



USAID
FROM THE AMERICAN PEOPLE



2010 ANNUAL REPORT

Incorporating
Quarterly Report
4th Quarter 2010

6, Tukuluho Road,
Private Bag 307X
Lusaka, Longacres
Tel: 0211 251371
Fax: 0211 255502
profit@profit.org.zm

TABLE OF CONTENTS	
ADMINISTRATIVE AND FINANCIAL DATA	3
INDICATOR TABLES:	4
PROFIT PMP INDICATOR TABLE	4
USAID OP INDICATOR TABLE	6
EXECUTIVE SUMMARY	7
SUMMARY OF TWO IMPACT ASSESSMENTS	
SECTOR SUMMARIES:	
AGRICULTURAL INPUT MARKET DEVELOPMENT	12
COTTON MARKET DEVELOPMENT	29
AGRICULTURAL OUTPUT MARKET DEVELOPMENT	36
VETERINARY AND BEEF MARKET DEVELOPMENT	46
DAIRY MARKET DEVELOPMENT	55
FINANCIAL MARKET DEVELOPMENT	66
ADMINISTRATION AND FIELD TEAM MANAGEMENT	74
MONITORING AND EVALUATION	79

ADMINISTRATIVE DATA

Country	Zambia
Project Title	Production, Finance and Technology (PROFIT)
Cooperative Agreement No	690-A-00-03-00172-00
Implementing Agency	NCBA/CLUSA
USAID Technical Office	SO5/Dann Griffiths
Date of Last Evaluation/Audit	N/A
Date of Next Evaluation/Audit	N/A

FINANCIAL DATA

Date of Authorization	April 1, 2005
MAARD Number	6110005.01-3-04073
Total Estimated Amount	\$ 17,549,830
Total Federal Funds Authorization	\$ 15,967,415
Appropriation	72 – 19X1030
BPC	GGAX-05-21611-1G13

PROFIT 2010 ANNUAL PMP INDICATOR TABLES

PROFIT INDICATORS		BASELINE	FY07		FY08		FY09		FY 10 target	FY 10 Total	FY11 target
			TARGET	ACTUAL	TARGET	Year Total	Target	Year Total			
Trade/Exports related indicators											
1	Value of purchases from smallholders of targeted commodities (domestic agricultural trade)	\$46,870,313	\$51,674,520	\$25,737,663	\$54,258,246	\$41,637,131	\$56,971,159	\$55,273,006	\$59,250,000	\$57,161,653	\$65,175,000
Production/Sales/Value Addition related indicators											
2	Value of Food and non Food Agricultural production by USAID supported groups.	\$5,523,455	\$7,001,270	\$10,352,500	\$7,341,334	\$29,929,001	\$7,698,400	\$25,740,405	\$28,440,000	\$25,126,029	\$31,284,000
3	Value of sales of all goods and services	\$5,397,833	\$6,902,500	\$11,735,880	\$7,410,350	\$30,501,720	\$7,820,432	\$27,201,856	\$30,146,400	\$28,323,122	\$33,161,040
4	Value of resources derived from sustainable natural resources or conservation initiatives.	\$714,978	\$865,123	\$4,564,154	\$951,635	\$435,492	\$1,046,799	\$152,016	\$150,000	\$650,000	\$150,000
5	Value of production per unit disaggregated by commodity sector.										
	Cotton (ha)	\$163	\$190	\$347	\$205		\$220	\$257	\$240	\$167	\$250
	Honey (hive)	\$4.44	\$4.90	\$6.08	\$5.14		\$5.40	\$3.70	\$4.20	\$5.00	\$4.80
	Red meat (animal)	\$116	\$128	\$198.55	\$135		\$141	\$383	\$390	\$346	\$400
	Dairy (animal)						\$865	\$999	\$1,099	\$1,131	\$1,154
	High Value Crop - Pineapple (ha)	\$785	\$865	\$2,500	\$909		\$954	\$2,170	\$1,500	\$0	\$1,500
6	Value of production per client										
	Cotton	\$192	\$212	\$640.81	\$222		\$233	\$385	\$424	\$200	\$424
	Honey	\$36	\$39	\$61	\$41		\$43	\$27	\$30	\$50	\$30
	Red meat	\$94	\$104	\$251.10	\$109		\$114	\$766	\$511	\$346	\$451
	Dairy						\$4,323	\$3,997	\$4,996	\$4,524	\$5,496
	High Value Crop - Pineapple	\$628	\$692	\$1,250	\$727		\$763	\$2,170	dropped	\$0	dropped
7	Gross Margin per unit										
	Cotton (ha)	\$10	\$11.03	\$165.70	\$11.58		\$12	\$146	\$161	\$56	\$177
	Honey (hive)	\$2.44	\$2.69	\$3.74	\$2.82		\$2.97	\$3.00	\$3.50	\$4.30	\$4.10
	Red meat (animal)	\$7.11	\$8.60	\$191.88	\$9.03		\$9	\$343	\$349	\$306	\$359
	Dairy (animal)						\$345	\$505	\$605	\$636	\$660
	High Value Crop - Pineapple (ha)	\$547	\$603	\$1,958.34	\$633		\$665	\$853	dropped	\$0	dropped
8	Volume of produce processed (mt)										
	Cotton	19,200	24,192	35,200	25,402	28,896	26,672	44,000	50,847	53,290	55,932
	Honey	347	437	15	459	299	482	280	520	870	575
	Red meat (mt)	0	255	171	510	235	1020	982	1,031	542	1,083
	Milk (Lts)				6,222,000	6,300,000	6,615,000	7,024,221	7,333,333	6,028,480	8,066,667
	High Value Crop - Pineapple	0	1,000	109	2,000	26	2500	50	dropped	\$0	dropped
Technologies related indicators											
9	Number of clients engaged in improved and/or value added processing and production disaggregated by technology type.										
	Conservation farming	3,200	25,000	43,000	45,000	32,924	63,000	70,166	77,172	97,050	84,889
	Vet contract/herd management	0	1,000	672	2,000	6,297	2,500	4,021	7,886	22,169	9,463
	Contract production	37,500	65,000	44,635	75,000	254,254	80,000	106,100	90,000	110,000	120,000
	Improved honey production	0	750	0	1,000	7,246	1,250	4,000	5,500	7,000	6,300
	Input products and services	10,000	100,000	21,974	150,000	43,447	200,000	55,975	78,365	62,027	109,714
10	Area or number of commodities under improved technologies										
	Conservation farming (ha)	3,200	25,000	43,000	45,000	18,122	63,000	106,000	127,200	48,590	152,640
	Vet contract/herd management (hd)	0	10,000	7,780	20,000	19,546	25,000	23,334	32,668	200,388	45,735
	Contract production (ha)	32,000	60,000	43,015	70,000	109,016	75,000	136,050	136,050	120,000	149,655
	Improved honey production (hives/Q.C trainings)	0	1,500	0	2,000	37,725	2,250	32,000	40,000	70,000	44,000
	Input products and services (ha)	10,000	100,000	21,974	150,000	43,447	200,000	88,055	114,472	62,027	148,813
11	Improved technology adoption rate (%)										
	Conservation farming	10%	15%	15%	18%		20%	44%	25%	61%	25%
	Vet contract/herd management	0%	55%	43%	80%		100%	33%	40%	230%	40%
	Contract production		24%	15%	26%		28%	17%	20%	14%	20%
	Improved honey production	0%	10%	0%	15%		20%	13%	15%	23%	15%
	Input products and services	10%	15%	40%	20%		25%	48%	50%	54%	50%
12	Number of hectares under biodiversity conservation.	3,200	25,000	43,000	45,000	18,122	63,000	106,000	90,000	48,590	120,000
13	Number of hectares under managed natural resource production systems	0	366,000	0	366,000	4,166,000	366,000	4,166,000	Droped	0	Droped

PROFIT INDICATORS		BASELINE	FY07		FY08		FY09		FY 10 target	FY 10 Total	FY11 target	
			TARGET	ACTUAL	TARGET	Year Total	Target	Year Total				
Finance related indicators												
14	Value of finance/capital accessed by USAID assisted groups (borrowers)	\$1,845,045	\$4,000,000	\$1,612,750	\$6,000,000	\$7,066,870	\$8,000,000	\$3,041,870	\$2,737,683	\$4,118,723	\$3,285,220	
18	Number of loans by USAID assisted institutions disaggregated by gender	Male		42,014		86,912		84,801	72,012	82,510	96,001	
		Female		1,028		21,727		21,200	18,003	27,500	24,000	
		Total	32,000	60,000	43,042	70,000	108,639	75,000	106,001	90,015	110,010	120,001
16	Percentage of the number of loans on schedule for repayment	90%	90%	50%	90%		90%	90%	90%	80%	90%	
17	Value of loans by USAID assisted institutions disaggregated by gender (lenders)?	Male	\$1,845,045	\$4,000,000	\$1,580,335		\$5,553,524		\$2,436,623	\$2,192,961	\$3,089,042	\$2,631,553
		Female			\$32,415		\$1,513,346		\$605,247	\$544,722	\$1,029,681	\$653,667
		Total			\$1,612,750	\$6,000,000	\$7,066,870	\$8,000,000	\$3,041,870	\$2,737,683	\$4,118,723	\$3,285,220
18	Percentage of the value of the lending portfolio on schedule for repayment	90%	90%	50%	90%		90%	90%	90%	80%	90%	
BDS related indicators												
19	Number of clients/entrepreneurs receiving BDS disaggregated by category e.g smallholder farmers, agribusiness firms	Small holder										
		Male				167,932		192,818	214,402	186,700	257,283	
		Female					99,872		69,187	76,932	75,667	92,318
		Total	37,500	100,000	118,979	150,000	376,304	200,000	262,005	291,334	262,367	349,601
20	Number of farmers reached with extension/outreach services	Agribusiness		2	200	234	300	2,032	400	4,067	3,330	5,714
		Male				167,932		192,818	214,402	186,700	257,283	
		Female				99,872		69,187	76,932	75,667	92,318	
21	Number of people reached with HIV/AIDS A & B outreach programmes	0	187,500	0		1,740		12,574	14,219	3,174	14,219	
					225,000	3,728	262,500	26,529	30,000	6,319	30,000	
Policy related indicators												
22	Number of policy areas worked on or affected if any	0	0	0	0	4	0	6	3	3	3	
23	Policy progress milestones – Analysis, debate, submission, approval and implementation	0	0	0	0	4	0	6	3	3	3	
Training related indicators (disaggregate by gender)												
24	Number of people trained in	Agricultural production										
		Male				162,443		189,818	214,339	186,700	257,206	
		Female				102,665		68,187	76,995	75,667	92,394	
		Total	32,000	60,000	118,923	80,000	265,108	100,000	258,005	291,334	262,367	349,601
		Private sector growth	40,000	70,000	119,160	90,000	375,762	110,000	266,169	297,161	265,697	356,593
		Nat. Resource Mgmt & Conservation										
		Male				125,405		28,203	48,132	80,436	52,945	
Female				69,423		17,016	29,040	41,529	31,944			
Total	5,500	6,000	11,000	7,000	194,828	8,000	45,219	77,172	121,965	84,889		

USAID OPERATING PLAN INDICATORS							
2.2 Trade and Investment Capacity	FY 08 Target	FY 08 Year Total	FY 09 Target	FY 09 Year Total	FY10 Target	FY 10 Total	Year FY11 Target
1. Number of events held that provided training on topics related to improving the trade and investment capacity building	2,000	2,041	2,100	2,329	2,492	2,836	2,666
2. Number of Capacity_Building Service Providers receiving USG assistance	300	2,032	378	3,527	4,761	3,330	5,714
3. Number of firms receiving capacity building assistance to export	65,750	152,000	58,800	105,000	90,000	110,000	120,000
4. Number of USG participants USG supported trade and investment capacity building trainings	150,000	376,304	147,000	208,562	160,000	262,367	220,000
Male		167,932	125,000	152,257	116,805	186,700	160,607
Female		99,872	22,000	56,305	43,195	75,667	59,393
5. Total value of exports in targeted sectors in which firms are receiving USG assistance to increase their exports	\$10,000,000	\$44,854,983	\$45,000,000	\$47,112,000	\$40,000,000	\$19,770,834	\$52,000,000
3.2 Financial Services							
1. Number of financial sector professionals trained in international standards	71	76	75	143	150	0	150
Male	60	47	63	119	125	0	125
Female	11	29	12	24	25	0	25
2. Number of USG special funds loans issued this year	0	0	0	0	0	0	0
3. Value of USG special funds loans issued this year	0	0	0	0	0	0	0
5.2 Private Sector Productivity							
1. Number of firms with improved management practices as a result of USG assistance	46,600	110,175	75,000	136,050	100,000	110,000	120,000
2. Number of firms investing in improved technology as a result of USG assistance (SD)	23,000	24,991	23,000	55,703	66,844	62,027	80,212
3. Number of SMEs that successfully accessed bank loans or private equity as a result of USG assistance	59,100	0	0	0	15	0	150
6.2 Agricultural Sector Productivity							
1. Number of additional hectares under improved technologies or management practices as a result of USG assistance	23,000	24,991	23,000	55,703	68,180	62,027	92,244
3. Number of agriculture-related firms benefiting directly from interventions as a result of USG assistance	300	2,032	378	4,067	4,761	3,330	5,714
4. Number of individuals who have received short term agriculture sector productivity training with USG assistance	80,000	265,108	100,000	258,005	250,000	262,367	300,000
Male				189,818	183,929	186,700	220,714
Female				68,187	66,071	75,667	79,286
7.3 Strengthen Micro-Enterprise Productivity							
1. Number of micro enterprises participating in USG assisted value chains	100,000	152,111	100,000	258,005	250,000	262,367	300,000
Number of micro enterprises receiving business development services from USG assisted sources	140,000	152,246	140,000	105,000	150,000	110,000	180,000
8.1 Natural Resources and Biodiversity							
1. Number of people trained in natural resources management and/or biodiversity conservation as a result of USG assistance	56,700	195,294	56,700	45,219	65,000	121,965	75,000
Male		125,405		28,203	40,540	65,720	46,777
Female		69,423		32,246	24,460	56,245	28,223

The Agricultural Retail Industry

- **Over \$1.9m of input sales were generated by the 2,460 agricultural retail industry in-community agents in 2010**, representing a 60% increase on 2009 sales and demonstrating the commercial viability of the smallholder market as well as the success of the retail distribution models facilitated by PROFIT. The sales peak was also spread much further throughout the year as firms learned to take advantage of the periods of liquidity within the smallholder sector.
- In a sign that the behaviour of retail firms is changing in response to this growing market, **fifteen firms have made considerable investments in their management processes over the year**, to specifically target and manage the smallholder market, and expand distribution networks rapidly into new market growth areas.
- **120,000 smallholder farmers attended nearly 1,500 promotional events** held by the fifteen major agricultural retail firms and their in-community representatives during the year, of which over 25% were women, demonstrating that women are also accessing information on productivity enhancing technologies.
- A number of **strategic alliances between agricultural retail firms and with veterinary and livestock inputs firms** has strengthened the role and throughput of the agents and allowed for greater efficiency in agent management within the firms
- As part of a drive towards the safe use of chemicals by spray service providers, **over 1,200 active spray service providers were trained and certified by CropLife Zambia** over the year.
- The total area of **smallholder land recorded as being ripped in 2010 by over 1,000 ox and tractor-based tillage service providers stands at almost 6,000ha**, compared to 1,500ha prepared by just over 300 service providers last year.

The Cotton Industry

- The main achievement of the year has been the **full incorporation of the PROFIT-facilitated service provision model into the cotton outgrower management processes** within Dunavant and Cargill, whereby field staff from both companies identify and train tillage and spray service providers with minimal PROFIT assistance.
- Within the cotton sector, **860 spray service providers and over 700 ox-based tillage service providers were active during the agricultural season**, with another

700 SSPs and 700 TSPs being trained to provide services for the 2010/11 agricultural season

- PROFIT's promotion of mechanised service provision has gained traction within the cotton sector, with **over 20 mechanised service providers taking out equipment leases with Dunavant** which are now in the process of being adopted by the commercial financial sector

The Commodity Markets

- Despite a hostile marketing environment characterised by heavy government intervention, **ZAMACE recorded trades worth just over \$44.5m, in 140,000t of commodities.** This represents an increase on 2009 of 130%
- After several months of advocacy and negotiation, by the end of the year the **modalities were being put in place for Government, through the Food Reserve Agency, to use ZAMACE** for some of its transactions, representing a major boost to both the throughput and the credibility of the Exchange
- **ZAMACE made strong progress in engaging the smallholder market**, with eight certified warehouses and eighteen community aggregation points established, although due to FRA buying activity, very little crop actually passed through ZAMACE-related sales mechanisms
- However, the **first ZAMACE transaction of smallholder crop out of a certified warehouse** was completed during the year.

The Beef and Veterinary Industries

- Over the year, **PROFIT has become a key partner to the new Ministry of Livestock**, assisting in the drafting of enabling legislation and in the development of the Livestock Service Centre model upon which strong policy priority is placed.
- A range of innovative models developed over the year have increased access to veterinary products and services, and correspondingly, **smallholder purchases of products and services have increased six fold over the year to over \$650,000.**
- **The PROFIT-facilitated mobile spray race model has been a commercial success**, with local entrepreneurs rapidly replicating the six PROFIT-funded demonstration units and providing regular dipping services to over 10,000 cattle per week.

