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ZIMBABWE AGRICULTURAL INCOME AND EMPLOYMENT DEVELOPMENT (Zim-AIED)

ANNUAL REPORT #4 – FY2014

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Cover photo: One of the improved genetics beef herds supported by Zim-AIED in Nkayi, Matabeleland North. Since 2012, Zim-AIED has supported 115 beneficiaries to access 150 improved heifers on a loan scheme and eight beneficiaries to receive 40 heifers on a lease program. Five superior bulls have been availed to the communities to run with the loan and lease herds.

All photos by Fintrac Inc.

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ACRONYMS

AI	Artificial Insemination
BA	Better Agriculture
BDS	Business Development Services
CABS	Central African Building Society
CESVI	Cooperazione e Sviluppo (Cooperation and Development, an Italian NGO)
CLUSA	Cooperative League of the United States of America
COSV	Coordination Committee for Voluntary Service
CSV	Creating Shared Value
EMMP	Environmental Mitigation and Monitoring Plan
EU	European Union
FTE	Full-Time Equivalent
FTF	Feed the Future
GM	Gross Margin
GAPs	Good Agricultural Practices
IMC	Irrigation Management Committee
IPM	Integrated Pest Management
IRD	International Relief and Development
MAMID	Ministry of Agriculture, Mechanization and Irrigation Development
MCC	Milk Collection Center
MFIs	Microfinance Institutions
MSME	Micro, Small, and Medium Enterprise
PERSUAP	Pesticide Evaluation Report and Safe Use Action Plan
PFA	Partner Fund Agreement
PMP	Performance Management Plan
PAR	Portfolio At Risk
PRIZE	Promoting Recovery In Zimbabwe Project
RBZ	Reserve Bank of Zimbabwe
SAT	Sustainable Agriculture Technology
SAZ	Standards Association of Zimbabwe
TC	Tissue Cultured
ZESA	Zimbabwe Electricity Supply Authority
Zim-AIED	Zimbabwe Agricultural Income and Employment Development
ZINWA	Zimbabwe National Water Authority

FOREWORD

The Zimbabwe Agricultural Income and Employment Development (Zim-AIED) program began in October 2010 and will run through September 2015. Zim-AIED is providing technical assistance to improve household food security and increase incomes and employment of rural households. At inception in 2010, Zim-AIED activities started in all agro-ecological regions of Zimbabwe and became more focused during FY2013 on specific low-income and food-insecure areas where farmers have the potential to move from subsistence to small-scale commercial agriculture. The program is generating new income streams from employment created in the wider agricultural sector and contributing to improved food security for all beneficiary households. Beneficiaries are earning new income from both surplus production of food crops grown for home consumption and from production and marketing of high-value crops and livestock.

Commercialization of small-scale farmers is being achieved by:

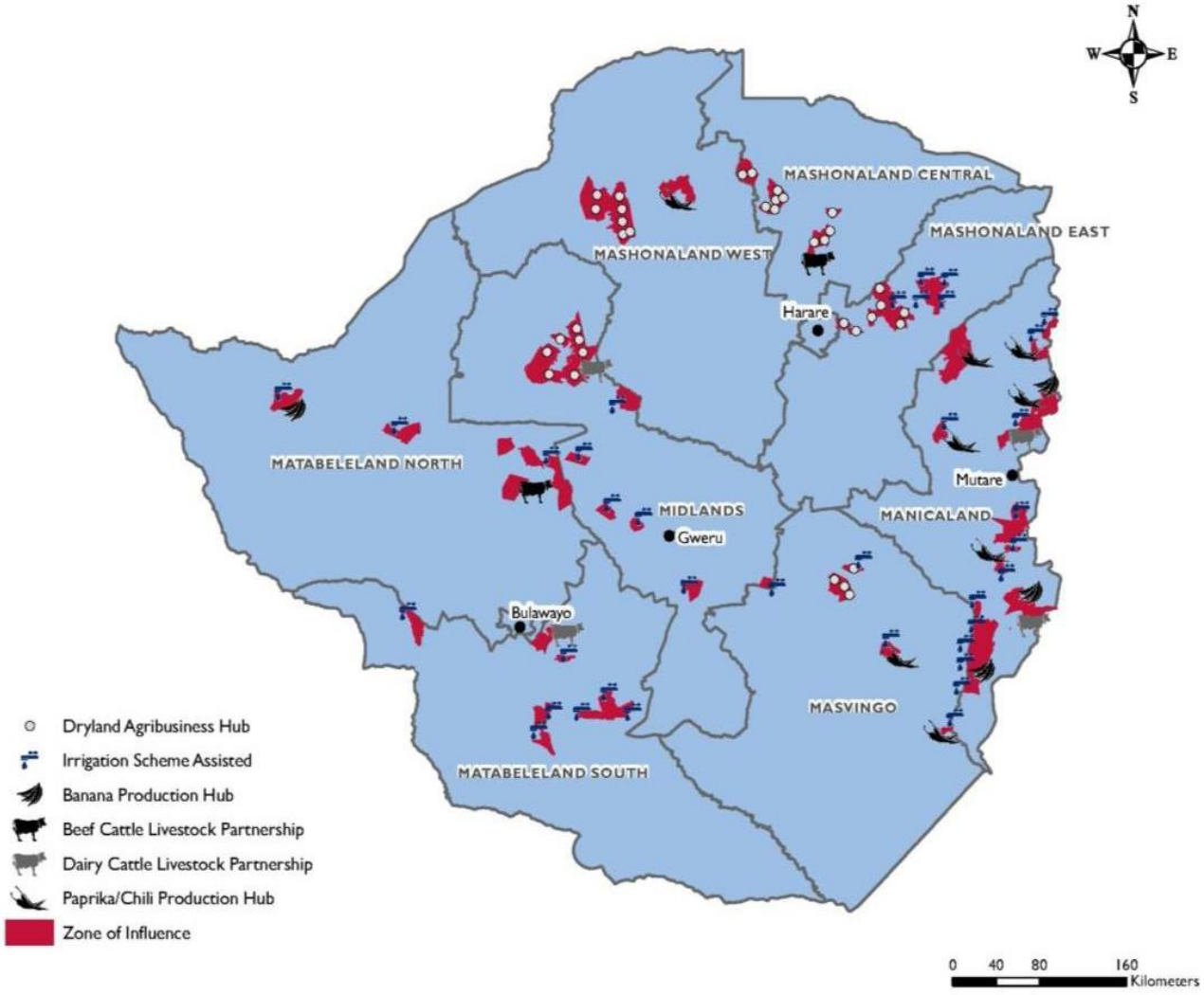
- Linking producers to local, national, regional, and international buyers
- Providing access to credit
- Raising efficiencies in production systems for an improved combination of livestock, cash, and food crops
- Training farmers to adopt good agricultural and business practices

The program is building demand for a range of crops and products by linking farmers with local, regional, and international buyers and training growers on productivity, quality, continuity, and cost-competitiveness. It also provides specialized technical support for the production of food crops to sustainably increase food availability in areas and communities most vulnerable to food insecurity.

Fintrac Inc., a US-based consulting company, is implementing Zim-AIED in cooperation with four subcontractors: CARE; the Cooperative League of the USA (CLUSA); International Relief and Development (IRD); and Sustainable Agricultural Technology (SAT). Other local nongovernmental organizations and commercial companies work with the program as development partners, in some cases co-funding through a $5 million grant facility. This facility is used to leverage technical support for farmers through conventional grants, and also to fund purchases of essential inputs and new technologies on a cost-recovery basis. Zim-AIED also includes a $2.85 million revolving loan fund – AgriTrade – managed by three local banks that provide matching funds and loans on competitive commercial terms.

In summary, Zim-AIED is a market-driven program that works closely with small, medium, and large-scale buyers to raise demand and increase competition for smallholder-grown crops and products. The program directly contributes to food availability and access by concurrently increasing production of food crops and raising incomes of rural households in selected areas.

Figure 1: Zim-AIED Geographic Coverage



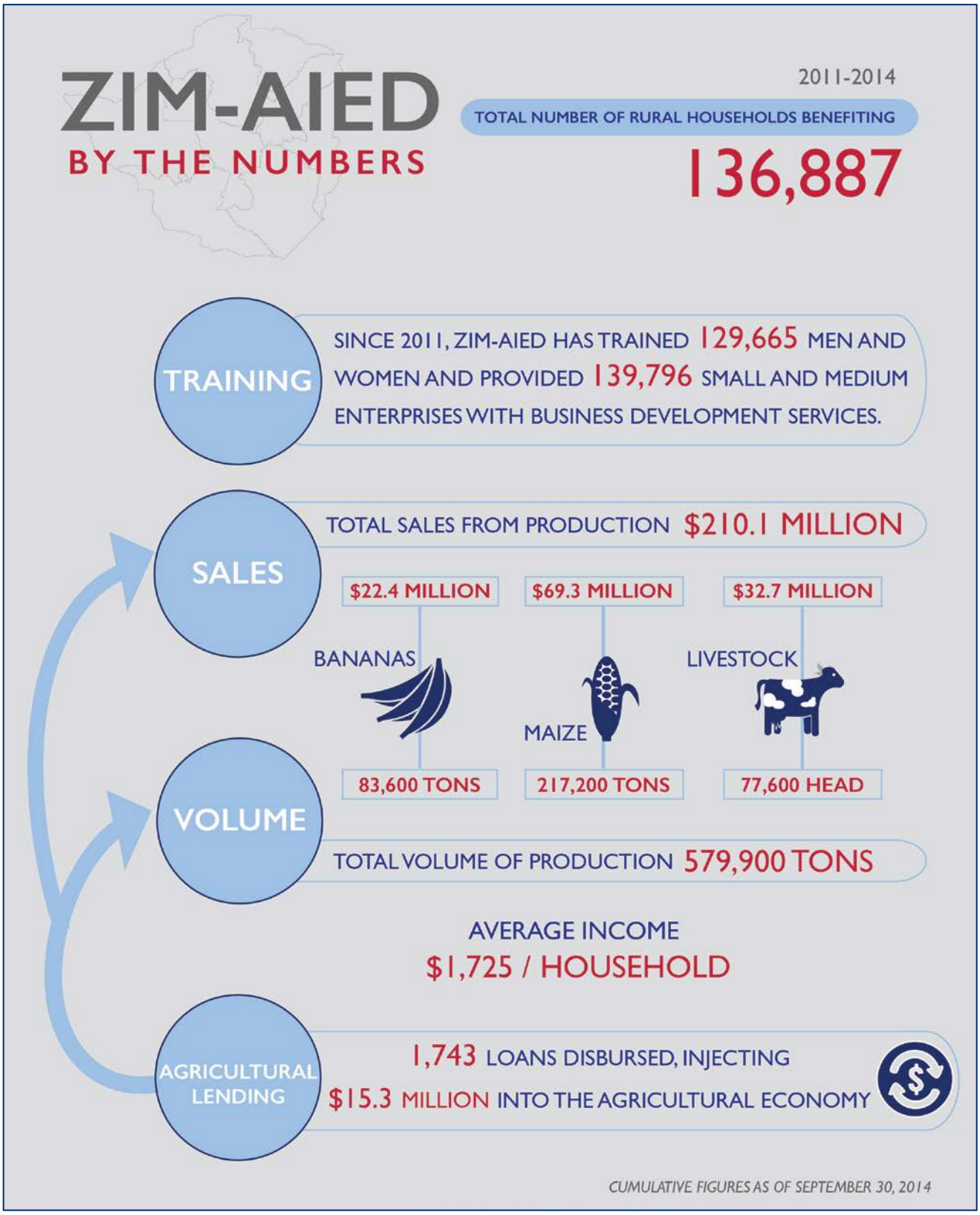
1. EXECUTIVE SUMMARY

This is the fourth annual report (October 2013-September 2014) for Zim-AIED, funded under the USAID/Zimbabwe Task Order No. EDH-I-08-05-00007-00 with Fintrac Inc. Zim-AIED is providing technical assistance to improve food security and increase household incomes of 150,000 small-scale farmers throughout Zimbabwe.

Notable achievements this year include:

- All Zim-AIED activities were directed at increasing the number of companies purchasing products from smallholders through market linkages; increasing the availability and disbursement of working capital to rural-based agrodealers and smallholder farmers through **AgriTrade and non-USAID funded financial partners; increasing production and sales of maize and other food commodities; raising smallholder earnings from livestock and cash crops;**
- A total of **14,064 rural households received technical assistance for the first time** this year to raise productivity, access new markets, obtain credit, and increase incomes and employment opportunities. This brings the cumulative number of beneficiary households from program inception to date to 136,887 households.
- **Incremental sales for targeted commodities of $55.6 million were recorded for the year**. Including non-targeted commodities, the program achieved sales per household of $2,137 this year, which is more than double that of last year ($818) and $754 sales per household achieved in the base year. The program was successful in linking smallholder famers to both input and output markets, resulting in these record sales to commercial buyers.
- The **average net income from production of agricultural products by program beneficiaries increased by 62 percent from $1,062 (FY2013) to $1,725 per household**. The highest contributors to household net income were horticultural crops, maize, and livestock.
- **A total of 8,544 farmers on 5,150 hectares in 37 irrigation schemes** strengthened their ability to function as commercial agribusiness hubs thanks to Zim-AIED facilitated linkages with input suppliers, marketing organizations, and microfinance institutions.
- **AgriTrade partner banks disbursed 244 loans valued at $1.38 million**. There were 91 new borrowers (including 36 smallholder farmers in Mashonaland East and Manicaland), this fiscal year, of which **30.8 percent were female**. The cumulative total of loans that have been disbursed under the AgriTrade facility is now $15.3 million.
- Cumulatively, **1,632 loans** worth **$787,330,** were disbursed under the direct lending to farmers initiative by the end of FY2014. Of these, n**on-USAID-funded financial partners** disbursed a total of **1,120** loans worth **$274,826**.
- **Farmers paid back $360,898 in recoverable grants FY2014, reducing the net disbursement to $3.49 million.** These grants support a wide range of productivity-enhancing, postharvest, and marketing interventions directed at smallholders. Forty-three percent of the approved grants budget is earmarked as "recoverable grants" that beneficiary farmers and partner companies are expected to ultimately repay.
- The program **implemented a gender mainstreaming policy** whereby men, women, young people, and disadvantaged groups were specifically considered in the planning of all program interventions. As a result, 47 percent of farmers who benefited from the program this year were women and 50 percent of farmers who benefited from the program since inception to date were women.
- After 48 months of implementation, Zim-AIED **is on course to meet its life of project targets**.

Figure 2: Zim-AIED by the Numbers



2. PROGRAM OBJECTIVES

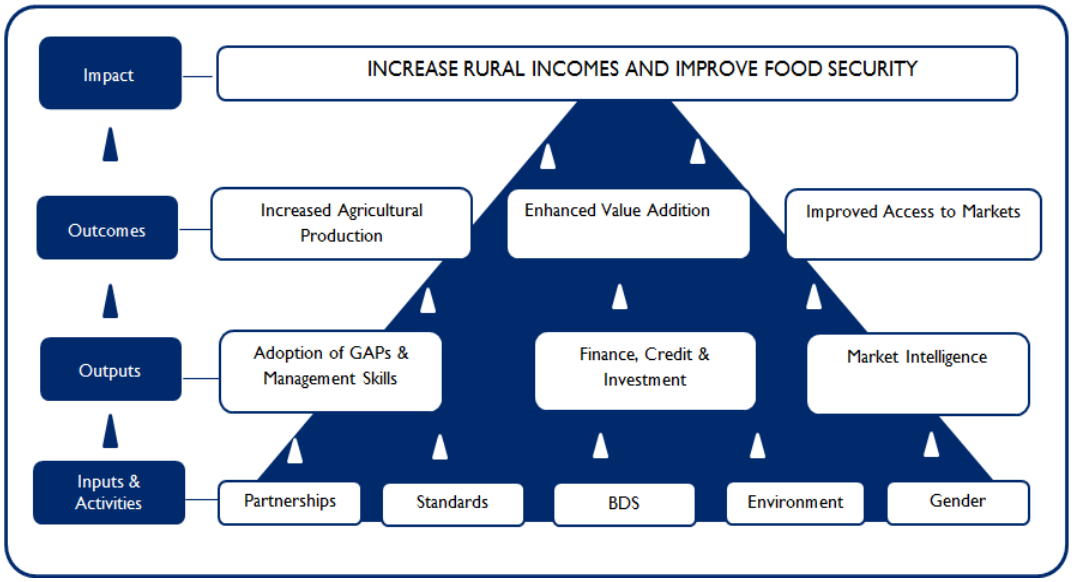
The primary objective of the Zim-AIED program is to improve food security for 150,000 Zimbabwean small- scale farmers (125,000 households) located in communal and old resettlement areas by increasing household incomes from agriculture and increasing food production among vulnerable but commercially viable farmers. This goal is being reached through the achievement of three intermediate results:

I. *Expanded Market Access*: Measured through change in volume and value of sales of targeted commodities and integration of farmers into out grower and contract farming schemes for selected cash crops.
II. *Increased Agricultural Production*: Measured through changes in total production and productivity; changes in product mix to include high-value crops; and changes in area under production at the household and national level. The emphasis is on commercially viable production of both staple food and high-value crops.
III. *Enhanced Value Addition*: Measured through change in farm sales of semi-processed products and crops for processing, new employment generation in value-added products, and investment in processing facilities.

The focus of Zim-AIED is on profitable livestock, staple food, and high-value crop production; new sales and income generation; and employment creation. It targets low income households in rural areas. Interventions are aimed at improving the livelihoods of "vulnerable-but-viable" farmers through sustainable commercial initiatives. Already, many rural families in partnership with Zim-AIED are moving from subsistence to commercial farming and increasing their asset base through investment in high-value crops and livestock.

Figure 3 shows the results framework for Zim-AIED implementation. The program focuses on expanding market access, increasing the availability of credit and finance across the value chain, raising production, and adding value to crops. To maximize outreach and ensure sustainability, these interventions are carried out via partnerships with commercial companies with additional support from NGOs, particularly in vulnerable areas.

Figure 3: Zim-AIED Results Framework Summary



The program is developing commercial partnerships to create a national network of agribusinesses that can strengthen access to markets at fair prices; provide working capital and finance at realistic rates; supply inputs efficiently; and provide extension and training to growers as an embedded cost. The partnerships focus on establishing service provision at market rates. During the fiscal year, Zim-AIED continued to focus on:

- **Market linkages** – increasing the number of buyers purchasing products from smallholder farmers through formal and informal arrangements.
- **Finance and credit to traders** – increasing the availability and disbursement of working capital to rural-based agribusiness investors and to agritraders buying products from and supplying inputs to smallholders at the village level.
- **Increasing direct credit to farmers** through commercial loans advances from buyers and recoverable grants.
- **Staple food crops** – increasing local and national production of maize, beans, groundnuts, and root crops at competitive prices.
- **High-value crops** – raising smallholder earnings through surplus production of staple food crops and commercial production of high-value crops, particularly banana, vegetables, and paprika.
- **Rural entrepreneurs** – actively supporting a new generation of small- and medium-sized agribusinesses that will invest in rural areas across Zimbabwe.
- **Commercializing targeted irrigation schemes** through rehabilitation, crop selection and scheduling (calendarization) for higher returns and year-round production, increased access to credit, business planning, and introduction of new buyers.

3. ACTIVITIES

Program activities included credit for both crop and livestock farmers and traders, training and technical assistance on productivity, and marketing assistance. The sections below describe Zim-AIED activities in six categories of results measured against 14 Feed the Future, 10 custom and 5 gender specific indicators.

- **Beneficiaries:** number, gender balance, geographical spread, and types of support received.
- **Sales:** amount of new money in the pockets of Zim-AIED beneficiaries, measured by sales of all agricultural products.
- **Gross margin and net income:** profitability and net earnings from agricultural activities.
- **Finance and credit**: AgriTrade revolving fund and micro-credit support for rural traders and farmers.
- **Business development**: recordkeeping, crop budgets, marketing and contract production.
- **Productivity:** increased production and net returns from crop and livestock products.

3.1 BENEFICIARIES

FTF 4.5.2-13 Number of rural households benefiting from USG Assistance

The Zim-AIED annual target for FY2014 was to benefit 15,000 new households through the provision of a wide range of interventions including training in agronomy, natural resource management, livestock husbandry, and business skills; direct technical assistance to introduce new

technologies; credit for micro, small, and medium enterprises (MSMEs)[1]; and creation of new linkages with both input and output markets. As the program moved forward with its intensification efforts in FY2014, a total of 14,064 new households joined the Zim-AIED program. Table 3.1.1 provides an analysis of the number of rural households that benefited from Zim-AIED's interventions in FY2014 and since program inception in October 2010.

Table 3.1.1: Geographic location of Zim-AIED beneficiaries – FY2011 to FY2014

Province	FY2011	FY2012	FY2013	FY2014			Cumulative to date		
				M	F	Total	M	F	Total
Manicaland	11,547	11,070	6,215	1,890	1,985	3,875	14,780	15,235	30,015
Mashonaland Central	4,488	5,415	9,048	686	569	1,255	10,463	8,801	19,264
Mashonaland East	3,149	8,619	12,041	1,196	1,020	2,216	12,577	12,738	25,315
Mashonaland West	7,696	7,405	6,245	299	185	484	11,074	8,980	20,054
Masvingo	21	9,578	4,479	454	372	826	5,658	9,247	14,905
Matabeleland*	1,044	3,688	2,703	936	856	1,792	3,999	4,999	8,998
Midlands	677	5,018	9,261	1,925	1,691	3,616	10,084	8,252	18,336
Total	**28,622**	**50,793**	**49,992**	**7,386**	**6,678**	**14,064**	**68,635**	**68,252**	**136,887**

**Includes Matabeleland North and South* *Source: Zim-AIED*

Female farmers accounted for 47 percent of new beneficiaries in FY2014, bringing the cumulative number of female beneficiaries since inception to 50 percent. Manicaland and Midlands had the highest number of new beneficiaries. This can be attributed to more training in relatively new program areas such as Gokwe North and South districts in Midlands province and Mutasa district (Zindi area) in Manicaland.

This year, 28,832 individuals received training, 55 percent of which were women, as shown in Table 3.1.2. In FY2014, the program continued to train farmers in all areas, linking them to both input and output markets. More focus was also made on increasing direct lending to smallholder farmers especially through microfinance institutions (MFIs) such as Virl, Untu, Quest, and Agribank. 61 farmers received loans from MicroKing under the AgriTrade facility and 1,034 farmers received

Table 3.1.2: Number of individuals participating in Zim -AIED activities

Activity	FY2011	FY2012	FY2013	FY2014			Cumulative to date		
				M	F	Total	M	F	Total
Training and technical assistance	11,896	58,055	54,851	13,118	15,714	28,832	60,421	69,244	129,665
Traders receiving loans	305	408	321	37	18	55	585	504	1,089
Farmers receiving loans (AgriTrade)	-	-	79	41	20	61	90	50	140[2]
Farmers receiving loans (other)	-	-	11	465	569	1,034	469	574	1,043[3]
Farmers linked to markets	-	11,194	18,529	1,723	529	2,252	19,915	10,697	30,612
Farmers engaged in contract farming	-	10,350	6,228	1,991	1,585	3,576	10,198	9,956	20,154

Source: Zim-AIED

[1] MSMEs include smallholder farmers, agro dealers and irrigation schemes
[2] Only unique borrowers are counted here
[3] Only unique borrowers are counted here

loans from MFIs outside of AgriTrade in FY2014.

Zim-AIED also linked 2,252 farmers to profitable markets, some from the 55 traders that received loans from MicroKing to buy produce from Zim-AIED beneficiaries. A total of 3,576 farmers were also contracted by Zim-AIED partners in FY2014 to grow commodities promoted by the program.

Table 3.1.3 depicts the cumulative number of households assisted against the target. By FY2014, the program reached a cumulative total of 136,887 households against a life of program target of 125,000 households. This places the program 9.5 percent (or 11,887 households) above its target.

Table 3.1.3: Rural households assisted by Zim-AIED to date, FY2014

LOP Target	Achieved to date	Variance	% Variance
125,000[4]	136,887	11,887	9.51

Source: Zim-AIED

3.2 INCREMENTAL SALES

FTF 4.5.2-23 Value of incremental sales attributed to FTF implementation:

A total of $91.7 million in both crops and livestock sales was recorded for the year. The major increases, as compared to FY2013 figures, were in maize (43 percent increase), bananas (137 percent), sugar beans (285 percent), soy bean (240 percent), and sweet potato (488 percent). Maize farmers received higher prices this season, averaging $328 per ton. For paprika, the average price per kilogram increased by more than 50 percent, from $1.23 last season to $1.87 in this season.

Table 3.2.1 Value of reported sales by Zim-AIED beneficiaries

Product	2013		2014	
	Volume of sales (tons)	Value of sales ($)	Volume of sales (tons)	Value of sales ($)
Banana	19,742	5,526,757	47,979	13,072,020
Maize	80,242	25,086,222	109,525	35,964,160
Paprika	737	910,855	970	1,812,085
Sugar beans	2,425	2,934,162	10,243	11,301,578
Fine beans	10	5,415	49	30,733
Cabbages	1,786	339,057	454	156,529
Cowpeas	194	93,516	499	249,259
Groundnuts (Unshelled)	2,061	1,013,842	3,490	2,398,976
Butternuts	547	257,090	495	131,924
Chili Pepper	257	151,630	647	335,954
Pepper	34	17,000	30	11,520
ABE Chilies	72.33	59,930	363	252,570
Table potatoes	900	603,000	48	36,882
Soybean	132	65,364	3,521	1,637,306
Sweet potato	3,040	1,029,013	18,509	6,046,646
Tomatoes	4,729	2,670,153	3,573	1,636,627
Cattle		20,084,017		16,631,193
Total sales		**60,847,023**		**91,705,962**

Source: Zim-AIED

[4] Target reduced from 150,000 to 125,000 based on reduced funding

3.3 GROSS MARGIN AND NET INCOME

FTF 4.5-16 Gross margin in dollars per hectare for three selected products

Gross margin takes into account in its calculation the volume of production, average price, cost of production, and unit of production. Actual gross margins vary widely depending on a number of factors, ranging from rainfall patterns to the accessibility of inputs, technical assistance and markets. Gross margin data points for maize, paprika, and banana are shown in Table 3.3.1 (see Annex 2 for the gross margins of all products promoted by the program).

Table 3.3.1: Estimated gross margins for maize, banana and paprika among Zim-AIED farmers during Q3, FY2014

Product	Yield (tons/ha)	Price/ton	Value of Production	Cost of Production/ha	GM/ha	Target
Maize	2.28	$328	$748	$315	$433	$250
Banana	27.50	$272	$7,480	$1,422	$6,058	$3,500
Paprika	1.66	$1,870	$3,104	$719	$2,385	$1,125

Source: Zim-AIED

On average, farmers achieved gross margins of $433, $6,058, and $2,385 per hectare for maize, banana, and paprika, respectively. Sample data collected indicate that this was a generally good year, thanks in part to Zim-AIED's efforts in facilitating access to credit by smallholder farmers, linking them to sustainable input and output markets, and showcasing good agricultural practices.

Maize – Overachieved by 73 percent. The gross margin per hectare achieved was $433 against a target of $250. The major driving factor to this overachievement was the pricing policy introduced by government under the Statutory Instrument (SI) 122 of 2014, which pegged the maize buying price from farmers to $390 per ton (up from the last season's price of $250 per ton) resulting in an average price of $328 per ton this year. In addition to pricing, there was high adoption of GAPs because of trainings at agribusiness hubs. Farmers also had timely access to inputs through the Zim-AIED input scheme, the presidential input scheme, and improved linkage of farmers to input suppliers. The 2013/14 agriculture season was an exceptionally good maize season in all dryland maize producing areas.

Paprika – Overachieved by 112 percent. Achieved gross margin per hectare was $2,385 against a target of $1,125 per hectare. The major drivers were better market prices, increased adoption of GAPs, and input financing by micro-lender, Virl. The adopted industrial approach has resulted in competition among the six regular buyers. Prices rose by 41 percent from an average of $1.30 per kilogram in FY2013 to $1.83 per kilogram in FY2014. This can be attributed to the industry-wide approach adopted by the program in FY2014, resulting in a total of seven commercial buyers competing for produce versus only one buyer in the previous year. Increased adoption of GAPs also resulted in higher yields and quality with over 90 percent of the crop sold as Grade A. The broad engagement of microfinance institutions such as Virl also facilitated improved access to quality inputs, which was critical to achieving high yields.

Banana – Overachieved by 73 percent. Achieved gross margin per hectare was $6,058 against a target of $3,500 per hectare. All tissue-cultured (TC) banana plantations in Mutema, Chibuwe, Musikavanhu, and Honde Valley came into full production. Production from old plantations in Rusitu and Honde Valley significantly improved after farmers adopted GAPs through training and technical assistance offered by Zim-AIED. Farmers in all program areas achieved higher yields and consistently supplied quality bananas resulting in an average price of $0.27 per kilogram, although TC bananas from Honde Valley, Mutema, and Chibuwe fetched prices ranging from $0.33 to $0.35 per kilogram.

