand the profitability of the crop will result in increased sunflower production by local farmers. Training of the community level processors in business skills will increase their ability to make economic decisions on the oil processing, engage in contract relationships with farmer associations and feed processors, and sell sunflower cake in addition to oil. Increased private sector participation in the sunflower value chain will improve both the processing capacity as well as the quality of the oil produced.

Onions & Tomatoes

The two horticultural crops have been constrained by the erratic input supply, inability to grow the crops all year round, post-harvest management, volatile prices and distorted marketing systems. In Year 2, the project provided training to farmers and linkages to private sector to improve input supply. The knowledge on agronomic practices during the rainy season will make it possible for farmers to produce whole year round. Linkage to private sector has improved input and equipment supply as well as extension services on the products and technologies such as safe chemical use. The FA model is also being used as a marketing platform where the produce is aggregated and sold to traders.

3. Project Implementation

3.1 IR1 – Increased Smallholder Productivity

Identification of Demo-Host Farmers and Farmer Advisors

The demo-host farmer extension model is designed to facilitate transfer of improved agricultural technology, increase access to inputs (seeds, fertilizers and agro-chemicals), data collection and analysis, facilitate market information, and training. Since the model is highly interactive, it has an inherent feedback mechanism and encourages reporting.

The Demo-Host Farmers (DHFs) are selected from a zone (a collection of villages) and vetted through a participatory process where members of that zone will be given an opportunity to verify that the selected person meets the set criteria of a DHF. The initial selection process is conducted by MAL Camp Extension Officers (CEO) based on their knowledge of the nominated individuals as well as after some consultations with members of the CAC. The project staff in collaboration with CEOs then visits each nominated DHF and in consultation with community members verify the suitability of the DHF. This process ensures that the right persons are selected and that gender representation is taken into consideration. The selection criteria for the DHF are that the individual should;

1. Be a member of either a cooperative, District Women Association (DWA), Zone Committee or CAC or other development association in the community;
2. Owns land large enough (one lima) for the demonstration;
3. Preferably engaged in an income generating activity;
4. The site should be accessible - preferably located along a major road or farming community
5. Have demonstrated ability to manage a crop - essentially a good farmer.
6. Should be literate (in local language) and should also be numerate;
7. Should be able to receive training and willing to train others;
8. Women are encouraged to be selected;
9. Should be a resident of the area; and
10. S/he should have the ability to recruit, mobilize and organize farmers.

Following verification of the DHFs, the selected individuals will receive training that will equip them to understand the DHF model, orient them in their roles and responsibilities, and train them in relevant technical aspects of the demonstrations.

Establishment of Demonstration Plots

A total of 690 demo plots were established in Year 2: 180 in Petauke, 180 in Chipata, 180 in Lundazi and 150 in Katete.

The MAL staff in each of the district was trained as TOTs in the technologies, land preparation, liming, planting using improved seeds-maize, soya bean, sunflower and groundnuts. The MAL staff then went to train the DHF and the lead farmers in their respective camps.

The one lima (quarter of hectare) demonstration plot was divided into 2 parts. One half had the traditional practice that is; no use of lime, no basal dressing in soya bean and groundnuts, and no fertilizer in sunflower. The other half representing the commercial practice had liming, basal fertilizer in soya bean and groundnuts, improved fertilizers in maize.

The demonstrations include comparing the traditional practices (as control) to an improved technology. For example, a portion of the plot will receive lime to raise soil pH while the other portion does not receive any lime, representing the current farmer practice. To facilitate replication of the technology, each DHF nominates and closely work with five (5) Lead Farmer (LFs). The LFs will have similar demonstration plots set up at their respective sites at which 20 other Farmers (known as Project Participating Farmers or PPF) are expected to learn from.

The demonstration sites, both at the DHF and at the FAs encouraged participating farmers to try out the technologies that are promoted by the project. Farmers visited the DHF site on pre-determined dates during the crop life cycle in addition to visiting LF sites anytime during crop growth.

Establishment of Horticulture Demo Plots

The FAs are providing services to the smallholder producer in inputs supply and technical sprayer services; facilitate access to finance and credit, extension services and marketing. In addition, they capacity build farmers in quality assurance, post-harvest management and water management techniques to increase productivity and production. They are custodians and managers of the demonstration sites and contact with the projects clientele through this extension system. The project is promoting the following technologies through the FA model:

1. Low cost seedling production green houses
2. Low cost and labor saving irrigation technologies
3. Appropriate use of crop protection products (CPPs) and integrated pest management (IPM)
4. Use of improved high yielding tomato and onion seed varieties
5. Use of horticulture blended and foliar fertilizers
6. Low cost post-harvest management of onion
7. Low cost post-harvest management of tomato

Out of the targeted 60 sites, 58 had greenhouses constructed in which tomato and onion seedlings were cultivated by the DHFs. These greenhouses were planted with over 300,000 seeds of tomatoes and over 2,500,000 of onions. These seeds are sufficient to plant ten hectares for tomatoes and 5 hectares for onions once transplanted. The varieties planted are HTX14, a processing variety for tomato, and an improved onion (Open Pollinated Variety) variety known as Capricio. These

varieties are early maturing and have better post-harvest attributes such as longer shelf-lives, than the commonly planted varieties of tomato and onion, such as Rodade tomato and Texas Grano onion. The use of this technology has led to the following achievements:

- Above 95 percent germination of planted seeds
- Ninety-eight percent of transplanted seedlings were well established in the main field.
- Minimal shock and mechanical injury during transplanting resulting in excellent plant take off in the open field

Onion and Tomato Production Training

The project conducted training in product knowledge and use; and drip irrigation system installation to the Farmer Advisors (FAs) in Peri Urban Lusaka and Eastern Province for both tomato and onion. In attendance, were 58 FAs out of the 60 FAs expected and where from Chongwe, Katuba, Kafue, Chilanga, Katete, Katete, Chipata and Lundazi. The 4 field facilitators from Petauke, Katete, Chipata and Lundazi were also in attendance.

The objectives of the training were to:

- Effective use of fertilizer in tomato and onion production
- Economic importance of targeted vegetable fertilizers in tomato and onion production
- Gross margins in tomato and onion production in relation to fertilizer use
- Water and nutrient management in tomato and onion production
- How to install a drip irrigation system
- How to construct a seedling production greenhouse
- Introduce the Farmer Field School methodology and its implementation
- Showcase the technologies the subsector is promoting

The private sector took the lead role in training the farmers and these were Zambian Fertilizer and Hygrotech.

Increased Availability of Certified Seed

As a follow on to last year's training for agro-dealers, the project conducted assessments to establish whether the trained agro-dealers are applying skills acquired. The assessment focused on the following:

1. To understand the market characteristics, needs, challenges, cash flow and seasonality of agro-dealer businesses. This information will help to identify potential business opportunities that the market offers to enable agro-dealers.;
2. Identifying and documenting active agro-dealers and document any existing business relationships with input suppliers or service providers;
3. Agro-dealers' view of the 2013/14 input distribution and coverage
4. Establishing formal and informal interaction with key market players in the input distribution, identify gaps and limitation associated with input marketing to rural areas
5. Interacting with existing input service providers based in Chipata, Katete and Petauke and Lundazi such as Panner, Zamseed, ATS, Pioneer, Plant Agrichem, MRI, Kumawa Agriservices, Sheni Agrisupplies, Sedia, MSP Farmers Gardens, and Vet Lab.