The Dairy Industry

- Despite a temporary slump in domestic demand for milk over the year, **deliveries of smallholder milk into the three main commercial processors increased by over 1.3 million litres** over 2009 figures
- **Investment by processors in securing and improving smallholder milk supply continues to grow**, with five new milk collection centres established and privately funded extension officers providing services to the sector
- Encouraging gains have been made in sector productivity, **with increases of household level productivity and gross margin rising by 5% and 26% respectively.**
- In a strong demonstration of industry cooperation across the value chain, **the Dairy Association of Zambia (DAZ) was formed** from an amalgamation of the Zambia Dairy Processors Association (ZDPA) and the Dairy Committee of the ZNFU

The Financial Services Industry

- Over the year, **significant improvements in the agricultural finance sector have been made** by the major banks, partly as a result of PROFIT's high-profile report into the failings of the sector
- After four years of work by PROFIT, **financial institutions are now taking an active interest in lease financing for mechanised service providers**, with the first commercially financed units expected to be operational early in the next quarter.
- The **transformational financial services platform developed by Mobile Transactions with assistance from PROFIT recorded \$2m of transactions per month** by the end of the year as the business model was taken to scale
- Despite setbacks in 2009 in the process of incorporating e-vouchers into the government agricultural subsidy programme, **beneficiaries of various donor programmes are now redeeming \$1m of vouchers per month** through the system. Importantly, the Ministry of Agriculture is actively involved in the management of a successful e-voucher programme through FAO
- PROFIT's work in carbon market development is beginning to gather pace, with **two carbon projects with direct benefits to Zambia's rural population in the process of implementation** by the end of the year

The Impact of PROFIT Interventions: Summary Findings of Two External Evaluations

Over the year, two external studies were undertaken to determine the impact of PROFIT's work in the agricultural retail and livestock sectors on the farming communities that are the ultimate clients of the programme.

1) USAID Office of Micro-Enterprise

The impact assessment by DAI attempted to measure the results of project interventions using a mixed-method (quantitative plus qualitative) approach. The quantitative part of the impact assessment included a baseline survey of 919 programme clients and 620 non-clients conducted in mid 2006 and a follow-up survey of the same clients and non-clients in November 2008. It also utilised a field assessment of farmer involvement with PROFIT-facilitated market mechanisms undertaken in 2010. The results were published in 2010 and included the following in relation to PROFIT's work in the agricultural retail sector:

- Increased access to commercial agricultural products and services has encouraged the evolution of smallholder practices from subsistence to emerging commercial agriculture.
- Production of maize, the most important crop for farmers in the survey, increased on average by 82% for farmers who were active in PROFIT compared to 68% for those who were inactive.
- Perhaps more importantly, the average amount of maize sales increased by 161% for farmers who were active in PROFIT, compared to 56 percent for those who were inactive.
- The production and sales of active farmers both increased faster than average total land planted, indicating that productivity also improved

The impact assessment in the cotton sector was made largely invalid by a shift in project area focus for PROFIT's cotton activities out of the area of the baseline study

The following impacts were identified as a result of PROFIT's work in the livestock sector:

- Over the study period, surveyed farmers reported a very large increase in the use of private veterinary services. Only 5% of the sample used them at the time of the baseline survey, but 43% did so at the time of the endline survey.
- Accordingly, morbidity and mortality declined over the course of the evaluation period. The average number of cattle deaths in the year preceding the endline survey dropped by 81 percent for active farmers versus a drop of 29 percent for inactive farmers.
- The number of sick cattle dropped by 69 percent for active farmers, versus a drop of 16 percent for inactive farmers

2) Michigan State University (MSU) Food Security Research Project

FSRP is engaged in an assessment of PROFIT agricultural input development on rural poverty using quasi-experimental methods and a difference-in-difference approach applied to national household survey data. This study delineates villages or areas in which PROFIT-facilitated market development has taken place, and comparable villages serve as control

villages. While the full set of results are not yet published, early data suggests the following impacts are the result of PROFIT's interventions in the agricultural retail markets:

- Between 2004 and 2008 the average area planted to maize among smallholders in the treatment group increased by 47% from 1.7 ha to 2.5 ha.
- The average amount of maize harvested by treatment group households increased by 43% from 3.2t to 4.6t, while for the control group the average amount harvested increased 22% from 3.5t to 4.3t,
- The greater area and harvest caused increases in both the quantity and value of maize sold. The gross value of maize sales among treatment households increased by 185%; among control households the average gross value of maize sales increased by 67%.
- The difference in gross value of maize sales of represents approximately \$150 of increased income for Zambian smallholders attributable to the PROFIT interventions.

THE AGRICULTURAL RETAIL MARKETS

Annual Summary

A robust and innovative industry with information embedded in the transaction process remains critical to the development of the smallholder market. During 2010 firms continued to invest in strategic structural changes to respond to the needs of the smallholder market, and continued to invest in human resources specifically to manage the agent network. New client companies for PROFIT began to engage the community agents in formalised relationship to the extent that almost all the major agricultural retail firms in the country have bought into the agent business model.

The agent networks continued to organically grow and experienced agents continued to recruit subagents to enable them to expand their outreach into new communities. Firms also developed strategies for upgrading the agent networks to respond to the increasing demand of the products and services, such as up-grading some of the high performing agents to the level of hub agents.

Almost \$2m of sales were transacted through the agent networks during the year, though this figure does not include shop-based sales stimulated by a greater product awareness due to the work of the agents.

Firms continued with aggressive marketing strategies, including marketing through cultural and social events, micro-seed demo packs, market days and herbicide demos. The initiative of establishing steady market days or sales days evolved into the days becoming multipurpose events for firms and communities knowledge sharing and product sales for both vet and crop related products.

The spray service platform continued to improve in both the number of service providers trained and those certified. CropLife Zambia continued promoting the SSP certification process and by the end of the year the majority of active spray service providers had been certified and issued with identity cards.

The introduction of the PROFIT-designed two-man boom sprayer into the smallholder market has been well received and indicates that the willingness to adopt new innovations exists in the smallholder market.

CropLife continued with bringing the industry together with new firms this year registering as members. The Association also conducted multipurpose trainings to the industry responding to the challenges the industry is facing such as agent management, forecasting, safe use and association building training. CropLife International has continued to support the innovations the local association is undertaking through continuous support programmes. The process of testing, certification, safe use of chemicals books both in English and local languages continued. The association has received more recognition this year by both the government institutions and the private sector.

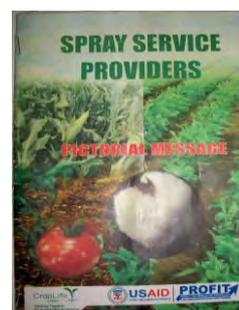
Input Market Pathway: Theme 1

Fostering a sustainable and growing spray service delivery platform increasing smallholder productivity

Achievements against benchmarks

1. Improved Sprayer Service Providers Training Manual developed to meet the challenges identified during 2008/9.

- During the fourth quarter, 2,000 copies were printed out and over 200 copies have since been distributed to agents and service providers during the Safe Use of Chemicals training sessions conducted by firms, bringing the annual total distributed to almost 2,000, and distribution is on-going



2. At least 400 trained and certified Sprayer Service Providers actively servicing over 9,000ha during the peak season.

- During the fourth quarter, 92 new SSPs were selected, trained and certified, bringing the annual total number of SSPs to 439, bringing the total number of trained SSPs to date to 1,244.
- During the quarter, Cropserve trained 60 SSPs in Mumbwa and 15 in Kabwe, while Plant Agrichem trained 17 in Chongwe who yet to be certified by CropLife.
- Spraying activities continued during the quarter despite this quarter being an agriculturally inactive period. A



*A Cropserve SSP in action,
Mpongwe Dec 09*

total of \$1,586 worth of spraying services were sold mainly to horticultural farmers, bringing the annual total invested by smallholders in spraying services outside the cotton industry to \$27,030. The SSPs aggressively marketed their services to farmers and a total of 120ha are already booked to be sprayed with herbicide by the service providers in Kabwe this season.

- Over the year, the service providers increased the number of clients and improved on the time of marketing the services.. The service providers continued targeting the horticultural farmers, and in some cases some of them diversified into spraying livestock. For example the SAN/Twiga SSPs in Eastern Province spray both livestock and crops which broaden the business window and income for the SSPs.
- Over the year over 2,570 ha were recorded as serviced by the service providers, mainly with herbicides. The failure to reach the target can be attributed to the fact that firms still do not invest heavily in the expansion of the service platform.

3. Industry Standard of Accreditation and Identification of SSPs developed by CropLife.

- During the fourth quarter, CropLife Zambia continued working to simplify the SSPs identification process to make it practical and sustainable. Over the year the association managed to capture all the trained SSPs in the database, making it easier to produce and issue the Sprayer IDs

4. 14 firms develop in-community promotional marketing strategies and actively investing in the SSPs capacity to operate in the smallholder market

- During the fourth quarter, eight firms (Cropserve, Mana, Minelands, Croppack, and Plant Agrichem, MRI Agro, SAN Agro and Landserve) continued to invest in the service platform as part of their business strategies targeting the smallholder market. This was demonstrated through the number of trainings and review meetings done by the firms. For example in Mkushi and Mpongwe, Cropserve did eight in-community promotion meetings to promote the service platform, and developed a monitoring system as a way of improving the service delivery to the client.
- During the year under review, a total of 108 in-community promotions and 24 SSP review meetings were held. Six firms also established 88 demonstration plots to promote the efficacy of herbicide spray services.

5. Improved simple pictorial message guides for SSP, in-community agents and farmer developed and disseminated

- During the fourth quarter, 200 pictorial manual books were distributed. Both farmers and firms are happy with the information in the pictorial booklet. Distribution of the booklets will continue in the next quarter.

6. At least 4 Firms engage SSPs by formal contract

- During the fourth quarter, four firms, namely Cropserve, Plant Agrichem, SAN Agro and Mana Agrochemicals, signed formal contracts with 123 SSPs, compared to 62 during the last quarter, bringing the annual total of contracted SSPs for 2010 to 226.
- The contracts have helped the firms to provide the SSPs with some commitment to contribute to the firm's business outside the sales of products only.

Additional Achievements

- In the fourth quarter, Cropserve in Mumbwa designed a system of tracking progress with the service providers and included them as part of the monthly zone meetings at which reports are submitted and new strategies are shared.
- Over the year, Cropserve in Mkushi developed programmes of costing and spraying regimes on the common vegetable crops, allowing the service providers to sell the services in small packages to meet the farmers' requirements.
- New firms like Plant Agrichem and MRI Agro trained 17 and 31 sprayer service providers respectively as a business strategy to develop the service platform. However, in order to build the capacity internal to these firms, CropLife has lined up TOT trainings for the staffs.

- A total of 27 two-man boom sprayers were distributed during the fourth quarter through a PROFIT promotional cost-sharing mechanism bringing the total to 53 sprayers bought by service providers over the year, each adding value in terms of marketing the service platform and products. Firms have taken advantage of the two man boom sprayer to use it as a tool through which to sell their products and have therefore invested time in teaching SSPs how to use the equipment.
- During the year over 600 protective kits were distributed to the service providers in another promotional exercise by PROFIT.



Boom sprayer being demonstrated by ATS during an agent training, Choma June 2010

Challenges

- Firms continue to focus more on the process of training agents than on the service platform, suggesting that they are not convinced of the importance of the spray service as a platform for sales.
- Slower than desired progress has been made on defining the certification process of the spray service providers.
- SSPs are more focused on herbicide application limiting the level of business they can do.
- Few formalised arrangements between the firms and the SSPs.

Input Market Pathway: Theme 2

Fostering expanded agent network development and improved firm level management

Achievements against benchmarks

1. ICSP management training manual upgraded and distributed to all firms

- During the quarter, the compilation of feedback from the firms and communities resulting from the market reactions and experiences continues, and the final copy of the management booklet will be completed in the next quarter. Additional data from the PROFIT-funded CropLife consultant on management of agents, forecasting, and time management were added to the manual book.

2. At least 600 new Community Agents and Sub-agents trained and actively servicing the Smallholder market

- During the fourth quarter, 437 agents (of which over 400 were new agents) were trained by ten firms, compared to 306 during the last quarter.
- These agents were servicing a smallholder client base of over 81,719 this quarter compared to 12,000 in the last quarter.

Company	Number of Agents Trained	Region
Cropserve, Pioneer, MRI	115	Mumbwa
Pannar/Zamseed/Plant Agric, MRI Agro	110	Eastern Province
Afrivet/Pannar	30	Southern Province
MRI, Pioneer and Plant Agric	71	Chongwe
ATS, MRI, Pioneer	86	Mkushi
MRI Agro	25	Kabwe

- The annual cumulative number of smallholder been serviced by the in-community agents is 93,719.
- The total number of agents actively servicing the smallholder market is now 2,460 with total of 1,028 new agents recruited in 2010. The sub agent network also continued to grow. Many active agents have expanded into new communities with sub-agents increasing the numbers of farmers accessing product and product knowledge.

3. At least 14 Agricultural input firms integrating ICSP's into their business model

- During the fourth quarter, fourteen agricultural retail firms continued to integrate In-Community Service Providers (ICSPs include agents, sub-agents and SSPs) in their business models indicated by the level of investment in their agent trainings and monitoring conducted with or without the help of PROFIT. The firms were:
 - Croppack
 - SAN/Twiga
 - Cropserve
 - Seedco
 - MRI
 - ATS
 - Mana Agro
 - Plant Agrichem
 - Afrivet
 - Pannar
 - Zamseed
 - Landserve
 - Amiran
 - Pioneer
- Companies like Pannar started the process of up-grading the high performing agents into hub agents by themselves without PROFIT assistance to improve the efficiency of the distribution of products.
- During the quarter, 20 agent trainings were undertaken, bringing the annual total to 60 trainings, all done with minimum or no PROFIT support.
- During the fourth quarter, firms conducted 20 review meetings bringing the total over the year to 60 review meeting done by firms used to continuous draw lessons learnt from their business in the communities. Furthermore, the retail firms use the review meetings as an opportunity to give more product knowledge to the ICSP.
- In a strong demonstration of firm investment in expanding the agent model, a number of new investments in geographic expansion took place during the year:
 - Plant Agrichem recruited 46 agents in Chongwe and Eastern Province
 - Cropserve expanded its network into Kaoma in Western Province
 - Amiran expanded its network into Southern Province
 - ATS moved into Southern Province and Mkushi
 - Croppack expanded into Kabwe
 - Pannar moved into Itezhi Tezhi
 - SeedCo created an agent network in Southern Province and Mkushi
 - MRI Agro began a process of mobilising agents in eight provinces

- Seven new clients in the agricultural retail sector approached PROFIT for assistance in developing smallholder outreach initiatives
4. **At least 1,000 new In-Community Service Providers (ICSP) recruited by all firms serving at least 100,000 Smallholders (800 on limited budget)**
 - During the fourth quarter, 532 ICSPs were recruited and consequently trained by the firms bringing the annual total recruited to 1,649.
 - This quarter 81,719 farmers were serviced compared to 12,025 farmers last quarter bringing the annual total for 2010 to 93,744 serviced by the ICSPs
 5. **At Least 14 Firms taking on increased ownership of the agent network development and management as measured by investment in trainings, monitoring and incentives (11 on limited budget)**
 - During the fourth quarter, 13 companies demonstrated an increase in terms of ownership of the agent network. This was evidenced by the level of investment in conducting agent training with most of them fully funded by the retail firms.
 - Cropserve, for example, sponsored all of their 15 regional trainings without the help of PROFIT.
 - During the quarter, Zamseed rewarded the highest performing agents with some incentives which included: phones, work suits (overalls, gumboots, gloves, and goggles) and Zamseed branded T-shirts.
 - Croppack gave out key holders, watches and T-shirts to top-performing agents.
 - Over the year, companies like MRI, Pannar, and Cropserve have all rewarded the best agents as a way of encouraging good behaviour and hard work.
 6. **At least 10 firms engage in formal relationships with contracts to 80% of the agents**
 - The following agents signed contracts during the fourth quarter, bringing the annual total of agents with formal contracts to 411, signed with ten firms

Firm	Number of Contracted Agents	Region
Plant Agrichem	21	Chongwe & Chibombo
San Enterprises	16	Katete
Pioneer	15	Kabwe
SEEDCO	30	Southern & Mkushi
Cropserve	34	Mkushi
ZAMSEED	53	Chongwe & Southern
Total	169	

- To further enhance ownership of the agent networks, Cropserve and Pannar have so far produced and given out 45 and 81 identity cards to their agents respectively. The production of these IDs was fully funded by the firms.



Cropserve agents in Mpongwe sign contracts – May, 2010

7. At least 14 firms consistently holding promotional events at key times of harvest, growing, cultural festivals, planting.