3.4 FINANCE AND CREDIT

Zim-AIED provides funds and technical assistance for a $2.85 million revolving credit facility, AgriTrade. This intervention contributes towards Zim-AIED's achievements against the four Feed the Future indicators listed below:

- *FTF 4.5.2-11 No. of …private enterprises (for profit)… receiving USG assistance.*
- *FTF 4.5.2-29 Value of agricultural and rural loans*
- *FTF 4.5.2-38 Value of new private sector investment in the agriculture sector….*
- *FTF 4.5.2-43 No. of firms engaged in agriculture …operating more profitably…*

AgriTrade is a revolving credit fund operated by three partner banks (MicroKing, Trust Bank, and CABS) under a wholesale loan agreement, whereby the banks borrow funds at zero percent interest and target a dollar for dollar match funding with their own capital. The funds are then used to extend loans to agribusinesses supplying inputs and buying agricultural commodities produced by smallholder farmers supported by Zim-AIED.

The AgriTrade credit facility reached $15.316 million in cumulative disbursements from 1,743 loans by September 30, 2014 (Table 3.4.1). In FY2014, a total of 244 loans valued at $1.377 million were disbursed (Table 3.4.2). This represented a decrease in both the number and value of loans (61 percent and 77 percent, respectively) as compared to FY2013. MicroKing disbursed all loans in FY2014; CABS and Trust Bank did not contribute to new disbursements.

Table 3.4.1: AgriTrade Loan Portfolio as of September 30, 2014

	FY2011	FY2012	FY2013	FY2014	Cumulative Disbursed
Value of loans disbursed	$2,539,400	$5,376,002	$6,023,493	$1,377,504	**$15,316,399**
Number of loans disbursed	237	641	621	244	**1,743**
Average loan size	$10,715	$8,387	$9,700	$5,646	**$8,787**

Table 3.4.2: Loans Disbursed in FY2014

	Q1	Q2	Q3	Q4	Total Disbursed in FY2014
Value of loans disbursed	$77,582	$471,755	$556,723	$271,444	**$1,377,504**
Number of loans disbursed	38	69	83	54	**244**
Average loan size	$2,042	$6,837	$6,828	$5,027	**5,646**

AgriTrade's active portfolio closed FY2014 at $1.91 million (Table 3.4.3), a 58 percent drop from the $4.568 million recorded on September 30, 2013. The three partner banks recorded net decreases in their portfolios totaling $2.66 million, broken down as follows: CABS ($1.942 million), MicroKing ($0.627 million) and Trust Bank ($0.091 million).

Table 3.4.3: AgriTrade Portfolio as of September 30, 2014

	CABS	Trust	MicroKing	AgriTrade Portfolio as of September 30, 2014
Loans outstanding	$220,539	$613,819	$1,073,776	**$1,908,134**
Number of borrowers	2	28	224	**254**
USAID/Zim-AIED loan capital	$0	$771,516	$379,500	**$1,151,016**
Partner bank loan capital	$220,539	($771,516)	$694,276	**$914,815**

By September 2014, CABS repaid in full the $500,000 in USAID loan capital advanced by Zim-AIED under AgriTrade through five quarterly installments of $100,000, beginning in September 2013.

MicroKing failed to repay its fifth installment of $150,000, which was due on September 30, 2014. The AfrAsia Bank, through which MicroKing is a subsidiary, is currently facing liquidity problems. The bank has however promised to settle the debt in October 2014. To date, MicroKing has repaid $700,000 of USAID matching funds and is due to repay the last two installments ($150,000 and $229,500) by no later than December 31, 2014.

Trust Bank stopped operating as a fully registered banking institution after it lost its banking license on December 6, 2013. Since then, there has been no progress in collecting the outstanding $771,516 in USAID loan capital that is currently locked up as the bank undergoes provisional liquidation by the Reserve Bank of Zimbabwe.

CABS

Starting at the beginning of FY2014, CABS suspended any new business development under the AgriTrade portfolio. The suspension was largely attributed to the amendment of the AgriTrade Facility Loan Agreement, which instructed the bank to initiate quarterly repayments of $100,000 towards the USAID loan capital advanced under AgriTrade. CABS, however, continued to lend to the agricultural sector through its internal portfolios at interest rates higher than 11 percent per year. AgriTrade borrowers that fully repaid their loans were refinanced under CABS at interest rates ranging between 16 to 22 percent per year.

During FY2014, CABS took over the financing of banana producing farmers at the Chibuwe and Mutema irrigation schemes in Chipinge district (Manicaland) under its internal portfolio. This deal included all farmers that previously benefited from the Zim-AIED/Matanuska partner fund agreement. CABS took over the debt of a total of 451 farmers with a total capital investment loan facility of $485,000. Farmers also accessed working capital loans for inputs valued at $510 per farmer. Both the capital investment and working capital loans were charged an interest rate of 11 percent per annum plus a two percent establishment fee and two percent life insurance. The capital investment loans have a tenure of 24 months while working capital loans will operate via a six-month, $600,000 revolving fund.

MicroKing

Disbursements under MicroKing decreased significantly in FY2014, to 244 loans worth $1.38 million compared to 605 loans valued at $3.13 million in FY2013. The reduced lending in FY2014 was partly attributed to the amendments of the AgriTrade Facility Loan Agreement by Zim-AIED in September, 2013. Starting on September 30, 2013, MicroKing initiated quarterly repayments towards the USAID loan capital in five equal installments of $150,000, ending on September 30, 2014, with a sixth and final installment of $229,500 due on December 31, 2014.

MicroKing failed to repay the fifth installment of $150,000 citing liquidity challenges under its parent company, AfrAsia Bank. However, MicroKing has made a commitment to pay the $150,000 by the end of October 2014. To address the liquidity crisis, the bank is currently seeking support from its major shareholders. However, if this fails, it may opt for a private placement transaction or merge with a local bank. With these options in the pipeline, the Reserve Bank of Zimbabwe is still confident in the bank and that the efforts it is making are compliant with RBZ banking regulations.

In May 2014, MicroKing increased the interest rate charged for loans above $10,000 from 11 percent per year to 24 percent due to the reduction in USAID funding and increased use of its own funds accessed at free market rates. Throughout FY2014, MicroKing maintained a 1:1 matching ratio under the AgriTrade facility, while third time borrowers that were fully paid up were refinanced under its internal portfolios at rates ranging between 37 to 48 percent per annum. By the end of September 2014, MicroKing's AgriTrade portfolio had a matching ratio of 2.8:1.

Trust Bank

Trust Bank's liquidity problems worsened in the first quarter of FY2014 when it failed to meet the $25 million capital requirement due on December 31, 2012. On December 6, 2013, the Reserve

Bank of Zimbabwe finally revoked Trust Bank's banking license and instigated a liquidation order over allegations of abuse of depositors' funds and violation of the Banking Act. Trust Bank managed to delay the liquidation of its assets through a successful legal challenge against the liquidation order.

A total of $771,516 in USAID loan capital is owed by the bank to Zim-AIED, which includes $613,819 from the AgriTrade active portfolio (i.e. the unpaid amount in loans) and $157,697 in funds repaid by AgriTrade borrowers to Trust Bank but not remitted to Zim-AIED. In January 2014, Fintrac engaged Kantor and Immerman legal practitioners in Zimbabwe to pursue the recovery of the outstanding USAID funds. This process, however, has been stalled by the pending High Court judgment on the bank's liquidation status.

Direct lending to farmers

In FY2014, Zim-AIED partnered with three microfinance institutions (Virl, Quest, and Untu) and one commercial bank (Agribank), in addition to CABS and MicroKing, to push forward its mission of extending direct lending to smallholder farmers supported by the program. None of the four new financial institutions received USAID loan capital or any kind of financial support from Zim-AIED. All funds used for lending came from their own sources.

By September 30, 2014, the non-funded partners disbursed a total of 1,120 loans valued at $274,826 while CABS and MicroKing disbursed from their own portfolios (i.e. non-AgriTrade) 451 loans worth $485,954 and 61 loans valued at $26,550, respectively (Table 3.4.4). Cumulatively, 1,632 loans worth $787,330 were disbursed under the direct lending to farmers initiative by the end of FY2014.

Under this initiative, a total of 23 irrigation schemes distributed countrywide accessed inputs loans for farmers in FY2014. This includes seven schemes in Manicaland, six in Mashonaland, six in Matabeleland, three in Midlands, and one in Masvingo. In addition, farmers in three dryland areas of Manicaland (Tombo, Chiendambuya and Honde Valley) accessed input loans in FY2014.

For the non-funded partners, Virl led the way by disbursing a total 481 loans worth $133,454 in 14 different locations. They were followed by Agribank (380 loans, $109,415), Quest (177 loans, $21,725), and Untu (82 loans, $10,232). See Table 3.4.4 below.

Table 3.4.4: Direct lending to farmers as of September 30, 2014

Province	Location	Crop financed	Beneficiaries	Total Disbursements
Virl Microfinance			**481**	**$133,454**
Manicaland	Tombo	Paprika	42	$13,440
	Nedziwa	Paprika	42	$13,860
	Nyamaropa	Paprika	27	$8,100
	Musikavanhu	Paprika	26	$5,100
	Chiendambuya	Paprika	14	$4,340
	Nyakomba	Paprika	17	$5,100
	Honde Valley	Bananas	86	$27,910
	Musikavanhu	Maize	25	$4,825
Mashonaland East	Nyaitenga	Horticultural crops	27	$10,089
	Chipo	Horticultural crops	30	$10,751
	Chinyika	Potatoes	12	$5,880
Masvingo	Hama Mavhaire	Sugar bean	24	$8,010
	Hama Mavhaire	Green mealies, potatoes	26	$5,714
Matabeleland North	Silalabuhwa	Sugar bean	27	$4,095
Midlands	Exchange	Sugar bean	56	$6,240
Agribank			**380**	**$109,415**
Matabeleland North	Lukosi	Potatoes	20	$10,400
Manicaland	Taona	Sugar bean	69	$13,713
	Musikavanhu	Sugar bean	74	$18,638
	Honde Valley	Bananas	77	$30,264
Matabeleland South	Moza	Sugar bean	100	$10,800
	Makwe	Potatoes	40	$25,600

Untu Capital			**82**	**$10,232**
Midlands	Ngondoma	Sugar bean, green mealies	45	$6,210
Midlands	Insukamini	Sugar bean	37	$4,022
Quest Financial Services			**177**	**$21,725**
Mashonaland East	Mbomane	Horticultural crops	14	$4,200
Matabeleland South	Silalabuhwa	Green mealie, potatoes	47	$5,643
	Silalabuhwa	Horticultural crops	12	$1,461
	Makwe	Green mealies	24	$1,872
Matabeleland North	Fanisoni	Green mealies	40	$4,429
	Tshongokwe	Green mealies	40	$4,120
MicroKing Finance			**61**	**$26,550**
Mashonaland East	Chitora 1& 2	Horticultural crops	30	$12,900
Manicaland	Musikavanhu	Sugar bean	26	$11,150
	Musikavanhu	Horticultural crops	5	$2,500
CABS			**451**	**485,954**
Manicaland	Chibuwe/Mutema	Bananas	451	$485,954
TOTAL			**1,632**[5]	**$787,330**

Portfolio at Risk (PAR)

The AgriTrade Portfolio at Risk (PAR) stood at 14.7 percent by the end of FY2014, up from 6.0 percent recorded in September 2013. CABS accounted for 71.9 percent of the amount at risk (Table 3.4.5), which is entirely attributable to Profeeds Pvt Ltd ($202,227)[6].

Trust Bank and MicroKing accounted for 17.1 percent and 11.0 percent, respectively. The 8.7 percent increase in the PAR for FY2014 is largely because of the significant decline in the AgriTrade portfolio, from $4.568 million in FY2013 to $1.908 million today.

CABS and Trust Bank's amounts at risk increased by 15.2 percent and 9.9 percent, respectively, while MicroKing's dropped by 43.6 percent. There was better loans collection under MicroKing in FY2014 compared to FY2013 while collections under Trust bank were stalled in December 2013 after the bank lost its banking license. CABS' single outstanding loan with Profeeds P/L is currently making progress towards reducing the loan amount through a commitment to deposit $50,000 every month, which the company is now honoring beginning in the final quarter of FY2014.

Table 3.4.5: Portfolio at Risk

	CABS	TRUST	MK	As of September 30, 2014
Loans Past Due: 30 to 180 days	$202,227	$48,034	$31,115	**$281,376**
Number of Loans Past Due	1	6	13	**20**
PAR	91.7%	7.8%	2.9%	**14.7%**

By the end of FY2014, non-performing loans (over 180 days past due) under the AgriTrade portfolio were transferred to the partner banks internal portfolios. The partner banks responded to the clause stipulated in the AgriTrade Loan Agreement Facility where all loans above 180 days are to be moved from the AgriTrade portfolio to their regular portfolios.

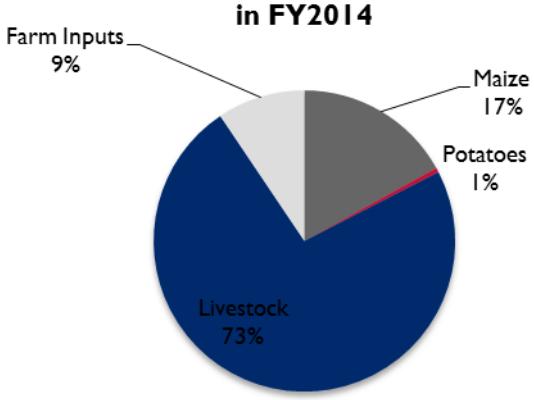
[5] Figure includes repeat borrowers

[6] Despite fully repaying the remaining $100,000 on September 30, 2014, CABS was obliged to continue submitting updates of the performance of all AgriTrade loans for the remaining life of the Zim-AIED program. However, beginning on October 1, 2014, CABS moved the last loan facility under AgriTrade (Profeeds P/L $220,000) to its SME department confirming that the AgriTrade portfolio no longer exists under CABS.

Commodities Purchased

The trading activities facilitated by AgriTrade loans during FY2014 financed $5.89 million in purchases, a 45.3 percent reduction from FY2013. Livestock purchases continued to dominate the portfolio by accounting for 73 percent of all purchases, followed by maize at 17 percent, farm inputs at 9 percent, and potatoes at 1 percent. Cumulatively, recorded purchases since program inception reached $29.65 million by the end of FY2014.

Figure 3.4.3: Commodities purchased in FY2014



3.5 BUSINESS DEVELOPMENT

Business development services are a cross-cutting activity that contributes directly to all Zim-AIED results. The core task is to assist program beneficiaries in identifying permanent opportunities for making more money. During the reporting period, activities focused specifically on the following:

- **Developing the organizational capacity of farmer groups** – increasing the capacity of farmer groups to participate in productive value chains by providing training and support to leaders and members in key managerial duties such as budgeting, work planning, simple financial management, conflict resolution, and good governance.
- **Improving access to finance** – fostering good business ethics and improving the credit worthiness of first time borrowers by facilitating the design of group lending models.
- **Developing business skills** – improving planning and decision making by imparting basic business skills such as enterprise budgeting, recordkeeping and performance evaluation.
- **Strengthening market linkages** – reducing transaction costs by linking farmer groups to input, output and financial markets.
- **Promoting farmer-led extension systems** – training lead farmers to establish a permanent knowledge and skill base within the community to promote the adoption of GAPs.

Technical support was provided to existing and new farmer groups on governance, administration, and collective access to input, output and financial markets. Farmers organized in the groups were trained on group management and leadership skills, enterprise budgeting, contract management, credit control, recordkeeping, risk management, and marketing principles to equip them with essential business skills.

To ensure all targeted farmers adopted good business and agricultural practices regardless of the size of their operation, all activities took place in cooperation with private sector partners or nongovernmental organizations linked to for-profit companies (Annex 6). Some of these partners are sub grantees or subcontractors while others are buyers and lenders that work in cooperation with Zim-AIED using their own funding. Central to an effective rollout of these activities was a conscious strategy to ensure their sustainability after the program withdraws. To this end, AGRITEX, DOI, partner field staff and farmer group leaders were engaged in all the training activities as co-facilitators.

In addition to the crucial role of business training, commercialization requires a range of other specific business-related interventions that are monitored through six FTF indicators summarized below.

3.5.1 Technical Assistance and Training

FTF 4.5.2-11 Number of food security …organizations… receiving USG assistance

During the period under review, 1,034 organizations (mainly AgriTrade borrowers, producer associations, and irrigation management committees) received training and technical assistance from Zim-AIED and its partners. A total of 231 IMC members drawn from 21 irrigation schemes working with Zim-AIED received training on conflict resolution, negotiation skills, and action planning. In order to resolve conflicts within the groups and negotiate business deals, Zim-AIED facilitated stakeholder meetings at the following irrigation schemes: Fanisoni (Nkayi), Silalabuhwa (Insiza), Tshongokwe (Lupane), and Exchange (Kwekwe). The outcome of these meetings is summarized below:

- At Fanisoni irrigation scheme, farmers resuscitated their pumping unit by negotiating a deal with an irrigation service provider, CN Enterprises, who agreed to supply a good second-hand pump upon receipt of a down payment by farmers of $1,800 and the balance of $1,000 repaid within three months.
- 144 farmers at Silalabuhwa irrigation scheme in Insiza district (Matabeleland South) participated in a planning meeting with the Zimbabwe National Water Authority (ZINWA) regarding payment of water bills and debts. After negotiations to settle arrears on water bills, the two parties agreed on a payment plan that guaranteed a win-win situation for both the farmers and the service provider.
- A similar approach was used at Tshongokwe irrigation scheme (Matabeleland North) to correct the faulty billing system used by ZINWA. After analyzing their water use records, the IMC discovered that they were overpaying for irrigation water by 56 percent since October 2013. The IMC engaged ZINWA and reconciled the disparity.
- A special meeting was convened at Exchange Irrigation Scheme in Kwekwe district to resolve a leadership crisis that led to allegations by farmers of embezzlement of public funds by the IMC. With participation from senior government officials, the group decided that one of the local leaders, a ward councilor, must abstain from interfering in the management of the scheme. In addition, external auditors were engaged to audit the group's books of accounts and assets. The audit report highlighted loopholes in the constitution that allowed abuse of public funds. The group amended their constitution and is working to regain confidence from all members.

Since program inception, a total of 13 banana producer groups were formed and strengthened in Honde Valley. Six groups were formed during the pilot phase (2011-2013); then the model was scaled up in 2013 to form an additional seven groups. To strengthen the phase two banana producer groups, a total of 72 group leaders were trained in leadership skills and worked directly with leaders of the first phase groups.

To improve their effectiveness, group members were introduced to a group self-evaluation tool that helps group members track the group's performance on various aspects of governance, administration, production and marketing. Equipped with such a self-evaluation tool, groups can make timely and strategic decisions vis-a-vis the improved performance of their leadership. As part of its exit strategy, Zim-AIED will continue to build local capacity to self-organize, plan, and negotiate with stakeholders.

In Chipinge district, Matanuska contracted 442 farmers to establish 100 hectares of TC banana at Mutema and Chibuwe irrigation schemes. Zim-AIED advanced the contracted farmers with loans for installation of micro-jet irrigation plus working capital. Due to the absence of a bank at the inception of the program, the loan was managed by Matanuska who then remitted the repayments made by farmers to Zim-AIED. During the reporting period, Zim-AIED convinced CABS, a leading bank to take over farmers' debt with Zim-AIED and convert it to a bank-issued 24-month loan facility.

Zim-AIED facilitated the process of transitioning farmers' loans from Matanuska by working through lead farmers and irrigation management committee (IMC) leaders at Mutema and Chibuwe irrigation

schemes. After meeting CABS and Matanuska, lead farmers and IMC leaders were clear on the proposed arrangement and worked diligently to convince the rest of the farmers to accept the loan transfer. All contracted banana farmers have since opened savings accounts with CABS. As a result of the deal, each farmer now receives $510 of working capital over six months. The deal also provides farmers with good credit history, a pre-requisite to access other credit lines from the private sector.

FTF 4.5.2-37 Number of MSMEs receiving business development services

This year, 61 new MSMEs, 55 of which were AgriTrade borrowers, received integrated training and technical assistance in agronomy, irrigation management, natural resource management, gender mainstreaming, marketing, postharvest handling, recordkeeping, budgeting, and contract management. Table 3.5.1 shows the breakdown of beneficiaries who received trainings in various business skills during the quarter.

Table 3.5.1: Business development services FY 2014

Subject	FY2014		
	Male	Female	Total
Credit management	1,739	1,463	3,202
Contract management	787	669	1,456
Collective marketing	1,240	1,556	2,796
Enterprise budgeting	2,743	2,676	5,419
Farmer group organization & management	3,311	2,916	6,227
Recordkeeping	4,376	4,175	8,551

Source: Zim-AIED

At household level, farmers were trained in the concept of "Farming as a Family Business." This concept recognizes every family member as an important stakeholder. Accordingly, each member has a role to play in the family agribusiness. As an introduction to farming as a family business, a total of 8,551 farmers have been trained in recordkeeping.

Snap surveys that were conducted at the beginning of each record keeping training session to assess adoption rates indicated that adoption was highest among dairy farmers, estimated at 65%. This relatively impressive rate of adoption can be attributed to the assistance provided by Land O Lakes in the form of printed record books. The banana value chain in Honde Valley, estimated at 47% comes second, with more women than men keeping up-to-date daily cash records. Adoption of the daily cash record is still very low, about 10%, among banana growers in Mutema, Musikavanhu and Chibuwe irrigation schemes in Chipinge. This could be attributed to the contract farming arrangement whereby Matanuska directly maintains most records. To address this, farmers were encouraged to keep all transaction documents in archived files with Musikavanhu A5 and Chibuwe D block recording a 100% adoption. Farmers in irrigation schemes and dryland areas growing either staple or high-value crops showed the least adoption, at less than 5%, despite real time cases demonstrating that up-to-date records can assist farmers to assess the performance of their enterprises which then enables them to make prudent business decisions. For example, records in Chibuwe showed that farmers were using a seed rate inflated by 15 kilograms which translates to an unnecessary additional cost of $42 per hectare. In the same vein, analysis of the daily cash records in Honde Valley showed that farmers who did not buy fertilizers realized lower bunch weights than farmers who continued to apply fertilizer after FAVCO stopped supporting them.

To increase adoption rate, Zim-AIED encouraged farmers to keep a daily cash record that is simple but comprehensive enough to capture all the relevant information a farmer requires to make prudent business decisions. In addition, the involvement of other household members by the household head in recordkeeping was encouraged to increase the adoption of the practice. Literacy level in some households is poor, hence the need to involve the literate members in record keeping.

Record keeping is being promoted on a gradual scale, starting with a simple daily cash record and then embarking on the more challenging activities such as analysis of the results when farmers have appreciated and internalized the simple practices. In addition, the program is working with AGRITEX to make record keeping a pre-requisite for a farmer to participate in competitions that culminate in winning agricultural prizes at local, regional and national levels. In addition the program is educating farmers that records are a pre-requisite for obtaining credit from MFIs and banks.

To improve access to inputs at fair prices, Zim-AIED took a two-pronged approach. First, farmers were linked to banks and microfinance institutions to access input loans. Second, farmers were linked directly to input suppliers. During the reporting period, a total of 809 farmers from different agribusiness hubs were trained on enterprise budgeting to determine loan values. The selected farmers were organized into small groups and were linked to lenders such as Agribank, Virl, Untu and Quest Financial Services. Zim-AIED assisted the borrowers to formulate constitutions that enabled the implementation of group lending schemes that are centered on farmers accessing individual loans but with group guarantee.

To complement the direct lending to individual farmers from banks, a total of 13 farmer groups from Guruve, Hurungwe, Murewa and Goromonzi districts were formed and linked directly to Windmill, an agro-chemical company. Altogether the groups have collectively mobilized money through their savings to purchase fertilizer and herbicides worth $43,199. Zim-AIED also linked farmers in Chipinge district to ZFC, an agro-chemical company supplying fertilizer. As a result, ZFC supplied stocks to Matanuska on consignment and cumulative volumes of 147 tons of basal and top dressing fertilizer with a sales value of $98,520 was bought in the Chibuwe and Mutema agribusiness hubs. Further, the private sector companies are providing ongoing support to its clients such as technical advice on how to safely use the different agro-chemicals on sale.

At the Tshongokwe irrigation scheme in Lupane, Zim-AIED introduced feedlot technology to nine farmers who inducted 14 animals for pen fattening over 66 days. This pilot feedlot managed to improve the general body condition of the animals and increased returns on sales. One farmer realized the highest net income of $870 versus a local average of $300 for a beast finished from the veld. To scale up, two new groups of 50 farmers from Lukosi (Hwange) and seven farmers from Fanisoni (Nkayi) have established pens for fattening during the coming dry season. These farmers also received an integrated training covering feedlot budgeting and animal husbandry practices.

In addition, a total of 168 farmers drawn from Nucleus Breeding Centers in Lupane and Nkayi districts of Matabeleland North received training on loan management. The training focused on explaining the cash and cull beast exchange model being promoted in the heifer and bull loan scheme. Farmers also learned to formulate strategies for mobilizing funds to pay off their debts.

Analysis of farmers' records from the Rusitu (Chipinge) and Tsonzo (Mutasa) milk collection centers showed that dairy cows are not performing to their full genetic potential due to lack of adequate feed. Poor nutrition is also negatively impacting calving rate. To address the nutritional problem, the Tsonzo milk collection center was linked to Windmill and has opened a bank account to make instalment payments on inputs required for fodder production. This group input procurement initiative will enable dairy farmers to increase their productivity while also reducing production costs. It is estimated that by producing their own fodder, farmers can reduce production costs by 40 percent.

3.5.2 Investment

FTF 4.5.2-38 Value of new private sector investment… leveraged by FTF implementation

A total of $768,400 was invested by partners participating in the agricultural value chains being supported by the Zim-AIED program in FY2014, missing the target of $1 million by 23 percent. These partners have signed PFAs with the program or are merely cooperating with the program for mutual benefit. Sixty-five percent of the investments were made by AgriTrade borrowers, mainly

agrodealers in rural communities across the country. Agrodealers made investments worth $497,540. Most of these investments were in transport (trucks and vehicles which accounted for $239,350). Agrodealers require transport to bring inputs to farmers or take produce to the markets. Partners FAVCO, Better Agriculture, Matanuska, Inala, and Livestock Zone made significant investments in a wide spectrum of items that amounted to $270,860. FAVCO invested in a laptop, crates, storage bins, tractor and trailer worth $88,890. Better Agriculture constructed a pack shade, pre-fabricated steel shades at Tombo and Nyakomba valued at $71,898. Livestock Zone facilitated a heifer loan scheme to Zim-AIED farmers valued at $47,783 and Inala also facilitated a cattle lease program though a recoverable grant valued at $15,000 as well as purchasing 6 bulls valued at $7,500 and 30 breeding cows valued at $19,500. Matanuska invested in Chibuwe banana pack shade roof, Chibuwe toilet and a laptop, together valued at $20,289.

3.5.3 Profitability

FTF 4.5.2-43 Number of firms …now operating more profitably because of USG assistance

To measure sustainability of private sector investment, the program also tracks profitability of applicable firms and financial self-sufficiency of civil society organizations (CSOs). A CSO is financially self-sufficient when the CSO's annual income is more than annual operating expenses and annual amortization and depreciation of permanent assets. While this measure does not demonstrate all the aspects of whether a business or a CSO will remain sustainably successful after withdrawal of US government assistance, it is certainly an important measure of its capacity to function effectively. Only the profitability of firms and self-sufficiency of CSOs who are receiving US capacity building assistance were monitored. A total of three organizations operated more profitably in the reporting year than they did the previous reporting year against a target of 15 organizations.

Under achievement is attributed to PFA partners who continue to face liquidity challenges. Obsolete production infrastructure coupled with rising operating costs has rendered local products less competitive than imports from regional and international sources. Reduced lending from the AgriTrade facility also contributed to fewer agrodealers receiving loans, which would have otherwise boosted their enterprises. However, it is important to note that some agrodealers are still performing above loss, though the profit margins are less than those received in FY2013. In addition, unreliable infrastructure (erratic supply of power and water) continue to disrupt business and production adding to the cost of doing business and undermining profitability.

3.5.4 Employment

FTF 4.5-2 Number of jobs attributed to FTF implementation

Organizations working with Zim-AIED continued to create new employment, with a total of 79 new FTEs created in FY2014. The main contributors were Better Agriculture (23.6 FTEs) and Matanuska (35.5 FTEs). Better Agriculture created new jobs for grinding, buying, and weighing the Tabasco and ABE chilies delivered from its contracted farmers while Matanuska's new jobs were in harvesting and postharvest handling of bananas at the two production sites of Chibuwe and Mutema. Despite the prevailing economic environment, which is resulting in some company closures, Zim-AIED partners sustained 1,215 FTEs created prior to FY2014.