Out of 123 community based agro dealers trained by PROFIT+, 109 had a one to one meeting with the project. The findings are as follows:

- 54 agro dealers are active selling agro inputs in either rented shops, their own building or as agents.
- Of the 54 active community agro dealers 10 receive products (mainly maize seed and some fertilizer) on consignment from large suppliers. Otherwise, most of the products are bought on cash basis with a discounting arrangement of 5 to 10%.
- Despite the discounts, agro dealers are still saying that net profits are too small due to transportation costs and low turnover of products they purchase per trip from district town centers (Bomas), as distances from Bomas to communities range from 30 to 60km.
- The active agro dealers seem to have fallen into a reactive marketing strategy, waiting for customers to enter their store, as opposed to actively attracting customers.
- Inactive agro dealers that were trained by the project, attribute their lack of business to poor financial capacity to invest in the agro-business, no formal linkage to input suppliers, a need for sources of cheaper inputs to be competitive with district-level suppliers and no storage. All the agro dealers reported that storage space that meets the diverse demand of inputs at critical times and also help in high turnovers is either poor or not available.
- The agro dealers do not seem to understand the role of the Agro Dealers Association

Improved Productivity Enhancing Technologies

Soil Sampling

In partnership with Zambia Research Institute (ZARI) at Msekera, the Project is carrying out soil sampling in 105 agricultural camps. The soil will be analyzed to understand the deficient nutrients and thereby help recommend types of fertilizer that will maximize the benefits to the crop. The soil analysis will also help in the development of a business case for the soil fertility management technologies promoted by the Project.

Demonstration Plots and Field Days

To achieve the objective of increasing productivity and production, the Project worked with 14 partner organizations and private agribusinesses and conducted 60 Field Days where various technologies were showcased.

Farmers expressed happiness with the skills received in applying the environmental mitigation and monitoring plan which incorporates technologies like fertilizer application at different rates; soil ripping or basins; use of certified seeds; low-cost horticultural seedling production greenhouses; low-cost and labor saving irrigation technologies; appropriate use of crop protection products (CPPs) and integrated pest management (IPM); use of improved high yielding tomato and onion seed varieties; use of horticulture blended and foliar fertilizers; and low cost post-harvest management and storage.

The Project partnered with the following input supplies for the Field Day activities: ZAMSEED, SEEDCO, Pioneer DuPont, Klein Karoo, MRI, ATS, Kick Start, Panner Seeds, Jungle Beats, Plant Agri-chem, Ministry of Agriculture and Livestock, Delkab, COMACO, NWK, Cargill, CACs, Agro-dealers, DWAs, ICRISAT, CFU, and Harvest Plus. At the Field Days, the firms explained the characteristics of their technology and marketed their products to farmers. Such relationships

between the smallholder farmers and input suppliers are designed to continue beyond the life of the project.

In horticulture, the Project showcased appropriate technologies for enhanced production and productivity such as drip irrigation, micro jet sprinklers, and treadle pumps through demonstration plots.

The demonstration plots promoted growing of a minimum plant population of 5000 plants/lima of tomato and 20,000 plants/lima of onion. The crops once transplanted were irrigated using drip irrigation. Several farmers were exposed to this technology through the Farmer Field Schools (FFS) methodology. Each demonstration plot has an environmental mitigation and management plan (EMMP) that forms part of Good Agriculture Practices (GAP) which mitigate the negative environmental impacts resulting from the projects activities.

Twelve (12) horticulture field days, were also conducted with 883 (692 males, 191 females) smallholder farmers received environmental sustainability messages. The field days showcased the following technologies:

- Cost and labor saving irrigation technologies such as drip irrigation and treadle pumps
- High yielding tomato and onion seed varieties
- Use of foliar and blended fertilizers
- Appropriate use of crop protection products

Collaborating partners were also in attendance at some of the field days, these included ATS Agro chemicals, Plant Agrichem, Kickstart-Zambia, Lusaka Agrovet, Hygrotech, Zambian fertilizers, Focus Insurance and Ministry of Agriculture and Livestock.

ACHIEVEMENTS UNDER IR1

Demo-host farmers/ Farmer Advisors

37% of the selected 690 DHF are female, while 18% (11) of the 60 FAs are women. Through the DHF/FA model a total of 71, 370 smallholder famers have been reached and exposed to new technologies.

Through the field days, conducted at DHF, a total of 11,233 (6, 199 Male and 5,034) participated and were exposed to new technologies that increase production and productivity for field crops. Similarly, 883 horticultural farmers participated in the field days that accorded farmers, including those outside the FA structure to observe the benefits of the new technologies.

In addition to the Field Days, the Project began weighing crop yields from the demonstration plots. The results indicate that there is a significant increase in yield from the traditional practices to the commercial. Production of Maize is expected to increase by 43.4 percent and groundnuts by 4.4 percent. Soy and sunflower had an estimated increase of 32.9 and 27.7 percent respectively.

Table 3. Percent increase in Yield between Traditional and Commercial Technologies

Value Chain	Petauke	Katete	Chipata	Lundazi
Soybeans	35.3	126.7	84.0	99.3
Sunflower	14.4	101.3	73.8	91.3

Groundnuts	NA	77.1	53.1	NA
Maize	NA	97.9	95.1	98.7

Agrodealers

1. Out of the seventy-nine (79) agrodealers assessed, fifteen (15) are actively selling agro inputs.

2. Of the fifteen (15), five get products (mainly maize seed and fertilizer) on consignment from the major marketing companies. Others purchase the products on cash basis from larger agro-dealers based in district capitals. Sometimes they get 5-10 percent discount

3. Agrodealers complain that their net profits are too small due to high transport costs. The other reason being that they have low turnover of volumes due to limitation of quantities they can buy given the distances to town, ranging between30 to 60km)

4. Other agrodealers who are not actively trading attributed their inactiveness to poor financial capacity to finance the business. They also do not have formal linkage to input suppliers.

Technology adoption:

8,140 smallholder farmers received training in various technologies. Overall 74 percent agreed having applied at least one technology. The commonly adopted technologies in sunflower, groundnuts, soybeans and maize are crop rotation; timely weeding and early planting. In Maize, use of improved seed and of fertilizer had a very high percentage.

Although all the demo host farmers applied improved technologies, on average of 84.2 percent of the demo host farmers applied at least 3 improved technologies learnt from the project see Fig 1 below.

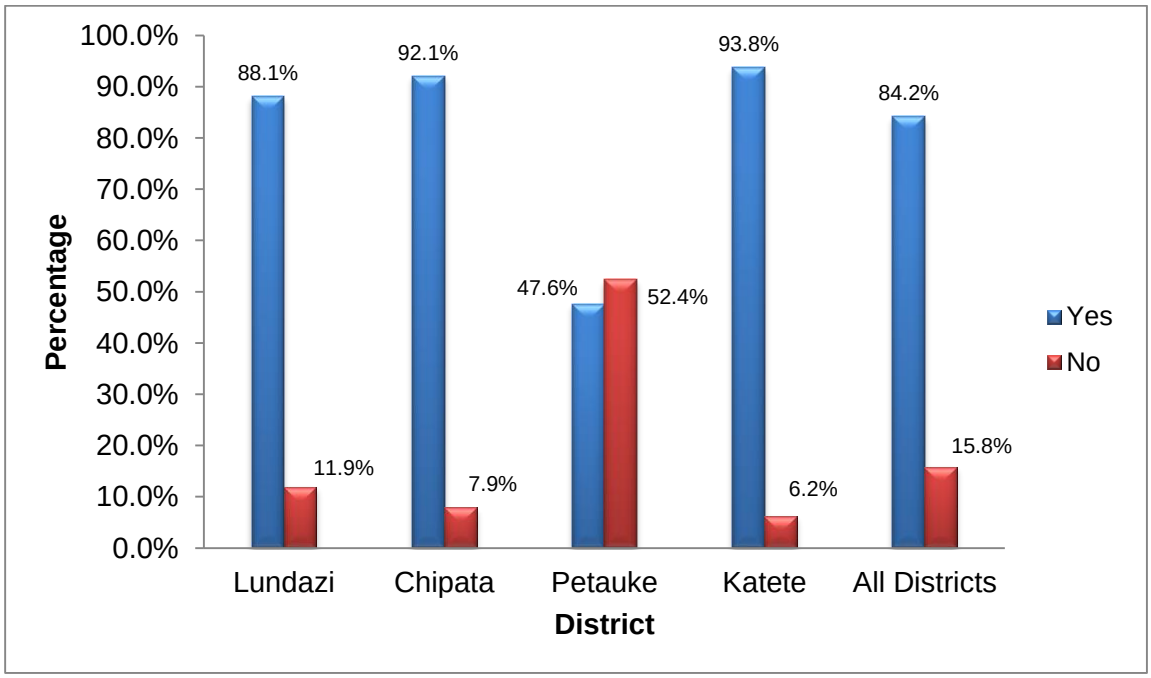


Fig 1. Percent adoption of technologies by farmers per district

The survey established a comparison between demonstration plots on which technologies promoted by the project were applied and plots which maintained the farmer's traditional way of growing the different value chains. The production increase varies from crop to crop. Maize recorded the highest increase of 43.4 percent and the least was in groundnuts 4.4.
In horticulture, 12,360 smallholder famers are exposed to improved tomato and onion varieties. Improved technologies include the low cost greenhouses/shelters for seedling production, low cost and labor saving irrigation technologies, appropriate use of crop protection products (CPPs) and integrated pest management (IPM), use of improved high yielding tomato and onion seed varieties, use of horticulture blended and foliar fertilizers. Eight of these farmers had already purchased and installed drip irrigation equipment. They have reported increase in yields as well as in incomes.