- During the fourth quarter, 13 firms held 446 promotional meetings as compared to 329 during last quarter. Of the 446, 73% were conducted with no PROFIT support.
- The cumulative number of promotions conducted by a total of 15 firms in 2010 was 1,494.
- In Kabwe, for example, a total of 80 promotions were done this quarter resulting in \$10,000 worth of sales.
- A total of 72 promotions were done in Southern Province generating sales worth \$30,000.
- This year many companies participated in the agricultural shows marketing their products. This was done at all levels, camp, block, district and the provincial shows.
- Companies invested in the cultural events in the communities like the Lwiindi ceremony in Chief Mukuni's area in Livingstone, Maliko traditional ceremony in Chief Sinazongwe's area and the Lwiindi Gonde in Monze. Others included the Chikuni Music Festival and the Armo Rally for Men in Livingstone.



Zamseed promotion at the Nc'wala traditional ceremony of the Ngoni people in Eastern Province, Feb 2010

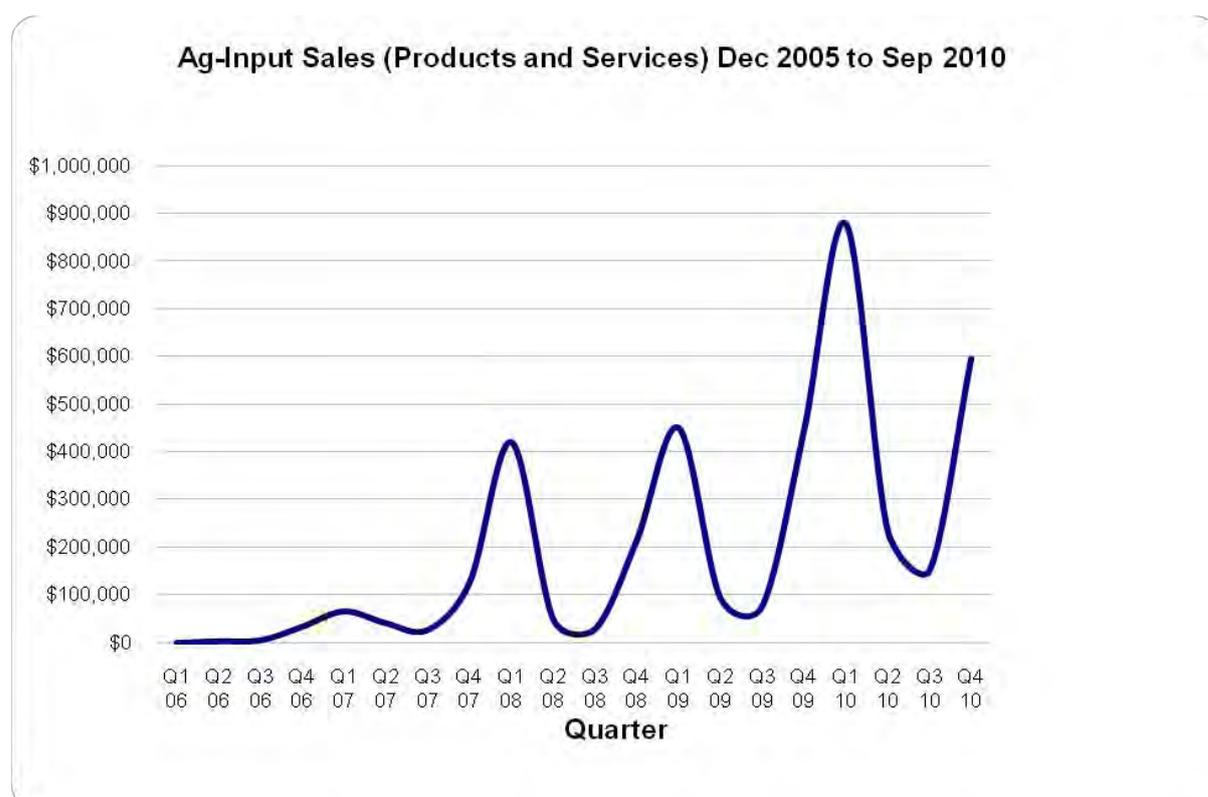
- In the fourth quarter a total of 40,280 smallholders attended the promotional events conducted by the firms and their agents, bringing the annual total to 120,081. 26% of attendees were women. The table below shows the numbers of promotions by region and the numbers of smallholders attending:

Region	Events Held	Attendees
Southern Province	241	61,982
Chongwe	122	4,029
Mumbwa	321	17,693
Kabwe/Chibombo/Mkushi/Kapiri	585	16,966
Eastern Province	69	14,581
Copperbelt	156	4,830
Total	1,494	120,081

- During the fourth quarter, the promotional events generated sales of different products and services amounting to approximately \$90,000 compared to \$41,271 for

the previous quarter. This gives an increase of 116% on last quarter and bringing the annual total to \$159,269

- During the quarter, total sales of agricultural inputs products and services came to \$594,850 compared to \$443,918 for the same reporting period last year representing a 34% increase.
- Among the many reasons for this is that farmers are now buying inputs such as insecticides, fungicides – both primarily for horticultural activities - and herbicides early in the harvest season at a time when their cash flow is good. Additionally post harvest handling chemicals such as grain protectant sales were on the increase during the third and fourth compared to the same periods last year.
- Further, farmers purchased agricultural equipment such as boom sprayers, shellers and small tractors via promotions by the firms such as SARO and CAMCO.
- The table below indicate the in-community promotional sales and sales through in-community agent trends since 2006 to date. The trend shows that there is an expansion on sales through the village agent networks from quarter to quarter compared to the previous year. The results do not track sales generated through conventional shop-based retail systems that have, anecdotally, increased dramatically as a result of product awareness generated by the in-community agents.
- This is indicative of the trust and confidence that farmers have in the agent network and are now buying more products and services through the network.



8. At least 5 firms establish the initiative of community sales days at peak periods

- During the quarter, seven firms (Pannar, Cropserve, MRI, Zamseed, Croppack, ATS and ETC) set regular sales days at which the farmers are purchasing product and getting product knowledge. These have become regular established sales days in specific areas.

- Over 130 sales day events have been held over the year, and 40% of attendees of these events have been women. The regular sales day model has been very well received by the farming community.

9. Input message guides for herbicides, insecticides and fertilisers developed for all agricultural input product groups being used by all ICSP's across the platform

- Work on the developing of manuals on the use of insecticides and fertilizer continues, and the layouts for the books have been finalised.



Cropserve educates farmers at a sales day in Kapiri, September 2010

10. At least 100 ICSPs integrate into the output markets during the marketing peak period

- Work continued during the quarter to explore the possibility of identifying agents and output market players to operate through the agents, or use them to help influence farmers to sell through ZAMACE-related mechanisms.
- The very poor commercial prices prevailing in the market coupled with aggressive buying activity by the FRA, however, deterred most buyers from extending their networks into more remote areas.
- In Kalomo, Export Trading Company has continued to use the agents to sell both basal dress and top dressing fertiliser. The firm is further exploring the possibility of engaging the agents in the maize buying business, and in Katete the same company purchased groundnuts from smallholders as a result of interaction through input sales events.

11. At least 2 firms establish 5 hub agents to deepen their community outreach

- During the quarter Pannar in the Southern Province have upgraded their agent network by promoting three agents to be hub agents and Zamseed in Southern Province has two hub agents.
- In the third quarter, Cropserve identified 8 hub agents who will act as critical distribution points for other agents, bringing an annual total of 13 hub agents by three firms

12. At least 2,000 tons of fertiliser sold directly through the agent network.

- During the fourth quarter, Export Trading sold 135t of fertiliser worth US\$85,000 through their agent network, bringing their annual total sales to just over 500t worth \$261,000
- Zambia Fertiliser identified three in-community agents to be selling product and providing product knowledge, but only 10t worth under \$3,000 was purchased through the agents.
- Greenbelt Fertiliser did some in-community promotional meetings in Kabwe to market their products but is yet to make any sales.
- Minelands in Mkushi sold 35t of fertilisers through the agents amounting to about \$23,000

- This brings the total of fertiliser sales in the year through the agent network to 558 tons worth \$287,000
- The low levels of fertiliser sales can be directly attributed to an expanded Farm Input Support Programme

Additional Achievements

- During the year, PROFIT facilitated the work of a consultant from CropLife Namibia to conduct a training and interview process for 17 MRI-Agro staff positions related to an aggressive national market expansion programme.
- During the year, the smallholder market indicated a continued shift in buying patterns towards early purchases when money from crop sales is available. In Mkushi, for example, the agent network generated over \$30,000 of sales of products and services in the second quarter, Zamseed during this quarter sold on a prepaid basis over two tonnes of seed in Chongwe with the value of over \$4,000. MRI sold seed worth \$5,500 this quarter through their agents in Chongwe. For this year all the firms and farmers are getting comfortable with the pre-paid concept.
- One Cropserve agent in Choma organised pre-paid orders worth over \$2,000, making a commission of over \$200 in one month.
- Well organised alliances were made during the year and this included, Pannar and Afrivet, Seedco and ATS, Pannar and ATS. This allowed non-competing firms to reduce costs by conducting joint promotional meetings and allowed farmers to be presented with a suite of products from one agent.
- Companies like Cropserve extended their trainings and client base to agricultural institutions like the Prison Farms and Zambia National Services (ZNS).

Challenges

- A lack of agent management and monitoring systems within the firms remain, creating gaps in the management of the networks.
- There continues to be a lack of logistic support to shop managers by some firms, limiting their role in managing their agent networks

Input Market Pathway: Theme 3

Fostering inter-firm cooperation to address common crop industry issues

Achievements against benchmarks

1. Industry certifies/re-certifies all the currently trained SSPs

- 92 SSPs were trained and certified this quarter making a total to 1,244 SSPs certified, out of which 600 have had their IDs processed. MRI Agro and Plant Agri chem have trained an additional total of 47 SSPs, but these SSPs have not been certified by CropLife Zambia as the trainers from the two firms are not CropLife Certified trainers.

2. Industry Standard Certification process clearly defined and accepted by all CropLife members

- During the fourth quarter, CropLife captured all 1,244 SSPs in their database, making it easier for the process of certification and recertification. All the regions have cameras being used to capture the trained SSPs - the Association bought 10 cameras with the support of PROFIT to ensure the identity of all the SSPs are captured during training.

3. Retraining and recertification of at least 80% of the industry trainers

- During the quarter, CropLife Zambia conducted trainings for 20 new and old trainers- being 80% of the industry trainers. Course content included the Safe Use of Chemicals, principles of business, forecasting and agent management.

4. CropLife secretariat takes up an active role and operations of SSP in trainings, certification, re-certification and identification process (at least 1,000 IDs developed for SSPs).

- During the quarter, the CropLife trainers continued to take up increased responsibility of the process, as 92 SSPs were trained by the industry trainers bringing the annual total of the trained SSPs to 439. Over the year, CropLife Zambia coordinator took time to backstop the work of the trained trainers and offer on-the-job training support.
- For this quarter over 600 IDs have been processed and ready for distribution for both the old and new SSPs qualifying for the new annual identity cards (IDs) for the 2010/2011 season. The process includes certification and re-certification.

5. CropLife develops at least 10 local radio promotional strategies to upgrade the service platform.

- During the fourth quarter, CropLife Zambia agreed with ten radio stations in terms of quotations for air time, broadcasting of the safe use of chemicals message will start in the second week of October up to the end of December. Refining of the „Safe Use of Chemicals’ messages has been done.
- The previous broadcasts, on Radio Ichengelo in the Copperbelt, Radio Chikuni in Southern

The Value of Hybrid Seed

The growing of hybrid maize is one of the cardinal ingredients to the attainment of food security and poverty reduction in Zambia.

Mrs. Maclina Lubilo of Mwachifumu village is a smallholder farmer in Chongwe district of Lusaka Province. She lives with nine children and four grandchildren.

Maclina and her family have been farming for over 20 years, growing local, recycled seed which had been giving yields of under two tons per hectare. Subsequently, Maclina’s household has always been food insecure and has often had insufficient funds to send the children to school

In the 2009/2010 season, her family received a micro demo pack of hybrid ZMS 606 from Zamseed to plant as a trial. The hybrid seed was planted alongside the traditional recycled seed, and received the same treatment.

When it came to harvest, Maclina reaped the equivalent of 5t/ha from the hybrid seed plot, and 2t/ha equivalent from the traditional variety.

Maclina says: „I can see now that hybrid seed far out-performs the recycled seed and so in September I bought enough Zamseed hybrid seed for my whole plot through my [local in-community Zamseed] agent, Mr. Chinkata’.

By planting hybrid seed, the family hopes to increase their production and household food security. In addition, they hope to have surplus crop for sale which will enable them improve their household income and general livelihood.



Maclina demonstrates the difference between her hybrid seed (left) and local seed (right)

Province, and Radio Explorer and Radio Breeze in Eastern Province, were done in November 2009 received a lot of attention from the farmers and were well received.

6. Work with the Zambian Seed Traders Association to promote hybrid seed and fake seed messages

- During the fourth quarter, discussion on the micro demo packs this season started, and several companies have expressed interest to continue with the micro packs this season. This follows the success of the innovation last year, which stimulated demand and increased hybrid seed sales.
- Over the year the firms distributed more than 10,000 micro packs (100-250 g), including 7,000 by Zamseed in Southern and Eastern Provinces and over 3,000 distributed by Pannar in Eastern, Central and Southern Provinces.
- More than 40,000 farmers received micro-demo packs for the 2009/10 season

7. At least 10 local radio stations air hybrid seed promotion messages

- During the fourth quarter, hybrid seed promotional messages were refined and ready for broadcasting by 10 local radio stations in Southern, Eastern and Lusaka Provinces from October to December.
- During late 2009, messages on fake seed were broadcasted through local radio stations including Radio Mkushi, Radio Explorer and Radio Breeze Radio Chikuni and Radio Ichengelo
- Farmers were happy with the information on the messages on fake seed but asked for the broadcasts to be done earlier in the season; hence starting in October this year.

Additional Achievements

- CropLife Association has continued to engage the Environmental Council of Zambia to identify areas of interest to operate on moving the industry wide based issues. The association met with the Director of ECZ and agreed on further meetings moving forward.
- CropLife continue working with the Zambia Bureau of Standards to try to develop industry standards of agricultural chemical composition in a bid to tackle the scourge of low-quality, illegal imports on the market. During the quarter and with the assistance of PROFIT, the association purchased equipment and engaged a consultant to train the staff of Zambia Bureau of Standards in the use of their Gas Chromatography Equipment in order to provide product testing services for CropLife members.
- The association continued to gain recognition both by the private sector companies and the government institutions as evident by the number of new firms joining the association this year.

Challenges

- Most firms seem not to be able to distinguish between firm and industry challenges and hence there is a tendency of individualism even when it comes to issues affecting the whole industry.
- Defining a clearly developed testing, certification, and identification process is taking longer than anticipated.

INPUT MARKET PATHWAY - TILLAGE SERVICE PROVISION

Annual Summary

The tillage service model based on ripping is possibly the only sustainable way of advancing early land preparations for growth and maximisation of available land for smallholder farmers and during the year, the development of a competitive tillage contracting business was a focus of PROFIT's work, supported by developing diversified income streams such as haulage and maize shelling.

A number of significant benefits from early land preparation by contracted service became apparent during the year, including yield improvements and an increase in planted area, creating a win-win scenario for both supply and demand sides of the service.

PROFIT's work in the sector over the year included the following activities:

- Identifying potential tillage service providers from within and independent of outgrower scheme networks.
- Conducting marketing and business skills trainings to existing and potential TSPs, as well as facilitating technical and operational training for both owners and operators.
- Assisting TSPs to market their services and sign contracts with clients.
- Facilitating field days and demos with commercial farmers and equipment suppliers.
- Assisting TSPs prepare cash flow projections for their farming and contracting businesses
- Brokering relationships between existing and potential TSPs and equipment vendors

As a result of PROFIT's interventions, 20 TSPs received tractor leases from Dunavant during the year, with another six from Dunavant and four through Afgri Leasing Services in the pipeline for early next year. Performance by the TSPs has been very encouraging, with the highest performing lessee, in Eastern Province, making an operating profit of \$9,000 in one quarter, which is twice the annual repayment requirement.

While not as beneficial as mechanised land preparation, the ox-based ripping services continue to cater to the needs of farmers who cannot access mechanised tillage in their respective areas. Farmer clients have graduated from basin digging technique to accessing draft power services as the demand for the service has significantly increased. During the fourth quarter alone, over 900ha of land was opened up for early land preparation, of a service value of US\$ 36,200.

The total area of smallholder land recorded as being ripped in 2010 by over 1,000 ox and tractor-based tillage service providers stands at almost 6,000ha, compared to 1,500ha prepared by just over 300 service providers last year.