3.5.5 Technology Adoption

FTF 4.5.2-42 Number of …organizations… that applied new technologies or management practices

A total of 1,034 new and old organizations applied new technologies or management practices gained as a result of US government assistance. These organizations include agrodealers who received loans under the AgriTrade loan facility, IMCs, and producer organizations including milk collection centers. Adoption of new management practices at irrigation schemes have resulted in reduced equipment breakdowns and down times and improved uninterrupted water supply as payment for water and electricity bills are now timely and up to date.

3.6 PRODUCTIVITY

The program's technical team and partner extension workers carried out productivity interventions in crop agronomy, irrigation, livestock management, and postharvest processing throughout the year. Focus was on the main target crops for FY2014 (maize, sugar bean, banana, and paprika) and secondary crops (groundnut, local and export vegetables, and sweet potato). The livestock team targeted beef and dairy cattle and integrated its activities more closely with traders borrowing from the AgriTrade facility and the agronomy teams working around irrigation schemes. Grants under the Smallholder Technology Fund and subcontracts and subgrants with Zim-AIED partners SAT, Matanuska, FAVCO, Better Agriculture, Zero One Africa, O'Enem Meats and Inala Enterprises, provided additional technical and marketing resources to enhance productivity.

Zim-AIED facilitated productive credit linkages between smallholder farmers with CABS, Quest Financial Services, Untu Capital, MicroKing, Agribank and Virl Financial Services. Cumulatively, 1,632 input loans worth $787,330 were disbursed under the direct lending to farmers initiative by the end of FY2014. Increases in productivity are monitored by three FTF indicators, summarized below.

FTF 4.5.2-7 Agricultural sector training

Training and technical assistance was provided to banana, paprika, chilies, horticulture, maize, sugar bean, soy bean, cowpea, sweet potato, and groundnut farmers on use of seed dressing, herbicide use for weed management, correct fertilizer application techniques, correct irrigation techniques, safe use of pesticides, and other good agricultural practices.

During the year, 28,832 beneficiaries received short-term, specialized training and technical assistance in livestock and crop production, integrated pest management, and postharvest technology. Training focused on GAPs customized for specific crops, livestock and conditions.

FTF 4.5.2-2 Area under improved technologies

Based on the end-of-year survey, a total of 19,074 hectares were put under new technology or management practices during the year and 74,066 hectares continued to receive the same technologies and management practices learned from Zim-AIED trainings and technical assistance adopted in the previous seasons. Maize, banana, paprika, and sugar bean all showed significant improvements in yield and productivity as a result of this high rate of adoption.

The high uptake rate of GAPs continued around agribusiness hubs where additional demonstration plots were established and managed by lead farmers in order to promote GAPs. Demonstration plots allow for first-hand learning and improved uptake of GAPs by both new and old farmers. The use of lead farmer plots as demonstration sites that are well dispersed within communities also increases GAPs uptake within the vicinity of each lead farmer. In addition, Zim-AIED has been implementing the agribusiness concept for three or more consecutive seasons in many of the hubs, which has helped to achieve a high uptake of GAPs in later years.

FTF 4.5.2-5 Farmers who have applied new technologies

During FY2014 98,534 smallholder farmers under the Zim-AIED program applied new technologies and management practices on their farms. The program continued to implement the agribusiness hub concept for a third consecutive season in many areas. In addition FY2014 witnessed increased input lending to farmers. Having adequate inputs resulted in high adoption of technologies (e.g. herbicide application).

Forty-three (43) percent of the adoptees were women, yet they make up 50 percent of the Zim-AIED beneficiaries. Adoption is largely a function of access to financial resources, with men having better access, thus better situated to apply improved technologies. Zimbabwean society is patriarchal and men make most decisions on field activities. This is brought into context when considering women's access to finance through the various AgriTrade partners. In FY2014, 682 loans were disbursed to women (valued at $423,211) compared to 682 loans to men (valued at $1,255,669), from both USAID and non-USAID funded partners. Since project inception, the

percentage of approved loans from all AgriTrade partners disbursed to women is 41 percent, an increase of 10 percent over the previous year's figures. However, the value of these loans to female borrowers only accounts for 14 percent of the cumulative value of loans from AgriTrade partners.

Zim-AIED continued to collaborate with the World Food Program by monitoring the performance of the seven hermetically-sealed maize storage cocoons established in Hurungwe and Gokwe South. The cocoons were monitored for oxygen levels and general appropriateness for smallholder farmers. The technology has been well-accepted by farmers, many of whom would like to adopt it if the price is reduced to affordable levels.

GrainPro, the manufacturer of these cocoons, has offered valuable technical support services through their Zimbabwean agent, Farm & City. In September 2014, Farm & City rapidly attended to two cocoons which had problems of unzipping. The cocoons have so far shown complete control of storage pests and diseases about four months after installation. Farmers are expected to benefit by selling their grain when the price improves from December onwards.

3.6.1 Staple Crops

Working with commercial partner SAT, Zim-AIED continued to drive productivity and commercialization of the main staple crops around 26 agribusiness hubs previously established in FY2013 and 10 new agribusiness hubs established in FY2014. The 36 hub sites are located in

Figure 3.6.1.1: Average maize yields per district on agribusiness hubs (2013/14 season)

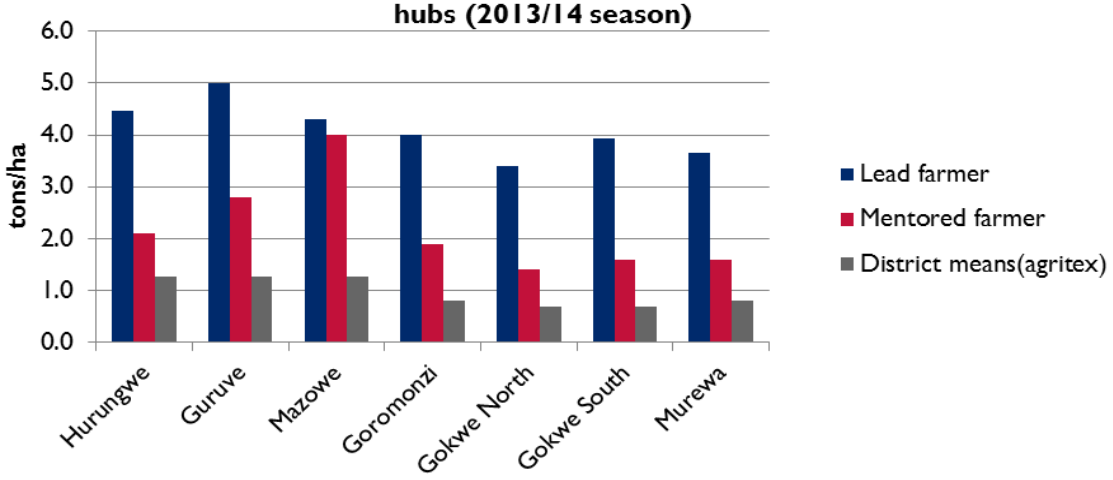


Figure 3.6.1.2: Average maize yields on agribusiness hubs across all districts (2013/14 season)

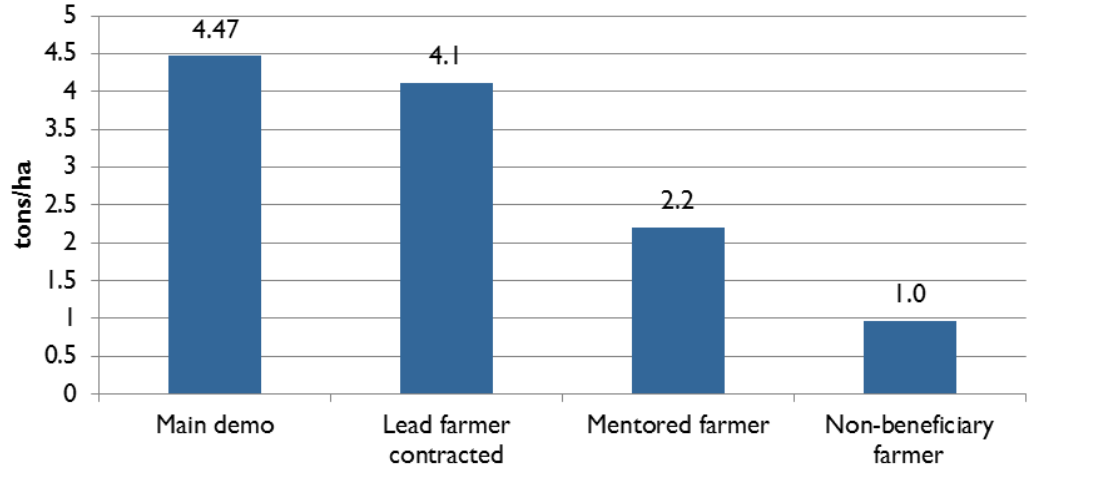


Figure 3.6.1.3: Average maize yields on agribusiness hubs across all districts (2012/13 season)

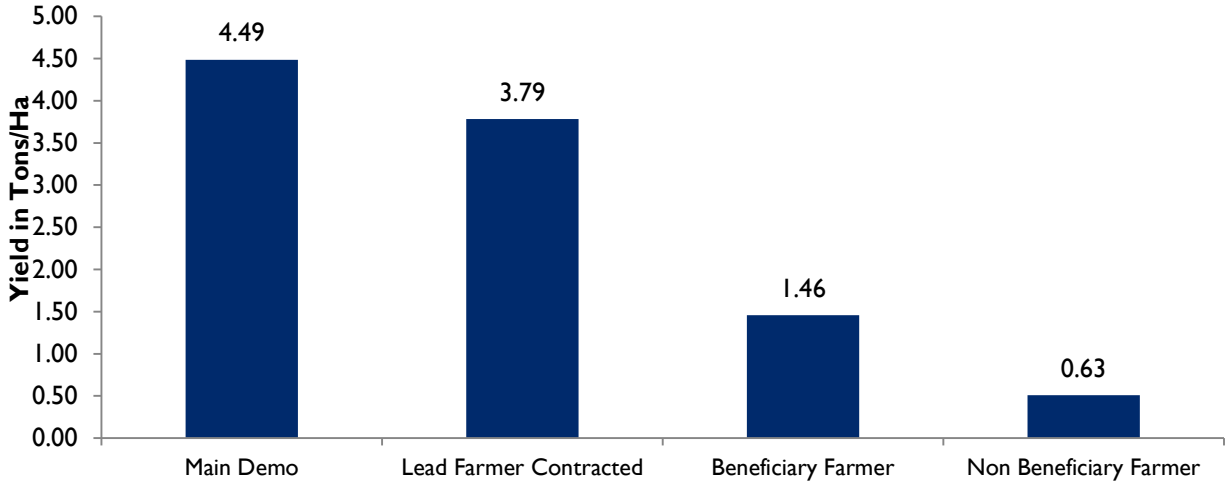
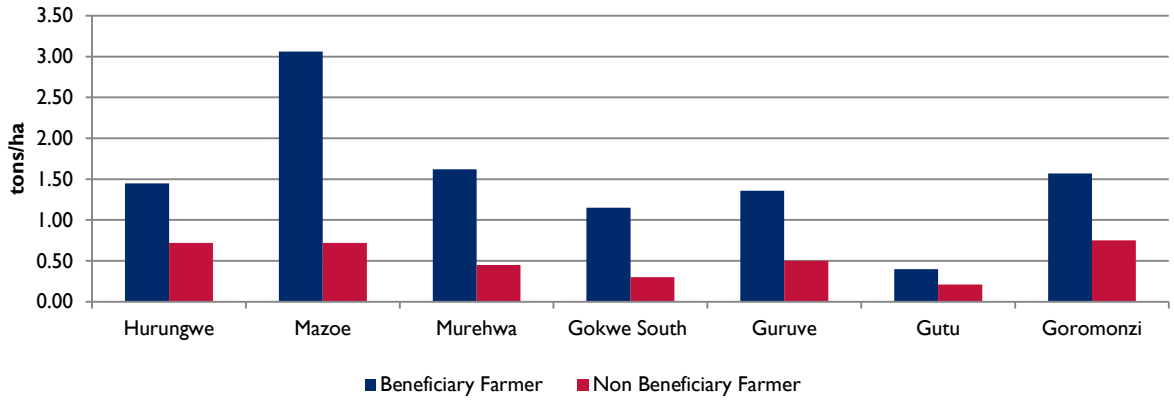


Figure 3.6.1.4: Average maize yields per district on agribusiness hubs (2012/13 season)



Murewa; Goromonzi; Gokwe South; Gokwe North; Hurungwe; Mazowe; Guruve and Gutu districts.

Effectively, a total of 50 hubs were established over the two-year period that began in the 2012/13 season. In the second year, the number of lead/demonstration farmers per hub was increased from four to 15 and each lead farmer was tasked to train at least five other farmers within their area.

Establishing the agribusiness hubs allowed Zim-AIED to encourage both input suppliers and commodity brokers to travel to these areas, supply their inputs, and purchase produce in bulk. Farmers coordinated with field extension officers to set up itineraries to assist in the production planning and marketing of their crops. Field days occurred at different stages of the growing season. During field days, farmers heard from lead farmers and input suppliers about crop-related issues, participated in additional training, and sought business opportunities with interested buyers.

Maize (dryland)

According to the second round of crop production estimates conducted by MAMID, national maize production for the 2013/14 season was 1,456,153 tons, still below the national annual requirement of 1.8 million tons. In FY2014, Zim-AIED continued to promote maize production within 32

agribusiness hubs in seven of the eight districts where SAT was operating. Only Gutu district was excluded as rainfall patterns are too erratic.

With the good rainfall this season, most areas achieved strong yields with Zim-AIED farmers showing better performance compared to the district averages. The effort to cascade training and technical assistance through the use of lead and mentored farmers also showed positive results. This demonstrates that training farmers in GAPs is effective in improving productivity even in the absence of input support. The yield data for FY2014 are summarized in Figures 3.6.1.1 and 3.6.1.2. The data for 2012/13 season is shown in Figures 3.6.1.3 and 3.6.1.4 for comparison.

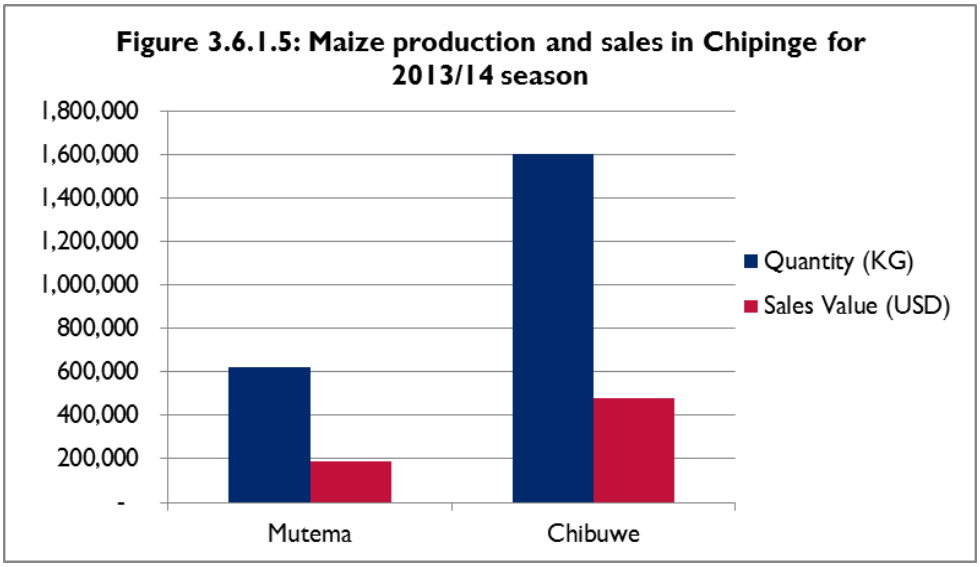
There was a significant difference in maize yields between Zim-AIED beneficiaries and non-beneficiaries in all areas. Zim-AIED trainings focused on GAPs such as variety selection, early planting, weed control, and fertilizer application. Commercial linkages were established with input suppliers and commodity traders (including AgriTrade borrowers) on most agribusiness hubs, where buyers met with growers to set up buying points. Across all districts, Zim-AIED-assisted farmers achieved at least twice the yields in maize as non-beneficiaries in the same districts.

In the Honde Valley, farmer yields have traditionally been low, ranging from 0.7 to 1.2 tons per hectare. However, yields from the demonstration plots, with minimal inputs, were on average 3.0 tons per hectare. Maize production in this area is now set to increase with farmers procuring inputs on their own and seeking guidance and technical assistance from Zim-AIED.

Maize (irrigated)

With the adoption of good agricultural practices such as selection of appropriate varieties, correct fertilizer application and good weed control, maize also proved to be a good cash crop on irrigation schemes in FY2014.

Figure 3.6.1.5: Maize production and sales in Chipinge for 2013/14 season

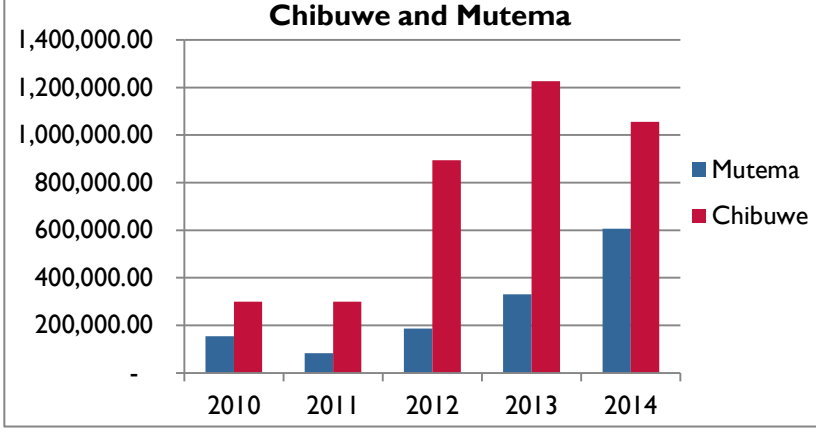


In Matabeleland, yields of up to six tons per hectare were obtained, which has helped to produce a significant reduction in the grain deficit of the region. This, however, also translated into lower prices in some irrigation sites ($0.33-0.39 per kilogram) compared to the 2012/13 season ($0.55 per kilogram).

In Chipinge, maize has become as important as sugar beans for income generation. With the use of appropriate high-yielding maize varieties, correct quantities of fertilizers, and good timing (harvesting in January/February), farmers have realized strong incomes from this crop. The major buyer was Peak Trading who offered farm-gate prices of up to $0.30 per kilogram.

Farmers are now producing surplus maize grain, which will serve to improve food security in a region that traditionally has a deficit. Maize production and sales in Chipinge and Mutema are shown in Figure 3.6.1.5 below.

Figure 3.6.1.6: Sugar bean production trends in Chibuwe and Mutema

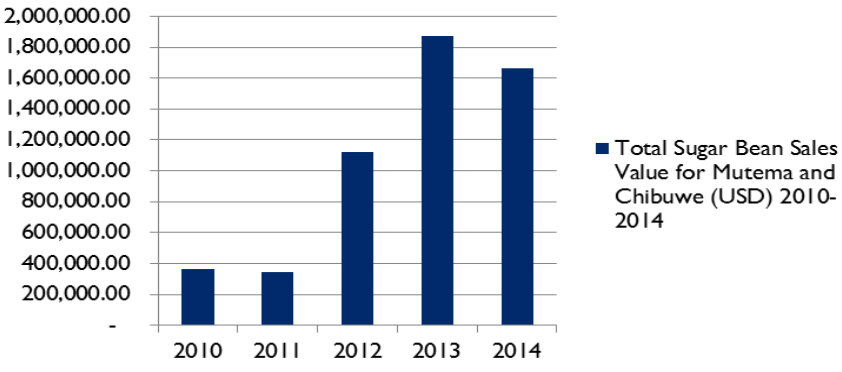


Sugar beans

Technical assistance to sugar bean growers was provided on irrigation schemes in Manicaland, Matabeleland South and Midlands, as well as in the dryland sites of Hurungwe, Mazowe, Guruve and Goromonzi.

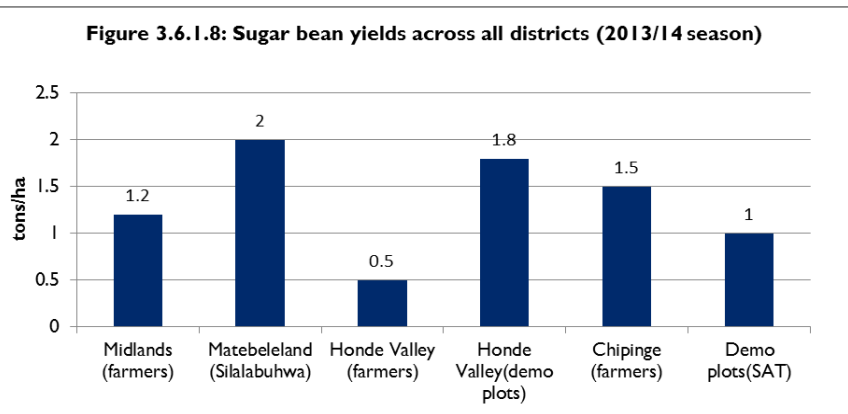
In Chibuwe (Chipinge district), there was no contract farming for sugar beans in FY2014, reducing slightly total production of the crop. However, sugar bean remains one of the most important crops in Mutema and Chibuwe, with sales of $1,655,700 realized in FY2014.

Figure 3.6.1.7: Total sugar bean sales value for Mutema and Chibuwe (2010-2014)



The prices in this area were also affected by the countrywide increase in production, resulting in a decline from $1.20 in 2013 to $1.00 per kilogram in 2014. Farmers, however, remained quite profitable with production costs of only $0.4-0.5 per kilogram.

Figure 3.6.1.8: Sugar bean yields across all districts (2013/14 season)



In Honde Valley, yields on the dryland crop remained low at around 0.5 tons per hectare due to damage from bean stem maggot. However, yields on demonstration plots ranged from 1.5 to 2 tons per hectare.

In Midlands a total of 198 hectares all under irrigation were grown under sugar bean. Twelve percent of the crop was financed by Virl and Untu.

By adopting good agricultural practices from Zim-AIED, such as use of certified seed, seed treatment with Apron star, good pest and disease control, some farmers achieved high yields of up to 3.2 tons per hectare. Production at Exchange Irrigation scheme, which had 55 percent of the crop, was affected by frost in June and pump breakdown resulting in average yields of 600 kilograms per hectare. The other schemes Hama, Insukamini and Madigane were affected by the frost in June resulting in crop losses of between 20 and 40 percent.

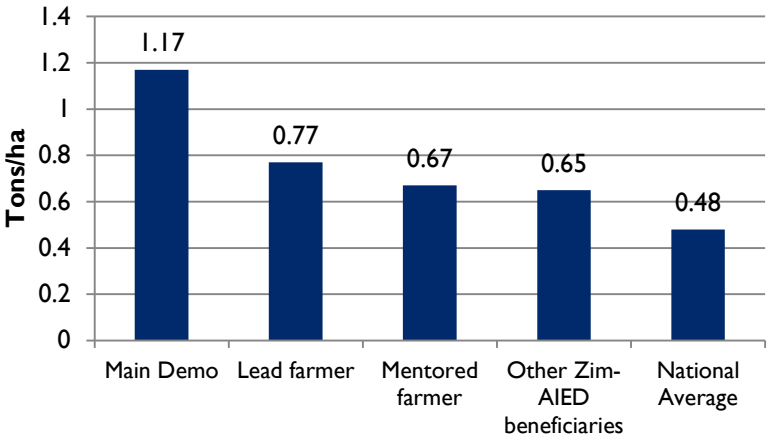
In Matabeleland, training in GAPs for sugar bean production (such as seed dressing and new varieties) and disease and pest control through correct and safe use of pesticides were the major thrust of interventions targeting higher productivity and quality of produce.

Zim-AIED also facilitated credit linkages for sugar bean farmers. For example, Virl Microfinance advanced $4,953 in sugar bean loans to farmers at Silalabuhwa while Agribank advanced $12,100 for sugar beans in Moza. The frost in June affected the crops at Moza and Makwe. Crop losses were as high as 90 percent at Moza and 30 percent at Makwe. Although the unusual frost patterns reduced yield potentials of sugar beans this season, farmers at Silalabuhwa who planted 29 hectares of the crop were hardly affected and achieved an average yield of two tons per hectare (58 tons total).

Cowpeas

This is a crop generally grown for home consumption but that has high potential for commercialization. After successfully growing cowpeas with eight lead farmers in Gutu during the 2012/13 season, the number of farmers was increased to 49 during the 2013/14 season. Training and input support resulted in a good yield increase. Even those farmers that received technical assistance only benefitted as shown by their yields (0.65 tons per hectare), which were higher than the nation average of 0.48 tons per hectare. However, there were challenges in marketing the crop. Buyers such as Sidella, were offering prices ($0.33 per kilogram) too low for farmers to break-even. However, they eventually managed to sell their entire crop to Zaka Seeds, through GRM, at a price of $0.50 per kilogram.

Figure 3.6.1.9: Cow pea yields in Gutu

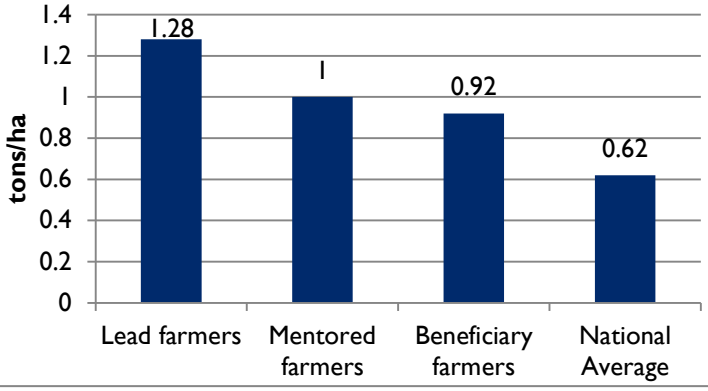


This is an important crop that can be commercialized in marginal areas such as Gutu, as it is drought tolerant, short season, and requires low inputs.

Soy Beans

During the 2012/13 season 273 soy bean farmers under the IETC contract farming program were supported through extension and training in Hurungwe district. In the 2013/14 season, 327 soy bean farmers under a contract farming program with IETC were similarly supported through extension and training in Guruve, Goromonzi and Hurungwe districts; 59 were Zim-AIED lead farmers.

Figure 3.6.1.10: Soya bean yields across all districts (2013/14 season)



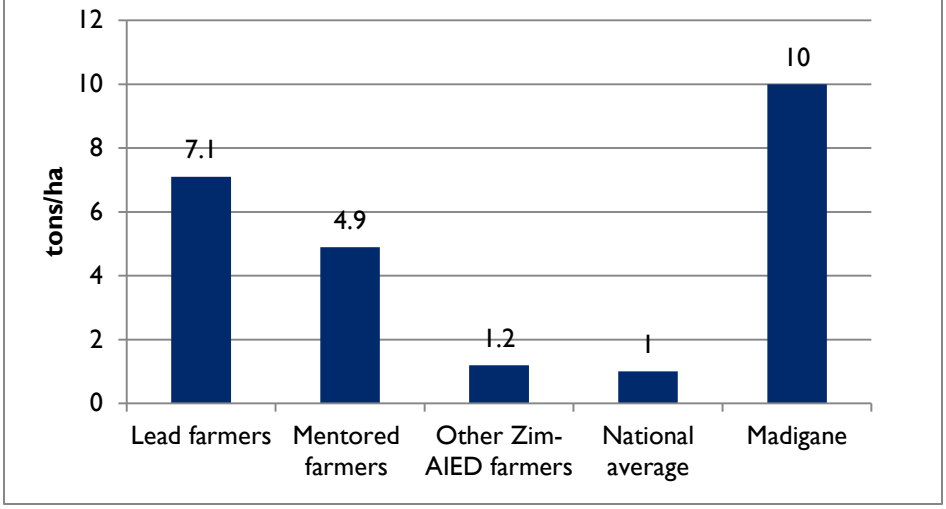
The support given to these farmers through Zim-AIED resulted in significant increases in yield (1.25 tons per hectare) compared to national average of 0.62 tons per hectare. However, there is potential to increase yields even further. The major area for improvement is weed control, especially proper application of herbicides.

Soy beans are a crop which can be commercialized by the smallholder farmer, as there is a significant market in the livestock feeds and nutrition sector. Organizations such as IETC and ABS are some of the buyers interested in contract farming arrangements with such farmers, for cooking oil and soy chunks, and livestock feeds respectively.