The Kapungwe and Matambazi tomato growers in Petauke have continued recording incremental sales from their tomatoes. They sell three hundred (300) boxes of tomatoes to a Lusaka dealer every two weeks. They sell each box at ZMW 30/box raising a total of K9,000.00 (USD 1,667). Farmers have reported a challenge they face in storing tomatoes and onions due to long waiting periods for the traders. This has resulted in a lot of wastage as evidenced by the quantity of tomatoes thrown away after grading by the trader.

Mr. Ndhlovu's Story

Mr. Ndhlovu, is a Farmer Advisor for Chinkuli Agricultural camp in Chongwe District. Mr. He planted a variety suitable for processing for the first time. After transplanting and properly managing the tomatoes, Mr. Ndhlovu and his wife for the first time harvested 30 boxes of tomatoes in 2 weeks! They sold the tomatoes at ZMW 80 per box raising a total of ZMW 2400 (USD 444.44). They are very happy with this performance because although the customers are not yet familiar with the processing variety but it was immediately accepted. He has expressed satisfaction about the technologies introduced by the project. He also appreciates the Farmer Field School model that is enabling him to teach other farmers about the technologies promoted by the PROFIT+.

3.1 IR2: Increased Private Sector Investment in Agricultural Related Activities

Gross margin calculations

A total of 649 farmers (419 males and 230 females) underwent gross margin training. The participants included DHFs and Field Advisors. After receiving training, the DHFs and FAs conducted training to their respective LFs during their regular FFS interactions.

Aggregation

During the year, a total of 133 Aggregation centres were identified and 92 were mapped by GPS in the districts of operation. These centres have been mapped for the sole purpose of identifying the most suitable aggregation points that can be used to foster efficient trade linkages between Farmers and traders. Selection criteria of these centres was based on a number of factors such as,

1. Accessibility by road
2. Phone network
3. Number of farmers using the aggregation Centre

4. State of the aggregation Centre

Sell More For More (SMFM)

The Project conducted an open solicitation for consultants to conduct the SMFM training. Out of 18 bids received two local sub-contractors. .

The two sub-contractors (Kamono solutions and Earthrow) were selected to conduct the training to 45 selected cooperatives and organizations. They underwent a two-day Training of Trainers (TOT) session where they were taken through the four training modules (Membership, Marketing, Money and Management) that make up SMFM training.

The purpose of the TOT was to:

5. Explain why the project is training cooperatives/organizations in SMFM
1. Impart knowledge and skills to sub-contractors on how to conduct SMFM training to project partners (cooperatives/organizations)
2. Provide training on an interactive, facilitative adult learning methodology and using the SMFM group exercises rather than lecture to work with beneficiary farmer groups.
3. Provide each trainer an opportunity to practice and demonstrate their capacity to facilitate a SMFM training (each proposed trainer had a slot to facilitate)

Market Linkages

Activities that foster market linkages between farmers and traders have included facilitating meetings between farmers and traders to discuss prices and volumes of commodity to be aggregated, and where aggregation points should be located. These meetings have been necessitated by the need to offer the farmers a diverse array of markets.

AFGRI Grain Sourcing and Tractor Lease Scheme: Afgri indicated to the project that they would be on the market for about 200,000 MT of grain (a combination of maize, Soybeans and groundnuts). The market linkage has trade value of about USD 700,000 with the potential to benefit 20,000 farmers. The project agreed to work with AFGRI on generating more awareness about AFGRI's sourcing strategy with aggregating groups. AFGRI has also made their bulk SMS weekly price service available to PROFIT + affiliated farmers.

Secondly, AFGRI has a "Tractor for Maize" mechanization lease scheme that essentially requires farmers to put down 30% on the value of a small scale suited tractor and make repayment over a three year period in the form of maize or another AFGRI traded crop. The project is working with AFGRI to promote this scheme as it adds value to farmers' livelihoods in the form of increase in asset ownership by small scale rural farmers, better adoption of land tillage methods like ripping, alternative IGA, saving labor required to manage fields and route to guaranteed market through the buyback scheme.

ZDENAKIE Storage Infrastructure Construction: The project engaged ZDENAKIE in its efforts to obtain capital expenditure finance for the construction of a USD $11m silo complex. The complex would have a grain holding capacity of about 100,000 MT and would supplement ZDENAKIE's existing infrastructure to store grains for both local and international commodity traders. The bank's role has been to help ZDENAKIE structure bankable proposals as well as

involve partner FSPs to provide guarantees and credit insurance support to ZDENAKIE. The project on the other hand provided information on the availability of commodities in the different districts.

Horticulture Marketing Strategy

The horticulture value chain is facilitating linkages to high value markets and providing market information to the producers as an exit and sustainable strategy. The value chain is working with processors such as Rivonia to facilitate out grower schemes that will feed into their upgraded processing plant hence having a guaranteed consistent throughput. Through partners such as ADRA, the project is facilitating out-growers schemes and contract farming that will feed into other end market players such as supermarkets, processors and restaurateurs. The project will identify mobile market information developers to establish an electronic mobile and web based Information System (MIS) plat form that will enhance and facilitate access to premium markets by smallholder farmers and improve market efficiencies in a gender responsive manner.

To facilitate the private sector engagement in horticultural marketing, the project is stimulating investment in commodity aggregation through assembly markets, pack houses and horticultural coops. This will be done in gender sensitive manner to ensure that women and other vulnerable value chain actors are benefiting equitably.

ACHIEVEMENTS UNDER IR2

Market Linkages

The Project linked Delicious Milling Limited of Lusaka to 5 cooperatives in Chipata district to purchase maize for their milling company. Delicious Milling has so far purchased 2,000MT out the required 4,000MT agreed with the farmers. The project is in the process of facilitating MOUs, between the company and the cooperatives, to facilitate aggregation of the commodity in the communities.

Table 4. Planned Quantities of Commodities to Be Purchased by Traders in the 2013-2014 Marketing Season

TRADER VOLUMES	COMMODITY REQUIRED	TOTAL	Facilitated by the Project
Continental Grains	Maize, groundnuts and soybeans	50,000 MT	
ZDENAKIE	Sunflower and maize	50,000 MT	
AFGRI	Maize and soybeans	30,000 MT	
Parrogate	Maize	15,000 MT	6,175 MT
Cargil			870MT
FEEDTEK	Soybeans	50,000 MT	
Rivonia	Tomatoes	4.5MT/month	To start Jan 15
NWK			6,395MT

Gross margin calculations

The project has continued to sensitize farmers on the need to calculate gross margins and break even prices before engaging in price negotiations. A total of 649 farmers (419 males and 230

females) underwent gross margin training. The participants included DHFs and Field Advisors. After receiving training, the DHFs and FAs conducted training to their respective LFs during their regular FFS interactions.