Input Market Pathway: Theme 4:

Stimulation of commercial tillage service provision – a critical productivity constraint

Achievements against benchmarks

1) Improved business skills developed among Tillage Service Providers (TSPs) to proactively provide early land preparation service as measured by number of commercial tillage contracts

- In the fourth quarter, 92 Mechanised Service Providers (MSPs) were trained in business and technical skills bringing the cumulative number of MSPs trained in the year under review to 153.
- Additionally, 19 tractor owners and 20 tractor operators were trained in basic tractor operations and maintenance at Natural Resources Development College's School of Engineering in Lusaka in a programme supported by PROFIT and World Food Programme.
- During the fourth quarter, almost 670ha of land was opened up for early land preparations by 20 MSPs servicing over 166 farmers, as broken down by region below:

Area	Ha prepared in Qtr 4 using minimum tillage technologies
Eastern Province	93
Kabwe	190
Mumbwa	168
Southern	139
Chongwe	40
Mkushi	36
Total	666

- This brings the total number of hectares recorded as ripped by MSPs during 2010 to over 3,300ha with a total service value of \$140,000.
- Including the 1,030 ox-based service providers operating in the smallholder economy, almost 6,000ha of land has been ripped during the year, as outlined in the table below:

Tillage Service Provision Indicator	Qtr 4 Total	Annual Activity	Total
Number of Ox TSPs	1,030	1,040	
Number of Tractor TSPs	45	45	
Hectares ripped by Ox TSPs	238ha	2,529ha	
Hectares ripped by Tractor TSPs	666ha	3,321ha	
Approximate Value of Tillage Services	\$36,183	\$195,828	

2) Contract models developed and in use along with prepayment concepts for TSPs

- In the fourth quarter, 106 contracts were developed bringing the annual total number of contracts during the year to 409 contracts compared to 320 contracts last year.
- Liquidity issues arising from the delayed payment of farmers for maize deliveries to the FRA hindered pre-payment, and also discouraged a greater uptake of ripping services during the fourth quarter.

3) At least 20 new two Tyne ripper purchased by TSPs

- During the fourth quarter, no rippers were bought by TSPs.
- However, 20 rippers were accessed alongside tractors by MSPs under the Dunavant and the Dunavant/WFP initiatives with an additional six more rippers purchased in the second quarter by independent tractor owners through a Dunavant-managed rent-to-own scheme
- This brings the total number of ripper units purchased this year to 26.
- There have been a lot of enquiries from tractor owners into the purchasing of ripping equipment for the purposes of service provision, while interest has been drawn particularly to the Kenyan ripper model called “Ndume”, the design of which is currently being improved by SARO Agric and CFU. The Ndume ripper has a roller behind the tynes that frees up the clogs/maize stalks while the ripper is moving forward working in the field.



The Kenyan 'Ndume' Ripper being trialled at a CFU field day Chisamba, July 2010.

4) At least one Tractor Service Company supporting tractor operators providing commercial services and equipment.



Prospective lessees learn about John Deere tractors from an Afgri representative

- Currently, all 20 tractors under Dunavant leases are under maintenance agreements with InBond/TractorZam, though performance has not met the expectations of the service providers or Dunavant
- SARO Agric has been the market leader in the tractor service industry by making available mechanised equipments and product knowledge as and when farmers call on them.
- Afgri, the seller of John Deere tractors in Zambia, has expressed a strong

interest in supplying tractors on loan and arranging a three year service contract to emergent farmers willing to offer tillage and other mechanised services to the smallholder farmers. During the fourth quarter, four potential lessees of tractors have been identified; they all have viewed the tractors and have submitted their financial

information and are now awaiting amortisation plans, contract signing and equipment hand-over.

- Afgri will be working in partnership with PROFIT, IFC and CFU in rolling out their innovative leasing programme to mechanised service providers.



Land ripped by an ox-based TSP in Chongwe, who had prepared over 20ha in September 2010

5) At least 1000 new Magoye rippers sold through commercial channels by September, 2010

- Over the year, an estimated 2,500 unit rippers have been sold to the smallholder community countrywide with the highest number coming from Kabwe, where 115 rippers were sold in the fourth quarter alone.

Additional Activities

- During the year, PROFIT has contributed to the selection of 30 potential TSPs, of whom 20 have received tractors on loan, and the other ten are in the pipeline for tractors in the next quarter. PROFIT also worked with all 30 farmers to understand the financials of their tractor-based businesses, and mentored them as they developed cash flow forecasts for the year ahead.
- While Dunavant have supported the first 10 tractor leases from their own balance sheet, the WFP P4P Programme provided the capital for the second ten tractors to be issued through Dunavant in a deal brokered by PROFIT. The WFP and Dunavant partnership was officially launched by the Minister of Livestock, Hon Machila, and the WFP Country Representative, Pablo Ricalde and the USAID Mission Director, Melissa Williams, in May.



The USAID Mission Director speaking at the official launch of the WFP/Dunavant tractor leasing scheme, May 2010.

Challenges

- The high purchase costs of mechanised rippers still poses a major challenge as imported rippers have proved to be durable and reliable than the locally made ones. PROFIT is linking potential buyers to a microfinance scheme managed by CETZAM to enable them to make the purchases but the cost of this finance is high.
- The slow payment of farmers by FRA has slowed down the investment by farmers in early land preparation services
- The focus on haulage contracts – particularly cotton haulage contracts with Dunavant, has meant many mechanised TSPs did not become active in ripping until late in the fourth quarter
- The adoption of ox-based ripping services has been hampered by quality issues and the need to re-rip at the onset of the rains.

THE COTTON INDUSTRY

Annual Summary

The 2009/10 agricultural season was not a particularly successful one for the cotton sector. Production dropped from just over 100,000t in 2008/9 to just over 70,000t in 2009/10, and the reasons put forward by the industry for this decline include:

- A drop in the number of farmers planting cotton due to competition with other crops, primarily maize, and the associated input and output subsidies that, in the perception of farmers, make maize a more attractive proposition than cotton.
- A prolonged dry spell in December affected cotton plantings and possibly yields of early-planted crop
- Reduced input support by some cotton companies contributed to a drop in productivity, as did the alleged distribution of sub-standard seed by some ginners

As a result of low production, intense competition among buyers for a limited crop and a continued critical underutilisation of ginning capacity, Zambian cotton ginners operate in a sub-economic situation. There is a sense of optimism by the end of the year that the combination of a bullish international cotton price, the fact that local prices doubled to K2,800/kg during the 2010 buying season and the delays farmers have faced in being paid for their maize by FRA may entice farmers back into cotton production for the 2010/11 season.

PROFIT's work in the cotton sector was generally more light-touch during 2010, as the main processes PROFIT has facilitated over the last four years (being the introduction of commercial spray and tillage services and incentives for better producers to encourage increased production and yields) have largely been internalised by the major cotton companies. PROFIT's work has largely been to mentor the process of identification and training, and contributing to the business training of service providers where necessary.

Where PROFIT's interventions have been more intensive has been on the facilitation of mechanised services into the cotton industry, and momentum is gathering with 20 service providers affiliated to Dunavant active in land preparation services by the end of the year.

An intervention by PROFIT in 2007 and 2008 to incorporate third party input providers into the cotton sector largely failed due to the perception by the companies themselves that they had to intervene in the storage, distribution and even sales of inputs through the company shed networks. It is encouraging that the agricultural retail sector is now taking the initiative and utilising the cotton networks, albeit informally, to expand their product distribution into this high potential segment of the smallholder market.

Cotton Industry Development pathway: Theme 1

Fostering professional supply chain management in the cotton sector

Achievements against benchmarks

1. At least 1,000 qualified and active spray service providers serving the cotton industry

- During the fourth quarter, 691 spray service providers were trained in Eastern and Central Provinces by Dunavant and Cargill, and 403 went on to be certified by CropLife in the safe use of chemicals. PROFIT issued basic protective clothing kits to the SSPs who successfully passed the certification exam. While Dunavant has incorporated the training of service providers into its core farmer training programme for over a year now, the last six months has also seen a significant investment by Cargill for the first time.
- However, no contracted spraying took place over the reporting period.
- During the 2009/10 agricultural season the following spray service providers were active:

Region	Number of Active SSPs	Approximate number of clients	Approximate number of hectares
Eastern – Dunavant	449	3,100	2,800
Eastern – Cargill	105	270	300
Eastern – Birchard	82	240	180
Southern – Dunavant	30	280	250
Central – Dunavant	195	520	480
Total	861	4,410	4,010



CropLife certified Spray Service Provider in cotton field, Chama, Feb 10

- The number of SSPs fell short of the target, largely because the majority of the 300 SSPs affiliated to Birchard in previous seasons dropped out due to the financial difficulties being faced by the company, and also because the anticipated expansion in SSP numbers by Cargill did not materialise, largely due to a change in field management over the critical lead up to the 2009/10 rainy season.
- During the fourth quarter in Mumbwa, PROFIT facilitated the introduction of Cropserve into the spray service provider trainings, specifically for training in the use of herbicides. Cropserve's intention is to identify a number of agents from within the SSP group to promote and sell herbicides on a cash basis, supported by a local Cropserve staff.

- In a similar move by an agricultural retail firm to utilise the cotton networks for product marketing and distribution, Plant Agrichem trained eighteen cotton based SSPs in Eastern Province as agents to streamline the supply of herbicide, vet drugs and other chemicals into the region.
- Cargill intends to train and operationalise 500 SSPs for the 2010/2011 agricultural season
- In Eastern Province, a number of the more proactive cotton SSPs have started diversifying their activities to include cattle spraying, vet drug sales and horticultural chemical application.

2. At least 400 trained and active tillage service providers serving the industry

- During the first quarter of the year, there were almost 700 ox-based tillage service providers active in the cotton sector. Over 1,600 ha of cotton lands were recorded as prepared by oxen-based TSPs, of which exactly half was in Mumbwa, demonstrating that in this district, ripping is fast becoming a standard form of land preparation
- 19 tractor-based TSPs were active in the sector over the quarter ripping 940ha, of which over half was in Mumbwa, bringing the total area ripped during the 2009 land preparation season to 2,540ha, ripped by approximately 720 service providers, far exceeding the target figure.
- During the fourth quarter, both Dunavant and Cargill placed great emphasis on expanding the number of tillage service providers within their networks. Dunavant identified and trained a further 100, and Cargill identified 500 TSPs for training early in the next quarter,
- Due to the difficulties in marketing ox-based ripping services early in the season, only approximately 130ha (mainly in Mumbwa) had been recorded as ripped prior to the 2010 rains.
- Ten more tractors were issued on lease by Dunavant to leading distributors during the fourth quarter, but with pressure to provide haulage services during what has been a busy

Cotton Spraying Services

Bydon Musukwa, 17 is a double orphan and is a Grade 10 pupil at Chama Day High school in Chama district, 950km east of Lusaka. Bydon lives alone in a village near his school and fends for himself.



Raising school fees was a continual battle for Bydon, but in 2008 he met Bonnix Chawinga a cotton buyer and qualified spray service provider (SSP) with Birchard Cotton, who persuaded him to plant cotton finance his education.

Unable to spend the time in the field, and without technical and agricultural expertise, Bydon hired Bonnix to provide scouting and spraying services for the entire cotton growing season.



Bonnix had been trained by Birchard and PROFIT in pest scouting and safe and effective spray application in order to assist farmers who may not be in a position to spray their crop effectively on their own.

With the good management provided by Bonnix, Bydon harvested 480kg of cotton from his 0.5ha plot and earned \$122 net after loan deductions. From his earnings, he paid his school fees of \$70, and paid Bonnix's service fee of \$13.

Bydon was grateful for the service he got from Bonnix, without which it would have been almost impossible for him to attend to the crop and school at the same time. He says, "I will continue growing cotton with the help of Bonnix to raise money for my school fees and other things which I need".

cotton and maize marketing period, the area ripped by the Dunavant TSPs in 2010 by the end of the year was only 240ha in Mumbwa and under 100ha in Eastern Province.

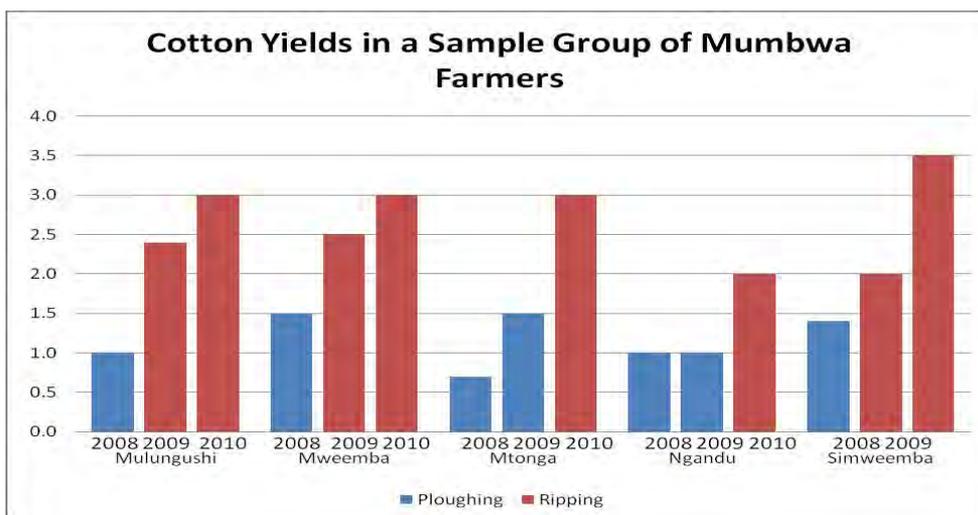
- However, all tractor-based TSPs are reported to have full order books for ripping services for the next two months.

3. Access by at least 10 tractor owning farmers affiliated to cotton companies to appropriate ripping equipment for the contracting of minimum tillage services

- Dunavant provided access to mechanical rippers by six service providers with existing tractors during the first quarter, and have since issued 20 tractors and rippers out to distributors to bring the total number of mechanised rippers in the cotton sector to 26
- PROFIT assisted Dunavant to design a promotional payment system whereby cotton farming clients paid a 35% deposit to the tillage service providers and, upon verification of completion of the service by Dunavant staff, the balance of the universal K175,000/ha service fee would be payable by Dunavant to the service provider and deducted from the client's cotton sales at the end of the season..
- During the fourth quarter, PROFIT began work with a local micro-financial institution, CETZAM, and introduced the company to independent tractor owners in cotton production areas interested in micro-loans for ripping equipment. CETZAM has received finance via the Development Bank of Zambia from the IFAD Rural Finance Programme for expanding its agricultural lending portfolio.

4. At least 5,000 ha of early minimum tillage land preparation for cotton production undertaken prior to the start of the 2010 agricultural season

- As indicated above, it is estimated that only approximately 500ha of ripping has been recorded between the ox and tractor ripping service providers by the end of the year, significantly below the target figure.
- The reason for this is relatively easy to determine, and reflects over-optimism that the ripping season would have started earlier in the year. There are two fundamental reasons why very little ripping has taken place. Firstly, the considerable delays experienced by farmers in being paid by the Food Reserve Agency for their maize deliveries has led to a severe liquidity crisis in the smallholder farming economy, in which early land preparation is naturally not a priority over living expenses. Secondly, due to the bumper maize crop and strong demand for cotton haulage services, tractors – and also oxen to a certain extent – have been utilised for crop haulage rather than ripping.
- It is anticipated that, with the drying up of haulage contracts and the FRA paying farmers, ripping services will start in earnest during October.
- The graph below shows, within a group of Mumbwa farmers with a record of ripping, the yield improvements that ripping can bring to a cotton crop in relation to conventional ploughing:



5. Access by at least five farmers affiliated to cotton companies to financed tractors for the facilitation of ripping and haulage services

- During the first quarter of the year, Dunavant issued ten 45hp tractor units and rippers to selected distributors in Eastern, Southern and Central Provinces on a lease basis, from the company's own balance sheet.
- A further ten distributors from the same regions were issued with tractors and rippers during the reporting quarter, in conjunction with the World Food Programme Purchase for Progress (P4P) Programme, which is providing the funding to Dunavant as part of an innovative partnership between the two organisations brokered by PROFIT.
- At the end of the second quarter, PROFIT, WFP and Dunavant facilitated a business training for 22 new and existing tractor owners from within the Dunavant network to build their skills in financial management, customer service and the technical handling of the machinery
- The first tractors were handed over by the then Minister of Agriculture, Hon Brian Chituwo in Mumbwa in October, and in May, WFP and Dunavant held a high-profile public launch, officiated by the Minister of Livestock Hon Machila, during which a tractor was handed over to one of the two female service providers. Both events have generated considerable interest in the benefits of commercial mechanised service provision within the cotton sector.



Minister of Agriculture, Hon Chituwo, handing over the first tractors leased by Dunavant to service providers, Mumbwa Oct 09



Minister of Livestock, Hon Machila, handing over a tractor to a female TSP recipient Taviness Munyinda Lusaka, May 2010

- Four financial institutions expressed an interest in financing the Dunavant tractor lease portfolio and expanding it within the Dunavant network, representing a major breakthrough in financial access by emergent farmers. By the end of the fourth quarter, one bank, Standard Chartered, had been awarded the tender with preferential interest rates for the lessees.
- At the end of the year, another six lead farmers within the Dunavant network were being identified for another round of tractor leases on the WFP balance sheet.
- It is encouraging that, despite a low level of ripping activity by the close of the year, the TSPs with leased tractors have made significant strides to generate sufficient income to meet repayment obligations. For example, the four TSPs affiliated to Dunavant in Eastern Province hauled 500t of seed cotton during the cotton harvest, generating \$22,000 in three months.