Sweet Potatoes

This remained an important crop in Gutu, Murewa, and Madigane wetlands in Midlands. Zim-AIED continued with the provision of technical assistance and training of farmers in these areas. A general increase in production of this crop during the 2013/14 season resulted in low prices, even on the traditional roadside markets in Gutu where prices dropped to $5 per 20-liter tin ($0.25 per kg) from $10 per 20-liter tin ($0.50 per kg) in previous years. However, Gutu farmers sold more than 3 tons of a special variety of sweet potato to SimFresh, which wanted the product for export. SimFresh is currently being engaged by the program to develop the market further.

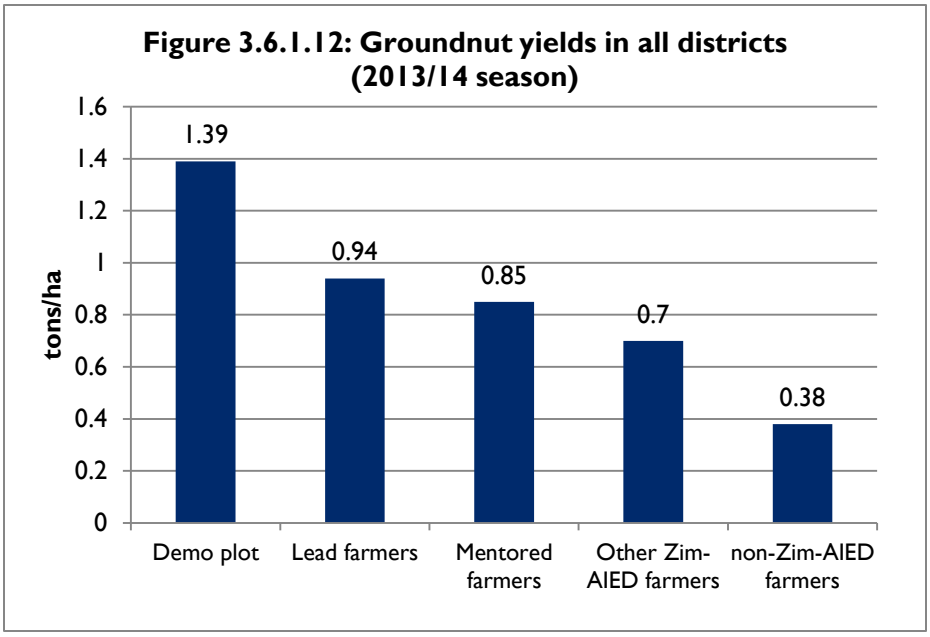
Figure 3.6.1.11: Sweet potato yields in all districts (2013/14 season)



Groundnuts

Training and technical assistance, as for other crops, increased yields compared to those for non-Zim-AIED farmers. The unavailability of proper seed remains the major limiting factor to increased production of this crop. However, during the 2013/14 season, lead farmers in Murewa and Gokwe South were advised to grow the higher yielding variety, Falcon, available from some farmers in Murewa.

Figure 3.6.1.12: Groundnut yields in all districts (2013/14 season)



The average price was $0.69 per kilogram for unshelled groundnuts compared to $0.49 per kilogram in the FY2013 season. Some buyers offered $1.00 per kilogram for shelled groundnuts, but the unavailability of shelling machines was a major limiting factor. Although there were sales of this crop, most farmers prefer to process it into peanut butter.

Green Mealies

This is an important income earner in irrigation schemes in Midlands, with gross margins of around $6,800 per hectare. 110 hectares were grown during the winter while 237 were grown in summer. Average yields of 2,600 dozen cobs per hectare were realized in 2014, with an average price of $2.38 per kilogram. Sales of $2,088 were realized from 1,044 dozen cobs. However, maize streak virus continued to be a major challenge. Zim-AIED strongly advocates for the strict management of maize streak virus through adoption of an integrated pest management approach. Farmers were trained on the importance of good rotations, good field hygiene, choosing resistant or tolerant varieties, and using Gaucho as a seed dressing before planting to reduce MSV pressure.

3.6.2 Paprika and Chilies

Paprika, Tabasco and ABE chilies are well suited to smallholder production as they do not need cold chain management. In Year 4, the program funded crop inputs for chili farmers on a cost recovery basis and expanded tabasco chili production from 75 hectares in Year 3 to 88 hectares, and ABE chilies from 16 hectares in Year 3 to 42 hectares in Year 4 (Table 3.6.1). Zim-AIED provided agronomic and business training to paprika and chili farmers and also supported organizational and entrepreneurial training to participating farmer groups.

Table 3.6.2.1 Summary of Paprika and Chili Production by Zim-AIED beneficiaries

Crop	FY	No. of farmers	Area under production (ha)	Yield (t/ha)	Total production (tons)
Tabasco Chili	2013	331	75.2	3.42	257.0
	2014	404	88.0	4.00	355.0
ABE Chili	2013	45	16.0	4.52	72.3
	2014	239	42.0	6.60	278.5
Paprika	2013	2,744	689.0	1.20	826.0
	2014	1,548	508.0	1.45	734.5

Zim-AIED's initiatives to increase paprika production and trade in FY2014 focused on increasing direct lending to farmers through input loans from financial institutions; creating new partnerships with all paprika processing and trading companies in the paprika industry; the development and universal adoption of a common paprika quality standard for the industry; providing intensive training and technical assistance to farmers (on recordkeeping, safe use of chemicals, paprika agronomy, good postharvest handling practices, and proper grading to ensure compliance with food hygiene and quality standards).

Following the conclusion of the program's partnership with Zero One Africa in November 2013, Zim-AIED focused on increasing direct credit to farmers through input loans from financial institutions. In the first two seasons, interventions were through recoverable grants of inputs channeled through a single paprika buying company, which in turn contracted farmers. The company would avail crop production inputs on loan and contracted growers would have an obligation to sell their paprika to the company that supported them with inputs and repay the loans at the time of sale. However, an important lesson learned from two years of the PFA is that contract farming arrangements where input financing for paprika production is provided by a single buyer is risky business due to side-selling by paprika farmers to non-contracting buyers.

Zim-AIED addressed the problem in two ways. Firstly, Zim-AIED ended recoverable grants to a single paprika buyer or trader and adopted the industry approach that sought to create new partnerships with all the paprika processing and trading companies in the country, such as Hyveld, Sapaprika, Pure Seasons, ZimSpice, and Zero One Africa, and strengthen the industry. Secondly, Zim-AIED focused on direct lending to smallholder farmers by microfinance institutions. A total of 168 smallholder paprika farmers received crop input loans valued at $50,108 from Virl Microfinance.

Zim-AIED facilitated a roundtable meeting of all buyers, the first such meeting in 16 years, to discuss the development and universal adoption of common paprika quality standards for the industry. As a

follow up to this, Zim-AIED held a grades and standards workshop for all buyers and lead farmers in February 2014 to facilitate the development of a universal paprika grading standard for the industry. Standardization of grades in the country is particularly important for paprika where the bulk of the crop is destined for the export market and prices offered to farmers are based on product grades. Zim-AIED facilitated drafting a voluntary national paprika grading standard with the involvement of the Standards Association of Zimbabwe in April 2014. A draft is due for public circulation and comments before recommendation of its adoption scheduled for December 2014.

Paprika production by Zim-AIED-supported smallholder farmers in 2013/14 season is estimated at 638 tons out of a national total estimated at 734 tons. Five production hubs were the main paprika production focal areas – four in Manicaland and one in Mashonaland West (Table 3.6.2.2). Zim-AIED technicians provided training and technical assistance to paprika growers in all the five hubs. Farmers whose production areas had good, well distributed rainfall (or irrigation water) and applied optimum levels of inputs attained average yields of 1.5 tons per hectare.

Zim-AIED technicians trained and encouraged farmers to purchase poly sheets for hygienic drying of their paprika to ensure a high-quality product that complies with international quality standards for aflatoxin levels. Zim-AIED technicians intensively trained farmers on one or more of the following topics: recordkeeping, safe use of chemicals, paprika agronomy, good postharvest handling practices, and proper grading to ensure compliance with food hygiene and quality standards.

Table 3.6.2.2: Estimated paprika production during 2013/2014 season

Province	District	Input-supported Farmers				Unsupported Farmers				Total Farmers			Total (t)
		# of Farmers	Area (ha)	Yield /ha (t)	Total (t)	# of Farmers	Area (ha)	Yield /ha (t)	Total (t)	# of Farmers	Area (ha)	Ave yield/ ha (t)	
Mashonaland West	Hurungwe	16	7	2.0	14	184	58	1.25	72.5	200	65	1.33	86.5
	Zvimba[1]	-	-	-	-	1	30	1.2	36	1	30	1.2	36
	Charara Farm*	-	-	-	-	1	20	3.00	60	1	20	3.00	60
Manicaland	Makoni/ Headlands	14	12	1.5	18	100	30	1	30	114	42	1.05	44.1
	Nyanga (Zim-AIED)	86	34.4	1.8	60.8	60	12	1.2	14.4	146	46.4	1.62	75.2
	Nyanga (ADF)	990	279	1.45	404.5	-	-	-	-	990	279	1.45	404.5
	Chipinge	26	4.5	1	4.5	9	1.5	1	1.5	35	6	1	6
	Chimanimani	42	13	1.4	18.2	4	0.4	1	0.4	46	13.4	1.36	18.2
Mashonaland East	Marondera					9	4	1	4	9	4	1	4
Total		**1,174**	**351.2**	**1.5**	**526.8**	**374**	**157.4**	**1.3**	**212.4**	**1,548**	**508.6**	**1.45**	**734.5**

*Other farmers not smallholders

Source: Zim-AIED

The paprika selling season commenced in May 2014. To strengthen the industry approach, Zim-AIED facilitated farmer-buyer interaction meetings and paprika market fairs in major paprika production hubs between March 2014 and May 2014, the pre-harvest and pre-selling period respectively. The objective of the market days was to strengthen market linkages between paprika buyers and farmers. Market days brought together farmers, paprika buyers, input suppliers, and financiers. These interactions encouraged price negotiations between farmers and buyers and resulted in buyers offering higher purchase prices for grade A paprika ranging between $1.70 and $2.00 per kilogram compared with prices of $1.30 and $1.60 per kilogram last season. The prices of grade B and C paprika also increased this season. Grade B purchase price increased from $0.90 per kilogram last season to an average of $1.40 per kilogram this season, while the grade C price increased to $0.80 per kilogram from $0.30 last season.

About 485 tons of paprika was purchased by various buyers from four production areas. Buyers set up buying points in the respective production areas and paid cash on delivery of graded paprika. Seven buyers were active this season. Two buyers, ZimSpice and Pure Seasons, bought paprika for processing locally into paprika powder while other buyers export whole paprika pods to Spain,

Germany and South Africa. About 100 tons was consolidated by ADF-funded paprika farmers in Nyanga who piloted direct exports to a market in South Africa.

Table 3.6.2.3: Paprika purchases in FY2014

Buyer	Hurungwe	Nyanga	Headlands	Total
ADF Export-SA	0	100,000	0	100,000
ZimSpice	1,000	49,800	9500	60,300
Saprika	9,800	32,950	0	42,750
Pure Seasons	7,300	11,945	11600	30,845
Hyveld	9,500	5,823	7928	23,251
Finsem	0	17,010	0	17,010
HL Marketing	14,000	500	0	14,500
Qew Investments	2,200	7,331	0	9,531
Chitofu	8,000	0	0	8,000
Mubaiwa	7,700	0	0	7,700
Zero One Africa	4,200	10	0	4,210
Sloopwood	2,500	0	0	2,500
Others	20,200	8,000	16000	164,200
Total	**86,400**	**353,369**	**45,028**	**484,797**

Tabasco Chilies

Zim-AIED partner, Better Agriculture, contracted 404 farmers in Nyanga, Honde Valley and Tombo to grow 88 hectares of Tabasco chilies in FY2014 compared to 75 hectares in FY2013. Better Agriculture has an export agreement with the Chili Pepper Company, the African agents for McIlhenny and Co. based in Louisiana, the producers and owners of the Tabasco Sauce brand, to supply Tabasco chili mash. All the Tabasco chili produced is exported to the US.

Zim-AIED's partnership agreement, which included provision of inputs to chili farmers on a cost recovery basis, will terminate in November 2014. In liaison with BA, measures are in place for the 700 chili farmers to receive crop input loans directly from a financial institution for the 2014/15 agriculture season. This arrangement is part of Zim-AIED's market-based exit strategy, ensuring sustainability of smallholder farmer chili production.

At Nyakomba irrigation scheme (Nyanga, Manicaland), 220 farmers grew the crop under irrigated conditions and 184 of the farmers grew the crop under rain-fed conditions in Honde Valley (Mutasa, Manicaland) and Tombo (Nyanga, Manicaland). On average, each dryland farmer had a crop of 0.25 hectares of Tabasco chili, while irrigated farmers had 0.2 hectares each.

Zim-AIED technicians provided regular trainings and technical assistance focusing on good agricultural practices, timing of harvesting, proper grading of produce, and good recordkeeping. The chili farmers were also supported by Zim-AIED's BDS team with training on group organizational and entrepreneurial skills.

Farmers at Nyakomba irrigation scheme achieved average yields of six tons per hectare, more than the target yield of five tons per hectare (Table 3.6.2.4). Twenty-three farmers at Nyakomba achieved yields higher than 10 tons per hectare and 110 farmers achieved yields of 5 tons, mainly due to early planting and adopting good agricultural practices. Dryland farmers at Tombo grew tabasco chili for the first time and according to BA estimates achieved average yields of 3.3 tons per hectare but opted to sell the bulk of the crop as dried product. Honde Valley farmers grew Tabasco chili under rain fed conditions and achieved average yields of 1.6 tons per hectare against a target of 3 tons. Low yields were due to the late planting as a result of the late onset of the summer rains and shorter harvesting duration compared to crops in the irrigation schemes that receive water

constantly and hence have a longer fruiting period. There was a high prevalence of bacterial spot disease across Honde Valley crops and this also contributed to lower than potential yields. Farmers earned an average of $0.52 per kilogram for the wet chilies.

A total of 290 tons of mature wet pods was delivered to Better Agriculture's processing plants for grinding into mash for export. BA set up three processing plants to grind the wet chili pods into mash for export at Nyakomba irrigation scheme in Nyanga and at Hauna growth point in Honde Valley. A total of 320 tons of Tabasco chili mash was produced and exported.

Table 3.6.2.4: Estimated Tabasco and ABE chili production among Zim-AIED beneficiaries in 2013/14 season

Crop	Province	District	No. of farmers	Area under production (ha)	Yield (t/ha)	Total production (tons)	Revenue ($)	Cost of production ($)	Gross margin/ ha ($)
Tabasco Chili	Manicaland	Nyanga	220	44	6.0	264	137,280	37,400	2,270
		Honde Valley	125	32	1.56	51	26,520	19.200	229
		Tombo	59	12	3.33	40	20.800	8.842	996
Total			**404**	**88**	**4.0**	**355**	**184.600**	**65.442**	**1.354**
ABE Chili	Manicaland	Mutare South	32	8	2.1	16.5	11,550	6,400	643
	Masvingo	Chiredzi	99	16	8.9	125	87,500	12,800	4.668
		Zaka	108	18	8.4	137	95.900	14,400	4.528
Total			**239**	**42**	**6.6**	**278.5**	**194.950**	**33,600**	**3.841**

ABE Chilies

Better Agriculture contracted 239 farmers to grow a total of 42 hectares of African Bird's Eye (ABE) chilies at three irrigation schemes; Chipendeke (Southern Manicaland Province) Tshovani and Fuve Panganayi (Masvingo Province). Farmers planted between 0.2 and 0.5 hectares each in November 2013 and a total of 278.5 tons of wet ABE chili was produced (equivalent to 90 tons of dried chilies). Better Agriculture paid farmers $0.70 per kilogram for the wet chilies. Better Agriculture invested and installed solar powered driers at the three production sites to meet the market quality specifications.

Average yields of more than 8 tons per hectare of wet ABE chili compared to the target of three tons per hectare were achieved at Tshovani and Fuve Panganayi irrigation schemes. Farmers' gross margins exceeded $4,500 per hectare (Table 3.6.2.4). Growers attribute the good yields to the higher average temperatures, longer growing season, and adoption of good agricultural practices. Higher average temperatures at the two sites and consistent water availability lengthened the harvest period to around five to six months, raising yields. In contrast, Chipendeke irrigation scheme, which is at a higher altitude, achieved lower average yields of 2.1 tons per hectare mainly because of the lower temperatures and shorter harvest period as there is a high potential for frost damage in July and August.

Cherry Peppers

Ninety-six farmers at Chiduku-Tikwiri irrigation scheme in Makoni district (Manicaland) established 9.6 hectares of cherry peppers under contract with Better Agriculture, who has an offtake agreement with African Preserves to process and export cherry peppers. Each grower planted 0.1 hectares of the crop. This was the first time that farmers at the scheme grew cherry peppers and crops for an export market. Zim-AIED provided the growers with technical assistance and training in correct fertilizer application, safe use of chemicals, contract farming, recordkeeping, and postharvest handling.

Since farmers grew the crop for the first time, actual yields were lower than the projected yield of 10 tons per hectare. On average each farmer harvested an equivalent of 0.38 tons compared to the

projected yield of 1 ton per 0.1 hectares. Harvesting and sales began in May 2014. Farmers were paid $0.40 per kilogram for grade A fresh cherry peppers and $1.80 for dry cherry peppers. A substantial number of farmers opted to sell dry cherry pepper. Better Agriculture purchased 4.7 tons of fresh grade A cherry pepper. About 33 tons of fresh cherry pepper was dried by farmers yielding about 7 tons of dry peppers. However, the bulk of dry cherry peppers were side marketed to an opportunistic buyer, with Better Agriculture purchasing only 0.78 tons at a price of $1.80 per kilogram. Farmers earned gross margins of $830 per hectare.

3.6.3 Horticulture: Bananas

Honde Valley

Zim-AIED's investments in Honde Valley bananas started paying back significant dividends in FY2014. Interventions by the program since inception in FY2012 involved linking smallholder banana farmers to secure and profitable markets through contract farming, technology transfer, linking with agricultural finance providers, and providing intensive training and technical assistance.

FAVCO's banana purchases more than doubled in FY2014 (1,793 tons) when compared to the previous year (817 tons) and increased by 666 percent against the baseline year (234 tons). The total value of these purchases was $524,084 for FY2014, an increase of 102 percent on the previous year and 897 percent on the baseline year. These increases are attributable to new production from the first planted tissue culture (TC) crop as well as increased production from older plantations through implementation of good agricultural practices. Table 3.6.1 summarizes quarterly banana purchases by FAVCO from smallholder farmers in the Honde Valley since program inception.

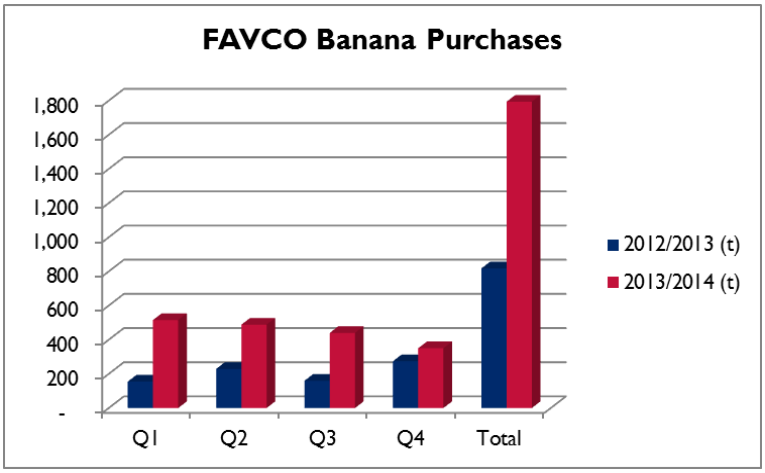
Table 3.6.1: Banana purchases by FAVCO in Honde Valley

Year	Q1		Q2		Q3		Q4		Total	
	(t)	Value	(t)	Value	(t)	Value	(t)	Value	(t)	Value
2012/2013	154	$46,290	229	$73,280	160	$56,350	274	$83,384	817	$259,304
2013/2014	515	$159,712	488	$126,992	440	$132,332	350	$105,048	1,793	$524,084
% Increase	234%	245%	113%	73%	175%	135%	28%	26%	119%	102%

Source Zim-AIED

Most of the tissue-culture crop planted in 2012 has now been harvested twice, although farmers in the Chipote area are starting on their third harvest. Harvesting of the first bunches thrown by the second phase crop planted in 2013 commenced in the last quarter of FY2014. Tissue-cultured bananas alone contributed to more than 50 percent of FAVCO's annual banana purchases. The second phase crop is expected to double annual banana purchases from the current 1,000 tons to 2,000 tons worth more than $600,000. In preparing for the expected increase in banana quantities, FAVCO purchased an additional 10-ton four-wheel-drive tractor and trailer to support the one received on loan from Zim-AIED.

Average bunch weights from the tissue-culture ratoon crop are currently 25 kilograms, up from 20 kilograms in FY2013. Many farmers are reporting average bunch weights between 30 and 40 kilograms. This equates to yields of 60 to 80 tons per hectare, which is comparable to commercial levels, and those being achieved in Mutema and Chibuwe under Matanuska management. Farmers harvesting the 2013 tissue-culture crop are also reporting average bunch weights of 20 kilograms, which equates to 40 tons per hectare in the first year.



Besides their impact on banana yields, GAPs such as fertilization, crop irrigation, mulching, and weed and pest control introduced by the Zim-AIED program have improved the quality of the marketed crop. This can be seen through the significant increase in the size of banana fingers harvested.

The tissue culture crop coming on line in FY2014 increased volumes on offer which in turn helped to stabilize prices and avoid a repeat of the price war experienced in mid-2013. Prices increased from a baseline of $0.10 per kilogram in 2011 to $0.40 per kilogram in late FY2013. In FY2014, prices dropped to as low as $0.27 per kilogram during the rainy season due to overproduction from the combined effects of peak production of tissue culture bananas and increased production of the pre-existing rain-fed crop. Prices peaked at $0.33 per kilogram in May 2014 as buyers were preparing for the leaner winter season.

In FY2014, competitors to FAVCO bought a total of 5,215 tons of bananas worth $1,226,841. Most of the competitors approach FAVCO groups for high-quality bananas, putting added pressure on FAVCO as farmers always have other selling options. This could have potential consequences on loan repayment by the 600 contracted farmers supported by Zim-AIED. To date, first phase farmers have paid 77 percent of their outstanding debt with Zim-AIED while the new groups have repaid 21 percent of their loans. Of the total loan value of $184,895, farmers have repaid $86,820 and the outstanding $98,076 is expected to be settled by January 2015.

As part of its exit strategy, Zim-AIED is linking all farmers who have fully repaid their input loans to microfinance institutions (MFIs) and banks for both working capital and capital investment loans. As reported in section 3.4, Virl Microfinance and Agribank disbursed 163 loans to banana farmers worth $58,174 in Honde Valley during FY2014. Virl Microfinance's first disbursement of 48 loans worth $14,766 has already been repaid in full and repeat loans from both institutions are now underway. Other banks and MFIs have also shown interest in working with banana farmers. Zim-AIED continues to introduce these finance players to new banana groups who are currently servicing Zim-AIED loans.

The program has also helped to revive commercial production of maize and sugar beans by the same banana farmers, whose previous production declined due to poor yields and high pest prevalence. Most banana farmers were losing interest in these crops, arguing that they would use income from bananas to purchase the grain they needed. Yields for maize were ranging from 0.7 to 1.2 tons per hectare and for sugar bean around 500 kilograms per hectare. Sugar bean production had been heavily affected by bean stem maggot infestation and poor production practices. Using several demonstration plots established in collaboration with Agritex officers from across the valley to showcase good agricultural practices in both maize and sugar beans, yields of 3 tons per hectare for maize and between 1.5 and 2 tons per hectare for sugar bean were achieved. The impressive results have prompted farmers to procure their own inputs for maize and sugar bean production, only calling on Zim-AIED and Agritex personnel for technical assistance.

Mutema/Chibuwe

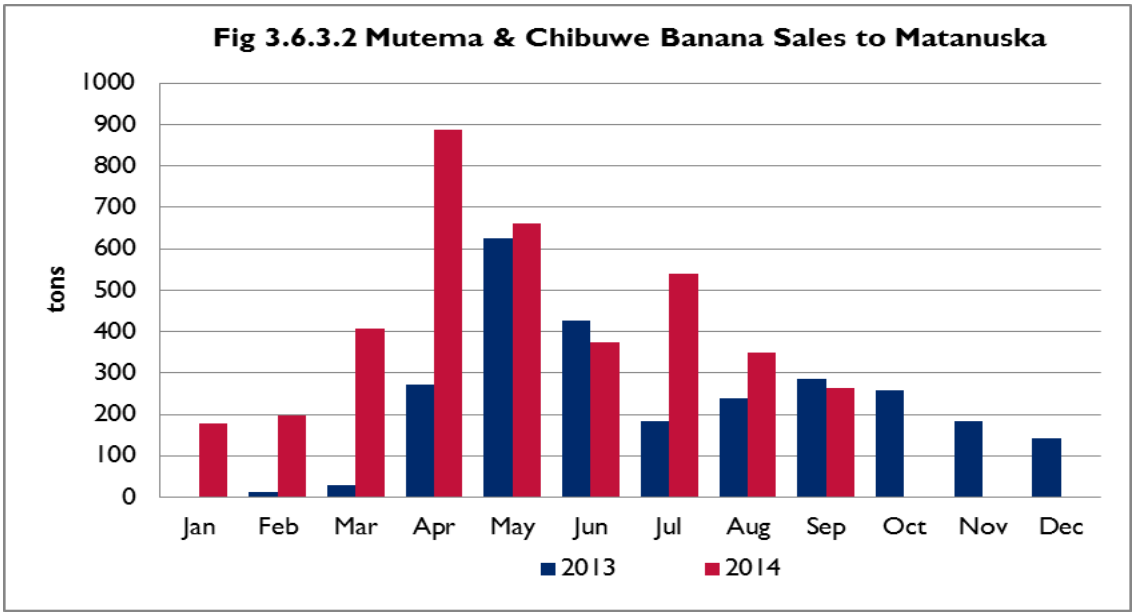
Harvesting of the first bananas began in January 2013. By June 2014, all blocks (100 hectares) were in full production. Cumulative sales for the 2014 calendar year exceeded the total realized in 2013 by nearly 1,200 tons (Table 3.6.3.2). Bunch weights averaged 25 kilograms, which translates to more than 60 tons per hectare. These increases are a testament to farmers' improved management capacity as they continue to gain experience in banana production. Mutema continued to supply the largest proportion of production, owing to slightly higher yields and a larger area than Chibuwe. Mutema is attaining gross yields as high as 85 tons per hectare because of its high-efficiency irrigation

Table 3.6.3.2 Mutema and Chibuwe banana sales to Matanuska (tons)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2013	1	12	30	272	624	427	185	239	286	259	183	143	2,661
2014	177	198	408	888	660	374	541	348	263				3,857

system. However, all blocks have done exceptionally well as they are well above the average yield of 40 tons per hectare attained by the leading commercial banana producers in Zimbabwe.

The average price across all sites for FY2014 was $0.23 per kilogram, down from FY2013 when it averaged $0.27 per kilogram. This drop was due to the long and extended rainy season which increased supply of bananas from rain-fed production onto the market, resulting in depressed prices for some months during the second quarter of the year, combined with reduced consumer purchasing power.



Farmers' CAPEX debt with Zim-AIED was taken up by CABS in September 2014. Repayment of the CAPEX debt is over 24 months at an annual interest rate of 15 percent. In addition all the 442 farmers will receive six months working capital loans of $551 each to finance their requirements for fertilizer, chemicals, packaging, water, and electricity. The CABS deal completes a sustainable market-based development strategy that utilized a recoverable grants mechanism to stimulate a high-potential business opportunity with smallholder farmers that would in turn establish permanent and productive linkages with credit providers and input and output markets.

Rusitu Valley

Zim-AIED's activities in Rusitu Valley focused on improving productivity and market linkages of 1,520 banana farmers to input suppliers and reliable buyers. Zim-AIED set up five TC demonstration plots across the valley to showcase good banana production practices. Herbicide use was one of the technologies introduced to farmers as weed control becomes problematic during the rainy season. In addition, erosion on the steep slopes of many fields is exacerbated when mechanical weed control is used. Twenty demonstration plots were set up to showcase the utility of glyphosate. Now more than 50 farmers have adopted the practice and are using herbicides consistently. Through herbicide application, the cost of weed controls is reduced by 90 percent per hectare.