The knowledge gained from this training has benefited farmers in negotiating profitable prices at which to sell their commodities. Farmers learn how to cost the inputs that contribute to the production of the different value chains, and to establish the break-even price and therefore profitability. The following are the numbers of DHFs and FAs trained in calculating gross margins.

Table 5. Number of DHF trained in Gross Margin calculations by district

District	Males	Females	Total
Petauke	109	39	**148**
Katete	97	30	**127**
Chipata	96	92	**188**
Lundazi	103	61	**164**
Peri-urban Lusaka	14	8	**22**
TOTAL	419	230	**649**

Aggregation and Aggregation study:
During the year, a total of 133 Aggregation centres were identified and 92 were mapped by GPS in the districts of operation. These centres have been mapped for the sole purpose of identifying the most suitable aggregation points that can be used to foster efficient trade linkages between Farmers and traders. Selection criteria of these centres was based on a number of factors such as,

1. Accessibility by road
2. Phone network
3. Number of farmers using the aggregation Centre
4. State of the aggregation Centre

The aggregation study report is in draft form, but the Project is using information on potential aggregation centers to encourage farmers to aggregate while simultaneously informing traders of potential available quantities by commodity at each of the centers.

The project promoted the setting up of aggregation centers by the communities. Some of the centers already existed but were not used to market crops other than maize. Below are tables that indicate quantities by commodity that were aggregated in each district at different centers.

Table 6. Quantities of Commodities Aggregated at Different Centers in Petauke District

Name of Centre	Agric Camp	Block	Maize (50Kg)	G/nuts (50Kg)	S/flower (50Kg)	S/beans (50Kg)
Kangele Agric	Nyanje	Kapoche	25,000	800	1000	0
Sasu Centre	Chipungu	Msanzala	15,000	1000	500	200
Milimbo IC	Mumbi B	Ongolwe	1000	600	800	0

Makina Coop	Kapungwe 1	Kapoche	30,000	1,500	1,000	0
Chilimanayama Coop	Chilimanyama	Nyika	3,000	800	10,000	0
Fundolele Coop	Nyalingu	Kaumbwe	15,000	2,000	2,000	200
Lunene IC-Nyakuluma	Mwanjawanthu 1	Kaumbwe	20,000	2,000	3,000	0
Mleza Coop	S/Nyamphande	Nyika	3,000	1,000	0	0
Chapeuka Centre	Nyamphande 1	Msanzala	30,000	1,000	0	0

Table 7. Quantities of Commodities Aggregated at Different Centres in Chipata District

Name of Centre	Agric Camp	Block	Maize (50Kg)	G/nuts (50Kg)	S/flower (50Kg)	S/beans (50Kg)
Kapasa	Mapara 1	Chanje	6,000	5,000	500	2,000
Kazhula	Mtambarara	Chankanze	4,000	500	300	2,000
Chitandikha	Chitandika	Chitandika	3,500	4,000	2,000	11,000
Chinyalo	Sisinje	Chiparamba	740	600	300	700
Kachere	Sisinje	Chiparamba	500	400	200	500
Chimuti	Saili	Esatern	2,000	500	400	1,500
Chansomba	Saili	Eastern	2,500	2,000	900	300
Jesonowa	Jerusalem	Eastern	7,500	1,000	1,200	2,000
Kavunguti	Mafuta	Chitandika	12,000	4,000	600	1,200
Chisomo	Kapita	Chiparamba	1,500	800	200	0
Makwere	Makwe	Eastern	8,600	3,000	800	7,400
Zingale	Mnoro	Central	4,000	600	300	800
Kalima	Chipara	Chiparamba	1,200	700	200	600

Table 8. Quantities of Commodities Aggregated at Different Centres in Lundazi District

Name of Centre	Agric Camp	Block	Maize (50Kg)	G/nuts (50Kg)	S/flower (50Kg)	S/beans (50Kg)
Lukusuzi	Mwase Mphan.	Lumezi	50	0	0	0
Luwelezi	Emusa	Emusa	58	10	0	0
Nasala	Kampongolo	Lumezi	300	0	0	0
LGSA			2,000	0	0	0
Musuzi	Mukomba	Mwase	1,000	0	0	0
Kazingwe	Chimwala	Mwase	400	0	0	0

Table 9. Quantities of Commodities Aggregated at Different Centres in Katete District

Name of Centre	Agric Camp	Block	Maize (50Kg)	G/nuts (50Kg)	S/flower (50Kg)	S/beans (50Kg)
Dole	Chilembwe	Southern	15,000	3,000	4,000	4,500
Seya	Seya	Western	23,622	0	0	0
Chikuyu	Chilembwe	Southern	16,000	21,000	870	2,300
Kamphambe	Kamphambe	Eastern	20,000	10,000	15,000	5,000
Chilingodi	Chilingodi	Eastern	40,000	6,000	8,000	700

Kagoro	Kagoro	Eastern	52,000	12,000	3,600	520
Chitasha	Chitasha	Southern	3,900	1,000	15,000	8,000
Gaven	Gaven	Northern	32,000	285	1,500	80
Kamela	Kameta	Southern	27,000	4,200	2,300	140
Kafumbwe	Kafumbwe	Southern	23,000	270	5,200	150

Capacity Building Farmer Groups and Organization Capacity Assessment

The project assessed fourteen (14) cooperatives and horticultural farmer groups (6 in Lundazi and 8 in Katete) for processing capacity, marketing trends and prices, potential markets, linkages with other enterprises, business diversification plans, and other income generating activities. A total of 235 (148 male and 89 female) smallholder famers were interviewed as part of the assessment.

Three agro-processors, the District Women Association and the District Farmers Association in Katete participated in a focus group discussion to understand their business models, discuss current challenges and identify what additional capacity building areas they required. The findings of this assessment are as follows:

a) Traders from Chama district (a neighboring district to Lundazi) offer lucrative prices for horticulture products to the Lundazi producers.
b) Exchange of horticultural products (through a barter system) with field crops, especially maize, is common in most communities.
c) The majority of cooperatives and horticultural groups, including some agro dealers based in rural communities, are willing to access loans in order to increase their working capital and diversify their businesses to other agro-businesses such as commodity trading.
d) Some farmers in Katete sell their horticultural produce in Feira area (Zambia-Mozambique border).
e) Most agro dealers have limited product knowledge of the chemicals that they sell.

Sell More for More (SMFM)

A total of 1,670 farmers (763 male and 907 female) from 44 cooperatives/organizations in Lundazi, Chipata, Katete and Petauke districts were trained in Sell More For More (SMFM). Four modules (Membership, Marketing, Money and Management) were covered during the ToT and roll-out training sessions. SMFM training aims to improve farmer organizations' capacity to establish and fulfill contracts through improved quality and increased quantity of their products.

Following the training, the Cooperatives are now able to:

1. Work together to plan activities, come up with strategies and build business plans
2. Sign contracts between themselves and prospective traders. For example, 3 cooperatives have signed trade agreements with Delicious Milling of Lusaka for the sale of maize.
3. Hold meetings aimed at showing transparency in their activities.

3.3 IR3: Increased Private Sector Investment in Agricultural Related Activities

Producer Associations and Rural Enterprises Access Services from Private Sector

The project engaged several partners including Zambian Fertilizer, KickStart, Hygrotech, Lusaka Agrovet, Micro banker's trust, Micro Insurers, Focus Insurance, and Business Development Services Africa to establish a consortium of companies willing to provide credit inputs as well as extension services in areas where the traditional MFI and agro dealer model were not available to service interior rural communities.

The project proposed cost and risk share scheme where 30% of the initial credit outlay risk would be covered by the project with the farmer put up an initial 20% of the loan value and the private agro suppliers put 50% of the credit value at risk. The loans were to be covered with input cost micro insurance imbedded in the cost of the loans and loan tenures were set at 4 months. Several meeting and a field trip to Petauke to test he acceptability of the model with the farmers has resulted in a consortium of 6 companies each providing a unique product and service to farmers through our FA model. The FA model is serving as an aggregator of demand, distributor and credit collection agent and earning a commission on all transactions that are facilitated by the FA.