6. Roll-out of some form of electronic payment system for cotton farmers

- During the third quarter, Mobile Transactions, PROFIT and Dunavant piloted an electronic cotton payment system in Eastern Province. The pilot took two different forms, the first one being the recruitment of farmers for direct payment into a „1-Account’ held on their personal mobile phone. 200 farmers volunteered to trial this form of payment, and by the end of the quarter, payments had been made, and farmers were being encouraged to transact from this „wallet’ with some of the schools and agricultural retail outlets engaged by Mobile Transactions.
- On a larger scale, efforts were made to pay farmers through Dunavant buyers actually being Mobile Transactions agents, able to electronically capture crop receipt information in the field and pay out from the Mobile Transactions system. Unfortunately, the system only allowed payment 24 hours after crop receipt information had been submitted, which was deemed an unacceptable delay considering the extreme competitive nature of the cotton marketing in the area and at the end of the reporting period the pilot had been shelved.
- However, by the end of the fourth quarter, a million dollars in farmer payments had been made through the MTZL system, though the vast majority of these were „retroactive’ with the actual cash having been transacted in the field at the point of collection.

Additional Achievements

- PROFIT continues to assist Dunavant explore ways of utilising the production network to take advantage of carbon market initiatives, and currently a scheme involving integrating agro-forestry systems using Faidherbia Acacia into smallholder lands is being developed, and a mass roll-out of a wood-based low-energy cook-stove project through the Dunavant network will commence early in the next quarter.
- The process of introducing preferred supplier programmes into the main cotton production networks started by PROFIT in 2008 has flourished in 2010. There are currently over 15,000 „Gold Club’ farmers within the Dunavant network who are rewarded for their production and loyalty with incentives such as access to rippers and even tractors for service provision, and discounts on agricultural inputs and free promotional hybrid maize seed. Cargill have introduced „cotton schools’, a form of

preferred supplier system whereby Cargill's best performing farmers have access to more intensive training and also to services such as tillage and spraying

Challenges

- An issue under review by Dunavant and PROFIT is the low level of adoption of the spray service platform despite its cost-effectiveness and yield benefits. One possible constraint is the lack of protective clothing for spray service providers making them unwilling to extend the services. The inability of Dunavant and Cargill to establish comprehensive SSP recruitment and training programmes before the 2009 rains started also hindered expansion of the service.
- Competition for a limited volume of cotton (approximately 70,000t) among the various industry players is intense, despite the installation of the Cotton Board with apparent powers to regulate the industry and punish pirate buyers. Again this danger limits the willingness of companies to invest in services to their production base.

OUTPUT MARKETS

Annual Summary

PROFIT continues to invest heavily in financial and technical terms in the development of ZAMACE as the catalyst for an improved trading environment that ultimately will benefit the whole agricultural sector. Good progress was made over the year in terms of the development of ZAMACE in the first three quarters of the year. A 130% increase in traded value over 2009 levels was recorded, although the Exchange narrowly fell short of the \$50m target.

Other than World Food Programme buying activities, most of the trades recorded on ZAMACE were ‚registered’ (i.e. off-Exchange contracts registered with the Exchange) which is positive in terms of both price discovery and Exchange income, but disappointing in its demonstration of the fact that members of the Exchange still prefer to conduct business off the Exchange floor.

By the year end, three key developments that will define the future of ZAMACE were underway. The first is a watershed arbitration case which, when it is resolved early in the next quarter, will demonstrate the value of a ZAMACE contract in terms of speedy conflict resolution. The second development is the conclusion of the lengthy process of establishing a settlement guarantee system that will add considerable value to dealing across the Exchange. Guaranteed settlement will commence in November 2010. The third, and perhaps the most significant, is the bringing of the Food Reserve Agency onto the Exchange as a member for the purpose of stock sales. Not only will this generate a higher profile and greater income for ZAMACE, but it will bring new buyers (and sellers) onto the Exchange and is possibly the ‚tipping point’ as far as ZAMACE activity is concerned.

A major challenge still exists in bringing the benefits of the Exchange to the smallholder economy. To an even greater extent than in 2009, the buying activities of the Food Reserve Agency crowded out private sector participation in the smallholder market, and gave rise to the perception that commercial prices offered below the unreasonably high FRA prices were unfair to the farming community. ZAMACE and its partners, including PROFIT, IFC and World Food Programme, invested considerable resources in creating awareness among farmers of the benefits of using ZAMACE-certified warehousing to gain a quality and quantity recognition, yet under 1,500t of smallholder crop passed through the district warehouses. There was a small success in that the first smallholder crop from a district warehouse was traded across the Exchange in the fourth quarter, but the trend was for smallholder crop to be diverted to FRA buying points, even from the first level aggregation points with which ZAMACE was working.

In relation to its work with ZAMACE, PROFIT continues to play a high profile role in advocating for a more liberalised commodity trading environment that would be conducive to the evolution of more transparent, more equitable trade that fosters low margins and high volumes, and also which facilitates improved export opportunities.

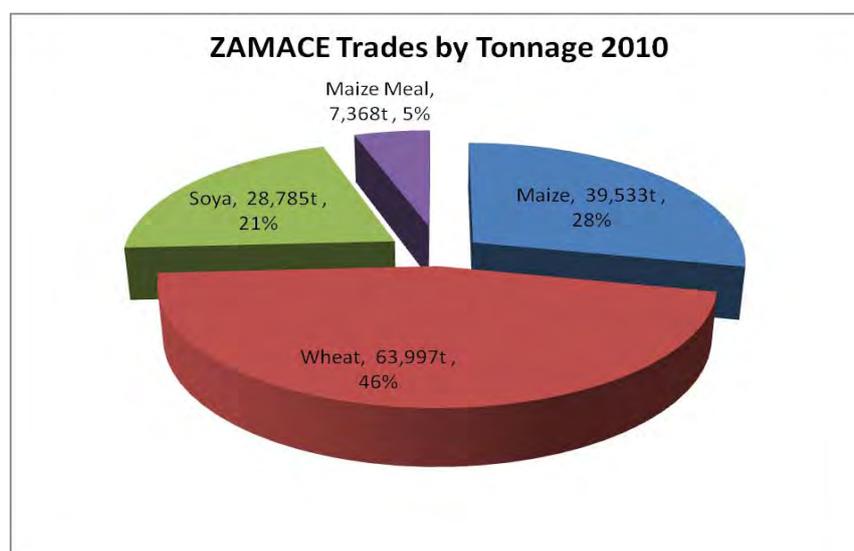
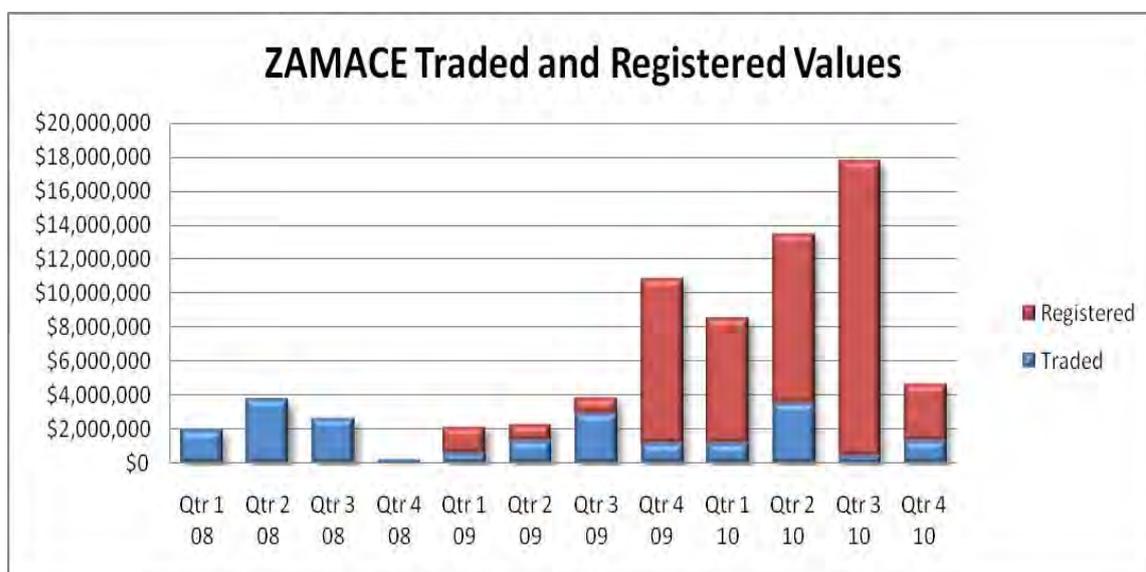
Output market pathway: Theme 1

Supporting ZAMACE to maturity by enhancing its position in the agricultural commodities market

Achievements against benchmarks

1. At least \$50m of trades completed on ZAMACE, effecting a significant move towards self-sustainability

- During the fourth quarter, 38 trades in 19,000t of commodities worth \$4.7m were recorded across the Exchange. This represents a 74% decrease on the previous quarter.
- The cumulative total of traded value in 2010 stands at just over \$44.5m, in 140,000t of commodities. This represents an increase on 2009 of 130%.



- The main reason that the targeted \$50m in turnover was not met is the dramatic reduction in trades during the fourth quarter, resulting from a number of factors:
 - The aggressive buying activity of the Food Reserve Agency at prices varying between 30% and 80% over „real market’ prices depending on location significantly crowded out private sector maize purchases from the smallholder sector
 - Growing discomfort among members with the registered trade process (whereby members are required to register all off-Exchange transactions on the Exchange) has meant there has been widespread abuse of the rule and the majority of members’ transactions are taking place off the Exchange and not being registered.
 - The delay in finalising a major arbitration case has led to one of the larger members „suspending’ the registering of trades, since his reason for registering is to access ZAMACE arbitration services and he needs to see a value to these before continuing to comply.
- The majority of actual Exchange trades during the year were generated through World Food Programme procurement activity, as the agency began to purchase all locally required commodities through ZAMACE in the first quarter. With the WFP Zambia P4P procurement implementation plan signed off by Rome, the agency focused all its buying activity for the year on ZAMACE, and in some instances by utilising simultaneous Buy-Volume Only trades on ZAMACE and ACE in Malawi.
- ZAMACE costs approximately \$28,000 a month to operate, of which \$15,000 has been determined to be „core costs’ (i.e. the costs associated with trading, laboratory and other commercial services) rather than „developmental costs’ (i.e. the costs associated with promotion, advocacy and smallholder outreach). It is central to the sustainability of ZAMACE that by the end of the PROFIT project in 2011, the core functions of ZAMACE must be financially sustainable. Due to the low levels of activity in the fourth quarter, the average monthly income in 2010 has been just over \$11,000 a month.
- An increase in membership fees and changes in corporate structure and operations has led to three members surrendering their seats on the Exchange, bringing the number of members operational on the Exchange to thirteen. With a further revision in the fee structure early in 2011 in order to meet the requirements of financial sustainability, it is expected that other, smaller members might also leave the Exchange.

2. Establishment of an active clearing and settlement mechanism enhancing the integrity of the Exchange completed

- During the first quarter, the ZAMACE Board of Directors mandated the development of a guaranteed settlement process and ZAMACE solicited suggestions from six commercial banks on how the banks might implement such a system.
- During the fourth quarter and after significant delay on the part of the Standard Chartered Credit Committee, negotiations were finalised between Standard Chartered Bank and African Trade Insurance towards the design of an insurance-backed, collateral-free trade guarantee facility. The Settlement Facility, which is a voluntary option for members that will cover payment and delivery default on the part of the counterparties to a trade across the Exchange, will be in operation from

November 1st 2010, and will add significant value to trading across the Exchange rather than over the counter.

3. A comprehensive and fully compatible set of Rules and Regulations, approved by the Securities and Exchange Commission developed.

- The Membership and Rules Committee of the Board of Directors undertook a major revision of the ZAMACE Rules and Regulations during the first quarter, incorporating legal assistance in harmonising the contract documentation with ‚best practise’ local and international grain trading contracts.
- Further legal assistance was secured to revise the Rules of Arbitration to conform to Zambian arbitration legislation and revised Rules will be completed early in the next quarter.
- The revised Rules and Regulations were submitted to the Securities and Exchange Commission as part of a process of assisting the Commission to develop legislation around commodity trade.

4. Progress made towards regulation of ZAMACE by the Securities and Exchange Commission as evidenced by engagement of SEC in the process

- Following a Cabinet directive to SEC in the first quarter, ZAMACE and PROFIT were nominated as members of a committee that will work on draft legislation that will bring ZAMACE and any future commodity exchanges under the oversight of SEC.
- The terms of reference for a PROFIT consultant to engage in this process were finalised at the beginning of the third quarter, and an international consultant selected. However, due to the cost of the exercise, supplementary funding from Government was requested by SEC. By the end of the year, this funding was not forthcoming and the legislative ‚committee’ agreed to source a lower cost, local legal consultant to draft the appropriate legislation.

5. The inclusion of two major banks in ZAMACE-related finance activities (warehouse receipting and other forms of commodity finance)

- Due to the size of the 2010 harvest (officially stated as 2.8m tons of maize), international marketing constraints and the low likelihood of an upswing in prices towards the end of the year, there are few incentives for traders to finance and store crop. Therefore, despite an increased interest in commodity financing by the major banks, no warehouse receipt financing took place this season.
- Prior to the marketing season, ZAMACE worked with a small Italian micro-finance institution interested in discounting stock in small certified warehouses in Southern Province during the marketing season, but a lack of deposited stock and a poor environment for lending against stored crop prevented any loans to be taken out..
- After five years of pending action, the Amendment to the Agricultural Credits Act was presented to Parliament in the legislative session of the fourth quarter. This should significantly improve the ability of ZAMACE to develop warehouse receipting system in conjunction with commercial banks. However, it is becoming clear that the Bill that was given its first reading in Parliament was not the Amendment but an entirely new piece of legislation based on the Ugandan Act. It is not clear what provisions this Act has for ZAMACE and warehouse receipts.

Additional Achievements

- In the fourth quarter and after months of advocacy on the part of ZAMACE, moves were being made by the Ministry of Agriculture and Cooperatives to investigate the modalities of the Food Reserve Agency utilising the Exchange to sell its stored crop. Pressure is being exerted on FRA to explore all avenues of offloading what will be a record level of purchases (at end of reporting period estimated at over 700,000t) as well as 160,000t of crop carried over from the last season, and there appears to be an appetite to engage private sector trading mechanisms. This represents a major breakthrough for ZAMACE, and FRA involvement on the trading floor would add significantly to the participation of other players in the market on the Exchange, in a similar fashion to World Food Programme purchasing activity.
- In the first quarter, PROFIT and ZAMACE worked with the Agricultural Products Division of the Johannesburg Stock Exchange (SAFEX) to develop a concept paper around the utilisation of both SAFEX call options and local ZAMACE call options as a more intelligent form of public national food security management than the current expensive, distortionary and trade-repressive direct procurement and storage operations of the Food Reserve Agency. The team presented the concept to a group of agricultural donors, who expressed an interest in promoting the option to Government, and the same presentation was given by PROFIT to a broad range of stakeholders in the agricultural and policy sectors in the second quarter at a workshop in Chisamba. The presentation was part of on-going efforts to lobby for a more predictable and competitive market environment for Zambian agricultural trade.
- PROFIT is brokering a strategic partnership between ZAMACE and BADEX, a new bonds and derivatives Exchange being established in Zambia, to enable the development and trade in agricultural derivative products
- The ZAMACE Board of Directors appointed a new independent Chairman during the third quarter, being Mr Chance Kabaghe.

Challenges

- There were very few actual trades on ZAMACE during the year, with 85% of trade activity being through registration of contracts by brokers trading off-exchange. While trade registration (whereby brokers record deals done off the Exchange and pay a registration fee) is beneficial from an income-generating angle, registered trades are not made through the price discovery and transparency that on-Exchange trading permits and the disproportionate level of registered trade is an area of weakness. Under a proposed new membership fee structure, discounts on fees for Exchange trading activity are being incorporated in order to incentivise „real trading activity.
- The rule stipulating the mandatory registration of off-Exchange trades by members has been abused during the year, creating an unfair imbalance between complying members who have been paying registration fees and declaring their trade prices and non-compliant members. The new membership fee structure will triple monthly financial obligations and remove the obligation to register all trades in a bid to balance out the discrepancies.
- The establishment of a guaranteed settlement process, that it is hoped will stimulate the placement of bids and offers on the Exchange, was seriously delayed by Standard Chartered Bank but will be effected in the next quarter.
- A high profile arbitration case, lodged in April, was still pending by the end of the year. The market is watching progress carefully to determine the validity of ZAMACE's

claimed market advantage of speedy and cost-effective redress in the case of contract default.

- Regulation of ZAMACE by SEC is becoming a critical issue, especially as government interest in the Exchange increases. Over the year, the pace at which SEC is moving on developing appropriate legislation to accommodate regulation has been extremely slow, despite offers by PROFIT of financial and technical assistance to speed up the process.