Farmers were trained and shown the importance of correct plant spacing and its direct link to productivity. Through Zim-AIED, more than 50 hectares of banana plantations have been established using correct plant spacing. In addition, an increased number of farmers are now using fertilizers on their banana plantations after observing the impact of fertilizer on yields in the demonstration plots.

Because of the continuous humid conditions, leaf diseases present a major threat to banana production in the valley. Zim-AIED trained farmers to put into practice leaf cutting techniques to control these diseases, which has been widely adopted by many farmers throughout Rusitu.

The program has been working to develop producer groups into marketing groups by providing technical assistance and training to 12 farmer groups during the course of the year. The groups were trained on group strengthening, marketing, constitution development, governance, and transparency.

Marketing has remained the single greatest challenge for banana farmers in Rusitu Valley. Zim-AIED has been developing unique market linkages with major commercial players in the banana industry, which has seen the beginning of trade formalization in an area dominated by informal and sometimes unscrupulous buyers. In the second quarter of FY2014, the first formal market linkage was attempted through an offtake agreement between the Rusitu Valley Fruit Growers Trust (RVFT) and FAVCO. However, this was not successful due to issues of transparency and poor governance within the RVFT.

A new approach to develop service providers was put underway at the start of the third quarter of FY2014. Service providers play the role of consolidating and facilitating sales between selected buyers and farmer groups and are paid a pre-negotiated commission. This arrangement has had some success as it operates in full transparency between buyer and farmers.

Through this arrangement, FAVCO procured its first 10 tons in August 2014 directly from Rusitu farmers, who themselves paid for the load to be delivered to Harare. Farmers received a competitive price of $0.30 compared to the $0.15 to $0.20 per kilogram paid by informal buyers. Following this development, a new linkage was strengthened with Sunspun, another large banana company in the country which has recently become more aggressive in buying bananas from Rusitu Valley. In the first week of September 2014, Sunspun deployed a tractor, a motorcycle-mounted buyer and a 30-ton truck into the valley and is now procuring 20 tons of bananas per week. This linkage has directly impacted prices, which have risen to $0.20 to $0.25 per kilogram in most areas of the valley.

Following a long and very good rainy season, the program estimates that banana farmers in Rusitu Valley produced and sold approximately 5,000 tons of bananas, earning an estimated $850,000.

Matabeleland

The demonstration plot at Lukosi irrigation scheme in Hwange district (Matabeleland North) was growing well and started throwing bunches in the last quarter of FY2014. The first sales are expected in Q1 of FY2015. Two demonstration plots at Moza irrigation scheme and one at Fanisoni irrigation scheme planted in December 2013 were damaged by frost at the beginning of June 2014. However, the plots are now recovering and are throwing suckers. Zim-AIED technicians designed appropriate fertilization and irrigation schedules which they are implementing with the farmers.

3.6.4 Local Horticulture

Zim-AIED's promotion of agribusiness hubs in targeted irrigation schemes in Matabeleland North and South, Midlands, Masvingo, Manicaland, and Mashonaland East provinces has been key to the success experienced in the adoption of high-value horticulture among smallholder farmers. Many of the farmers have benefited from the integrated approach promoted by the program.

- **Market linkages and input suppliers**. Zim-AIED's market-driven approach has paid dividends over the past year with farmers experiencing strong local demand for their produce. Two strategic workshops were held at the beginning of the year to sensitize both private sector markets and input suppliers to the business opportunities available within the irrigation schemes. This initiative resulted in strong private sector support for the 18 input supplier and market days hosted by Zim-AIED. These companies became well known in Zim-AIED's operational areas as they sponsored prizes, sold products, provided branded material such as hats and T-shirts, distributed fliers, and spoke to thousands of farmers. The most prominent supporters of these events included companies such as Syngenta, Pioneer, Pannar, National Tested Seeds, Farm and City, Vet Distributors, Victoria Foods, Kurima Gold, Prime Seeds, MARS, FAVCO, SimFresh, Blanket and Freda mines. As a result of these linkages, farmers had greater access to improved inputs and an estimated $602,683 was injected into the rural economy from vegetable sales alone. This was over and above the $1,701,910 that

originated from sales of maize, green mealies, sugar beans, and groundnuts from these same schemes during FY2014.

- **Strong technical support**. Of the 265 demo plots established in Matabeleland, Midlands and Mashonaland East, 181 showcased good agricultural practices and new technologies in a variety of vegetable lines, namely potatoes, tomatoes, butternut, cabbage, onion, carrots, fine beans, and peas. This broad crop selection provided viable alternatives to traditional cereal crops particularly in frost-prone areas where cabbages, onions, carrots, and peas do well and are able to replace unprofitable winter wheat. At least 200 hectares of vegetables were produced during FY2014 in Zim-AIED's irrigation schemes throughout Matabeleland, Midlands, and Mashonaland East. As vegetable production requires a high level of management to achieve top yields and quality, Zim-AIED's technical team conducted training sessions and provided technical on-farm assistance through every step of the production process. Farmers have been trained in topics such as nursery establishment, planting, crop nutrition, weed management, integrated pest management, safe use of pesticides, and postharvest handling.
- **Irrigation.** Secure access to reliable water has played a major role in establishing commercial horticulture production on irrigation schemes. Ongoing technical support in this area has reduced the number of break downs, shortened repair turnaround time, conserved water, reduced the length of time between irrigation cycles, assisted in correct annual water applications to ZINWA, and created savings in utility bills.
- **Leadership.** The success of an irrigation scheme rises or falls depending on its leadership. As a result, the endeavors of individuals within the scheme are either negatively or positively impacted by the overall leadership. Zim-AIED has strengthened the IMC leadership in skills necessary to run the scheme efficiently, ensure the constitutions are revised, its bylaws adhered to, and bills paid on time. This has provided a secure background for investment by MFIs for horticultural crop production. Farmers have also shown greater confidence in investing in high-value crops without the constant threat of breakdowns or being cut off by service providers for non-payment of bills.
- **Input funding**. This has been a critical part of the ongoing success and adoption of horticulture in schemes that traditionally grew cereal crops. Although horticultural production provides a high return on investment, the initial working capital required by farmers was often beyond their reach. With support from Zim-AIED partner banks and MFIs such as Virl, Untu, Quest, MicroKing, and Agribank, nearly $100,000 was extended through direct lending mechanisms to smallholder farmers on irrigation schemes for vegetable production.
- **Stakeholder engagement**. No farmer or irrigation scheme is able to work in a vacuum and a farmer's ability to select a crop based on anticipated revenue is often challenged by local authorities who may have different agendas. Realizing this, Zim-AIED actively engaged and collaborated with all government stakeholders from field to district levels. These stakeholders included Agritex field officers and supervisors, the Department of Irrigation, ward councilors, RDCs, DAEOs and DAs. This is a key strategy for resolving issues that periodically surface at the schemes, thus reducing interference and creating long-term sustainability for any new initiative. A case in point is the breakthrough achieved last winter when, after several seasons of working with Agritex officers, farmers were not forced to plant wheat for food security purposes and grew higher-value vegetables instead. Although there was initial resistance to horticultural production in some schemes, once stakeholders saw the budgets and understood what was involved, they could set aside their suspicions and were supportive of the new initiatives.

3.6.5 Livestock

The Zim-AIED livestock program continued to deepen and expand its impact through the following activities:

- Consolidating operations of its three beef partners: Inala Enterprises and Livestock Zone in Nkayi district of Matabeleland North, and O'Enem Meats Products in Mazowe district of

Mashonaland Central.

- Integrating crop and livestock farming activities in and around targeted agribusiness hubs and irrigation schemes where Zim-AIED is implementing activities.
- Implementing a streamlined dairy development program around four milk production areas (MPA) at Tsonzo (Mutasa district), Rusitu (Chipinge district), Gokwe (Gokwe South district) and Claremont (Umzingwane district).

Activities integrating crop and livestock farming were confined to agribusiness hubs in Mazowe district (Mashonaland Central), irrigation schemes in Matabeleland North and South, Midlands, and Manicaland provinces, and the dryland areas of Nkayi district in Matabeleland North and Mutasa district in Manicaland. Trainings were based on a calendared livestock farmer school module that focused on livestock fodder planning, production and conservation, veldt reinforcement, and good animal husbandry practices such as castration, vaccination, de-worming, de-horning, supplementary feeding, drought mitigation strategies, recordkeeping, and livestock marketing.

Activities also supported introducing improved cattle breeds, rehabilitating livestock infrastructure, value addition to cattle through pen fattening, and linking livestock farmers to lucrative and sustainable markets through the O'Enem Meats abattoir in Chiweshe, the Inala Meat Market Centre in Nkayi, and the cattle auctions around the livestock management centers in Nkayi in partnership with Inala Enterprises and Livestock Zone.

A total of 711 (347 female and 364 male) farmers around irrigation schemes received livestock training and technical assistance during FY2014. The trainings mainly focused on good livestock husbandry practices (castration, dipping, dosing, vaccinations, dehorning), fodder production, fodder conservation methods (such as urea treatment of poor quality stover and other crop by-products), silage and hay making, and efficient fodder utilization methods such as use of hay racks, feed formulations, and feeding regimes for the different classes of cattle using home grown feeds. The trainings also covered construction of some low-cost cattle handling facilities such as the cattle race and the A frame hay feeding rack.

In Mazowe district, Zim-AIED in collaboration with the Livestock Production Department trained 100 smallholder livestock producers on herd improvement systems focusing on the use of artificial insemination and superior bulls. Nine heifers belonging to two lead farmers were artificially inseminated following this training and they are all expected to drop their calves next quarter.

Fifteen 0.1-hectare fodder demonstration plots were set up in Nkayi and on five Zim-AIED-assisted irrigation schemes in Matabeleland North and South, Midlands, and Southern Manicaland. Farmers received practical training and technical assistance on good fodder production practices for the following fodder crops: velvet bean, sun hemp, silver leaf, Rhodes grass, and lab-lab. Further training and technical assistance was given on good fodder conservation and utilization, urea treatment of crop residues to improve feed quality and intake, and the construction and use of A-frame hay racks to minimize wastage from animal tramping and excreting on the feed.

Fodder field days were held at the demonstration plots. The field days were well-attended by government officials, input suppliers, local agrodealers and local leadership. At one such field day in Nkayi, National Tested Seeds (NTS), one of the country's major suppliers of agricultural inputs, concluded a business partnership with a local agrodealer that will receive consignment stock from NTS for retailing to farmers in the district.

Zim-AIED granted veterinary kits to all IMCs that hosted fodder demonstration plots. Each veterinary kit has a burdizzor, knapsack sprayer, and dehorning irons. The vet kits are accessible to all farmers in and around the irrigation schemes who need to castrate, dehorn and dip their animals. This service will be provided for a fee by the IMCs.

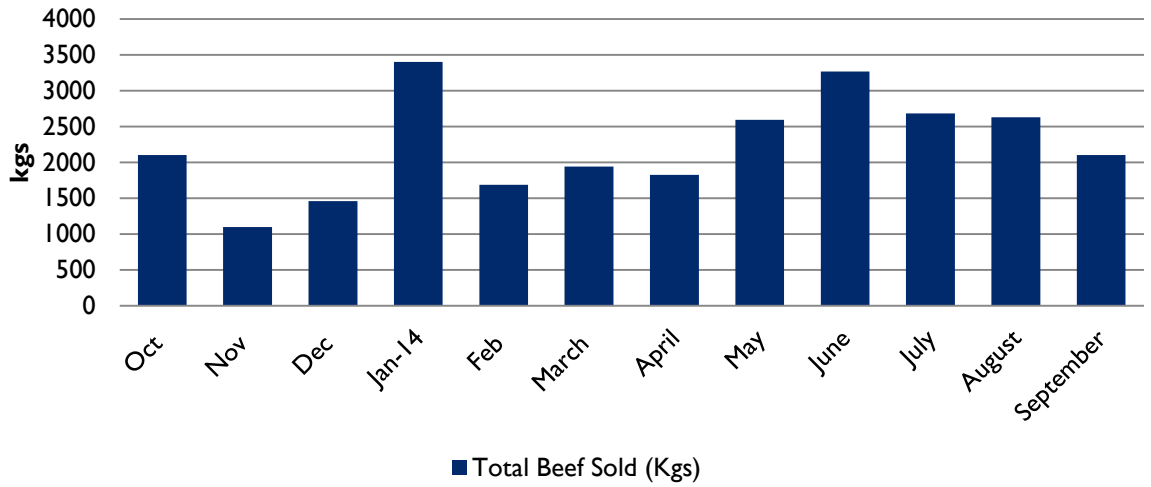
Nine farmers successfully hosted a feedlot demonstration at Tshongokwe irrigation scheme. Fourteen cattle were inducted in the pens in October 2013. Zim-AIED facilitated procurement of

stock feed throughout the 66 days of fattening under a recoverable grant. Participating farmers earned a maximum of $1,026 per sold carcass, as compared to $300 realized under off-grass sales. Three farmers that participated in the initial feedlot have witnessed its impact and have now set up two privately owned feedlots each with 10 to 15 head of cattle. The cattle are targeted to be out of the feedlot by mid-December 2014 to take advantage of the high December beef prices. Zim-AIED continues to offer support to these farmers through continued trainings in good feedlot management and improving their access to credit to purchase stock feed and cattle. Additional feedlots are targeted for FY2015 to link farmers to more lucrative markets and buyers.

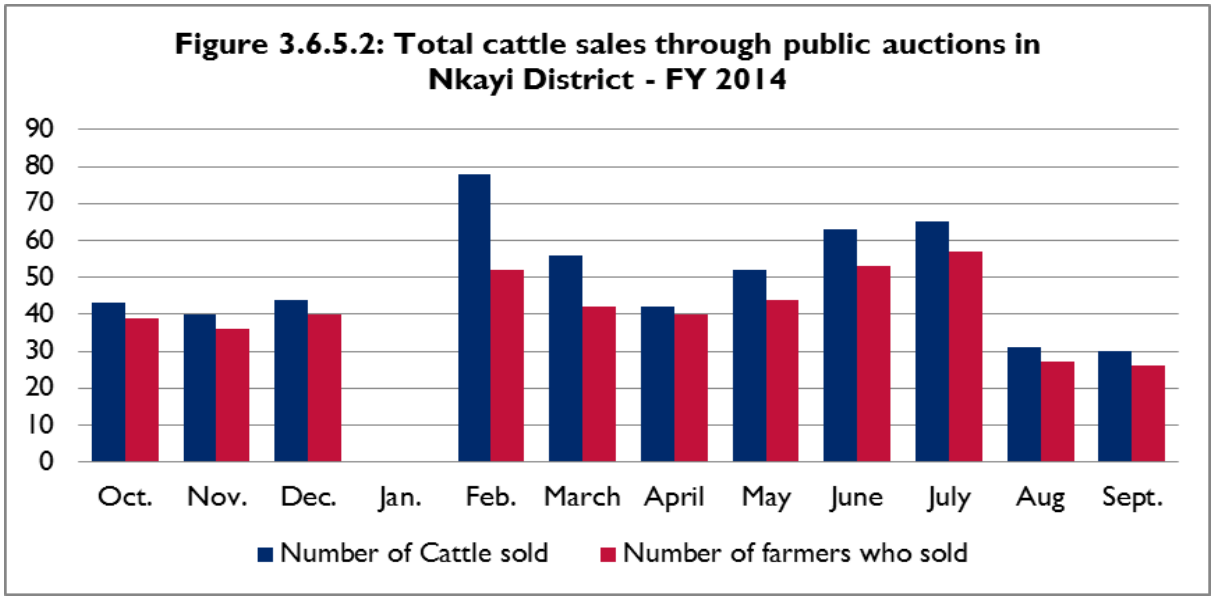
3.6.5.1Beef

Zim-AIED partner, Inala Enterprises, sold a total of 21,488 kilograms of beef through its Meat Market Center at Nkayi valued at $49,732. A total of 85 cattle were sold by 81 smallholder farmers from Nkayi district to the Meat Market Center in FY2014. The Meat Market Center, which opened its doors in August 2013 with financial assistance from Zim-AIED through a recoverable grant, is providing an alternative marketing outlet for cattle farmers in the district. The center processes meat for retail sale within the district and has plans to wholesale some carcasses to butcheries in Bulawayo, Kwekwe, and Gweru.

Fig 3.6.5.1: Beef sales (kg) through Inala in FY 2014



Inala Enterprises, in collaboration with Nkayi Rural District Council, continued to organize public cattle auctions throughout FY2014 with a total of 544 animals sold compared to 483 animals in FY2013 (Figure 3.6.5.2). The average price realized was $480 per head. A total of 456 smallholder farmers sold their cattle through these auctions, often to top buyers such as Montana Meats and Caswell Meats.



In the third quarter of FY2014, Zim-AIED partnered with Livestock Zone to scale up the heifer loan program and leverage Livestock Zone's value addition activities in the district to the benefit of program-supported farmers. Livestock Zone works with farmers on community-managed feedlots where it supplies stock feed on a 2-3 month loan depending on the feeding period. The loan is payable as a straight deduction at the time the animals are sold to the buyers. Zim-AIED and Livestock Zone also link feedlot farmers to the lucrative livestock markets in Bulawayo, who will pay for the cattle on graded carcass terms.

O'Enem Meats partnered with Montana Meats, one of the top three meat processors in Zimbabwe, in FY2014 to increase the utilization of its abattoir. Since the partnership, toll slaughters for beef have increased by 46 percent, from an average of 85 cattle slaughters per month to 183 slaughters today. In some peak months the abattoir is slaughtering up to 300 head of cattle. Montana Meats' deep network of retail distributers of meat and other products is helping to drive the slaughter volumes. A total of 2,206 cattle from 726 smallholder farmers were slaughtered at O'Enem Meats, up from 1,377 head of cattle in FY2013 (Table 3.6.5.1). Each farmer sold on average three head of cattle.

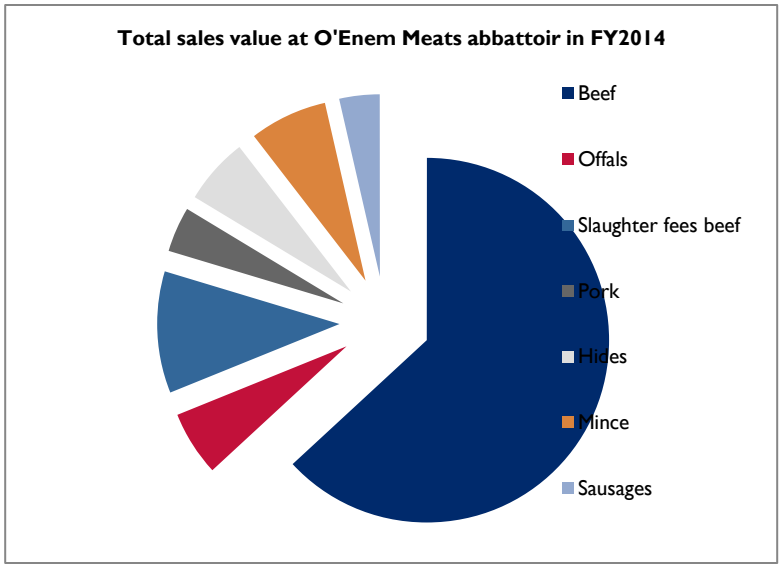
Supplies of cattle to the abattoir were drawn from farmers in Muzarabani (18 percent), Mazowe (70 percent), Guruve (3 percent), Rushinga (7 percent) and Mt. Darwin (2 percent) districts, all in the Mashonaland Central province. Farmers in Mazowe district contributed the largest number because of their close proximity.

Table 3.6.5.1 Cattle Slaughter and Beef production at O'Enem Meats Abattoir

Beef (Kgs)	Q1	Q2	Q3	Q4	Total
FY2013	11,634	11,019	12,447	11,457	**46,557**
FY2014	11,629	11,020	14,764	12,201	**49,614**
% change	**0%**	**0%**	**19%**	**6%**	**7%**
# of Cattle Slaughtered					
FY2013	343	309	382	343	**1,377**
FY2014	396	339	566	905	**2,206**
% change	**15%**	**10%**	**48%**	**164%**	**60%**

Beef continued to dominate total sales from the abattoir, followed by toll slaughter, offal, sausages, hides, pork, and minced meat. Total value of sales from the abattoir was $449,669 for FY2014.

Heifer and Bull Loan Programs



Through a memorandum of understanding that facilitated in-kind inputs on loan, Zim-AIED engaged a new livestock partner, Livestock Zone, to complement Inala Enterprises in the implementation of the heifer and bull loan scheme. A total of 131 heifers of improved genetics (mostly Brahman crosses; 67 from Livestock Zone, 66 from Inala) were bought using a recoverable grant from Zim-AIED. A total of 77 farmers received anywhere from 1 to 11 heifers from this arrangement and repaid by exchanging their mature cattle. In addition, two lead farmers will swap several of their mature cattle for high grade Brahman bulls. The Brahman bulls will foster improved genetics among cattle in the area – characterized by high fertility rates, resistance to drought and diseases, large-frame, and highly responsive to pen feeding with average weight gains ranging between 1.5 and 2 kilograms per day in the feedlot.

Construction of the third cattle handling facility was completed at Mkhalathi in ward 27. The handling facility consists of a cattle race, three handling pens, a cattle crush and toilets. A borehole was also drilled at the cattle handling facility. This is a big relief to the Komayanga community, which has faced scarcity of drinking water for both humans and livestock for years. The full borehole cost, drilled to 60 meters, was $9,500. Zim-AIED provided this as a non-recoverable grant to the community. The borehole is serving at least 100 households surrounding the cattle management center and a livestock population of more than 1,500 cattle.

Zim-AIED supported Inala Enterprises to acquire and lease out a total of 25 cattle to five new households around the new NBC 3 at Mkhalathi in FY2014. Three Brahman bulls were availed with the leased animals during a bull launch in August 2014. The bulls will add to the 25 bulls that Inala has already deployed in the community. The bulls will run and be maintained by the recipients of the Inala lease herds and will be available to service all the cattle population around the NBC. Zim-AIED bought the bulls for $7,500 and handed them to the community as a non-recoverable grant. The intention is to use the bulls to infuse improved genetics in the traditional cattle breeds around the three established cattle management centers in Nkayi district.

3.6.5.2 Dairy

Zim-AIED took over the Dairy Development Program from Land O' Lakes in December 2013. Activities focused on four target areas (Rusitu, Tsonzo, Claremont and Gokwe) via three major interventions:

- Promoting on-farm sustainable, low-cost fodder production systems based on well-developed fodder plans and budgets by the farmers.
- Implementing a market-based breeding program using artificial insemination (AI) from professional/competent service providers.
- Engaging milk processors to actively participate in designing, developing and promoting dairy development programs at the smallholder farmer level where production levels are viable.

A total of 22 lead farmers from the four dairy target areas were trained on fodder flow planning, production and budgeting as a way of ensuring enough fodder supply to dairy animals throughout

the year. In addition 240 dairy farmers were also trained on fodder flow planning, fodder production, and budgeting.

The farmers from the four centers collectively produced 300 tons of silage from maize, sugar graze, and legumes; 150 tons of hay from veld grasses, Giant Rhodes grass and grass/legume mixtures; and 35 tons of legume seed (velvet and lablab) for inclusion in feed rations as well as for seed bulking for the next season. However, the total area planted under forage fell short of the actual total area required to produce feed for the dairy herds throughout the year. Farmers cited poor access to inputs such as pasture seed, maize seed, fertilizers, herbicides, and pesticides as the main cause for the low adoption and implementation of the formulated fodder flow plans.

Irrigated winter pastures are a low-cost source of quality homegrown feed for dairy animals. Despite these advantages, only 1.1 hectares were put under winter irrigated pastures in Tsonzo (0.4 hectares), Rusitu (0.6 hectares), and Claremont (0.1 hectares). Farmers again cited lack of irrigation facilities, pasture seed and cropping inputs as the limiting the practice.

Zim-AIED is working on plans to link the farmers to credit and input suppliers such as Farm and City, Pioneer, ZFC, Windmill, and SEEDCO to improve on the timeliness and cost effectiveness of access to inputs. Dairy farmers from Rusitu and Tsonzo were linked to fertilizer and agrochemical suppliers. A group of 11 farmers from Rusitu have already started making cash deposits with ZFC to procure seed and fertilizer for establishing food and fodder crops. Tsonzo farmers were linked to Windmill and their deposits now exceed $700. The input procurement is modelled around using groups of farmers to mobilize its members to raise the required cash and deposit it with the various dairy input suppliers such as National Foods, Veterinary distributors, SEEDCO and ABS-TCM.

Zim-AIED, in partnership with Africa Breeders Services–Total Cattle Management (ABS-TCM), held one-day dairy breeding workshops in Rusitu, Tsonzo, Gokwe, and Claremont where farmers were trained on good dairy cattle breeding practices. Included were issues on bull selection and AI for improving herd production and productivity. Sustainable relationships between ABS-TCM and farmers in Rusitu, Tsonzo, Claremont, and Gokwe were established. ABS-TCM is now selling semen from world-class bulls with all the necessary records to farmers across the four focus areas. Table 3.6.5.1 provides a breakdown of semen straws bought from ABS-TCM and other sources by the dairy farmers from the four respective milk producing areas in FY2014.

Table 3.6.5.1 Recorded semen sales to dairy farmers in Zim-AIED targeted areas – FY2014

Milk Producers Association	Semen Straws purchased	Source of semen	Number of cows inseminated	AI Success Rates **
Tsonzo	80	ABS	21	60%
Gokwe	25	ABS	25	100%
Mayfield	30	LIT (Commercial Dairy farmer)	17	55%
Upperand	13	ABS	13	45%
Rusitu United	22	ABS	22	75%
Claremont*	0	0	0	0
Totals	**170**		**98**	

**Claremont farmers are still employing bulls but are planning to source AI services from ABS for more than 24 dairy cows*

***Success rates are based on non-return rates, i.e. how many of the inseminated cows did not come into heat after the inseminations.*

Dairy farmers in the four respective milk producing areas continued to benefit from the MicroKing Dairyfin and the Cattle Bank Fund (CBF) facilities, as shown in Table 3.6.5.2 below.

Table 3.6.5.2 Activities under the Dairyfin and CBF facility – FY2014

MPA	Source of funds	# of heifers received	Total loan value	Total repayment	Outstanding	Comments
Tsonzo	Cattle Bank Facility	nil	nil	nil	nil	$7,200 in the CBF farmers looking for dairy stock
Gokwe	CBF	23	$35,880	$11,000	$24,880	Repayments are in progress
Rusitu United	MicroKing DairyFin	12	$14,040	$1,038	$13,002	No delinquency
Upperand	MicroKing DairyFin	5	$5,850	$433	$5,418	No delinquency
	CBF	3	$2,400	$450	$1,850	Repayment low affected by seasonality in milk production
Mayfield	MicroKing DairyFin	3	$3,510	$259	$3,251	No delinquency for the MicroKing however low repayment on CBF traced to governance issues
	CBF	2	$2,700	$300	$2,400	
Claremont	Nil					

In Rusitu, Dairiboard conducted a workshop on milk quality with the Milk Collection Center Management Committee in a bid to improve milk quality results. Dairiboard is also in the process of linking farmers to BANC ABC for procurement of dairy cows to complement the MicroKing Dairyfin Facility.

A total of 595,662 liters of raw milk was produced by the four MCCs during FY2014. Mayfield MCC produced the highest volume with a total of 202,348 liters, followed by Rusitu United (116,002 liters), Claremont (96,557 liters), Tsonzo (91,817 liters), and Gokwe (88,938 liters). Average milk yields per cow remain very low, at below 10 liters per cow per day. This is attributable mainly to poor genetics and poor nutrition, especially during the dry season (Table 3.6.5.3).

Table 3.6.5.3 Milk Production at the four Zim-AIED-assisted MCCs in FY2014

MCC	Volume (liters)	# Dairy Animals	#Farmers	Yield per cow per day (liters)
Gokwe	88,938	101	33	3.14
Mayfield	202,348	130	78	7.16
Rusitu United	116,002	45	38	4.10
Tsonzo	91,817	40	23	3.25
Claremont	96,557	47	18	3.41
Total	**595,662**	**363**	**190**	**4.21**

3.6.6 Value Addition: Handling and Processing to Boost Profits

Zim-AIED is working with a number of its PFA partners and buyers to develop opportunities for value addition of commodities purchased from beneficiary farmers. Farmer participation in value addition is mainly confined to on-farm grading and hygienic handling to ensure food safety. The buyers and private companies are more involved in the value addition processes in compliance with international food standards.

3.6.6.1 Paprika

At the farm level, farmers are encouraged to purchase poly sheets to dry their paprika hygienically to maintain quality (grade A) paprika pods and reduce the incidence of aflatoxin contamination and dust in the final product. Two local processors, ZimSpice and Pure Seasons, bought 60 tons and 31 tons of grade A paprika, respectively, from Zim-AIED-assisted paprika farmers in FY2014. Pure Seasons processed 27 tons of paprika into powder for the domestic market and ZimSpice processed 30 tons.