Vision Fund International has also been providing financial services in the form of basic financial literacy and input loans to farmers affiliated to our FA model. The project initially started working with VFI in Chipata on a pilot basis but operations have since been introduced to Katete with peri urban Lusaka to be included in year 3.

The project continued to pursue out grower schemes as a strategy for getting credit input to farmers on a large scale while at the same time ensure that the technologies being promoted by the project are adopted and the resultant production is absorbed into equitable market structures. To this end, the project managed to interest Mfumbeni Development Association (MDA) and ZDENAKIE in soy out grower schemes. MDA is looking to contract 1,500 farmers to grow soy for it to feed a soy processing mill the association plans to put up next year. Each farmer is expected to farm about one hectare each, with an expected output of about 2,250 MT. ZDENAKIE on the other hand, would like to contract 20,000 small scale producers to grow 30,000 MT of soy beans which they will buy. Both of these cases will be completed in year 3 and the project's role is to recruit the farmers and provide them with crop production technical assistance.

The project and Sylvia Food Solutions commenced planning of an out grower scheme for tomato and onion involving 4,000 Lusaka- based farmers. This initiative is designed to provide throughput support to Sylva Food Solutions on going investments in improved vegetable processing equipment. The project's key role will be to facilitate farmer recruitment for the scheme as well as facilitate input credit for these farmers through the FA structure. Sylva Food Solutions exports dried vegetable products to the European market and are looking to rapidly and significantly expand their market share.

Another potential partner identified was Agriculture Business Incubation Trust (AgBit) which works with several SMEs to help them develop agriculture value addition businesses. AgBit is incorporated as a commercial enterprise through a development trust fund and operates in a wide array of value chains including tomato, onion and groundnuts. AgBit expressed a keen interest in working with the project to identify farmer clusters to act a source base for the processing industries they work with. The key focal areas with AgBit are business incubation/development services for micro and medium to small businesses that will perform the role of equitable markets for farmers produce. AgBit was

also shortlisted as a potential franchisee for the ESOKO information platform that the project plans to use to establish a market information system. AgBit is also keen to work with the project on aflatoxin management strategies as part of its strategy to promotes the processing of peanuts for export and local markets

> "I have grown tomatoes for a long time but this is the first time I have grown such a healthy crop thanks to the knowledge gained from PROFIT+, especially on the use of blended fertilizers and proper trailing of the crop!" exclaimed Mrs. Grace Phiri.

The project has signed an MOU with WFP to co investment into the development of the business model associated with a warehouse (one stop business) project in Kasamanda, Katete. This center is expected to harbor diverse business activities involving aggregation, input distribution, trading and agro processing of maize, sunflower and groundnuts. The total investment plan is USD 1.2m with the project expected to contribute USD 100,000 that will build capacity for a local oil processor, agro dealer as well as warehouse management. WFP has already made the initial investment in the warehouse as well as oil press equipment to 9 micro entrepreneurs and a hammer mill for 1 micro entrepreneur within Katete District. It is expected that about 12,000 rural small scale farmers will benefit from this project.

Access to Finance

PROFIT+ seeks to link farmers to other players so as to increase smallholder farmer access to incomes. The project did this through several means including training, linkages as well as mentoring.

As a result of the training provided by PROFIT+ in collaboration with the CASH Project themed "Production as a Business", one of the FAs (Mrs. Grace Phiri, from Lukolongo agriculture camp) had managed to access a loan of ZMW2,900 (US$537) from Vision Fund International to be repaid in 6 months. With the loan, Mrs. Phiri bought 2000 hybrid indeterminate tomato seedlings, pesticides, fungicides and vegetable blended fertilizers. She planted the seedlings in her field and using the agronomical practices knowledge gained from the trainings, Grace says she is pleased with the health of the crop. She invested a total of ZMK 3500 (US$658) on the crop and realized a total gross turn-over of ZMK 22,000 (US$ 4074) leaving a net income of ZMW 16,000 (US$ 2963) in three months. Mrs, Phiri recently won an award at an Agricultural Gala held in Lusaka organized and conducted by MAL. She was awarded the 1st Prize (a generator set) for being the best hardworking farmer in Lusaka Province. 7 women were nominated by their communities and were asked to submit profiles of what they have done to contribute to transfer of extension messages to other farmers. As a FA, Grace applied the Farmer Field School methodology, conducted demonstration for onion and tomato, and reached out regularly to 200 farmers in her area.

Grace second from left with the generator she won.

SILC activities were reviewed and integrated in the PROFIT+ Agriculture Finance framework during a review and planning workshop that was held in Lusaka and involved all consortium partners. Year 2 SILC activities were presented in a Detailed Implementation Plan (DIP) and a Scope of Work (SOW) that was discussed and adopted by consortium members. The workshop was an opportunity for other consortium staff to become familiar with the SILC methodology and its contribution to the goal of the project through Intermediate Results (IRs) 1 and 2 by increasing savings and investments for small holder farmers in the project.

After this workshop, the program staff conducted an outreach mapping exercise for Katete and Petauke districts to identify and select SILC FAs. The following activities were conducted as part of the outreach mapping:

- Identification of organizations/institutions that carry out savings group activities within the district, their implementing partners, and their areas of operation (camps/wards).
- Become acquainted with the village structures, clustering and population levels, and also to examine the possible coverage areas for the FA Supervisors. (This was done to ensure that the supervisors and agents observe the 80-20 rule whereby they spend 80% of their time working and 20% traveling to/from work.)
- Engage the Ministry of Agriculture and Livestock (MAL) Camps Extension Officers, local leaders, zonal leaders, Camp Agriculture Committees (CACs), and some Demo-Host Farmers to explain the SILC concept and planned activities.

ACHIEVEMENTS UNDER IR3

Private Sector Engagement

- The Project's efforts in facilitating access to finance for agriculture investment by small scale farmers with Vision Fund International (VFI) resulted in 110 farmers (101 male and 9 female) from Chipata and 25 from Kafue districts accessing input loans with a total value of just over ZMW 190,000 (USD $30,766).
- Kick Start has offered treadle pumps to 36 (35 male and 1 female) smallholder farmers worth ZMW 25,200 (USD $4,000).
- To ensure that more opportunities are availed to acquire agriculture inputs, the Project has further initiated discussions with horticulture equipment and input companies to develop a partial credit scheme for horticulture farmers. The scheme will utilize the FA structure as a proxy for the input companies to channel their commodities as well as aggregate demand. The proposed model will allow the FA to receive a commission for sourcing deals, distributing inputs, and collecting loan repayments from farmers. Nine (9) companies have confirmed their commitment to work with the Project:

1. Zambia Fertilizer – for fertilizer
2. KickStart – for treadle pumps
3. Hygrotech – for seed and seedling production inputs/equipment
4. Green2000 – for irrigation solutions
5. Agronomics – for irrigation solutions

6. Lusaka Agrovet – for chemicals
7. Micro insure – for insurance product development
8. Focus General Insurance – for insurance financial services
9. Business Development Services Africa – for business synergy strategies

Savings and Internal Lending Communities (SILC)

Selection of Field Agents

The initial selection for the Field Agents was done by the community members themselves and this was followed by interviews conducted by project staff. This process saw the identification of 25 candidates from Katete and 26 from Petauke to undergo the FA induction training. The following two tables show the distribution of FAs by location in each district.

Table 10: Selected FA in Katete District

AGRICULTURE CAMP NAME	No. OF SILC FIELD AGENTS SELECTED
a) Kagoro	2
b) Chimutende	3
c) Mzime	2
d) Vulamukoko	4
e) Mphangwe	3
f) Mwanamphangwe	2
g) Chinkhombe	5
h) Chilembwe	3
TOTAL	25

Table 11. Selected FA in **Petauke District**

AGRICULTURE CAMP NAME	No. OF SILC FIELD AGENTS SELECTED
a) Nyampande	4
b) Kakwiya	2
c) Chilimanyama	2
d) Nyika	5
e) Kawere	3
f) Nyampondolo	2
g) Mtondo	2
h) Mondola	2
i) Ongolwe	2
j) Lusowe	2
TOTAL	26

Note: Only 20 FAs per district were finally selected to start implementing SILC activities after the training, while the remaining five were put on stand-by in case others from the selected 20 dropped out. The 11th camp (Matambazi) in Petauke district was included during the second reporting quarter.