Output market pathway: Theme 2

Broadening and deepening the benefits of ZAMACE by fostering the engagement of the smallholder sector

Achievements against benchmarks

1. At least five district-level warehouses offering ZAMACE-based aggregation and sale services certified by ZAMACE

- During the third quarter, the following warehouse operators were certified:

Warehouse Operator	Warehouse Locations	Capacity
Afgri	Choma, Mkushi	5,500t
Moomba Investments	Monze, Kalomo	300t
Citron	Mkushi	270t
COMACO	Nyimba, Mfuwe, Lundazi	1,000t
Total		7,070t

- ZAMACE also worked with 18 first-level aggregation points in Central and Southern Provinces, to sensitise and train farmers and co-operatives (which formed eight of the 18 aggregation points) in product grading and quality parameters that would allow crop to be graded as ZAMACE Grade A upon delivery to a certified warehouse. ZAMACE provided the centres with basic grading and cleaning equipment on a loan basis.

2. At least 5,000 tons of smallholder crop transacted across the ZAMACE trading floor with measureable benefits reaching the original seller

- Despite a number of positions of smallholder crop being placed on the Exchange, there were only two contracts completed during the fourth quarter, both involving offers against World Food Programme bids for delivery to Eastern Province destinations. The contracts involved 811 tons of maize and cowpeas, worth nearly \$260,000.
- Other than the 811t of commodity in Eastern Province, another 600t of smallholder maize was graded and aggregated in the first level aggregation points, for intended transfer to the nearest district warehouse.

- In July, the Food Reserve Agency commenced its purchases, offering prices significantly over the commercial market price. As a result, the majority of the crop collected in the aggregation points was removed by farmers and delivered to FRA purchasing depots, with only 70t actually reaching the district warehouses.
- Several commercial buyers engaged the communities in which high grade maize was aggregated, offering prices with a premium to reflect quality, but their offers were rejected by smallholders as being lower than the „opportunity cost’ of selling to the FRA.

Additional Achievements

- ZAMACE placed 28 mechanical maize shellers into key agricultural areas in Southern and Central Provinces and the recipients included six women service providers and three co-operatives (see insert).
- During August, service providers in Southern Province were shelling an average of ten tons of maize per day, and in Central Province, many of the service providers managed to process over 150t in the month in which they operated, earning up to \$60/day in service fees

Challenges

- The massive market distortion caused by the buying activities of the Food Reserve Agency prevented any meaningful participation by smallholder farmers in ZAMACE-related sales mechanisms. With prices far above market prices, an extended marketing season into October and over 700,000t in stock at the time of reporting, the FRA has been the major player in the smallholder market.

Additional Activities in Output Markets

- During the first quarter, PROFIT signed an agreement with Forest Fruits to support the development of a top-bar hive-based honey production scheme in the Chiawa area of Lusaka Province. By the end of the year, 250 hives had been issued to 200 farmers on a hire-purchase basis upon payment of a

Mechanised Maize Shelling Services

In a pilot project facilitated by PROFIT, financed by WFP and managed by ZAMACE, ZAMACE distributed 28 mechanical shellers on loan out into smallholder production areas to test the business model attached to commercial shelling service provision.

Mechanical shelling costs approximately the same as hand shelling, but is significantly faster, uses much less labour and produces a much cleaner, less broken product. Approximately 1,200kg of maize can be processed in a day.

Mrs Alice Banda, a widow living in Kangombe, Central Province, purchased mechanical shelling services for the first time in 2010.



In previous years, it has taken her and her four children four days of hard manual labour to shell her maize



By buying a shelling service in August, processing her 2.4t of maize took her and her family two hours. The children were not kept away from school and, Alice says „I now have enough time to grow vegetables which I use as extra income to the farm’



deposit, with ownership transferred after two years. A full-time trainer and production network manager was placed in the area by the company to oversee the system in what is a very high potential honey production location. The initial harvest in June 2010 was very encouraging, with the majority of hives in production.

- In Forest Fruits' largest ever harvest, the company purchased 870 tons of honey worth over \$650,000 from their beekeeping network during the first half of the year, representing a 150% increase on last year's production. The increase is largely due to increased demand from the regional and domestic retail market, and due to the expansion in the catchment area to the Chiawa area of Kafue District.
- The Chanyanya model of pooling smallholder land as an equity contribution to commercial agricultural development of that land, to which PROFIT contributed significantly in terms of design, is increasingly seen in international infrastructural development terms as a 'best practise' for equitable and inclusive commercialisation of smallholder land.
- Partly as a result of this, but also in part due to PROFIT's high profile in the wider agricultural community, the programme is increasingly consulted by potential agricultural development investors, particularly in relation to the smallholder component of any major agricultural development. Four private equity funds have held talks with PROFIT over the year.
- In 2008, PROFIT initiated the importation and certification of several varieties of upland rice, namely the NERICA varieties, in order to catalyse the development of an upland rice sector in Zambia, which is still heavily reliant on imports to meet domestic rice demand. Zamseed, PROFIT's commercial partner, managed to bulk up approximately 120t of rice seed during the 2009/10 season. As part of a JICA-facilitated project, 30t of this was allocated to Zambia Agricultural Research Institute (ZARI) and subsequently this seed has been incorporated into the 2010 Farm Input Support Programme (FISP) in which 3,000 farmers will each receive sufficient seed for 0.25ha. Meanwhile, Zamseed are selling the remaining 90t to commercial and smallholder farmers exploring alternative cereal crops to maize.

BEEF AND VETERINARY MARKETS

Annual Summary

During the year under review and after a year of internal organisation, the Ministry of Livestock and Fisheries has become fully functional, with the result being a concerted effort to create an enabling environment in the livestock sector. As a way of improving its regulatory and oversight role and with PROFIT support, the Ministry finalised and submitted three major Acts to the Ministry of Justice and subsequently to first reading in Parliament. These acts will form the backbone of the establishment of a disease free zone for livestock and define the roles of public and private players in the sector. The injunction on the punitive Pharmaceutical Act obtained last year on behalf of the private vets to prevent its enforcement is still in force.

Over the year, PROFIT's engagement with the new Ministry has increased significantly, not only on the matter of legislation but also in the development of the Livestock Service Centre (LCS) model, which is a cornerstone of future livestock policy based on the provision of a basic cattle aggregation centre with facilities for dipping, other veterinary services and cattle sales. The government intends to roll out the concept to all districts, including several „super' Livestock Services Centres with training facilities and possibly even basic processing capabilities, and there has been much discussion over the different models of ownership and management over the year.

The increased integration of vet services into the agricultural retail industry over the year has brought about positive change in 2010 and resulted into a huge increase in the access to drugs and services through the agricultural agent network. This, coupled with innovations such as mobile spray races, SSPs treating cattle, and the community livestock worker/agent „hybrid' has helped to fill the supply side gaps in the smallholder veterinary and livestock input markets. In comparative terms, drug and service sales increased from US\$94,000 last year to US\$655,870 this year, representing a six-fold increase and an affirmation of the PROFIT assumption that an actual demand exists within the smallholder sector for improved livestock inputs.

The mobile spray race concept, introduced by PROFIT to the market during 2010 has been a huge success whereby PROFIT's demonstration models have been reproduced many times over by local manufacturers on behalf of farmers and businessmen who see a very strong business case for providing spraying services.

The cattle output market development that has been challenging over the past years is slowly gaining momentum. A number of beef processors are now showing interest in buying cattle from smallholders through the development of buying agent networks. The role of the agent in these instances is not only to aggregate supply and coordinate buying events but also to transmit information of quality and quantity requirements of the buyers, for which they are paid a commission. Over a million dollars of cattle sales have been made through these mechanisms this year and over time it is hoped that these become the platforms upon which extension information and elements of transparency can be overlaid.

Vet Services and Beef Industry Pathway: Theme 1

Improving participatory government oversight as a key to private vet service provision

Achievements against Benchmarks

1) At least three stakeholder meetings held

- During the fourth quarter, two stakeholder meetings were held in Kapiri and Choma focusing on Livestock Service Centres, bringing the annual cumulative total to seven.
- The meeting in Choma in June was held to brainstorm and agree on the location and the business model of the Livestock Service Centres which will be built in Kalomo and Namwala districts of Southern Province. In addition, the meeting provided the platform to promote the future commercialisation of the LCSs among the local Ministry personnel, cattle buyers and farmers.
- Following the drafting of the Animal Health Act, the Para-vet and Professional Act and the Brand and Identification Act, PROFIT and the Ministry held three stakeholder meetings to review the proposed legislation. During the final workshop, the Ministry presented the finalised acts to stakeholders, receiving final comments before submitting them to the Ministry of Justice and then Parliament.

2) Clear cattle movement requirements established and implemented.

- The process of establishing and implementing clear cattle movement requirements is gaining momentum as evidenced by the number of stakeholders meetings that have been held by the interested parties with Government, including incorporation of animal movement guidelines into the Animal Health and Brand Acts.

Additional Activities

- During the fourth quarter, the locations of four of the six LCSs to be built by PROFIT in collaboration with the Ministry were finalised. Two are to be in Mumbwa, one in Kapiri and one in Kalomo.
- In Mumbwa, the construction of one of the LCSs has reached an advanced stage with completion earmarked for mid October



***Nalubanda Livestock service centre under construction
Mumbwa, September 2010***

Challenges

- PROFIT's intention has been to fast-track the piloting of the LSCs and to demonstrate the benefits of private sector participation in the management of the centres, but there has been little interest by the private sector to partner with the Ministry.

Vet Services and Beef Industry Pathway: Theme 2

Fostering Market Output linkages

Achievements against benchmarks

1) At least ZMK 1billion (\$200,000) worth of cattle bought through centralised community buying centres.

- During the fourth quarter a total of 1,250 head of cattle worth US\$530,000 were bought by three beef processors, namely Dayow Beef, Kalomo Abattoir and Best Beef through centralised community buying centres
- The annual total number of cattle sold through these mechanisms now stands at 4,100 valued at approximately US\$1,300,000. This compares to 117 cattle worth \$44,000 sold through the same mechanisms last year.
- These centres are managed by both the agents and buyers working with the community, and the buying process is a platform upon which a transparent and information base beef market can be based.
- One firm, Dayow Beef of Kalomo/Choma has engaged fourteen agents to act as information hubs and is paying them a commission of up to \$20 per animal aggregated. The total commission paid out to agents by Dayow Beef in the fourth quarter equates to US\$23,0000 giving an annual total of US\$82,000.

2) At least 6 community sale yards established

- The progress of establishing the community sale yards that will be located at the livestock service centres has been slower than expected, but all sites have been identified and construction of the Mumbwa centre is nearing completion.
- In Kapiri, which is the next construction point earmarked for development in the next quarter, the community have already started using the selected location in Mpunde to pilot sales, including moving to a more transparent scale-based weighing system.



An animal being weighed for sale at a community buying centre at Mpunde, Kapiri September 2010

3) At least 50 farmers improving their cattle management by either accessing feeding, A. I services or buying improved bulls for herd improvement.

- During the year under review, Hope Vet and Gemini Vet conducted training sessions on Artificial Insemination (AI) In Chongwe and Monze. A total of seventeen cattle farmers have access the AI service with over 30 cows inseminated valued at over US\$500 worth of semen.
- A total of 50 farmers have participated in the making of silage with a total of 5 tonnes of silage made across Kapiri district. In Kabwe, the Mpima dairy group has gone a step further by procuring its own chopping machine for hay and silage making to make this a permanent activity.



*A Kabwe farmer at his silage pit
June 10*

4) At least 4 buyers actively buying cattle from smallholder community sale yards

- Other than a pilot sale yard in Kapiri, the sale yard structures that are integral to the LCS model have yet to be constructed.

Additional Achievements

- In an initiative to compensate for the chronic lack of dipping infrastructure in Zambia's main cattle areas, in 2008 PROFIT designed a spray race capable of being easily dismantled and moved between cattle aggregation points by a veterinary service provider. The prototype mobile spray race was built in 2009 by a local fabricator, and is capable of being dismantled in 15 minutes and portable on a pickup. PROFIT commissioned six spray races to place in strategic areas to test the business model around the equipment.
- The prototype model was „launched’ in Namwala in the second quarter of 2009, and the event was immediately followed by two private purchases and a government donation.
- More interestingly, within weeks local fabricators in Southern Province had replicated the design and by the end of the third quarter, another seven spray races had been built, commissioned and utilised for private herd dipping and commercial spray services
- Currently approximately 10,000 cattle per week are being run through the races, with many more expected once full commissioning takes place, representing a dramatic increase in disease prevention through commercial means.
- In an interesting development, the spray races have become aggregation points for the provision of other veterinary services and drug sales, as well as extension information provision. It is likely that cattle buyers will also use the locations for their activities in the future.



***Cattle dipping event using Mobile Spray Race Technology
Katete September 2010***

Challenges

- Even though the concept of centralised buying is gaining mileage there is a lot of work that is still to be done in making these points a permanent feature especially with the processors.
- Centralised cattle buying is still a very difficult concept to sell as the buyers thrive on the non- availability of transparent market mechanisms such as scales, quality standards and asymmetric market information.

Vet Services and Beef Industry Pathway: Theme 3

Scaling up of vet service provision

Achievements against benchmarks

1) At least 25 HHP contracts with a total of 8,000 head of Cattle signed.

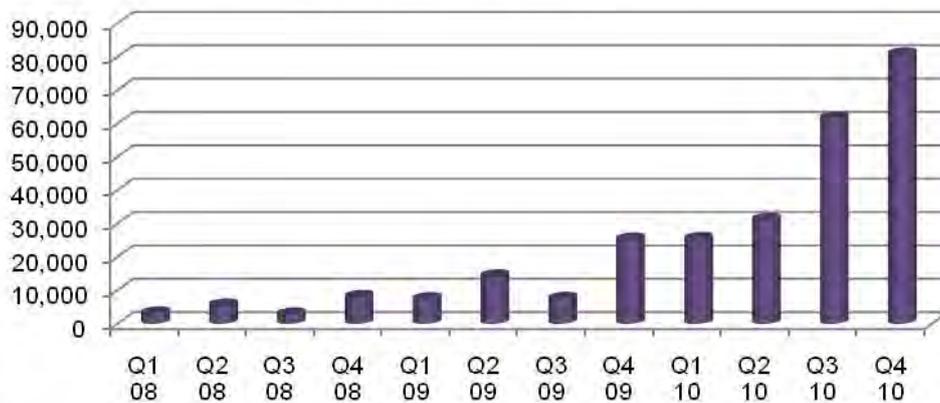
- Two new HHP contracts were signed during the fourth quarter with 366 head of cattle worth US\$6,250, bringing the annual cumulative total to six HHP contracts, covering 1,297 cattle, worth over \$21,000.
- The disappointing result is due to the transition from the HHP model, which has never become fully adopted by either demand or supply sides, to a more varied model of one-off vaccination services, spray services and drug sales through the more widespread and dynamic agricultural retail networks.

2) At least 50,000 livestock transactions of one off services take place

- During the fourth quarter, a total of 81,000 one-off transactions worth US\$78,000 were completed.
- The total annual figure for the number of one-off transactions comes to 199,600 with a total value of US\$406,000.
- This year there has been a huge shift towards farmers accessing one-off as compared to buying a whole package of services, and also there has been a corresponding increase in the availability of such service options. Farmers find it

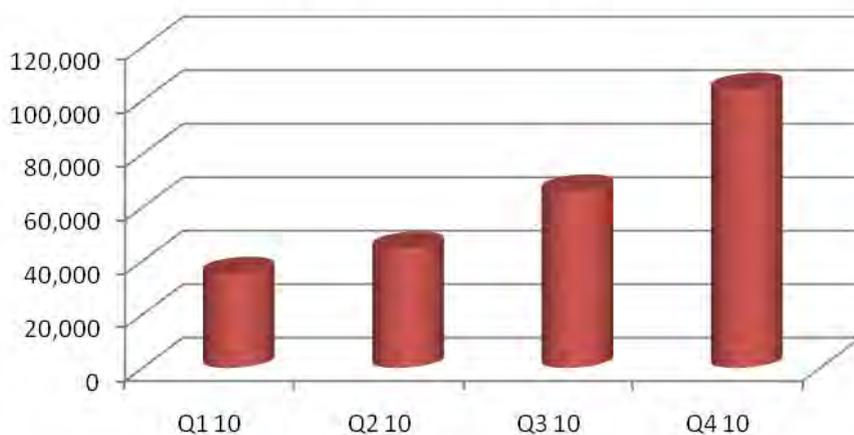
preferable to pay for services as they are being advertised by the vets and also pay for separate spraying services.

**Number of one off transactions
Oct 2007 to Sep 2010**



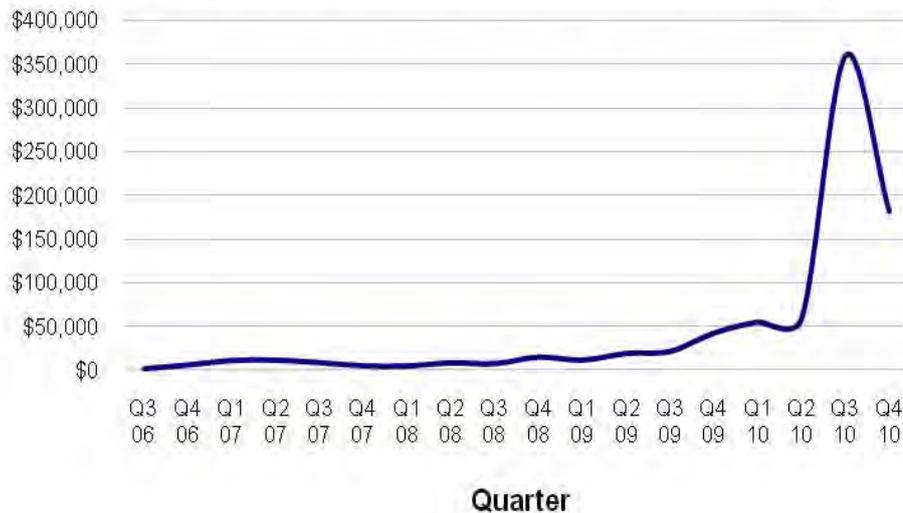
- In the fourth quarter, veterinary drug sales worth US\$104,000 were transacted through improved sales mechanisms into the smallholder cattle sector, bringing the annual drug sales for the year 2010 to \$250,000.
- The highest sales volumes came from Southern Province due to the significantly increased number of aggregation points including the spray races.