3.6.6.2 Tabasco chili

In FY2014, a total of 290 tons of grade A fresh Tabasco chili pods purchased from Zim-AIED beneficiary farmers were ground and mixed with salt to make 320 tons of Tabasco chili mash for

export to the Chili Pepper Company in South Africa for onward export to the United States. Zim-AIED partner Better Agriculture has set up three processing plants at Nyakomba irrigation scheme in Nyanga, Hauna business center in Honde Valley, and a new plant at Tombo in Nyanga district to handle the crop from contracted growers.

3.6.6.3 Grains, staples, and other food crops

Mr. Ignitias Jumbe who owns Grafar Investments P/L, a stock-feed manufacturing company located in Goromonzi district in Mashonaland East province, started operations in May 2009. He accessed his first AgriTrade loan for $20,000 through MicroKing in August 2014 and buys maize and soybeans from communal farmers in Mashonaland East, West and Central for milling into stock feed. Communal farmers and urban dwellers involved in poultry and piggery production purchase the stock feed at average prices of $29.00 per 50 kilograms.

Since accessing the AgriTrade loan, he is now purchasing on average 50 tons of maize per month, up from 20 tons per month, as well 20 tons of soybeans, up from 10 tons prior to the loan. Jumbe's monthly turnover has also increased from an average of $10,000 to about $15,000, a 50 percent increase in monthly income. Using profits realized from the business, Mr. Jumbe has purchased a simple feed plant and a maize milling plant for manufacturing stockfeed.

As a first time beneficiary of a $15,000 loan under MicroKing's AgriTrade facility, Mrs. Velocious Mhanga operates a restaurant business in Gweru named 'Kwamaiguru'. She accessed the 12-month loan in July 2014. Currently, she purchases an average of five cattle, 1,000 chickens (600 domestic and 400 broilers) and 15 goats per month, at average prices of $350, $6 and $35, respectively, from smallholder farmers in the Midlands province. She pen fattens the cattle and goats for at least a month before slaughter.

In addition, Mrs. Mhanga buys various agricultural produce such as vegetables, maize and small grains, which forms the ingredients needed for her restaurant. On a daily basis, she sells up to1,000 meals in three-portion sizes valued at $1.50, $2 and $3 per portion, compared to the 600 portions per day before she accessed the AgriTrade loan.

Monthly turnover has improved by 40 percent from $25,000 to more than $35,000 now. With the profits, Mhanga purchased an industrial oven, a dough mixer and warmer, all valued at $7,000 in the month of September 2014. She has also added seven new employees to the 21 already in employment before accessing the loan.

3.6.6.4 Meat products

O'Enem Meats beef sales increased to 46,096 kilograms valued at $274,223 in FY2014. Cattle slaughters increased from 1,317 head in FY2013 to 2,206 head in FY2014. The overall meat and meat product sales increased from $335,130 in FY2013 to $449,886 in FY2014. Inala's Meat Market in Nkayi slaughtered 85 head of cattle purchased from 81 smallholder farmers in the district yielding a total of 21,448 kilograms of beef. The value of total sales, made within the district, was $49,732.

3.6.6.5 Dairy

Tsonzo milk collection center in Mutasa is collecting 6,800 liters of milk per month from 60-70 milking cows. Of the 6,800 liters, 80 percent is supplied as raw milk to DZL Mutare while 10 percent is sold locally. The remaining 10 percent is processed into fermented milk for the local and other markets outside Mutasa district. The center has successfully scored premium milk grades since 2013 thanks to the introduction of platform milk tests.

The Gokwe milk collection center produced and processed a total of 90,884 liters of raw milk in FY2014. The bulk of the milk was processed into cultured milk (48 percent) and natural sour milk (33 percent). About 0.1 percent of the milk was processed into yoghurt and only 19 percent of the total volume was sold as raw milk to the local markets. Whey was also produced and sold as a by-product on the local market. In the period November 2013 to March 2014, 65 percent of the 50,602 liters delivered to the center was sold to Den Dairy, a processor in Kwekwe.

3.6.7 Irrigation

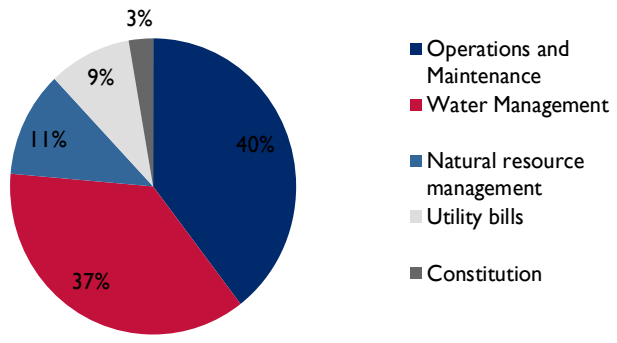
Zim-AIED's agribusiness hub approach on 37 irrigation schemes is serving more than 8,544 farmers on 5,150 hectares and continues to yield tangible and sizable returns for its participants (Annex 5).

During FY2015, Zim-AIED facilitated 182 training events with 5,328 participants (51 percent women) covering practical aspects of water management, drainage, land levelling, utility bill negotiations, scheme operations, sprinkler layout for correct scheduling, natural resource management (soil and water conservation), and implementation of irrigation maintenance funds. These training events were buttressed by strong technical assistance, and support in coordinating various stakeholder meetings.

Zim-AIED endeavored to help farmers overcome many of their biggest challenges during FY2014. Key successes include:

- Collectively, smallholder farmers contributed $81,385 from their operation and maintenance funds toward the repair of irrigation infrastructure and equipment and planned maintenance work. This has gone a long way to ensure farmers have reliable access to water as repair work is normally completed within three days. The one exception is the Exchange irrigation scheme which took nearly seven months of persistent follow through to get their pump repaired. Despite difficulties with the ZINWA structure, the 820 farmers at Exchange now have water pumping to 70 hectares thanks to their own perseverance and determination and support from Zim-AIED.
- Zim-AIED continues to strengthen the IMCs in their leadership and negotiation skills, with great success noted in the reduction of interest charges and monthly bills from ZESA and ZINWA. Engagement with stakeholders provided the farmers with increased support and flexibility with regard to time and repayment methodologies. Training farmers in the correct application procedures and estimation of annual water requirements has brought greater clarity and understanding. This capacity building has saved the farmers $68,910 in bills and fees in FY2014. Silalabuhwa irrigation scheme received a further $205,409 discount from ZINWA through a government dispensation scheme as Zim-AIED had encouraged the farmers to submit an application and pursue the issue until settled. The increased pressure brought by the farmers during stakeholder meetings facilitated by Zim-AIED was instrumental in the successful outcome.
- Irrigation schemes have consistently been paying their utility bills on time through implementation of bylaws supported by their revised constitutions. Zim-AIED trained water bailiffs on the schemes who help to enforce these bylaws resulting in uninterrupted production. Schemes like Makwe experienced more than one year of continuous production, something that was unheard of before. This improvement has been noted by the water supply engineer, Mrs. Nyarai Bashoma, from the ZINWA Mzingwane catchment, who said, "Zim-AIED assisted irrigation schemes are the best in bill payment."
- Natural resource management continues to be a focal area for Zim-AIED interventions on irrigation schemes where soil and water conservation strategies are implemented. Farmers purchased plastic to line their canals at the Bwerudza irrigation scheme to improve flow and reduce percolation losses along conveyance canals. Use of plastic sheets and crop stover as a ground buffer for water discharge

Fig 3.6.7.1 Training Topics Covered in FY 2014



from siphon pipes has been implemented to reduce erosion of canal embankments.

- During the 2013/14 season, the rains were mostly erratic but concentrated showers fell during late December and early January. This resulted in waterlogged fields causing a setback in production. Zim-AIED used the opportunity to train farmers in proper drain maintenance. Many farmers traditionally dump crop material at the ends of their fields, thus blocking the free flow of water. Fortunately, many farmers were able to save their crops through quick action taken to clear these areas using local labor resources as this activity had now become a priority.

Zim-AIED initiatives in irrigation schemes gained traction over the last few years with strong partnerships having been forged between smallholder farmers and various companies in the value chain, thus ensuring long term sustainability. As a result, schemes such as Mutema and Chibuwe no longer require high level intervention; therefore greater attention can be paid to strengthening other schemes during FY2015.

4. CLIMATE CHANGE AND ENVIRONMENT

Zimbabwe already experiences the impacts of climate variability and change such as increasing water scarcity, declining agricultural productivity, and environmental degradation. Most smallholder farmers are particularly vulnerable because of their over-dependence on rain-fed agriculture, limited adaptive capacity, and an inherently variable climate. Zim-AIED places environmental concerns at the core of its agricultural development interventions because sustainable farming practices are critical to long-term profitability.

Table 4.1.1.Farmers trained in natural resource management in FY2014

Subject Area	Male	Female	Total
Water management	1,268	1,483	2,751
Integrated pest management and safe use of pesticides	2,855	2,753	5,608
Conservation agriculture	881	873	1,754

Source: Zim-AIED

Zim-AIED technicians trained 8,589 farmers, of which 50 percent were women, in water management, integrated pest management and safe use of pesticides, and conservation agriculture during the fiscal year. Training on the safe use of chemicals focused on safe handling, disposal of pesticides and containers, preferential use of Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP) compliant chemicals, and the importance of using appropriate protective equipment when handling chemicals.

Chemicals

Farmers were also advised to mulch their fields to conserve moisture. The mulching of bananas adopted in 2012 in Chibuwe and Mutema is now seeing the degradation of banana residue within the fields, thus increasing the organic matter content of the soil, which is critical to moisture management in banana plantations.

- Cultural practices have helped reduce the need for chemical use in some crops.
    - In bananas, the practice of leaf pruning is averting the need for chemical control of leaf diseases such as Sigatoka. Having met with a severe outbreak of Sigatoka disease in Rusitu, Zim-AIED trained farmers have managed to control the disease without the use of chemicals by using cultural hygiene practices and leaf management programs to arrest the destructive disease.
    - In paprika, the observance of the "dead period" (an inactive period during which there is no production on that land) is helping to control pests and diseases. At least 200 paprika farmers across wards 12 and 22 of Hurungwe district received training on field hygiene and crop destruction to maintain dead periods to control pests and diseases.
    - To control maize streak virus on agribusiness hubs in Midlands, integrated pest management (IPM) and crop rotation practices were promoted. Farmers were encouraged to clear the zones around their fields and create barriers to pest build-up.
- Herbicide use in banana fields is a cost effective way to control weeds, replacing the traditional hoeing approach in Rusitu and Honde and thereby reducing erosion on steep terrain.
- Minimum tillage in banana establishment during the rainy season reduces the extent to which the soil is loosened thereby predisposing it to elements of erosion.

- The use of minimum tillage in banana establishment provides a cultural control measure for nematodes by maintaining a stable balance of the nematode ecosystems, eliminating the need for application of toxic nematicides in the process.

Paprika and chili farmers were trained on the safe use of chemicals, selection of correct chemicals, and safe disposal of empty chemical containers. This has resulted in a noticeably improved consciousness on good environmental stewardship among the trained farmers.

Farmers at Nyaitenga and Chipo irrigation schemes in Mutoko district were taught about adhering to proper chemical rates as most tended to over-apply pesticides and under-apply fungicides. The same farmers were also advised to implement crop rotations to disrupt pest and disease cycles.

Training sessions on safe use of pesticides were conducted at Mutema, Musikavanhu, and Chibuwe irrigation schemes. Farmers have been reporting cases of pesticide resistance especially with regard to aphid control in the sugar bean crop. Specific areas covered were knapsack management, spraying techniques, pesticide rotation, and proper calibration.

Livestock

In Nkayi, a borehole was drilled at Mkhalathi NBC 3 as part of the cattle management center infrastructure. However, the borehole was sited about 10 meters from an existing cattle kraal of a nearby homestead. The cattle kraal was relocated to a new site with the full cooperation of the farmer. The relocation presented limited challenges as the farmer is an active member of the project and has been receiving training in various aspects of EMMP from Zim-AIED.

In Lupane at the Tshongokwe irrigation scheme, the community started constructing a new feedlot on a site outside the irrigation scheme following guidance received from Zim-AIED. The construction of the feedlot is being spearheaded by Livestock Zone, Zim-AIED's new livestock implementing partner under the Technology Fund, and will be fully compliant with requisite environmental considerations.

Water

Farmers on irrigation schemes across provinces received training in reducing water loss through leaks by applying putty and plastic sheeting to existing water pipes. Farmers on most irrigation schemes continued to receive training on water management with emphasis on the ¾ irrigation rule (the practice of cutting off water flow after it has run ¾ of the field length to avoid overwatering) for flood irrigation as well as sprinkler selection and sprinkler layout for pumped schemes to reduce over-application of water and tail water run-off.

Left: Bwerudza farmers lining one of the earth canals with UV-protected plastic sheeting to reduce conveyance water losses; **Right:** the finished conveyance plastic-lined canal with water flowing through it.

Zim-AIED demonstrated the efficacy of lining earth canals with UV treated plastic sheeting on 75 meters of earth canal in Bwerudza irrigation scheme, Chipinge. This greatly reduced deep percolation losses in the conveyance canal. Farmers in Musikavanhu A and B and Taona irrigation schemes managed to reduce water losses and tail-end run-off using the ¾ rule for flood irrigation and proper irrigation scheduling.

Use of plastic sheets or crop stover as a ground buffer for water discharge from siphons to reduce erosion of canal embankments was also emphasized and adopted by most farmers on the Chibuwe, Musikavanhu, and Taona irrigation schemes. Irrigating using proper size siphons was emphasized for Nyamaropa irrigation scheme farmers, where more than 50 percent of farmers are currently irrigating by deliberately flooding canal embankments. The farmers agreed to contribute funds from maize sales to purchase siphons by August 2014. By the end of the reporting period, not all farmers had mobilized adequate resources to purchase the siphons. Zim-AIED will continue to engage the DOI personnel, IMC leadership and farmers in FY2015 to ensure the purchase of appropriately sized siphons.

Land

A total of 163 paprika farmers in Hurungwe and Headlands were trained on proper destruction of paprika crop residues in line with the legally enforced crop destruction dates to ensure season dead periods for control of pests and diseases. Nineteen farmers in Nyamusosa, Headlands, responded positively to the training on crop residue destruction recommendations for paprika and tobacco.

There is great need to improve the soil's water holding capacity on most of the irrigation schemes through the use of stover and manure as mulch, as well as minimum tillage to contribute to soil moisture conservation. Though pest and disease control is important and is mainly done by burning the stover, there is a great need to balance the two. Farmers in all irrigation schemes as well as in Honde and Rusitu Valleys are continually being urged to mulch their crops to promote water infiltration and reduce runoff. Terracing steep plots with stones to limit soil erosion is also being promoted with Chishiri farmers and Macadamia village in Chipinge ward 9.

All schemes in Midlands and most in Matabeleland were affected by a recent frost, which damaged many crops. There may be need in the future to adjust planting times for certain crops that are susceptible to frost damage. Farmers will also require access to information on weather patterns. Zim-AIED is collaborating with Agritex at all its program sites to ensure that farmers access weather information.

Drainage remains a challenge on most irrigation schemes, especially where canals end in the middle of the fields or where land levelling is poor. Farmers continued to receive training on the importance of maintaining drains to ensure salts are flushed away and do not accumulate. At the Mutema irrigation scheme, farmers embarked on a program to continuously maintain their drainage canals to manage rainfall or excess water applied.

Incessant rains during the rainy season caused water logging problems on all Matabeleland schemes where drainage channels have been blocked for years. Opening drains has been ongoing to avoid this problem next rainy season. The crop most affected was sugar beans which experienced delays in planting as soils remained waterlogged through March 2014.

The feeder canal for Nyamaropa dam had been blocked by sand from the silted river source which contributed to low water volumes during critical months when farmers need to irrigate. Farmers teamed up and cleared the sand-blocked canal in August 2014 which increased its overall holding capacity as compared to previous seasons. Zim-AIED also coordinated de-silting work at the Nyakomba Block D pump station which was a success as the block has now resumed pumping.

Environment Monitoring and Mitigation Plan (EMMP)

During the reporting period, a total of 409 rural households were assessed for EMMP compliance, out of which 95 percent were from the SAT-managed agribusiness hubs. The main topics

investigated were farm land activities, integrated pest management, safe use of pesticides, and use of fertilizer as shown below.

Table 4.1.2: Farmland activities

Activity	Percent of Practicing Farmers
Soil Conservation	83
River/Stream Bank Cultivation	22
Conservation/Tillage Farming	81
Crop Rotation	95

Good farm management practices are being applied by Zim-AIED farmers across all geographical focus areas. Crop rotation scored the highest at 95 percent. Twenty-two percent of the farmers reported practicing river/stream bank cultivation mainly for gardening activities, where gardens are situated close to river water sources. Mitigation measures were provided to the farmers practicing river bank cultivation.

Nearly every household involved in cropping activities in wards 5 and 35 of Makoni District received eucalyptus seed and are growing tree saplings for reforestation in the area. In addition, basic road repairs are being carried out by local farmers to make roads passable.

Thirty farmers in Makoni were trained on strategies to combat the effects of El Niño in the 2014 to 2015 season. Fire guards and quick responses from locals minimized the impact of veld fires in the area. Contour ridges were cleared of grass in some villages while cattle manure is being applied to fields, although its effectiveness is reduced because it is spread out thinly over a large surface area. Targeted application of manure in the planting rows is being promoted as it is more beneficial to crops.

Table 4.1.3: Integrated Pest Management Activities

Activity	Percent of Practicing Farmers
Scouting Practiced	87
Scouting Records	27
Weed Control	90
Clearing of Zone Around Field	58

Scouting for pests and diseases is a common practice done by farmers. From the sample of farmers interviewed, 87 percent highlighted that they practice scouting for pests and diseases. However, record keeping for scouting is very low at 22 percent. Recommendations were provided to farmers to keep scouting records. Weed control either through hand hoes or use of herbicides is a common practice which has been promoted by the program. The position of the program is a zero tolerance of weeds which has resulted in 90 percent of farmers practicing weed control measures.

A total of 400 beehives have been established by a farmer association in different locations within Nyakomba irrigation scheme in Nyanga District. Apart from having beneficial bees close to farmers' crops, this project will further discourage the use of harsh (orange, red, and purple label) pesticides by farmers and help to heed Zim-AIED's calls for use of safer pesticides.

Table 4.1.4: Safe use of pesticides activities

Activity	Percent of Practicing Farmers
Use of Pesticides	98
Spraying Equipment Well Maintained	80
Calibration of Equipment	50
Record Keeping of Spraying	35
Pesticides Kept in Locked Container	82
Personal Protective Equipment	63
Correct Disposal of Chemical Containers	85
PERSUAP Compliant Pesticides	56
Well Labelled Pesticides	95

While 98 percent of respondents used pesticides, only 63 percent used protective clothing. In most cases the protective clothing is not full gear. However mitigation measures have been recorded. Cost and unavailability of equipment were cited as the major reasons. The program has liaised with local dealers near program areas to stockpile protective clothing and continues to urge farmers to utilize service providers trained by the program, as well as to pool their resources collectively to acquire the more expensive equipment like masks and breathers.

Recordkeeping for spraying is low at 35 percent. Due to non-availability of some chemicals in local agrodealers' shops, some farmers are resorting to use non-PERSUAP compliant pesticides as shown by the fact that only 56 percent of pesticides used were PERSUAP compliant. The program liaised with local agrodealers near program areas to stockpile chemicals recommended by the field team. The response has been positive and encouraging.

Twenty-nine paprika farmers in ward 35 in Makoni purchased at least one item of protective wear since the end of the rainy season (April). About a third of the 254 farmers at the Chiduku-Tikwiri irrigation scheme use the basic personal protective clothing when working in their fields while twenty six farmers were trained on handling and spraying of agro-chemicals. However, there are no buildings on the scheme to provide safe storage facilities for chemicals and farmers are currently storing within their homes, which is inadequate.

The use of well-trained agricultural service providers minimizes the possible risks of farmer exposure to chemicals. During FY2014, 16 agricultural service providers were trained in Rusitu Valley, covering various topics on the safe use of chemicals, the importance of using PPE, and provision of herbicide weed control services.

Zim-AIED has successfully influenced the use of PERSUAP-compliant chemicals especially on target commodities in Midlands Province. Previously farmers had the wrong perception that purple-labelled chemicals were the most effective against pests but after trainings on safe use of pesticides focusing on container labels, farmers now appreciate that the purple-labelled are the most harmful to their health, hence there has been a gradual shift to green and amber-labelled chemicals.

Farmers in most program areas still need to master the safe disposal of empty containers. In Hurungwe, all eight lead farmers adopted the use of pit latrines for disposal of chemical residues and containers and have been urging their fellow farmers to do the same. There has been a general improvement on disposal of empty pesticide containers across all chili sites. Farmers are now practicing what they have learned from the training and technical assistance offered by the project.

To avoid decanting chemicals into unlabeled containers, farmers buying chemicals in groups have been encouraged to keep them with one trusted farmer and only take required quantities at a time to ensure they have access to the label and also avoid mistaken use of unlabeled chemicals.

Table 4.1.5: Fertilizer program activities

Activity	Percent of Practicing Farmers
Use of Organic Fertilizer	93
Safe Storage of Fertilizers	92

Use of organic fertilizer is on the rise in all schemes. Organic fertilizers come in different forms depending on local availability of the resource. Ninety-three percent of the farmers use one form of organic fertilizer in combination with inorganic fertilizers. Generally, farmers are properly storing

Farmers' use of livestock manure and ash as organic fertilizers has increased in all the schemes. (Right: Exchange irrigation scheme Left: Hama Mavhaire irrigation scheme.)

fertilizers as a result of the trainings received on safe storage. At the Exchange irrigation scheme, some farmers achieved good sugar bean yields despite ongoing water challenges because they managed their soil fertility through the use of organic fertilizers and crop residue.

Use of organic materials in improving the soil's water-holding capacity is being promoted on Matabeleland schemes through the use of stover, manure and mulch as well as minimum tillage to improve soil moisture conservation and minimize sheet erosion.

5. GENDER

GNDR 1: *Number of lead farmers in assisted programs*

GNDR 2: *Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources.*

GNDR 3: *Number of project participants in relevant leadership positions*

GNDR 4: *Proportion of target populations reporting increased agreement with the concept that males and females should have access to social, economic, and political opportunities.*

GNDR 5: *Number of farmers engaged in contract farming*

Zim-AIED has made great strides this year in providing innovative ways to enable women and youth in agriculture to reach their full potential which is clearly seen in the achievement of all five gender targets. The strategy is to continually raise the awareness of gender related issues with minimal adverse reaction among the communities that Zim-AIED is working in.

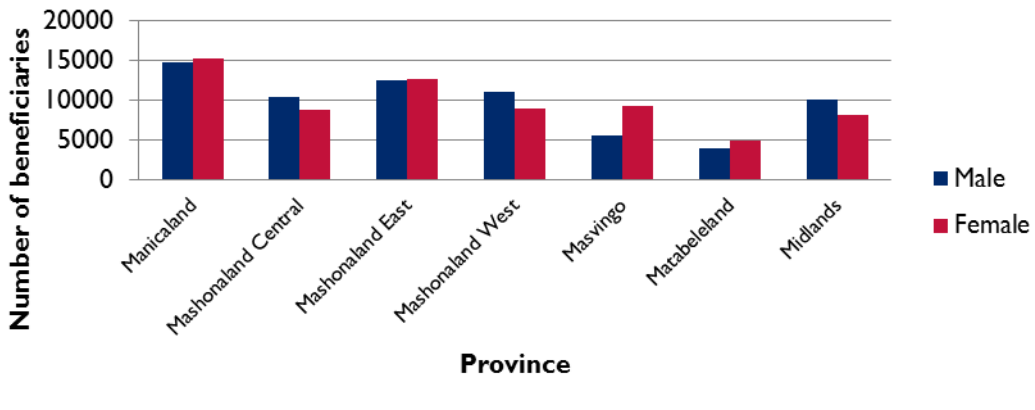
The program has actively engaged farmers through its farming as a family business training, which promotes female and youth participation in leadership, fosters gender dialogue that increases women's access to finance and credit, and encourages female farmers to adopt new labor-saving agricultural technologies that increase productivity. Not only does this training address many of the gender related topics in a format that is acceptable to the whole community but also addresses inefficiencies in the smallholder sector through the commercialization of farms. Zim-AIED takes cognizance of each community's uniqueness and culture in addressing gender disparities

Gender Empowerment

During FY2014, Zim-AIED assisted 16,877 new farmers across the country, of which 47 percent (8,014) were women and 19 percent were youth under 29 years of age, who were exposed to new labor-saving technologies and gained increased knowledge in all aspects of farming including good agricultural practices, water management, safe use of pesticides, market trends, household budgeting, and leadership skills.

The overall proportion of women who have participated in Zim-AIED trainings to date remained at 50 percent. Masvingo and Matabeleland recorded the highest percentages of women attending Zim-AIED training sessions during the year at 62 and 56 percent respectively (Figure 5.1).

Figure 5.1 : Geographic distribution of New Beneficiaries by Gender, FY 2014



The cumulative number of women adopting at least one new technology including crop genetics, improved pest and disease management, correct fertilization, and water management is 42,508 (43 percent). Adoption is largely a function of the financial resource base of the beneficiary, and generally men are better resourced than women to apply improved technologies. Zim-AIED has actively pursued direct lending to women smallholder farmers through non-funded partner banks where 54 percent of the loan beneficiaries are women. Ongoing gender awareness training through our farming as a family business curriculum has also started to have a noticeable impact. An example of this is in Honde valley where banana farmers have allowed their wives to collect the banana payments on their behalf. When there is joint decision making with regards to household income, the women then have greater opportunity to adopt the new technologies they have been taught.

The number of women involved in new contract farming mechanisms during the year is 1,348 (42 percent) of total number of farmers contracted in FY2014. Women beneficiaries continued to prove their diligence in honoring their contractual obligations.

Although cultural change is often slow, Zim-AIED has started to observe some significant changes in attitude even among the most conservative communities and farmer groups. There has gradually been an overall acceptance of farming as a family business, meaning that even those family members who were previously on the periphery of decision making have now been co-opted into the family business. In an endeavor to circumvent challenges of illiteracy and semi literacy, secondary school children have been invited to attend trainings particularly where calculations and recordkeeping aspects are being discussed. The whole family is therefore being empowered with technical and business skills. Women have started seeing themselves as active participants in meetings and realize they have a role to play toward the economic development of their families.

Leadership

The number of lead farmers registered in all Zim-AIED operational areas is 980, of which 57 percent is women. The impact of women in leadership combined with support through gender training is critical to spearheading Zim-AIED's gender initiatives in the rural areas. The total number of program participants in relevant leadership positions is 470, with 35 percent of these being female.

There have been many examples highlighted throughout the year with regards to success achieved through Zim-AIED's support of female farmers but it has also been noted that there are a large number of youth achieving prominence in their communities. For example, Washington Sagonda (29), is the chairperson of Tsonzo Milk Collection Centre in Mutasa district. Washington was elected by the Tsonzo Dairy farmers to lead the association because of his recognized leadership qualities. Prior to his election, Washington had attended a number of Zim-AIED leadership and dairy trainings. He is now one of the qualified artificial inseminators and is earning $20-30 per month providing these services to other farmers. He also manages his parents' dairy herd, which has increased from seven to 18 cows under his care. Apart from this increase in herd size he has also increased the area under fodder production and this has impacted on milk yields and quality. Consequently, income from milk sales has also increased which has enabled him to buy a residential stand at Watsomba Growth Point. Under his leadership, the Tsonzo Dairy Association has seen the following results:

- Milk deliveries improved from 40 liters per day to 275 liters per day.
- Better quality milk resulted in farmers getting better premiums.
- Total bacteria count has fallen by 50 percent, from 50,000 to 25,000.
- Improvements of dairy breeds for Tsonzo dairy farmers. Holstein, Jersey and Red Dane breeds are amongst some of the breeds that are now part of the Tsonzo herd.
- A new constitution developed and endorsed by key stakeholders from various government ministries and Rural District offices.
- Began processing cultured milk to further increasing farmer returns.

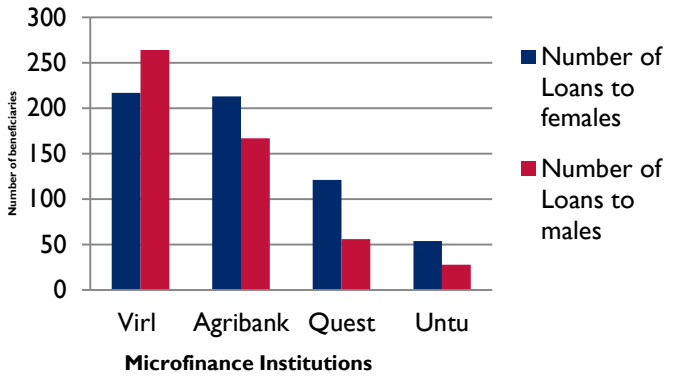
- Instituted group stock feed procurement with Windmill Pvt Limited to ensure timely, discounted stock feed.