The FA induction training for Petauke and Katete districts were conducted. The main objective of the trainings was to enable participants to understand the concept of SILC and appreciate how the methodology works. The project also conducted a three-day Management Information Systems (MIS) workshop. Participants included project FA Supervisors as well as those from CRS project called Mawa (also Feed the Future supported project). The main objective of the workshop was to

introduce FA Supervisors to SILC information collection and management tools in order to enable them collect and manage data properly.

The project conducted the first technical assistance training. The purpose of this training was to introduce the improved data collection forms and supervision tool, in addition to helping project staff adequately plan for the delivery of the first FA refresher training as well as assist staff to configure the latest version of the MIS (SAVIX).

The first FA refresher training was conducted during the fourth quarter (August 2014). The objective of the training was to reinforce the FA understanding of key concepts of the SILC methodology and also to address issues arising from the field. A SILC PSP Master Training organized by CRS' Southern Africa Regional Office was conducted. The objective of this training program was to develop a consistent and high quality system for SILC PSP Master Trainers in the region.

The project succeeded in forming a combined total of 308 SILC groups, with a total individual membership of 5,781 (1,403 male and 4,378 female). This represented 72.2% of the estimated target of 8,000 community members by the end of the first year for cohort one. The percentage of males and females stood at 24% and 76% respectively. Of the 308 groups that were formed, 10% (31 groups) were exclusively comprised of female members while the rest comprised of a combination of both women and men. Additionally, a total of 188 groups were saving.

Table 12: SILC Group Formation Summary

Total number of groups formed by the end of the year	308
Total number of groups dropped out	0
Total number of female only groups	31
Total number of male only groups	0
Total number of individuals members reached out	5,781
Total number of individual females members reached out	4,378
Total number of males members reached out	1,403
Total number of groups saving	188

- A total of 188 groups started saving. The groups' cumulative value of savings amounted to ZMK 287,549. The outstanding loans stood at ZMK 264,659 and these were accessed by 1,429 group members.
- The value of cumulative savings at the end of the reporting period stood at ZMW 124,454 from the 133 groups. At the time of data collection, 787 group members had loans amounting to ZMW 134,315.
- The loan utilization rate (the percentage of group funds being used as loans) was 80% with most members engaged in several income generating activities which included among others such as: maize marketing, fritters, fish, second hand clothes, cooking oil, chickens, vegetables, and fruit.

Kasamanda Agriculture Development Initiative (KADI)
Seven individuals have been identified as potential oil processor operators and one individual has been identified as agrodealer to service the farmers whose produce is earmarked for trade at the KADI center. WFP and ADRA are supporting these seven entrepreneurs to source/procure equipment to enable them engage in end markets to off take the oil and sunflower cake that will be aggregated at the KADI site. ZDENAKIE and Continental Grains have expressed interest in purchasing the cake from the center. To this end, the Project collected samples and delivered them to ZDENAKIE for quality testing before ZDENAKIE can engage into purchase contracts with the KADI.

Community-Based Agrodealers
Ten (10) community-based agrodealers were linked to four (4) established horticulture inputs suppliers: Hygrotech, Greenbelt, Zambian fertilizer and Kirk start. These partnerships are facilitating the quick adoption of technologies such as soil fertility management and Crop management as well as drip irrigation.

Innovation and Investment Fund (IIP) – Grants Program
In January 2014, the project reissued a call for concept notes in the print media which was followed by two pre- concept note submission orientation workshops in Lusaka and Chipata. The purpose of the pre-concept note submission workshops was to take through the applicant the Annul Program Statement (APS)and explain in detail the PROFIT+ goals and objectives. The workshops where attended by more than 70 participants and a total of 51 concept notes were submitted. Out of the 51 received concept notes the Technical staff only managed to review 34 and 17 will be completed in the following year.

Out of the 34 reviewed concept notes 9 applicants were requested to submit full proposals and 25 concept notes did not meet the minimum standard and were rejected.

ACHIEVEMENTS UNDER IIP

Increased Investment by Processors and Value Addition Enterprises
The Innovation, Investment, and Partnership Fund (IIP Fund) aims to foster public private partnerships across select value chains. It is one of the ways the Project leverages private sector investment to supplement for the selected agriculture value chains. In the reporting period, 51 concept notes were received and 34 were reviewed. By the end of the year, 9 full applications were received. Table 7 below shows the organizations, the value and type business proposals submitted for further review by the Grants Review Committee.

Table 13. Grant Proposals Submitted and Under Review for the IIP Fund

No.	GRANT APPLICANT	TYPE OF BUSINESS	VALUE (USD $)
1	Momboshi Henwood	Horticulture production and marketing	96,025
2	Nezi Investment	Stock feed processing	84,167
3	Lusanjo	Peanut butter processing	195,333
4	Chipata DFA	Horticulture pack-house facilities	126,950
5	EPFC	Groundnut seed Multiplication	170,670

6	Chipata DWA	Sunflower & groundnut processing	35,371
7	Self Help Africa	Groundnut production & processing	79,786
8	Blue Ocean	Grain aggregation and Marketing	318,249
9	Sunline Limited	Peanut butter production	260,473
10	Every Child Fed	Therapeutic Food (RUTF) and Distribution	$2,573,043
	TOTAL		**1,367,024**

Grants for a Groundnut seed revolving fund

An average of 0.4HA (Kimetrica baseline Report profit+, September 2013) of land is allocated to groundnuts per farmer in Eastern province. The average groundnut yield for smallholder farmers is 0.5MT / hectare compared to a potential yield of 2MT/ha) by adopting improved seed and management practices. This is due to a number of reasons:

1. Low uptake of improved groundnut seed attributed to lack of seed
2. Farmers recycle seeds for longer periods due to limited availability of certified groundnuts seed;
3. Poor crop management practices such as late planting, late weeding and poor storage practices; and,
4. Low to no use of inputs such as inoculants and fertilizers.

The availability of improved or certified seed is constrained by limited involvement of seed companies in the multiplication of self-pollinated crops, such as groundnuts. Farmers therefore, tend to recycle the seed losing yields every time they do so.

In order to address the problem of groundnut seed, PROFIT+ proposed a two pronged approach to resolving this recurring problem of poor availability of certified groundnut seeds in Eastern Province. The first approach is to address the immediate problem of increasing farmer access to groundnut seed this planting season and the second is a long term approach: Both approaches will be supported by the Innovation and Investment Fund held by PROFIT+. Table 8 below shows the organizations selected and amount of both certified and basic seed to be given under the grant.