Oct 2009 to Sep 2010 Drug Sales US\$



- During the fourth quarter, the drug and one-off service sales totalled US\$182,000, bringing the annual total sales of drugs and veterinary services to US\$656,000
- The simultaneous increase in number of transactions and decrease in sale value between the third and fourth quarters is due to a seasonal reduction in purchases of more expensive vaccination services and an increase in the number of lower cost dipping services.

Sales of Private Vets Services/Products Apr 2006 to Sep 2010 (US\$)



3) At least 200 agents and 200 SSPs trained

- During the fourth quarter, no new agents and SSPs were trained.
- The total number of agents and SSPs trained during the year under review was 65 and 55 respectively. All these were trained in the second quarter. Out of these 20 were further trained as Community Livestock Workers so that they can begin to give basic vets services such as de-worming and basic treatment.
- The most active cattle spray service provider, in Eastern Province, is spraying over 1,000 animals per month.



A District Veterinary Officer in Kabwe explains tick control, September 2010



A Spray Service Provider in action, Chipata, August 2010

4) At least 2 new vet service providers identified

- No new firms have come onto the market during the fourth quarter.
- However, Afrivet, a large commercial veterinary supplier based in Lusaka has now changed its business model to focus on the smallholder market and is making substantial investments in developing a retail and service network in Southern Province.

- The cumulative annual total of new service providers in the market is now three firms, namely Afrivet, Livestock and Veterinary Consult Centre and Livestock Remedies.

4) At least 2 new strategic alliances finalised

- In the fourth quarter, one strategic alliance has been finalised between Pannar Seed and Afrivet in Southern Province. Afrivet is using the network of Pannar agents to promote and distribute dips and de-wormers as well as herbicides. The company has gone further and trained these agents in their products and offered commissions of 10% to 15%.
- This brings the total number of strategic alliances entered into to three. These are between Hygrotech & Enablus Resources and Livestock (ERL), Gemini Vet & Muzuma Estate and Pannar & Afrivet.

Challenges

- Certification of CLWs is still a big challenge and therefore the scalability of basic service delivery through the agent model is very limited.

THE DAIRY MARKET

Annual Summary

The last twelve months has continued to see an increase in the volumes of milk supplied and collected from the emerging commercial small scale dairy farming sector. A combination of increased adoption by farmers of productivity enhancing technologies, improved extension by private sector-employed extension officers and more efficient milk collection all contributed to this volume increase. Unfortunately, this increase in supply coincided with a dip in consumption from mid 2009 triggered by the downturn in the local economy, resulting in a surplus supply of raw milk through the early and middle part of 2010. The surplus forced the largest processor, Parmalat, to impose quotas on smallholder and commercial producers to prevent a serious over supply, but monthly exports averaged about 300,000 litres from February to August 2010 relieving supply pressures and averted a milk price collapse. Domestic demand during quarter four has also shown strong signs of recovery.

In an encouraging sign of industry cooperation across the value chain, the Zambia Dairy Processors Association (ZDPA) and the Dairy Committee of the ZNFU were amalgamated in the fourth quarter to form the Dairy Association of Zambia (DAZ). This organisation will have a broader membership base and will be open to farmers, processors and other stakeholders. DAZ has received a three year grant of \$400,000 from the Gates Foundation to be used specifically to strengthen DAZ, raise its profile within the dairy sector and help to stimulate domestic milk consumption.

In a sign of continued investment by the private sector in smallholder milk production, five privately owned and funded milk collection centres were built and made ready for milk collection by the end of September 2010. Two of these started receiving milk during August, the third in late September and it is expected the remaining two will be fully operational in October ready for the onset of rains and subsequent increased milk supply.

PROFIT has been very involved over the year in the development of a school milk feeding programme, as a way of increasing actual milk consumption and stimulating local demand for milk. By the end of the year the project lead, Tetrapak, had submitted the final proposal to SIDA and it is hoped funding in the region of \$500,000 will be approved in October for the pilot programme expected to start in Jan 2011. If the programme goes ahead, milk will be made available to approximately 12,500 primary school children and will be implemented by WFP, which is currently operating a school feeding programme supporting 300,000 vulnerable children in various districts of Zambia.

The new feed analysis lab at Vetlab will be commissioned and ready for operation during October and November. This will be the most advanced animal feed analysis facility in the country which, once ISO accredited, will offer analysis on a regional basis that will compete with the service currently only available in South Africa.

Dairy Industry Pathway: Theme 1

Improving Inter-firm cooperation – strengthening commercial relationships

Achievements against benchmarks

1. At least 4 new formal or informal alliances/ partnerships between private sector companies established

- Over the year, PROFIT has facilitated a large number of commercial partnerships:
 - Hygrotech continues its collaborative activities with milk processors and has indicated an intention to create input supply hubs – specifically related to improved pasture and fodder seed - at the GART-operated milk collection centres in Southern Province which it hopes to start implementing in the next quarter.
 - Parmalat and Olympic Milling are cost sharing a Parmalat extension officer on the Copperbelt who was given permanent employee status with Parmalat in September
 - The Leliosa vet who relocated to Kitwe in March has started significant collaboration with Parmalat and will commence vet and AI services to Parmalat dairy farmer clients on an ongoing basis from October 1 2010.

- The completion of five private sector-initiated and managed milk collection centres has led to direct collaboration between the commercial processors and the dairy communities where the centres are located. One new centre will be managed by Zammilk and the Protea farmer group which is situated about 45 kms north of Lusaka. All of the centres are operated by the farmers but the cooling tank is managed by the processor. It is anticipated that all five centres will be fully operational and receiving milk by the onset of the 2010 rains.



***The new Zambeef MCC in Chibombo
June 10***

- The evolution of ZDPA into the Dairy Association of Zambia (DAZ) has been an excellent example of cross industry collaboration and this transition was helped by the PROFIT initiated ZDPA board retreat in November 2009. The ultimate objective of that meeting was to create an association that is more representative of the Zambia dairy sector and one that will include all stakeholders along the value chain and not just the processors. The ZDPA was seen as exclusive and out of touch with the dairy sector as a whole. DAZ will start to function on October 1 2010 under the umbrella of ZNFU. It was

recently awarded a grant by the Gates Foundation of \$400,000 over 3 years to build capacity within the new association.

2. A new loans facility for dairy farmers in place by end of fiscal year. This facility will be for either capital or production loans.

- The micro-finance institution, FINCA, has put in place a pilot loan facility aimed specifically at dairy farmers. First loans were dispersed in mid 2010 and loan capital is available up to \$50,000 for the whole programme. For FINCA this is a move out of its traditional lending arena and there have been some difficulties related to training of loan officers and their lack of familiarity with managing farming loans. FINCA will carry out ongoing training of loans officers to resolve these issues.
- ZANACO continues to disburse loans under its Emergent Farmer Facility which includes loans to dairy farmers. During the last quarter one loan valued at \$50,000 was approved and disbursed for the purchase of dairy animals and two other loans – valued at approximately \$52,000 and \$31,000 are in the final stages of the approval process and should be disbursed during October 2010. The Emergent Farmer Facility comes with intensive veterinary supervision to minimise the risk of default through herd health issues.
- Development Bank of Zambia is releasing IFAD Rural Finance Project funds to microfinance institutions for on-lending into the agricultural sector and first disbursements will be made during October 2010. Microbankers Trust and CETZAM have been approved as two institutions that will receive funds and both are expected to on-lend a portion of this finance to dairy farmers as the funds are earmarked for agriculture for lending to small scale/ emerging commercial farmers.

3. At least 10 collaborative promotional private sector organized events

- Over the year input and output marketing companies organised a wide range of collaborative training activities, promotional events and product launches.
- As in any industry, some companies have been more receptive to this approach than others - in this case Parmalat, Zammilk, Hygrotech, Leliosa and Olympic Milling have been proactive and in all cases have seen positive growth as far as the dairy side of their business is concerned, especially when supported by a dedicated resource focused on dairy issues
- In July a collaborative promotional event on the Copperbelt was attended by Parmalat, 105 farmers, the Citizens Economic Empowerment Committee (CEEC) and the District Veterinary Officer from Luanshya. The event looked at the benefits of feeding forage through the dry season and spraying cattle with a spray race. As a result during September, CEEC Ndola approved loans for seven chaff cutters and



*Farmer examining improved pasture
Hygrotech KowKandy/Cow Pea plot, Ndola,
Feb 10*

three spray races to farmers who attended this event. Mechanisation is essential for medium sized emerging commercial dairy farmers with herds larger than twenty to manage their animals effectively during the dry season.

- Total events reported for the year now stands at 10 but many more are happening independently of PROFIT.

Dairy Industry Pathway: Theme 2

Stimulate the development of industry-critical support markets

Achievements against benchmarks

1. An increase in productivity per small holder dairy cow of at least 5 % over 2008/09 levels

- During the third quarter a dairy assessment was conducted to look at the productivity and profitability of dairy cows and the contribution of the dairy enterprise in improving the livelihood of the smallholder dairy farmers. The results for this assessment show that the dairy cows which were assessed last year increased their milk yield from 7.7ltrs of milk to **8.1ltrs** of milk per cow. This is an increase of 0.39ltrs of milk or **5.1%** over last year's milk yield.

2. An increase in profitability per small holder dairy cow of at least 5 % over 2008/9 levels

- The results for the dairy productivity assessment show that the gross margin per dairy cow has increased to **\$636** compared to last year's figure of \$505. This represents an increase of **26%** over last year's figure.

3. At least 1,800 dairy animals accessing dairy herd health programs

- The number of dairy-type animals on the pre-paid HHP programme in the fourth quarter is 473, representing a decline in numbers over the year as farmers move away from formal and structured health plans.
- However, the numbers of dairy-type animals accessing one-off services or weekly spraying services continues to increase particularly in Southern Province as additional spray races come into operation. At the end of the fourth quarter, spray races were offering weekly services covering approximately 2,000 dairy-type animals per month, with a fifth scheduled to commence during the first week of October. Four of these facilities are managed by trained personnel - either a vet, a vet assistant or a community livestock officer.

4. At least 2,000 farmers continuing to be trained in dairy herd health and productivity

- In the quarter 475 farmers (299 men and 176 women) attended various training sessions covering a wide variety of topics including dairy herd health, pasture management and good dairy hygiene practises. The majority of these training sessions were organised by private sector service providers.

- This brings the annual total to 2,797 farmers trained for the year.

5. At least 90 farmer training sessions organized by private sector input/service providers



Farmers attending a CAMCO training with a forage chopper at Fishenge MCC near Luanshya, Mar 10

- Private sector-driven trainings continue with minimal PROFIT involvement. Specific activities on the Copperbelt during this last quarter involved Leliosa on AI promotion and forage conservation involving Parmalat, Pioneer Seed and CAMCO. In Southern Province Hygrotech continue to organise forage conservation related trainings involving milk collection centres at Magoye and Monze with collaboration from Zambian Fertiliser. The recorded number of training sessions for the year now stands at 85, though it is certain other

events have taken place without the knowledge of PROFIT.

Additional Achievements

- The Zammilk extension officer, originally subsidised by PROFIT but now 100% supported by Zammilk, has been critical to the establishment of a second farmer-operated MCC 40kms north of Lusaka which is expected to open in October 2010. The ownership of the cooling tank remains with Zammilk.
- Leliosa continued with its vet activity on the Copperbelt focusing on the peri-urban dairy sector, and close collaboration with Parmalat and A&P has begun to yield increasing commercial success and it is hoped costs will be covered this quarter. A&P International has agreed to offer a 15% discount on semen to vets trained in AI technique by Leliosa Vet Services
- Raising the profile of the importance of conservation of forage for use through the dry season continues to be a critical activity. Significant progress has been made on this since last year with many farmers now conserving some form of roughage whether it is bush grass and maize stover for lower level adopters or hay and silage for the more progressive adopters. During the 2010 dry season, efforts were concentrated on how to improve the quality of that basic roughage through addition of salt, molasses, urea or mineral premixes or a combination of all of these ingredients. One processor noticed a 30% increase in dry season milk intake from the smallholder sector, attributed to better dry season feeding practices.

Challenges

- The imposition of a quota system by Parmalat in response to a slump in domestic demand whereby production in excess of the quota was purchased at 50% of the standard milk price shook the confidence of the sector which had become used to a situation of unlimited demand.

- A significant challenge continues to be the pace at which new technologies and practices are adopted

Dairy Industry Pathway: Theme 3

Improving output markets by developing and enforcing process standards

Achievements against benchmarks

1. At least 4 of the existing processors will continue to engage in improving and /or value added processing and production of dairy products.

- Dairy King commissioned two new packaging machines which are packing chocolate milk. These items of equipment have improved both product quality and allowed a considerably reduced packing times. Dairy King's new drinking yogurt product has been well received in the market place and daily sales currently exceed 350 litres. The company continues to increase daily production volumes of all products, with an annual increase from 2009 of 10%. A new factory manager has been employed to oversee the day to day running of the factory and continue the Food Safety Programs implementation.
- Galaunia Farms (Diamondale) has begun phase two of its factory revamp, targeting the raw milk storage area and more specifically the piping between storage tanks and the pasteuriser balance tank. Food Safety is now high on the company's priority list with new procedures and documentation being developed on a weekly basis.
- Nice Products have continued trials on their extended shelf life products. Initial results from the trials of these products (Steri Milk and Yogurt) have been extremely favourable. .
- Although the target of four processors was met earlier in the year development work has continued throughout to provide an improved and more diverse range of dairy products to the Zambian market place.



***The new Dairy King yoghurt product on the shelves
June 10***

2. At least 50 technical staff trained in GMP in the processing plants

- During the fourth quarter, Zambia Bureau of Standards conducted two trainings (Modules One and Two of the Food Safety Programme) at Sayyah Enterprises, a small capacity processor (1,500 litres per day) which sources its milk completely from smallholder farmers. The total work force within this factory is twelve of which eight received the training.
- The cumulative total number of staff trained is now 83 against a target of 50.

3. One independent laboratory commissions a dairy testing service

- Vetlab's new premises are now completed and the laboratory has now relocated.
- The new milk testing equipment has been installed and a training programme has been put in place for the laboratory technicians.
- Several processors have already engaged the services of this independent laboratory and are seeing the benefits within their factories and more specifically their products.
- Phase Two of the laboratory upgrade including the feed analysis equipment, is still being consolidated in South Africa. It is anticipated the equipment will be despatched and installed within the next quarter.

4. 10 merchandisers trained in more effective merchandising

- This activity was put on hold until such a time as assured funding is available. Support from the processors is still very high for this activity so providing funding is available it is anticipated the activity will take place in November / December of this year.

5. At least 10 MCC/farmer organisations receiving raw milk hygiene and quality trainings from ZABS.

- There was no additional Food Safety Training carried out over this quarter due to ZABS commitment to other activities.
- However, the number of farmer organisations trained for the year stands at ten (four in the first quarter and six in the third quarter)
- ZABS has now won the trust and confidence of the various processors and milk collection centres and are being engaged directly on any quality issues

6. At least 2 processors engaged in developing HACCP training programs.

- ZABS has been engaged to conduct GAP analyses of all processors and MCC's prepared to undergo HACCP implementation. On completion of the analyses processors will be encouraged to focus on any shortfalls in their GMP program prior to any HACCP training.

7. At least one milk product /package promoted using private sector sponsorship

- It is looking increasingly likely that SIDA will fund a 12,500 children pilot school milk feeding programme over the course of the 2011 school year. The current commitment to the programme is to the value of \$600,000. The various partners, Tetrapak, WFP, PROFIT and the Ministry of Livestock and Fisheries submitted a proposal to SIDA at the end of September 2010 which, if approved, will be funded under SIDA's Private Public Partnerships component.
- PROFIT has been tasked with addressing the sustainability of this project, which will be closely connected to government's commitment to the organisation and implementation of a feeding initiative using locally produced and processed milk. In this case the Ministry of Livestock and Fisheries has made strong commitments to support the programme, even if funding will not initially be available from national sources. The following scenarios are currently being explored to ensure future growth:
 - Government contribution to funding the programme, in part or in whole

- A token levy system where funds raised on every litre produced/ processed contributes to the overall cost of running the school milk programme. This is an arrangement that could be promoted by the newly formed Dairy Association of Zambia.
- Companies provide support under the umbrella of corporate responsibility.
- The sale of advertising space on the carton panels for company promotional purposes, i.e. banks, mobile communication networks and other multinationals present in Zambia.