Access to social, economic, and political opportunities

Zim-AIED has noted that there have been some significant changes in men's perceptions on women's roles in rural agricultural enterprises. The men, who are the traditional gatekeepers of family customs, are starting to create space for women to engage in all aspects of agricultural operations. Interesting cases encountered this year included:

- Moses Chibwanda, a successful horticulture farmer, now includes every member of the family as part of the decision making process on his farm, integrating the lessons from farming as a family business trainings taught by Zim-AIED. He now delegates hiring and payment of field laborers to his wife. Delegation of duties to other members, as opposed to centralized management by the household head, has a lot of positive spin-offs, including increased efficiency and empowerment.
- At Chitora irrigation scheme, Juliet Fata recently purchased a car after a particularly successful season. The single mother has excelled at her farming activities since joining Zim-AIED in 2011. Through trainings, she honed her business and farming skills, making prudent investments and decisions that ultimately netted her $2,500 from horticultural crops harvested this season.
- In Matabeleland North, five youths all under 25, were trained as Agro Service Providers (ASP), and are now providing spraying services to 20 Irish potato farmers at the Lukosi irrigation scheme. They commenced operations on July 15, 2014 and are applying two sprays per week of fungicides and insecticides. Each ASP charges $2 per spraying session per 0.1 hectares and earns an average of $16 per week. Zim-AIED and Agritex collaborated in rolling out a comprehensive training to the youth covering calibration, handling of chemicals, budgeting, and recordkeeping.

Fig 5.2: Direct Farmer Loan Beneficiaries by Gender FY2014



Access to finance and credit

Significant strides have been made this year not only in direct lending to smallholder farmers, but also in increasing female farmers' access to credit. Figure 5.2 shows the distribution of borrowers by gender and by partner financial institutions that are not supported by AgriTrade funding. Fifty-four percent of these loans were disbursed directly to female farmers equating to 605 loans valued at $132,173.

In the overall AgriTrade portfolio for FY2014, a total of 682 loans to women worth $423,211 were disbursed by both the USAID-funded and non-funded AgriTrade partners against 682 loans to men valued at $1,255,669. Zim-AIED has facilitated this process by providing historical information on farmers, ensuring secure markets and providing strong technical support. All these factors have served to reduce the perceived risk by the MFIs.

Since program inception, the percentage of approved loans from all AgriTrade partners disbursed to women is 41 percent, an increase of 10 percent over 2013 figures. However, the value of these loans to female borrowers only accounts for 14 percent of the cumulative value of loans.

Although more women are benefitting from input loans through the direct lending to farmers initiative, the size of these loans are comparatively small. Therefore these input loans contribute little to the overall increase in the aggregate value of women's loans in the AgriTrade portfolio. The microfinance institutions provide an average input loan of $500 per farmer, which cannot match up with the $200,000 AgriTrade loans to predominantly male-owned agro-merchant companies.

6. NETWORKING AND COLLABORATIONS

During the reporting period, Zim-AIED worked closely with other donor-funded projects and local and international NGOs to effectively implement the goals of the program. Collaborations and activities to which Zim-AIED participated include crop training programs, technical assistance, new technologies, and market linkages across Mashonaland West, Midlands, Manicaland and Matabeleland South provinces.

Other USAID-funded projects that Zim-AIED collaborated with include the ENSURE and AMALIMA programs, and the Zimbabwe Agricultural Competitiveness Program (Zim-ACP). Currently, Zim-AIED and ENSURE are closely coordinating irrigation trainings and interventions in Nhedziwa and Mutema-Chibuwe irrigation schemes in Manicaland. Zim-AIED provided technical support for canal construction on the ENSURE-funded Chibuwe D block extension.

Zim-AIED collaborated with AMALIMA to coordinate training events at Moza and Makwe irrigation schemes in Matabeleland South. This was done to avoid parallel trainings that would confuse the smallholder farmers.

This year, Zim-AIED participated at an event organized by Zim-ACP in partnership with the Horticultural Promotion Council (HPC). Zim-AIED contributed to the event through sharing experiences and lessons learned in horticultural production.

Other major donor-funded projects that Zim-AIED worked closely with this year are the United Nations World Food Program (WFP), Zimbabwe MicroFinance Wholesale Facility (ZMWF), and International Rescue Committee (IRC).

WFP partnered with Zim-AIED and GrainPro Inc. to procure agricultural products and hermetic storage technologies capable of storing significant quantities of grains at smallholder locations without the use of pesticides. This development came as a result of WFP's interest to procure 800 tons of grain and 120 tons of pulses (sugar beans and cowpea) from organized Zim-AIED farmer groups on agribusiness hubs. WFP procured 7 hermetic cocoons from GrainPro, and supplied them to smallholder farmers identified on Zim-AIED agribusiness hubs in Gokwe South (3), Midlands and Hurungwe (4), and Mashonaland West. Zim-AIED identified the beneficiary farmers with surplus grain in the hubs, and monitored the performance of the cocoons in conjunction with Agrite. GrainPro, through WFP, provided the training on the use and maintenance of the cocoons. Eight smallholder farmers in Gokwe South and five in Hurungwe benefitted by storing various quantities (1 to 10 tons) of grain in these cocoons. Some of the farmers have now sold their grain at the government-established price of $390 per ton to National Foods and the Grain Marketing Board. About 75 percent of the grain remains in storage with complete protection from pests.

In FY2014, Zim-AIED coordinated with the donor-funded ZMWF to facilitate microfinance institutions to access finance to fund smallholder agricultural production. This collaboration saw an increase in direct lending to smallholder farmers by microfinance institutions such as Virl Microfinance and Quest.

To facilitate increased incomes and productivity for tabasco chili farmers in Nyanga, Manicaland, Zim-AIED and IRC are working with Better Agriculture to support commercialization of 220 smallholder farmers at Nyakomba irrigation scheme. Zim-AIED also facilitated smallholder farmers' access to credit through MicroKing to enable them to diversify into other projects to earn more income. Seven bankable clients were identified to benefit through the AgriTrade facility.

Collaborative efforts with other USAID and non-USAID funded projects helped Zim-AIED to execute its core mandates and positively impact smallholder farmers. An updated list of Zim-AIED's networking and collaborations effort is listed in ANNEX 6 of this report.

7. LESSONS LEARNED

- Positive reinforcement comes from perseverance and consistency in conveying key messages to farmers and other stakeholders. Some Agritex supervisors in Matabeleland have accepted that food security is not production of wheat on irrigation schemes and have for the first time excluded it from their annual crop production schedules.
- Facilitating the direct engagement of farmers with key decision makers at higher levels is critical in resolving conflicts with service providers. In the Midlands and Matabeleland provinces, Zim-AIED facilitated direct meetings between the IMC representatives and key ZINWA and ZESA personnel to help with resolving conflicts that have built up over the years.
- Regular and consistent maintenance of proper drainage systems should be an integral part of the good agricultural practices package for irrigation schemes. Farmers pay little attention to drains in most irrigation schemes, but they play an important role in overall functionality of the schemes.
- In most schemes the government has handed over full responsibility to the farmers for equipment maintenance at irrigation schemes. However, in a few cases where assets are still controlled by government through ZINWA, excessive delays in repairs have been experienced as no independent company is allowed to repair the equipment and ZINWA does not have the financial capacity or human resources to be able to provide this service. Farmers continue to struggle with a high level of bureaucracy and inefficiency as they are unable to finance the purchase of pumps.
- In irrigation schemes where there is a high donor dependency, such as Lukosi, farmers are not committed to carrying out important day-to-day field activities. Zim-AIED has found that the use of peer pressure during training has been highly successful in achieving a higher level of motivation among the farmers. At the end of each group training session, farmers tour the plots and give feedback to the plot holder.
- Maize remains the most important staple crop, which the average smallholder farmer prioritizes over other crops such as soy beans, groundnuts, and sweet potatoes, even though gross margins may not be as good. Thus, any financing packages promoting any of the above high-value crops must include maize to ensure household food production and minimize input diversion so as to maximize productivity on the targeted commercial crop.
- Farmers in Honde grow maize for food security only, and now realize if they do not neglect the crop, they can get a better yield and thus allocate a smaller area of land to produce their requirements, leaving the rest for more lucrative cash crops.
- Private sector partners are willing to participate and contribute to field days and the establishment and management of demonstration plots within the Zim-AIED agribusiness hub structures because they see potential in the commercial opportunities that the program has developed for them.
- Farmers in natural region five on irrigation schemes have realized that maize can be a profitable crop when the right variety is planted at the correct time with adequate levels of water and fertilizer. Farmers traditionally grew low-yielding, short-season open-pollinated varieties for food security purposes only. However, the introduction of longer season hybrids has led to a grain surplus of more than 300 tons in Taona and Chibuwe irrigation schemes in Chipinge. Farmers have sold off this surplus to purchase inputs for their sugar bean crop.

- Involving farmer leaders is important when introducing a new concept or technology. Farmer leaders were instrumental in getting the flawless and rapid buy-in by the banana farmers in Mutema, Chibuwe, and Musikavanhu to the new financial arrangements with CABS.
- Lead farmers who are also involved in cash crop production have shown generally better performance in producing a strong maize crop and in repaying their loans. This suggests that a whole farm approach that includes a cash crop is important in the commercialization of maize.
- Opportunities remain buoyant in the local horticulture market despite pressure from South African imports and the ongoing liquidity crunch. Zim-AIED continues to work with buyers from formal and informal markets and will host additional input suppliers and marketing days during the next quarter.
- Farmer group constitutions should include contract farming and banking requirements as these are key prerequisites for commercializing communal agriculture.
- Stringent selection criteria for loan beneficiaries by microfinance organizations as well as clustering farmers into groups helps ensure full loan repayment as it encourages cohesion and internalized monitoring within the membership. In Honde Valley, carefully selected farmers were clustered in groups of four to six members and made collectively responsible for the group's repayment performance. This strategy implemented by Virl Microfinance has resulted in 100 percent repayment of loans to date.
- When loans are dispersed directly to farmers, greater success has been achieved with groups that have been self-selected and where they have been able to finance part of their requirements with their own resources.
- New crops that increase the farmer's resilience against climatic shocks should be promoted. In winter these crops include cabbages, onions and carrots which provided a good fallback position in June as they survived the frost in most areas. In Moza, where 100 percent of the sugar bean plantings were completely destroyed by frost, the cabbages survived and provided those farmers with an alternative source of income of approximately $1,250 gross sales from 0.1 hectares.
- Large commodity buyers like Kurima Gold have stringent grading requirements which farmers are reluctant to meet due to labor constraints. They also feel that the extra effort doesn't match the price offered. As a result, many have continued selling to informal traders who accept any quality.
- Many farmers have begun making high returns on their irrigation plots and as a result have a greater disposable income. Zim-AIED has identified a need to expand trainings to include basic financial management that addresses household budgetary requirements and inputs for the following season over the expressed desire to purchase a vehicle that will be a liability rather than an asset.

8. CHALLENGES

- High interest rates charged by MFIs reduce the potential number of smallholder borrowers. MFIs need to access cheap funding for on-lending to smallholder farmers to reach large numbers.
- A significant amount of training on proper use of personal protective equipment has been conducted by program technicians; however, not many farmers are able to acquire the necessary equipment due to unavailability and cost of these materials. More effort should be made to encourage the agrodealers to stock these materials in their shops.
- Although private sector participation has improved at events around the agribusiness hubs compared to last season, their contributions in terms of farmer prizes at field days is still low. To date, only Windmill and Nico Orgo have made significant contributions.
- Obtaining accurate data on the hectares and number of registered beneficiaries in the irrigation schemes is an ongoing challenge as government officials have conflicting figures and IMCs generally do not maintain up-to-date information. In each scheme, new plots have been added outside of the original design, border plots have increased in size, and numbers of registered plot holders continues to fluctuate. An example of this is at Chibuwe Block A, where each of the original plot holders was allocated 2 hectares but they now have less than 1 hectare each as they have given land to family members.
- High council livestock levies charged during FY2014 by Nkayi RDC are deterring livestock buyers and negating progress on heifer loan program in the district. Zim-AIED, farmers and implementing partners are engaging the local authorities for a review of the levies.
- Lack of livestock ownership among the majority of irrigators is making it difficult to promote feedlot technologies around the irrigation schemes, hence integrating crops and livestock farming.
- Most smallholder dairy farmers are failing to access adequate funding to implement fodder plans that sustain their dairy herds throughout the year. Zim-AIED's BDS and livestock teams are looking at ways of linking farmers to credit and input suppliers.
- A large number of the MPA membership is not actively supplying milk to the MCC due to lack of milking cows. Zim-AIED is looking at ways to improve access of inactive members to AI services using the CBF facilities.
- Massive load shedding continues to plague pumped irrigation schemes with farmers often only having six hours a night to irrigate. This causes major challenges especially for female farmers who cannot stay in the fields at night for security reasons and either do not irrigate or leave their taps open causing waterlogging. Even where the fields are manned at night by male farmers, they are unable to irrigate their whole land in time before wilting occurs.
- Restructuring within the DOI has resulted in all DOI staff on irrigation schemes and up to district level being absorbed by Agritex and livestock department. Only skeletal staff remains at the provincial level. Zim-AIED has been working closely with IMCs and capacity building many of their members to augment the reduced expertise at the scheme level. Agritex officers remaining on the schemes have been given additional duties previously carried out by DOI staff but a high degree of passive resistance has been noted.

9. CONCLUSIONS

After 48 months of implementation, Zim-AIED is on course to meet its main objectives. A summary of performance indicators against PMP indicators is shown in Annex 2 and results against the 14 Feed the Future indicators employed to track Zim-AIED are described below.

- **FTF 4.5.2-13** The target for FY2014 was to reach out to 15,000 new households and 40,000 continuing households benefiting under US government assistance. Target for new households was underachieved by approximately 6 percent. The target for continuing households has been underachieved by about 69 percent. The main reason for the underachievement is a failure of the reporting system in place to capture all beneficiaries under market linkage activities. The current system relies on market agents, introduced to farmers for buying produce or supplying inputs, to supply the program with full details of the farmers. This has been easy where there is a signed PFA with the buyer or input supplier, but has proven difficult where there is no formal agreement. When these agents supply data, it is often incomplete and the program has no ability to force these market agents to comply with this reporting requirement. Buyers and input suppliers with no formal partnership with the program are reluctant to record and report the details of farmers from whom they buy produce or supply inputs.

  In FY 2012 and FY 2013 AgriTrade loan beneficiaries (typically traders, agrodealers, and processors) provided the bulk of market linkage data through the commodity purchase forms. However, in FY2014 lending activity under AgriTrade was significantly reduced compared to FY 2013 due to the phased close-out of AgriTrade, and the fact that one of the partner banks lost its banking license. Only one partner bank, MicroKing, continued to lend under AgriTrade in FY 2014, although at a decreased rate. Thus, commodity purchase data reporting by AgriTrade loan recipients declined significantly from prior years.

  When the FY2014 targets were set, the program assumed that private sector players would provide this information openly given their initial indication and expressed willingness to do so. Unfortunately, this did not occur. As a result, the reported data for FY2014 is mainly from training and technical assistance provided by the program (attendance is captured using attendance registers) and market linkage data supplied by several marketing partners with formal agreements with Zim-AIED. Thus, the reported data underrepresents the actual beneficiary participation to the extent that beneficiaries participated in informal market relationships facilitated by Zim-AIED but did not attend formal training events.

- **FTF 4.5.2-23** The FY2014 target was for incremental sales of $41.60 million. The result was $55.567 million, 33.5 percent above target. The over achievement has been through increased volume of sales, prices paid per unit, or in some cases a combination of both. The major movers are banana, maize, paprika, sweet potatoes, soybeans, tomatoes, , and cattle.
- **FTF 4.5 (16) – Gross margin per unit of land, kilogram, or animal of selected product (crops/animals selected vary by country)**
  - **Maize –** Overachieved by 73 percent. The gross margin per hectare achieved was $433 against a target of $250. The major driving factor to this overachievement was the pricing policy introduced by government under the Statutory Instrument (SI) 122 of 2014, which pegged the maize buying price from farmers to $390 per ton (up from the last season's price of $250 per ton) resulting in an average price of $328 per ton this year. All maize traders are required to pay $390 per ton as the minimum price; however, the government price is much higher than the import parity of $290 per ton, making it impossible to sell at this price. In addition to pricing, there was high adoption of GAPs due to the visual and practical learning offered by the agricultural hubs. Farmers also had timely access to inputs through the Zim-AIED input scheme, presidential input scheme, and

improved linkage of farmers to input suppliers. The 2013/14 agriculture season was an exceptionally good maize season in all dryland maize producing areas.

- **Paprika –** Overachieved by 112 percent. Achieved gross margin per hectare was $2,385 against a target of $1,125 per hectare. The major drivers were better market prices, increased adoption of GAPs, and input financing by Virl. The adopted industrial approach has resulted in competition among the six regular buyers. Prices rose by more than 40 percent from an average of $1.30 per kilogram in FY2013 to $1.83 per kilogram in FY2014. This can be attributed to the industry-wide approach adopted by the program in FY2014, resulting in a total of seven commercial buyers competing for produce versus only one buyer (via PFA) in the previous year. Increased adoption of GAPs also resulted in higher yields and quality with more than 90 percent of the crop sold as Grade A. The broad engagement of microfinance institutions also facilitated improved access to quality inputs, which was critical to achieving high yields.
- **Banana –** Overachieved by 73 percent. Achieved gross margin per hectare was $6,058 against a target of $3,500 per hectare. All tissue-cultured banana plantations in Mutema, Chibuwe, Musikavanhu, and Honde Valley came into full production. Production from old plantations in Rusitu and Honde Valley significantly improved due to farmers adopting GAPs through training and technical assistance offered by Zim-AIED. Farmers in all program areas achieved higher yields and consistently supplied quality bananas resulting in an average price of $0.27 per kilogram, although tissue culture bananas from Honde Valley, Mutema and Chibuwe fetched prices ranging from $0.33 to $0.35 per kilogram.

- **FTF 4.5.2-11** The FY2014 target for the number of enterprises and organizations receiving assistance both new and continuing was 1,042 and 1,034 was achieved. Loans from the AgriTrade facility to agrodealers were the major driver of this indicator.
- **FTF 4.5.2-38** Businesses working in collaboration with Zim-AIED through formal agreements invested $786,400 against a target of $1,000,000 in FY2014; below target by 23 percent. Current policies and the general macroeconomic environment are not conducive for investment. High sovereign risk, liquidity constraints, high cost of production, and the generally low demand in the economy are not conducive to private sector investment.
- **FTF 4.5.2-43** Underperformed by 80 percent – three (3) organizations against a target of 15. PFA partners continue to face liquidity challenges. Obsolete production infrastructure coupled with rising operating costs has rendered local products less competitive than imports from regional and international sources. Capacity utilization has dropped from 30 percent in FY2013 to 25 percent according to the latest Confederation of Zimbabwe Industry Survey, further making local products uncompetitive. Under performance of AgriTrade facility also contributed to fewer agrodealers receiving loans, which would have otherwise boosted their enterprises. However, it is important to note that some agrodealers are still performing above loss, though the profit margins are less than those received in FY2013. In addition, unreliable infrastructure (erratic supply of power and water) continue to disrupt business and production adding to the cost of doing business and undermining profitability.
- **FTF 4.5-2** The target for FY2014 for number of jobs created was 1,224 FTEs. The result was 1,294 FTEs, approximately 5 percent above target. Jobs were mainly created by sub grant partners with PFAs and agrodealers who benefited from the AgriTrade facility.
- **FTF 4.5.2-2** The target was overachieved by 12 percent, a total of 93,140 hectares against a target of 83,089 hectares. The high uptake rate of GAPs continued around agribusiness hubs where additional demonstration plots were established and managed by lead farmers to promote GAPs. Demonstrations plots allow for first-hand learning and improved uptake of GAPs by both new and old farmers. The use of lead farmer plots as demonstration sites that are well dispersed within communities also increases GAPs uptake within the vicinity of each lead farmer. In addition,

Zim-AIED has been implementing the agribusiness concept for three or more consecutive seasons in many of the hubs, which has helped to achieve a high uptake of GAPs in later years.

- **FTF 4.5.2-5** Overachieved by 23 percent – 98,534 farmers against a target of 80,327. During FY2014, Zim-AIED continued to implement the agribusiness hub concept for a third consecutive season in many areas. FY2014 witnessed increased input lending to farmers. Having adequate inputs resulted in high adoption of technologies. Forty-three (43) percent of the adoptees were women, yet they make up 50 percent of the Zim-AIED beneficiaries. Adoption is largely a function of the financial resource base of the beneficiary, with men better situated to apply improved technologies. Zimbabwean society is patriarchal and men make most decisions on field activities. This is also clear when considering women's access to finance through the various AgriTrade partners. In FY2014, 682 loans were disbursed to women (valued at $423,211) compared to 682 loans to men (valued at $1,255,669), from both USAID and non-USAID funded partners. Since project inception, the percentage of approved loans from all AgriTrade partners disbursed to women is 41 percent, an increase of 10 percent over the previous year's figures. However, the value of these loans to female borrowers only accounts for 14 percent of the cumulative value of loans from all AgriTrade partners.
- **FTF 4.5.2-7** The target was underachieved by 52 percent. The target refers to unique individuals who have attended various training sessions offered by the program in the reporting period. During FY2014, a collective 58,170 farmers attended 4,118 training events; however, these were only 28,832 unique individuals. The relatively high proportion of unique individuals to the total sum of attendees underlines Zim-AIED's emphasis on meaningful skills transfer through repeated trainings. On average, each of the 28,832 farmers attended more than two training sessions during the reporting period.

  Zim-AIED as a program advances commercialization of smallholder farmers by linking farmers with private sector companies who provide inputs on contract. The donor dependency that prevails in many rural areas made this concept difficult to put into practice as many farmers were expecting (and accustomed to) handouts. Farmers are more willing to commit to attend training events when they receive handouts which they are not expected to pay back. The government's 2013/14 large-scale inputs distribution scheme also affected farmers' commitment to Zim-AIED's trainings, with $253 million set aside to cover 1.6 million people ($115 per household for seed and fertilizers, and $32 per household for livestock farmers).

  During the first year of the program, Zim-AIED had a nationwide, rapid scale-up approach with large numbers of farmers attending the initial trainings, partially in anticipation of financial or material benefits beyond training. The design in the first two seasons involved farmers receiving inputs on a cost recovery basis. Unfortunately, there was a high default rate, with recoveries lower than 50 percent. As a result, the program added a new criterion for participating in future activities based on repayment history; consequently all farmers who had defaulted on their loans stopped coming for training as program staff required repayment before participation. This self-selection process and limited budget resulted in a narrower target population for repeat trainings. In addition, expansion into new areas was very limited in FY2014 due to greater geographic focusing which resulted in a fixed population to work with. Given the program's criteria for participation, the effect of these changes was a declining retention level of continuing farmers. In retrospect, the target of 40,000 individual beneficiaries who received agricultural productivity or food security training was overly ambitious considering the general economic situation in the country and the level of farmer dependence on input handout programs.
- **FTF 4.5.2-42** The FY2014 target for the number of enterprises and organizations receiving assistance that apply new technologies or management practices as a result of US government assistance was 1,042. The result was 1,034 new and old enterprises, the majority of whom are agrodealers who received loans under the AgriTrade facility.

- **FTF 4.5.2 (29)** Under performed on this target by 67 percent; $2,138,284 against a target of $6,460,000. Contributing factors include:
  - Availability of US government funding under the AgriTrade loan facility to the three participating banks (Micro King, CABS and Trust Bank) reduced by 82 percent by the end of FY2014 – from $2,071,516 on October 1, 2013 to $370,500 by September 30, 2014.
  - The only bank that disbursed loans in the period under review was MicroKing. Trust Bank's license was revoked, effectively freezing the $771,516 in US funding still held by Trust Bank. CABS did not lend at all in FY2014 using US funds provided under AgriTrade. However, they did lend to beneficiary banana farmers in Chipinge using funds from their normal lending portfolio.
  - Zimbabwe's economic environment faces ongoing liquidity challenges that adversely affect investment in rural areas, particularly in agriculture.
  - A significant amount of the reported value (36 percent) came from microfinance institutions outside of the AgriTrade facility, i.e. those partners not financially assisted by USAID in any way (Virl, Quest, Untu and Agribank).
- **FTF 4.5.2 (37)** Achieved 52 percent below target. The main reason for this deviance is that there has been reduced lending to traders due to the reduced performance of AgriTrade as USAID loan capital was gradually repaid back to Zim-AIED by partner banks starting in October 2013. MicroKing was the only bank issuing new loans under the AgriTrade facility. Reduced AgriTrade lending affected the program's ability to reach new MSMEs and capture beneficiaries under market linkages, as buyers who migrated to the bank's normal portfolio were reluctant to continue providing the required market information. In addition, farmers who participated in market linkage deals without formal agreements were often not reported due to lack of proper or inadequate documentation from the participating input suppliers and buyers.
- **FTF 01** The target for FY2014 was 92 percent of smallholder farmers under the Zim-AIED program to fall within the FTF definition of smallholders; 83 percent achieved. **GNDR 1 – Number of lead farmers in USG assisted programs**

  Results exceeded the target by 15 percent – 980 lead farmers against a target of 850. This is primarily because additional lead farmers were from new activities under the dairy and beef components during FY 2014. In the first quarter of FY2014, the program began to work with four Milk Collection Centers that had previously received assistance under USAID's Dairy Livestock Development Program (previously managed by Land O'Lakes). In the third quarter, a new private sector firm collaborated with Zim-AIED to scale up beef activities in Matabeleland. Thus, the program expanded into new areas and developed new lead farmers in those areas.

ANNEX 1: SNAPSHOTS

Group Lending Viable For Smallholder Paprika Farmers

Access to timely inputs through credit is critical to commercialize smallholder farming activities such as paprika production.

Photo by Fintrac Inc.
Smallholders generated improved returns from paprika production as pricing improved thanks to Zim-AIED intervention. Grade A paprika was selling at a lucrative $1.80 per kilogram.

"Zim-AIED and Virl have unlocked my production potential through the provision of inputs and good agricultural practices."

Fungai Samakande
Smallholder paprika producer

Formed in the 1990s, the Nyamusosa paprika group of Chiendambuya area in Makoni, Manicaland has set the tone for commercialization of smallholder dryland farming by accessing technical and financial assistance through USAID's Zimbabwe Agricultural Income and Employment Development (Zim-AIED) program.

Fourteen farmers out of the 50-member paprika group became the first ever beneficiaries of paprika input loans financed by Virl Microfinance, one of several financial institutions partnering with Zim-AIED to bring credit to smallholder farmers. Each farmer received $310 worth of input loans of fertilizers and chemicals for the production of 0.4 hectares of paprika.

Apart from paprika, these farmers grow sweet potatoes, maize, groundnuts, and tobacco. Depending on the season, each farmer establishes a calendarized cropping plan based on personal preference and resource availability.

"Since Zim-AIED linked me to Virl Microfinance in November 2013, I have established my crop well in time. Zim-AIED and Virl have unlocked my production potential through the provision of inputs and good agricultural practices," said Fungai Samakande.

Another loan beneficiary, Gilbert Samukute explained that growing paprika with inadequate inputs was counterproductive as one could not achieve optimum paprika production levels under dryland. Samukute produced an impressive yield of 2.5 tons per hectare generating $2,375 in sales from his 0.5 hectare plot.

"Working with the Nyamusosa paprika group has been exciting during this past season. The farmers have put into practice farmer group organization skills imparted to them through Zim-AIED as well as good agricultural practices in crop production. This has enabled them to achieve 100 percent loan repayments," said Absolom Mudyanadzo, the loans manager at Virl.

Virl is now processing 12 repeat input loans valued at $487 each for the production of 0.7 hectares per farmer, while 24 new farmers are set to receive their first ever input loans, worth $310 each, for the 2014/15 paprika season.

Access to formal credit lines for smallholder farmers is resulting in improved crop quality and quantity, which in turn translates to improved whole farm revenue and profit. With many farmers producing grade A paprika that sells for an average $1.80 per kilogram, producers' annual net incomes more than doubled from $500 to $1,200 on average due to increased production and volume of trade.

Zim-AIED provided trainings in good agricultural practices such as seedbed establishment, seedling selection, water planting, herbicide application, and proper fertilizer timing and application. The program facilitated improved buyer-farmer interaction through market fairs. Zimspice, Pure Seasons, and Hyveld were the main buyers.