Table 14. Grants to be issued under the Groundnut seed revolving Fund (GRF)

No	Grantee	Certified Seed	Basic Seed	Estimated Value (US$)
1	EPFC	200MT	5.8 MT	191,067
2	Jungle Beat	60MT	6 MT	63,000
3	Share Zambia	15 MT	4MT	19,083
4	COMACO	0 MT	5MT	6,667
	TOTAL	**275MT**	**20.8MT**	**279,817**

Signed Grants

The project signed grants with different partners under the Investment Innovation & Partnership Fund (IIPF), with total grants value of US$1,015,619. These included the following:

Grant Purpose	Grantee	Location	Value($)
1. In kind Grants:			
- 2013/14 Farming	690 DHFs	Eastern Province	216,813.00
- Horticulture Protective clothing	300 LFs	EP & Lusaka	83,407.00
- Aflasafe Application	3DWAs, COMACO, ETG, WFP	Eastern Province	29,312.00
- Groundnut out grower	3 DWAs	Eastern Province	12,888.00
Total In Kind Grants			**342,420.00**
2. Fixed Obligation Grants:			
- Gender Mainstreaming ToTs	4DWAs, 2DFAs	Eastern Province	107,188.00
- Gender Mainstreaming ToTs	2DFAs , WLSA, PPHPZ	Lusaka	38,710.00
- Sell More for More & PHH ToTs	40Coops, 3DWAs & 4DFAs	Eastern Province	166,410.00
- Horticulture production/marketing	Mitengo Women	Chongwe	35,507.00
- Groundnut & Soybeans processing	COMACO	Chipata	114,792.00
Total FOGs			**462,607.00**
3. Sub Contracts:			
- Training Partners in 4 Modules of SMFM	Earthrow& Kamono	Eastern Province	210,592.00
Total Sub Contracts			**210,592.00**
TOTAL GRANTS SIGNED			**1,015,619.00**

3.4 Cross-cutting: Gender Integration

In our efforts to mainstream gender and increase female empowerment throughout the targeted value chains, we held couples gender sensitization sessions at the homes and through FFS. This training strategy for couple gender sensitization is based on the modified Harvard Gender Framework. The activity focused on the Farmer Advisors, Lead farmers and their spouses. The sensitization sessions were aimed at educating the couples on gender equality, cultural norms and beliefs on how those affect productivity of individual value chain actors.

In addition to the sensitization sessions, the Project also facilitated exercises focused on activity profiles, triple role framework, access and control over resources, and benefits by women and men in farming. Issues that came out include;

- Women spend a lot of time doing reproductive roles with very little time for resting or leisure.
- Men have higher productive roles and less reproductive roles
- Men own and control most high value assets
- Men acknowledged the heavy workloads that women perform on daily basis and pledged to take some of the roles that women normally do.
- Participants appreciated the fact that their spouses are involved in horticulture value chains and pledged to use their resources to implement the skills and knowledge gained to grow better gardens.

- The participants requested the Project to facilitate linkages to better markets as they expect higher productivity this year.

As a result of these findings, the project started targeting both spouses in order to increase female participation in the value chains. Lead farmers started targeting couples (households) in their roll-out activities and technology transfer. That way, the couples learnt about the new technologies together, but they also understood the value of working and helping each other.

The couples are reporting improvement in decision making, sharing of roles in the households and active participation of all household adult members in agriculture value chains.

ACHIEVEMENTS UNDER GENDER

1. Issues of gender equity and women empowerment have been included at each node of the targeted value chains. In a period under review there is 31% female dealers inclusion, 36% female demo host farmers, 20% farmer Advisors and partners trainers that conduct sensitization have 69% females while the roll outs had 60% females in all the areas covered.
2. Some women are taking up leadership positions in male dominated farmer producer groups that were exclusively held by men. The number of women reporting increase decision making at household and community level.
3. Five tons of ground nut seed was provided for women out-grower scheme through the DWDA to ensure that women actively participate and benefit from the ground nut value chain even after commercialization. The women managed to access groundnut seed which they would not have otherwise. They sold the produce to the DWAs and earned cash.
4. Village head persons are reporting a number of women that are claiming control over productive assets.

Women's Involvement in PROFIT+ Activities

a. Female Demo Host Farmers & Agro dealers (246 females & 444 males DHF, 38 females, 85 males Agro dealers)

.

b. Memoranda of Understanding with six Women's Groups

c. Leadership, Governance & Gender Training of Trainers (TOTs) (124 females & 51 males) and Roll-outs (28, 659 females & 15,569 males)

The household approaches have increased equal participation of individual household members in the production and marketing of agricultural crops.

"I am very happy that my wife was selected to be one of the lead farmers in this PROFIT+ project. We are also growing tomatoes at our farm so that we can use the knowledge she is gaining from here to benefit us as a household."

3.5 Cross-cutting: Environmental Compliance

Environmental Stewardship Mainstreamed

Environmental Compliance

- Sensitized agro-dealers on the importance of observing safe use practices in their businesses and on the use of the environmental mitigation and monitoring plans to reduce potential impacts associated with agro dealing.
- USAID SATH and PROFIT+ co-hosted a one-day meeting to obtain feedback from farmers trained in Aflatoxin removal and discussed plans to share the training with their members.
- A USAID Environmental Officer visited the Project and commended the Project for putting mechanisms such as Farmer Field Schools and Demo sites as learning platforms for environmentally sound interventions and indicated that her visit exceeded her expectations.
- 60 of FAs and 60 DHF received training in Integrated Pest Management, spray service provision and EMMP.

ACHIEVEMENTS UNDER ENVIRONMENT

3.6 Behavior Change and Communication

- Profiled and documented three success stories in the program intervention districts.
- Conducted BCC assessments in horticulture among farmers in Lusaka to assess access to information and the exiting sources of information in the sector
- In November 2013, the project partnered with Yezi arts and community radio stations (Chikaya, Breeze and Explorer). The partnership sole purpose was to conduct shows and radio programs to disseminate messages on good agriculture practices which would stimulate adoption of modern technologies by smallholder farmers. In the period under review the project in partnership with DANYA International has developed instruments to capture data on the listenership and application of some of the technologies. The technologies that are being assessed include use of certified seeds and appropriate use of fertilizers.

3.7 Monitoring and Evaluation System

The project commenced the roll-out of M&E tools which were developed to enhance data collection at DHF and FA levels. Specifically the following tools were rolled out:

1. **Farmer Field School Registers**
   3,750 registers were printed and were administered by the DHFs and FAs in all the target districts. The register is aimed at capturing data on indicators to do with vulnerable households, rural households, technology transfer, and number of hectares under improved technology. The roll-out is being done during the farmer field school TOT trainings.

2. **Gross Margin Data Collection Tool**
   The Project printed 6,000 gross margin collection tools which will be distributed to DHFs and FAs as a mechanism to capture information on the 5 data points required to measure gross

margins in all the six selected value chains. In addition it is envisaged that the tool will enhance record keeping among the smallholder farmers.

3. **DHF and FA Model Implementation Tracking Tool**
   The Project has also developed a tool which will be used to gauge the level of implementation of the DHF and FA models by the host farmers. The tool which will be administered by field facilitators will provide data which outlines each step of the two models such as:
   - Establishment of demonstration plot
   - Recruitment and documentation of 5 Lead Farmers
   - Recruitment of all the 100 farmers who should be part to the Farmer Field School
   - Recruitment of all the 200 farmers who should be part to the Farmer Field School
   - Documentation of all the 100 and 200 farmers
   - Monitoring reports of the Lead Farmers outlining how many are adopting technologies and which demo plots are performance of demo plots.

4. **Horticulture Rapid Assessment Tool**
   The team developed a horticulture rapid assessment tool aimed at capturing tomato and onion gross margins and sales. This tool will enable the project to collect tomato and onion sales and gross margins in Peri-urban and Eastern Province. This information will assist the Project develop a targeted strategy for establishing market linkages for the two value chains.

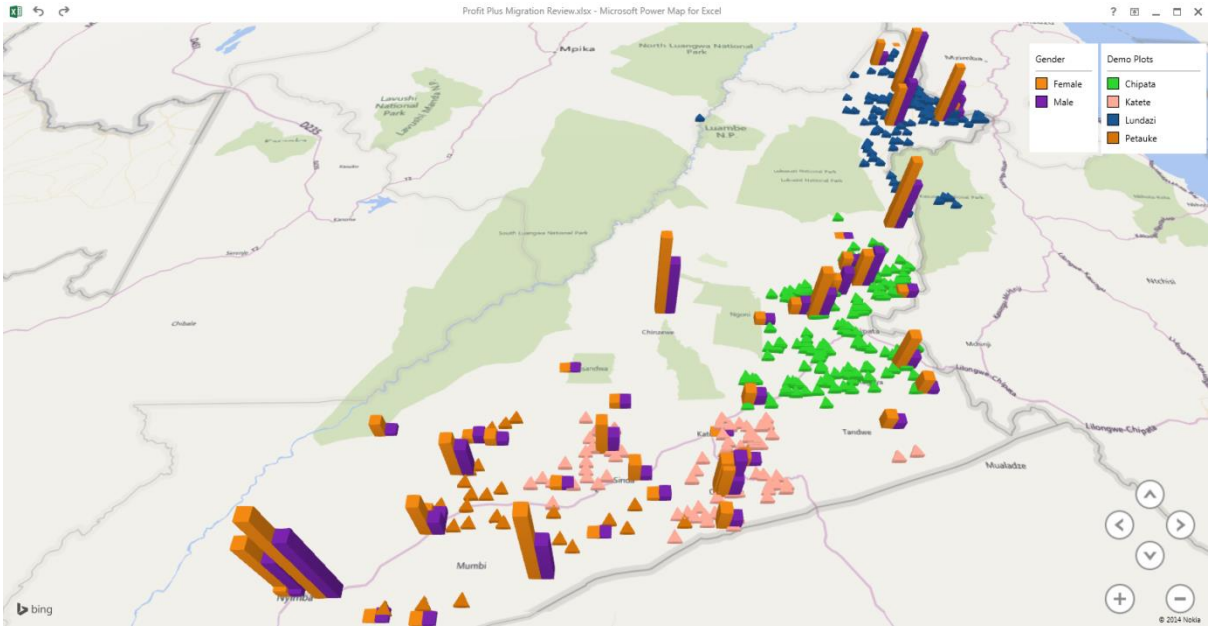
5. **Database**

In an effort to general improve the Information Management system and specifically, eliminate duplicates and double counting within the project, the M&E has continued to monitor and improve the efficacy of the project database. In the period under review the project migrated from the Ki-Metrics into a Microsoft Access database which is now being hosted on SharePoint. Coupled with the introduction of the data completion certificate the improvement in the database has resulted in elimination of the duplicates in the system. As such, during the Feed the Future Partners meeting the project data was rated 99.3 percent useable and the other 0.7 percent could not be used because of the missing unique identifiers (NRCs). In addition, the project database is now providing the following functionalities:

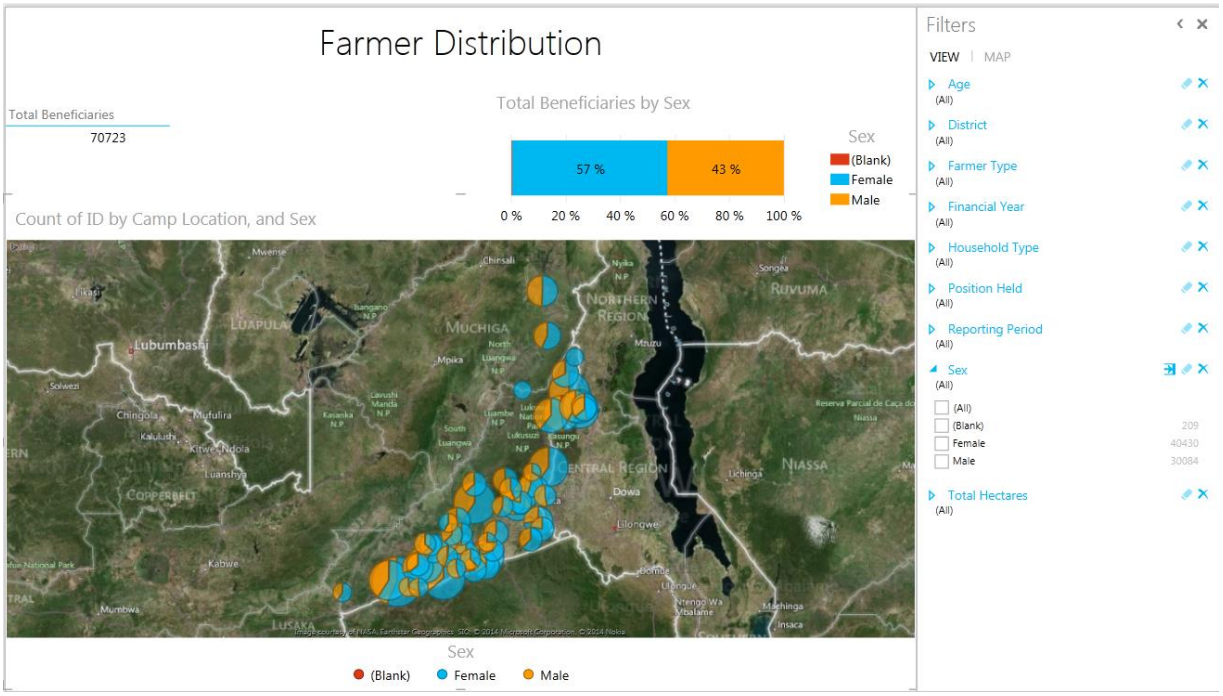
1. Eliminate the duplicates on the spot
2. Data modelling (Power Pivot)
3. Data visualization (Power View)
4. Data mapping/geocoding (Power Map)

Furthermore, the Information system is now able to generate the following maps of intervention areas

Power Map Geocoding of Beneficiaries by Camp and Demo Plots



Power View Dashboard of PROFIT PLUS Beneficiary Biodata



Zambia National Agricultural and Commercial Show

To share information on the work PROFIT+ is doing and increase the visibility of the Project, PROFIT+ participated in the National Agriculture and Commercial Show by showcasing various products and technologies. PROFIT+ Information Education and Communication (IEC) materials were distributed to the public that visited the PROFIT + stand and key PROFIT + technical staff,

were on hand to explain the improved farming technologies. Also in attendance were selected demo host farmers/lead farmers and partners who shared their personal experience working with new farming technologies and PROFIT+.

Left, Farmer Advisor Mrs. Grace Nyirongo Phiri (Farmer Advisor) explains to Show goers her greenhouse technology for horticultural seedling production.

4. Lessons learned

Increased Smallholder Productivity

The formation of the Provincial agro dealer network was well appreciated by the community based agro dealers as well as input suppliers. Both parties feel a higher level body will help to create confidence in the agro dealer network and increase access to inputs.

The DHF/FA model is flexible enough to be used by different stakeholders for different reasons. Some DHFs and FAs have used the model to invite input providers to come and conduct training on their products as well as use the structure to negotiate for discounts while others use the structure to aggregate the produce and become more attractive to traders.

The business case about the promoted technology will help in adoption of such technologies because

Increase Private Sector Investment in Agricultural Activities

SILC: The strong participation of women in SILC activities provides an opportunity for women gain confidence to participate in other group activities such as access to expanded markets and linkage to other financial services. The recruitment for the SILC field agents was challenging due to low levels of literacy among community members. SILC Agents are expected to train other members and therefore should be literate.

Group members who utilized the loan fund had already started realizing benefits. A good example is where some group members were able to purchase school requisites and pay school fees for their children. Another benefit was that members were able to pay subscriptions to their farmer groups/associations in order to access farming inputs at an affordable price. However, those members who did not fully utilize the loan fund claimed that they lacked business skills.

Aflasafe: The delivery times for the Aflasafe and the lateness of confirmed interest in trial participation did not provide enough time to conduct product management protocol training and application monitoring.

MFI linkages: The understanding of how MFIs provide products and services is still very low and the project has to invest more time and effort conducting sensitization activities. The efforts made thus far through the product training given to Lusaka and Chipata horticulture FAs has generated a lot of interest and the sector plans to continue building this momentum while at the same time helping MFIs understand and engage our beneficiaries better.

Gender

Women appreciate the aggregation of commodities as it brings the traders closer to home. The traders travel to villages and purchase commodities from the farmers who include women and the elderly. These categories of farmers would otherwise have to hire men to take their commodities to urban centers where they do not participate in price negotiations. Women also appreciate aggregation because their spouses do not have to travel to town and spend days there trying to sell the produce.

Annexes

- Case stories:
    - Martin Nyirenda
    - Spanela Phiri
    - Grace Nyirongo-Phiri
    - Nelia Banda
    - Grace Zulu