Dairy Farming Presents New Income Streams

With improved dairy farming techniques, smallholder dairy farmers increase their milk production and incomes.

Photo by Fintrac Inc.

Edmond Ndlovu with his herd of cattle. Smallholder farmers in Nkayi are improving their livestock through the Zim-AIED program.

"In 2013, Zim-AIED trained me on good animal husbandry, including fodder flow planning and production, dairy herd management, and farming as a family business."

Elias Chiweshe, smallholder dairy farmer

Dairy farming plays a critical economic and nutritional role in the lives of many smallholder farmers working with USAID's Zimbabwe Agricultural Income and Employment Development (Zim-AIED) program.

Zimbabwe's small-scale dairy industry lacks quality service providers, as well as access to the necessary farming skills, inputs, technology, and electricity. As a result, smallholder farmers are missing out on the prospects of increasing their incomes from milk production.

To address these issues, Zim-AIED – in partnership with four milk collection centers in Midlands, Matabeleland, and Manicaland provinces – is working with 400 lead dairy farmers to introduce fodder production technologies to increase both technical knowledge and access to markets.

Zim-AIED is focusing on demonstrating effective, efficient, and profitable ways to feed dairy cows. The interventions are easy for smallholder farmers to adopt, especially in dry areas. By adopting fodder conservation, dairy farmers from Zim-AIED supported regions will sustain their dairy cattle on conserved fodder.

In Gokwe South in Midlands, the Gokwe Dairy Farmers Cooperative Society has doubled their daily milk collection from 150 to 300 liters since joining up with Zim-AIED in 2013.

Elias Chiweshe from Chief Nemangwe in Gokwe South is one of 69 farmers on the dairy project. He has won the Zimbabwe Association of Dairy Farmers' top award four times since 2005.

"In 2013, Zim-AIED trained me on good animal husbandry, including fodder flow planning and production, dairy herd management, and farming as a family business," Chiweshe said. He prepares his own feed instead of purchasing it, and monitors his 17 cows' nutritional intake through assessing fiber, energy, and crude protein content.

Before, Chiweshe had inadequate supply of feedstuffs leading to nutritional deficiencies and resulting in low milk yield in his dairy cattle as well as infertility and low live-weights.

Thanks to the improved dairy farming techniques, Chiweshe and his family began seeing dramatic improvements in milk production. In the past Chiweshe produced 20 liters of milk per day. Now, he is producing an average of 45 liters. The family is now guaranteed at least $400 in milk sales every month.

During peak milk production periods (September-April), lead farmers working under the Zim-AIED program are producing up to 60 liters of milk and earning $25 per day.

Boosting Maize Production through Irrigation

Timeliness in planting and adoption of good agricultural practices is essential if smallholders are to generate increased incomes.

Photo by Fintrac Inc.
Austina Shumba shows off her well-maintained maize fields. Austina has doubled her income thanks to the adoption of good agricultural practices as taught by Zim-AIED.

"I did not know that changing my farming practices could make a huge difference to my yield and income."

Austina Shumba, smallholder farmer

Austina Shumba lives in Ngondoma, a drought-ravaged village in Kwekwe district in Midlands province. Shumba has been growing maize since 2001, but using traditional farming practices, her yields were very low. She harvested less than 1 ton of maize per hectare, forcing her to register for food relief services.

The Zimbabwe Agricultural Income and Employment Development (Zim-AIED) program trained Shumba and 210 other farmers in good agricultural practices that have proven to be a winning strategy for the impoverished rural area. The program helped the farmers at the 48-hectare Ngondoma irrigation scheme access input loans, increase maize production, and secure a reliable market.

Maize is one of Zimbabwe's main staple crops and is a significant contributor to smallholder food security. Zim-AIED works to increase maize productivity and production through cost-effective technologies and good agricultural practices across all zones.

Program agronomists provide trainings on choice of planting material, integrated pest and disease management, and correct application of fertilizers. Farmers also learn basic business skills including crop budgeting, profitability analysis, marketing, and recordkeeping.

As a result of early planting and adoption of good agricultural practices, Shumba produced an excellent quality crop that saw a 100 percent increase in income on her 0.1-hectare plot. Before, she earned $300 in net income from the sale of 200 dozen green mealies (at $1.50 per dozen). From her last crop, Shumba sold 216 dozens of good quality green mealies at $3 per dozen, generating $648 in net income.

Learning from farmer-managed demonstration plots and transferring the knowledge and practices to her own plot, Shumba says, "I did not know that changing my farming practices could make a huge difference to my yield and income. I will use my new income to pay for cash cover as security for credit and improve my horticultural production."

To ensure smallholder commercialization, Zim-AIED is linking farmers at Ngondoma to microfinance institutions, opening up access to credit for a variety of farming operations. Last month Shumba accessed an input loan from Untu Capital to expand her maize production.

The program views all irrigation schemes as economic agribusiness hubs whose success and long-term sustainability hinges on incorporating all aspects of productivity. The program is working on 37 irrigation schemes covering over 5,000 hectares and reaching 8,544 farmers.

Access to Credit Improves Productivity and Quality

Linking smallholder farmers to microfinance institutions yields great dividends for smallholder produce farmers.

Photo by Fintrac

Moses Chimbwanda and his family with their new truck and their pre-packed onions and tomatoes. This asset was purchased through hard work on the family's 0.5 hectare irrigated plot.

"Zim-AIED has brought tangible results to my family. I struggled to make progress before Zim-AIED linked me to Virl, but this year I have made great strides. It makes me think I am dreaming!"

Moses Chimbwanda, Smallholder farmer

The USAID funded Zimbabwe Agricultural Income and Employment Development (Zim-AIED) program is facilitating private sector engagement with smallholder farmers to commercialize smallholder activities and ensure long-term sustainability.

Smallholders in Mutoko district of Mashonaland East have been growing vegetables for sale to local markets, but have so far failed to see tangible results from their hard work. They struggled to finance their farming operations because of poor yields that stemmed from a lack of inputs, escalating utility bills, sporadic pump breakdowns and other personal expenses.

Zim-AIED identified access to input finance as a major constraint facing horticultural farmers in Chitora, Chipo, Nyaitenga, and Gwiranenzara irrigation schemes in Mashonaland East. These farmers have been successfully linked to three different microfinance institutions (MicroKing, Quest, and Virl) who have disbursed 113 loans valued at $43,820 during 2014. By purchasing inputs on time, the farmers are seeing dramatic increases in both yields and quality. They are fetching higher prices with their improved produce.

A prime example is Moses Chimbwanda, who on his first financed pea crop generated $3,000 from 0.4 hectares. He was the first farmer to fully repay his input loan, two months before it was due, and he is now on his second loan cycle from Virl.

Chimbwanda has already made five times his annual income from last year and has taken a bold step of investing in his farming business. He procured a 1.5-ton truck worth $8,800 to ferry produce to the market and purchased a drip irrigation kit from Pedstock bringing his total investment this year to $9,100.

"Zim-AIED has brought tangible results to my family. I struggled to make progress before Zim-AIED linked me to Virl, but this year I have made great strides. It makes me think I am dreaming," said Chimbwanda.

He attributes his success to the trainings he received from Zim-AIED in good agricultural practices, business skills, value addition of his produce through packaging, and credit and market linkages.

Zim-AIED also facilitated improved availability of key inputs through a local agro-dealer to aid timely access of inputs by farmers. Through agronomic and business skills trainings, access to credit, and market linkages, smallholder farmers like Chimbwanda are able to commercialize smallholder farming activities to end extreme poverty and hunger.

ANNEX 2: PERFORMANCE INDICATOR SUMMARY TABLE

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
1	# of rural households benefiting from USG assistance	FTF 4.5.2-13	Households	0	56,869	55,000	0	-	-	26,274	26,274
2	Net income per household from target agricultural products	Custom (AIED 1)	US$	483	1,062	1,300	0	-	-	1,725	1,725
3	Value of incremental sales attributed to FTF implementation	FTF 4.5.2-23	**Value of incremental sales**	**(3,379,669.31)**	**47,058,701**	**41,599,619.76**	**0**	**-**	**-**	**66,005,832.67**	**66,005,832.67**
			Total Number of direct Beneficiaries	22,038.00	122,823.00	125,000	-	-	-	25,700,129.33	25,700,129.33
			Total Baseline sales (US$)	4,137,569.31	4,137,569.31	23,468,380.24	-	-	-	91,705,962.00	91,705,962.00
			Total Reporting year sales (US$)	-	51,196,270.25	65,068,000	-	-	-	237,934.00	237,934.00
			Total Reporting Year Volume of sales (mt)	-	116,908.06	199,303	-	-	-	136,887.00	136,887.00
			Bananas	-	5,498,508.00	8,619,052.57	-	-	-	12,713,800.60	12,713,800.60

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Baseline sales (US$)	28,249.00	28,249.00	28,249	-	-	-	358,219.40	358,219.40
			Reporting year sales (US$)	-	5,526,757.00	9,000,000	-	-	-	13,072,020.00	13,072,020.00
			Reporting Year Volume of sales (mt)	-	19,742.25	30,000	-	-	-	47,979.00	47,979.00
			Number of Direct Beneficiaries	307	3,440.00	4,140	-	-	-	3,893.00	3,893.00
			Maize	-	22,343,242.00	12,812,352.29	-	-	-	19,328,623.15	19,328,623.15
			Baseline sales (US$)	2,742,980.00	2,742,980.00	2,742,980	-	-	-	16,635,536.85	16,635,536.85
			Reporting year sales (US$)	-	25,086,222.00	30,000,000	-	-	-	35,964,160.00	35,964,160.00
			Reporting Year Volume of sales (mt)	13,715.00	80,242.08	100,000	-	-	-	109,525.00	109,525.00
			Number of Direct Beneficiaries	15,764	86,818.00	98,778	-	-	-	95,605	95,605
			Paprika	-	152,955.00	625,100.00	-	-	-	1,369,357.00	1,369,357.00
			Baseline sales (US$)	757,900.00	757,900.00	757,900	-	-	-	442,728.00	442,728.00
			Reporting year sales (US$)	-	910,855.00	1,125,600	-	-	-	1,812,085.00	1,812,085.00
			Reporting year Volume of sales (mt)	757.90	737.37	804	-	-	-	970.00	970.00
			Number of Direct Beneficiaries	2,650	2,650.00	1,750	-	-	-	1,548	1,548
			Beans and pulses	-	2,870,967.00	525,373.36	-	-	-	7,609,231.53	7,609,231.53
			Baseline sales	63,195.00	63,195.00	63,195.00	-	-	-	3,692,346.47	3,692,346.47
			Reporting year sales	-	2,934,162.00	3,666,000.00	-	-	-	11,301,578.00	11,301,578.00
			Volume of sales (mt)	63.20	2,425.16	3,055	-	-	-	10,243.00	10,243.00

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Number of Direct Beneficiaries	575	25,076.00	28,576	-	-	-	33,596	33,596
			Beans, fresh	-	5,406.00	202,550.00	-	-	-	30,562.00	30,562.00
			Baseline sales	9.00	9.00	9.00	-	-	-	171.00	171.00
			Reporting year sales	-	5,415.00	204,800.00	-	-	-	30,733.00	30,733.00
			Volume of sales (mt)	0.03	10.00	160.00	-	-	-	49.00	49.00
			Number of Direct Beneficiaries	1	20.00	250	-	-	-	19	19
			African Bird's Eye Chili	-	59,890.00	200,840.00	-	-	-	243,010.00	243,010.00
			Baseline sales	40.00	40.00	40.00	-	-	-	9,560.00	9,560.00
			Reporting year sales	-	59,930.00	208,000	-	-	-	252,570.00	252,570.00
			Volume of sales (mt)	0.05	72.33	220.00	-	-	-	363.00	363.00
			Number of Direct Beneficiaries	1	102.00	179	-	-	-	239	239
			Cabbage	-	337,665.00	141,662.44	-	-	-	141,662.44	141,662.44
			Baseline sales	1,392.00	1,392.00	1,392.00	-	-	-	14,866.56	14,866.56
			Reporting year sales	-	339,057.00	600,000.00	-	-	-	156,529.00	156,529.00
			Volume of sales (mt)	4.64	1,785.51	8,000.00	-	-	-	454.00	454.00
			Number of Direct Beneficiaries	25	1,291.00	1,720	-	-	-	267	267
			Chili Pepper	-	150,880.00	198,750.00	-	-	-	305,654.00	305,654.00
			Baseline sales	750.00	750.00	750.00	-	-	-	30,300.00	30,300.00
			Reporting year sales	-	151,630.00	240,000	-	-	-	335,954.00	335,954.00

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Volume of sales (mt)	1.50	257.00	480.00	-	-	-	647.00	647.00
			Number of Direct Beneficiaries	10	331.00	550	-	-	-	404	404
			Cowpeas	-	87,251.00	(67,166.38)	-	-	-	209,183.54	209,183.54
			Baseline sales	6,265.00	6,265.00	6,265.00	-	-	-	40,075.46	40,075.46
			Reporting year sales	-	93,516.00	28,000.00	-	-	-	249,259.00	249,259.00
			Volume of sales (mt)	7.83	194.25	80.00	-	-	-	499.00	499.00
			Number of Direct Beneficiaries	305	4,183.00	4,633	-	-	-	1,951	1,951
			Groundnuts	-	985,421.20	(2,935,789.10)	-	-	-	(1,525,265.43)	(1,525,265.43)
			Baseline sales	28,420.80	28,420.80	28,420.80	-	-	-	3,924,241.43	3,924,241.43
			Reporting year sales	-	1,013,842.00	1,547,000.00	-	-	-	2,398,976.00	2,398,976.00
			Volume of sales (mt)	47.37	2,060.50	3,094.00	-	-	-	3,490.00	3,490.00
			Number of Direct Beneficiaries	144	18,963.00	22,713	-	-	-	19,883	19,883
			Butternuts - Other	-	255,065.00	222,750.00	-	-	-	115,611.50	115,611.50
			Baseline sales	2,025.00	2,025.00	2,025.00	-	-	-	16,312.50	16,312.50
			Reporting year sales	-	257,090.00	324,000.00	-	-	-	131,924.00	131,924.00
			Volume of sales (mt)	4.05	547.00	720.00	-	-	-	495.00	495.00
			Number of Direct Beneficiaries	18	861.00	900	-	-	-	145	145
			Peppers	-	16,988.00	43,040.00	-	-	-	10,368.00	10,368.00
			Baseline sales	12.00	12.00	12.00	-	-	-	1,152.00	1,152.00

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Reporting year sales	-	17,000.00	44,000.00	-	-	-	11,520.00	11,520.00
			Volume of sales (mt)	0.03	34.00	80.00	-	-	-	30.00	30.00
			Number of Direct Beneficiaries	1	55.00	80	-	-	-	96	96
			Potatoes	-	597,558.49	398,562.25	-	-	-	14,209.04	14,209.04
			Baseline sales	5,441.51	5,441.51	5,441.51	-	-	-	22,672.96	22,672.96
			Reporting year sales	-	603,000.00	534,600.00	-	-	-	36,882.00	36,882.00
			Volume of sales (mt)	10.27	900.00	972.00	-	-	-	48.00	48.00
			Number of Direct Beneficiaries	6	120.00	150	-	-	-	25	25
			Soybeans	-	62,476.00	85,763.92	-	-	-	1,591,186.99	1,591,186.99
			Baseline sales	2,888.00	2,888.00	2,888.00	-	-	-	46,119.01	46,119.01
			Reporting year sales	-	65,364.00	154,000.00	-	-	-	1,637,306.00	1,637,306.00
			Volume of sales (mt)	7.22	131.73	308.00	-	-	-	3,521.00	3,521.00
			Number of Direct Beneficiaries	357	8,035.00	8,435	-	-	-	5,701	5,701
			Sweet potatoes	-	1,028,204.00	1,658,247.77	-	-	-	5.981,442.70	5.981,442.70
			Baseline sales	809.00	809.00	809.00	-	-	-	65,203.30	65,203.30
			Reporting year sales	-	1,029,013.00	1,890,000.00	-	-	-	6,046,646.00	6,046,646.00
			Volume of sales (mt)	4.50	3,040.00	3,780.00	-	-	-	18,509.00	18,509.00
			Number of Direct Beneficiaries	77	21,558.00	22,058	-	-	-	6,206	6,206
			Tomatoes	-	2,246,448.00	1,052,271.74	-	-	-	1,484,155.91	1,484,155.91

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Baseline sales	423,705.00	423,705.00	423,705.00	-	-	-	152,471.09	152,471.09
			Reporting year sales	-	2,670,153.00	3,502,000.00	-	-	-	1,636,627.00	1,636,627.00
			Volume of sales (mt)	1,412.35	4,728.88	17,550.00	-	-	-	3,573.00	3,573.00
			Number of Direct Beneficiaries	4,324	22,873.00	25,000	-	-	-	1,556	1,556
			Cattle	-	10,359,776.25	4,012,173.91	-	-	-	5,944,679.87	5,944,679.87
			Baseline sales	73,488.00	73,488.00	73,488.00	-	-	-	10,686,513.13	10,686,513.13
			Reporting year sales	-	10,433,264.25	12,000,000.00	-	-	-	16,631,193.00	16,631,193.00
			Number of animals	-	26,083.00	30,000.00	-	-	-	37,539	37,539
			Number of Direct Beneficiaries	184	17,441.00	20,000	-	-	-	26,757	26,757
4	Volume of production by program beneficiaries	Custom (AIED 2)	**Total volume of production (Tons)**	**22,369**	**148,125**	**217,204**	**0**	**-**	**-**	**347,969**	**347,969**
			Banana (Tons)	174.00	19,742	30,000	-	-	-	54,265	54,265
			Paprika (Tons)	72.00	737	804	-	-	-	1,128	1,128
			Maize (Tons)	21,600.00	110,104	144,000	-	-	-	240,062	240,062
			Beans (Tons)	97,3	2,653	3,055	-	-	-	14,666	14,666
			Bird's eye (Tons)	0.05	72	220	-	-	-	363	363
			Cabbage (Tons)	4.64	1,950	8,000	-	-	-	561	561
			Chili Pepper (Tons)	1.50	257	480	-	-	-	647	647
			Cow Peas (Tons)	21.07	235	100	-	-	-	663	663
			Groundnuts (Tons)	256.19	2,831	4,420	-	-	-	8,326	8,326

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Butternuts (Tons)	10.97	547	720	-	-	-	253	253
			Fine Beans (Tons)	0.03	10	160	-	-	-	18	18
			Peppers (Cherry) (Tons)	0.03	34	80	-	-	-	37	37
			Potatoes (Tons)	9.52	900	1,080	-	-	-	53	53
			Soybeans (Tons)	16.50	163	385	-	-	-	4,566	4,566
			Sweet Potatoes (Tons)	202.07	3,091	4,200	-	-	-	20,748	**20,748**
			Tomatoes (Tons)	1, 623	4,799	19,500	-	-	-	1,610	**1,610**
5	Value of production by program beneficiaries	Custom (AIED 3)	**Total Value of production (US$)**	**4,810,622**	**50,878,811**	**64,756,400**	**0**	**-**	**-**	**128,513,569**	**128,513,569**
			Banana (US$)	40,000	5,526,757	9,000,000	-	-	-	14,784,660	14,784,660
			Paprika (US$)	80,000	910,855	1,125,600	-	-	-	2,108,715	2,108,715
			Maize (US$)	3,880,000	34,422,024	43,200,000	-	-	-	78,828,150	78,828,150
			Beans (US$)	97,309	3,210,372	3,666,000	-	-	-	16,181,325	16,181,325
			Bird's eye (US$)	40	59,930	208,000	-	-	-	252,570	252,570
			Cabbage (US$)	1,392	370,500	600,000	-	-	-	193,601	193,601
			Chili Pepper (US$)	750	151,630	240,000	-	-	-	335,954	335,954
			Cow Peas (US$)	16,857	113,235	35,000	-	-	-	331,623	331,623
			Groundnuts (US$)	153,714	1,393,180	2,210,000	-	-	-	5,723,936	5,723,936
			Butternuts (US$)	5,487	257,090	324,000	-	-	-	67,321	67,321
			Fine Beans (US$)	9	5,415	204,800	-	-	-	11,312	11,312

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Peppers (Cherry) (US$)	12	17,000	44,000	-	-	-	14,400	14,400
			Potatoes (US$)	5,045	603,000	594,000	-	-	-	40,980	40,980
			Soybeans(US$)	6,601	81,307	192,500	-	-	-	2,123,460	2,123,460
			Sweet Potatoes (US$)	36,372	1,046,541	2,100,000	-	-	-	6,778,201	6,778,201
			Tomatoes (US$)	487,034	2,709,975	1,012,500	-	-	-	737,362	737,362
6	Area grown per target product	Custom (AIED 4)	**Total Area Grown**	**16,950**	**77,180**	**82,514**	**0**	**-**	**-**	**137,402.15**	**137,402.15**
			Banana (Ha)	100.00	1,872	2,000	-	-	-	1,974.92	1,974.92
			Paprika (Ha)	100.00	689	536	-	-	-	680.01	680.01
			Maize (Ha)	16,000.00	68,057	72,000	-	-	-	105,325.01	105,325.01
			Beans (Tons)	97.30	2,312	2,350	-	-	-	12,683.59	12,683.59
			Bird's eye (Ha)	0.10	16	55	-	-	-	44.73	44.73
			Cabbage (Ha)	2.55	75	100	-	-	-	18.22	18.22
			Chili Pepper (Ha)	1.00	75	120	-	-	-	86.31	86.31
			Cow Peas (Ha)	30.50	227	100	-	-	-	758.61	758.61
			Groundnuts (Ha)	246.30	2,327	3,400	-	-	-	7,819.42	7,819.42
			Butternuts (Ha)	2.30	60	60	-	-	-	27.81	27.81
			Fine Beans (Ha)	0.01	2	25	-	-	-	2.94	2.94
			Peppers (Cherry) (Ha)	0.01	6	8	-	-	-	9.60	9.60
			Potatoes (Ha)	3.60	60	60	-	-	-	3.75	3.75

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Soybeans(Ha)	20.37	159	350	-	-	-	4,086.56	4,086.56
			Sweet Potatoes (Ha)	121.00	655	700	-	-	-	3,711.47	3,711.47
			Tomatoes (Ha)	225.17	588	650	-	-	-	169.21	169.21
7	Average yields per target product	Custom (AIED 5)	Banana (tons/ha)	1.74	10.55	15.00	-	-	-	27.48	27.48
			Paprika (tons/ha)	0.72	1.07	1.50	-	-	-	1.66	1.66
			Maize (tons/ha)	1.35	1.62	2.00	-	-	-	2.28	2.28
			Beans (tons/ha)	1.00	1.15	1.30	-	-	-	1.16	1.16
			Bird's eye (tons/ha)	0.50	4.52	4.00	-	-	-	8.12	8.12
			Cabbage (tons/ha)	1.82	26.00	80.00	-	-	-	30.80	30.80
			Chili Pepper (tons/ha)	1.50	3.42	4.00	-	-	-	7.49	7.49
			Cow Peas (tons/ha)	0.69	1.04	1.00	-	-	-	0.87	0.87
			Groundnuts (tons/ha)	1.04	1.22	1.30	-	-	-	1.06	1.06
			Butternuts (tons/ha)	4.65	9.12	12.00	-	-	-	9.09	9.09
			Fine Beans (tons/ha)	3.00	5.00	6.40	-	-	-	6.19	6.19
			Peppers (Cherry) (tons/ha)	3.00	5.67	10.00	-	-	-	3.85	3.85
			Potatoes (tons/ha)	2.63	15.00	18.00	-	-	-	14.24	14.24
			Soybeans(tons/ha)	0.81	1.03	1.10	-	-	-	1.12	1.12
			Sweet Potatoes (tons/ha)	1.67	4.72	6.00	-	-	-	5.59	5.59
			Tomatoes (tons/ha)	7.20	8.16	30.00	-	-	-	9.51	9.51
8	Gross margin per	FTF 4.5-16	Maize (US$/ha)	37	213	250	-	-	-	433	433

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
	unit of land, kilogram, or animal of selected product		Paprika(US$/ha)	416	767	1,125	-	-	-	2,385	2,385
			Banana(US$/ha)	220	1,834	3,500	-	-	-	6,058	6,058
			Beans (US$/ha)	690	1,046	1,130	-	-	-	775	775
			Bird's eye (US$/ha)	50	2,946	2,220	-	-	-	4,303	4,303
			Cabbage (US$/ha)	173	3,956	4,300	-	-	-	9,582	9,582
			Chili Pepper (US$/ha)	120	1,303	1,300	-	-	-	2,796	2,796
			Cow Peas (US$/ha)	502	397	250	-	-	-	239	239
			Groundnuts (US$/ha)	362	460	500	-	-	-	611	611
			Butternuts (US$/ha)	1,172	3,778	4,400	-	-	-	1,585	1,585
			Fine Beans (US$/ha)	-50	2,439	5,792	-	-	-	1,797	1,797
			Peppers (Cherry) (US$/ha)	100	880	3,500	-	-	-	823	823
			Potatoes (US$/ha)	502	3,135	3,900	-	-	-	6,568	6,568
			Soybeans (US$/ha)	36	415	450	-	-	-	367	367
			Sweet Potatoes (US$/ha)	271	1,387	2,750	-	-	-	1,457	1,457
			Tomatoes (US$/ha)	541	3,844	4,500	-	-	-	3,348	3,348
9	# of food security private enterprises (for profit), producers organizations, water users' associations, women's groups, trade and business associations, CBOs	FTF 4.5.2-11	Enterprises Organizations Groups Associations	0	976	1,042				1,034	1,034

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
	receiving USG assistance										
10	# of buyer and market-related firms benefiting directly from interventions	Custom (AIED 9)	Buyers/ Firms	0	420	120				292	292
11	Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation	FTF 4.5.2-38	US$	0	1,362,366	1,000,000				768,400	768,400
12	# of firms (excluding farms) or CSOs engaged in agricultural and food security-related manufacturing and services, now operating more profitably because of USG assistance	FTF 4.5.2-43	Firms/CSOs	0	14	15		-		3	3
13	# of jobs attributed to FTF implementation	FTF 4.5-2	FTE	0	1,224	1,224				1,294	1,294
14	# of hectares under improved technologies or management practices as a result of USG assistance	FTF 4.5.2-2	New Ha	0	25,379	39,945	0	-		19,074	19,074
			Continuing Ha	0	25,379	43,144	0	-		74,066	74,066
			Total	0	50,758	83,089	0	-		93,140	93,140

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
15	# of farmers and others who have applied new technologies or management practices as a result of USG assistance	FTF 4.5.2-5	Total	0	75,178	80,327				98,534	98,534
16	# of individuals who have received USG supported short term agricultural sector productivity or food security training	FTF 4.5.2-7	Individuals	0	54,851	60,000				28,832	28,832
17	# of private enterprises, producers organizations, water users' associations, women's groups, trade and business association & CBOs that applied new technologies or management practices as a result of USG assistance	FTF 4.5.2-42	Enterprises/ Organizations/ Groups/ Associations	0	942	1,042				1,034	1,034
18	Value of agricultural and rural loans	FTF 4.5.2-29	$ US	790,000	6,023,493	6,460,000		-		2,138,284	2,138,284

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
19	# of beneficiaries receiving credit	Custom (AIED 6)	Individuals	1,002	6,580	3,680				4,468	4,468
20	Value of cost-sharing with alliance partners	Custom (AIED 7)	$ million			1				0.34	0.34
21	# of individuals receiving training in business skills	Custom (AIED 10)	Farmers/ Borrowers	0	13,245	15,000				19,854	19,854
22	# of MSMEs receiving business development services from USG assisted sources	FTF 4.5.2-37	MSMEs	0	57,190	55,610				26,484	26,484
23	# of individuals receiving training in (NRM)	Custom (AIED 11)	Individuals	0	16,062	20,000				8,589	8,589
24	Number of lead farmers in assisted programs	GNDR 1	Individuals	538	538	850				980	980
			Females	216	216	383				559	559

#	Indicator	Source	Unit	Baseline	FY2013	FY2014					
					Actuals	Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
			Males	322	322	467				421	421
25	Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources	GNDR 2	Percent	48%	0	55%				52%	52%
			Numerator(female participants)	23,951	23,954					13,679	13,679
			Denominator(target population)	50,315	50,313					26,443	26,443
26	Number of project beneficiaries in relevant leadership positions	GNDR 3	Participants	455	455	455				498	498
			Females	159	159	182				170	170
			Males	296	296	273				328	328
27	Proportion of target populations reporting increased agreement with the concept that males and females should have access to social, economic, and political opportunities	GNDR 4	Proportion / Percent	79%	79%	84%				86%	86%
28	Number of farmers engaged in Contract farming	GNDR 5	Farmers	0	6,228	3,000				3,205	3,205
			Female	0	2,989	1,500				1,348	1,348
			Male	0	3,239	1,500				1,857	1,857