Additional Achievements

- Agritrace (Kenya) returned to complete the refurbishment of the outstanding faulty milk analysers at Vetlab. This activity has been successfully completed with all milk analysers now repaired and calibrated and the knowledge of how to calibrate this equipment passed onto two laboratory technicians based at Vetlab.
- PROFIT is currently determining the feasibility of a Smart Card system that will aggregate information from all farmers on the system. This system will give farmers rapid accurate figures, on yields, fat, protein, etc and possible water addition allowing them to change feeding habits and maximise on processor payments. This information will then be fed into a centralised data base (located at Vetlab) through mobile technologies allowing various stakeholders to monitor and assist individual farmers where need be. The second phase of the project will be to establish a payment platform that will pay the farmers directly to their bank accounts. This will help eliminate fraudulent activities at milk collection centre level and release more money back to the farmer.

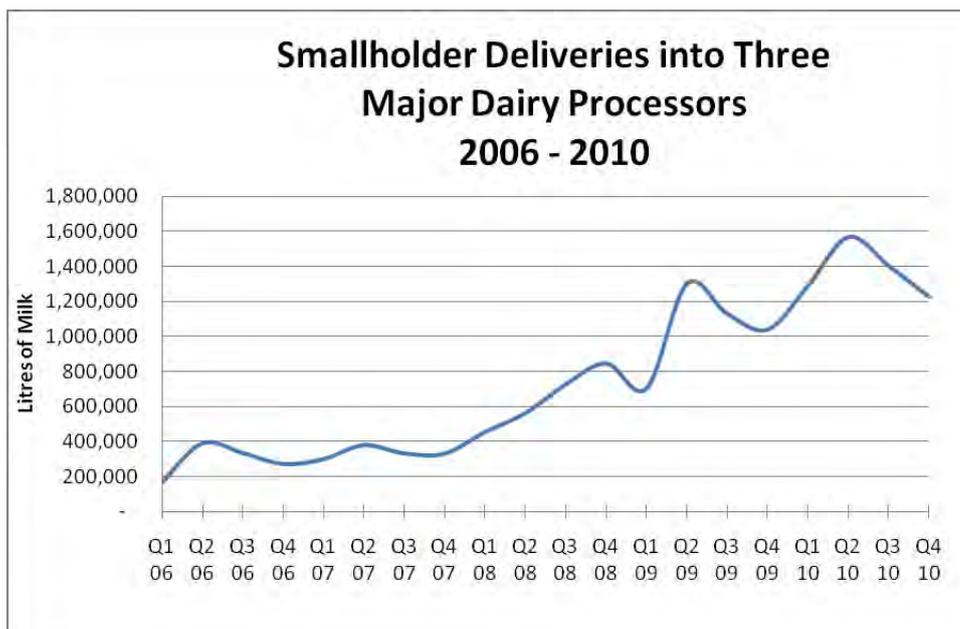
Dairy Industry Pathway: Theme 4

Increasing the contribution of smallholder suppliers to the formal milk market

Achievements against benchmarks

1. Increase the volume of milk collected by processors from small scale dairy farmers by at least 150,000 litres over 2008/09 annual levels.

- 1,224,300 litres of milk have been collected from smallholders during the fourth quarter compared to 1,038,700 litres for the same time last year.
- The total increase for the 2009/2010 period was 1,311,900 litres, significantly higher than the 150,000 litre target.
- This figure can be attributed to the constant engagement of small holder farmers by the processors in both production and transportation.
- It is pleasing to report that the imbalance of demand and supply experienced over the year has been redressed, quota systems have been dismantled and all processors are seeking milk deliveries again.



- **Increase the proportion of raw milk sourced from smallholders by targeted processors by at least 5 % over 2008/9 levels.**
 - Zammilk’s smallholder contribution is back to 6.5% of their total volumes with the opening of new MCCs contributing to this. As the rains begin it is anticipated that the smallholder’s contribution will rise to close to 10% of total volume.
 - During the fourth quarter, Dairy King – which sources its milk exclusively from smallholder producers - experienced a 10.5% rise in raw milk collection from smallholders compared to the same period in 2009.
 - Another record quarter for Dairy King was posted with almost 215,000 litres processed over the 78 processing days. This equates to just over 2,750 litres per day which is being achieved during a time when raw milk supply is normally reducing due to the hot season
 - This company has gone from strength to strength over the past five years from a small, manually operated system with a production capacity of 1,500 litres a day to a mechanised operation with the potential of processing 5,000 litres per day. The newly introduced Smoochys product continues to increase in volumes on a weekly basis.

- **At least \$100,000 of finance /capital granted to processing sector by PROFIT Dairy Industry Development Fund in support of smallholder integration**
 - This facility is now exhausted with a total number of grants disbursed sitting at seven and a monetary value of approximately USD \$300,000

Additional Achievements

- The first centralised co-operative management system in Zambia continues to gain momentum. The co-operative, affiliated to Zammilk and located in Chibombo District, has secured 10 hectares of land from the village chief at a cost of one draft animal. It must be noted that this animal was procured through co-operative funds showing the co-operatives commitment to this project. Although irrigation may be a hurdle in the future the co-operative wish to plant out the land with improved fodder crops prior to the rains to prove to themselves and others that with little input at this stage the initiative can work.

FINANCIAL MARKETS

Annual Summary

The lack of accessible and affordable financial services is a major constraint to economic growth and poverty alleviation in Zambia and PROFIT interventions in the financial sector have been aimed at developing the ability of all sectors of the financial industry to offer and manage a portfolio of suitable products to the rural, agricultural and unbanked sectors.

PROFIT's report on the failings of the agricultural financial sector in the first quarter has been widely seen as a landmark, and has been widely quoted in financial and policy circles. It is recognised as one of the catalysts for a significant change of behaviour in the financial sector in the way it views the agricultural sector, and as a result can claim to have in part stimulated the increased investment by the banking sector in agriculture, resulting in greater competition and better product offerings to the commercial agricultural sector.

Four years of investment by PROFIT in promoting the concept of financial service extension to emergent farmers and commercial service providers related to agricultural equipment have finally begun to bear fruit, as a number of banks have started to position themselves to buy the portfolio of tractor leases from Dunavant. Also, Afgri, a leading agricultural leasing company, has begun to design products for the mechanised service sector. It is expected that the first commercial leases to service providers will be signed early in the next quarter. The fostering of the mechanised service sector and commercial financial support to that sector is a good example of the work of the informal alliance of agricultural development practitioners, with IFC, WFP, ZNFU and Conservation Farming Unit all contributing to the implementation framework established by PROFIT.

Outside the commercial financial sector, PROFIT's work in alternative financial markets continues, and the strong upward trajectory of a longstanding client of PROFIT, Mobile Transactions, is of particular interest. The company is providing and distributing financial services to an increasing number of rural and unbanked clients, and its transactional platform is now beginning to be used by other financial service providers to penetrate areas generally believed to be outside the viable reach of such services. By the end of the year, approximately a million dollars a month was being transacted across the platform. The e-voucher, pioneered by PROFIT and Mobile Transactions in 2009, has also gone from strength to strength, with three major clients transacting another million dollars of voucher redemptions per month. The involvement of the Ministry of Agriculture, through the FAO input support programme, is particularly important in relation to the work conducted by PROFIT and others last year in promoting the use of the e-voucher in the delivery of public subsidy programmes.

PROFIT's leading role in the development of the Zambian carbon market began in early 2010, through financial and technical support to the Africa Carbon Credits Exchange. By the end of the year, ACCE had developed a high international profile in its lobbying for the development of the African carbon markets, which have been neglected in global terms. Of particular interest to PROFIT have been the initiatives to extend the reach of the carbon markets to rural Zambia, and at the end of the reporting period, a large rural cook-stove project was under development, and a pilot carbon project based on agro-forestry on smallholder lands utilising the Dunavant farmer networks had been initiated.

Achievements against benchmarks

1. Dialogue started between the agricultural and financial sectors to address agricultural financing constraints as a result of PROFIT awareness building.

- During the first quarter, PROFIT finalised a major report on agricultural finance and the fundamental dysfunction of the market. Key findings were as follows:
 - Agricultural credit is both scarce and expensive, and heavily skewed towards the larger, corporate sector
 - Loan terms are often too short to accommodate the long term nature of agriculture, collateral requirements are often unrealistically high and the processing of loan applications by banks often takes too long
 - Non-performing loans in the agricultural sector exceed 37%, against 13% across all other sectors of the economy
 - The agricultural finance market is caught in a self-perpetuating cycle of risk and loss, which benefits no one.
 - A highly risky lending environment caused by unpredictable Government intervention, a limited understanding of agricultural markets and limited expertise in agricultural finance in the financial sector, and poor risk management practices and limited financial management capabilities within the agricultural sector are three key problems facing Zambia's agricultural finance market
- Key recommendations made by the report were as follows:
 - **Strengthen the enabling environment for Zambian agriculture**, through making government intervention in agricultural markets more predictable, identifying strategies for reducing the costs of agricultural production and strengthening the legal and regulatory framework for agricultural finance
 - **Strengthen understanding and expertise in agricultural finance within the banking sector** through training lenders in the fundamentals of agricultural economics in Zambia, creating specialised agricultural units with in-house agricultural risk assessment skills and engaging the agricultural sector to improve understanding, increase information flow, and assess risks
 - **Develop and test new financial products and lending approaches to spread, manage and mitigate risks**, such as the use of non-traditional forms of security, agricultural equipment leasing, developing the agricultural insurance market, developing hedging mechanisms and exploring the use of international lines of credit and risk mitigation
 - **Improve financial management in the agricultural sector**: While banks improve their understanding of agriculture, farmers can make themselves more attractive to banks as clients through developing and demonstrating financial proficiency.

- In December, PROFIT presented the findings of the report to fifty stakeholders from the farming and banking sectors, with good attendance also from the Bank of Zambia and policy makers.
 - The first three months of the calendar year saw several banks actively engaging the commercial farming and commodity trading sectors, taking a more aggressive stance in terms of client capture, product offerings and service delivery. It is widely recognised that in part, this new initiative is due to the high profile given by PROFIT and ZNFU to the dysfunction of the agricultural financing sector.
- 2. One or more banks making significant efforts to engage the agricultural and SME markets, and investing in staff capacity to operate in these markets**
- ZANACO, Standard Chartered and Stanbic Banks are all making efforts to engage the agricultural sector, and are investing in greater staff capacity in order to capture market share.
 - All banks are making strides to address the gap in financial service provision to the smallholder farming community.
- 3. One or more financial institutions developing non-traditional lending models that do not rely on land-based collateral.**
- In the second quarter, at least one major bank was offering seasonal facilities to commercial farmers using an off-take agreement from one of the major traders as security. This represented a „first’ for Zambian banks and should be the catalyst for greater competition in terms of non-land based lending.
 - In the third quarter, four banks (ZANACO, Stanbic, Standard Chartered and Development Bank of Zambia through its micro-finance partners) had offered proposals to Dunavant for purchasing the lease book managed by Dunavant of 20 tractor and ripper units. The terms offered by Standard Chartered were most appropriate and the process of selling the loan book to the bank has started and will be completed early in 2011
 - PROFIT has been closely working with Afgri, a licensed non-bank institution, to develop a leasing product for emergent farmers and mechanised service providers. Early in the next quarter, Afgri will sign lease contracts with four farmers in Mumbwa in a pilot scheme to test the modalities of lending and managing a leased tractor stock into the lower end of the market. John Deere International has committed to put some form of guarantee in place to share some of the risk of entering this new market, and Afgri intends to rapidly scale up leasing to mechanised service providers at the end of the next rainy season.
 - PROFIT is working with DBZ to develop a micro-lease product for smaller agricultural equipment (shellers, boom sprayers, rippers, trailers, etc) that will be offered by CETZAM, one of DBZ’s micro-finance partners.
- 4. Training of at least 100 emergent farmers in financial literacy conducted and the development of an ongoing, post-PROFIT financial literacy training facility for farmers begun.**
- During the first quarter, PROFIT worked with the ZNFU to develop a financial literacy and management training module in a bid to create capacity to continue to roll out financial literacy training to farmers in a post-PROFIT period.

- Following the successful training of ten ZNFU trainers during the first quarter, thirty emergent farmers were trained by ZNFU and PROFIT during the fourth quarter in Mkushi, Kabwe and Choma.
- This was fewer trainees than anticipated, largely due to the limited training capacity of the ZNFU district staff, requiring further PROFIT assistance in the training process.
- However, as part of its training of potential borrowers of commercial finance in relation to tractor leasing and mobile spray race management outside the ZNFU structures, PROFIT itself trained 92 farmers in both business and financial management over the quarter, bringing the total to 132 trained during the year.

5. The African Carbon Credit Exchange (ACCE), providing carbon market-building activities in Zambia and to the region is established.

- The PROFIT grant to ACCE was signed in the first quarter of the year, allowing ACCE to develop the internal capacity to become a leader in carbon market development both in Zambia and across the African continent. PROFIT has been closely engaged in the establishment of ACCE, and, as well as financial assistance, continued to provide both local and international technical assistance to ACCE.
- During 2010, ACCE was very active on the international carbon market stage, and has become a respected and influential voice in relation to African carbon market development. Engagements have included:

- **COP 15, Copenhagen, Denmark:** Two directors of ACCE and their long term PROFIT advisor conducted a successful and high profile visit to the COP15 meeting in December as part of the Zambian government delegation, Through a full schedule of individual meetings, networking events and side sessions, the team was able to establish ACCE as a credible partner for low carbon development throughout Sub-Saharan Africa. COP15 served as an excellent platform to connect with key players, including African project developers, validators, financiers and donors that will be crucial to the future success of ACCE.



The ACCE team presenting at COP15, Copenhagen, Dec 09

- **Earth Day Green Technology Conference and Exhibition, Lusaka:** ACCE CEO Sabera Khan was invited to be a keynote speaker on the "Building a Green Zambia" panel at the event in April. This event was sponsored by the United States Embassy in partnership with the Environmental Council of Zambia, and involved over 400 participants from the private and public sectors
- **Carbon Expo, Cologne, Germany:** In May, ACCE Chairman Professor Lloyd Chingambo was invited to be a speaker at the event on "Catalysing Carbon and Climate Finance for Least Developed Countries". With many key market

- participants in attendance, the event stimulated the development of strategic links with carbon brokers operating in other African regions
- **Africa Carbon Forum, Nairobi, Kenya:** In June, a delegation from ACCE presented at an event that attracted considerable international attention
 - **Dialogue towards a shared action framework for agriculture, food security and climate change in Africa, Bellagio, Italy:** In July, Professor Chingambo was invited by NEPAD and Rockefeller Foundation to present and contribute to high level discussions
 - **Africa Green Revolution Forum, Accra, Ghana:** In September, ACCE gave a keynote speech, at the invitation of the Rockefeller Foundation
 - **Round table on African Advisory Group on Climate Financing, Tunis, Tunisia:** In September, ACCE was invited to contribute to an advisory on the financing of climate change to be presented to the UN
- During the second quarter, ACCE conducted high level meetings with Johannesburg Stock Exchange and STRATE (the JSE partner that manages the trading platform system) and Standard Bank in order to secure strategic alliances, access to the trading platform technology and international clearing house facilities for the Exchange.
 - During the third quarter, ACCE secured the commitment of brokers in Togo, Uganda, Senegal and Kenya to act as „spokes’ for the Exchange in their respective countries, thus making the Exchange a continent-wide entity.
 - In June, ACCE presented a highly successful carbon market training event for members of the Zambian Designated National Authority (the entity that regulated and oversees compliance market projects) and has been asked by the Ministry of Tourism, Environment and Natural Resources to conduct the same training to DNA members from the SADC region
 - During the fourth quarter, negotiations with the African Export and Import Bank bore fruit, with a significant commitment from the Bank to use ACCE as a technical and advisory service to structure and develop bankable carbon projects on behalf of the Bank. The Bank has also committed to structure a line of credit to bankable projects across the continent advanced by ACCE, and investigate the structuring of performance guarantees to entities prepaying for African CDM project developers for future carbon credit deliveries.
 - During the fourth quarter, ACCE has held very productive discussions with senior management at African Development Bank (AfDB) which, in a similar fashion to AfriExim Bank, wish to use the technical and financial expertise within ACCE to move forwards a pipeline of infrastructure and development projects with a carbon finance potential.

6. Progress made towards developing one or more carbon finance-based products accessible to smallholders and rural Zambians

- During the year, PROFIT has invested considerable time in assisting ACCE to design an agroforestry programme based on intercropping with the *Faedherbia Albida* specie, which has huge potential for climate change adaptation and mitigation, as well as long term economic returns in terms of agronomic benefit. Many years of research shows mature trees provide the equivalent of 300kg of complete fertiliser and 250kg of lime – increasing yields by between 250% - 400%.

- The approach is based on the sequestration of carbon and the future carbon finance potential significantly increases the sustainability of the project.
- Because of the existing farmer network and well-established contracting and monitoring system managed by the cotton company, PROFIT has brokered a productive relationship between ACCE and Dunavant which has led to the development of a pilot tree planting project in the fields of an initial 500 farmers, being the YIELD Programme Coordinator Distributors, which will be critical for scaling up the project next year. PROFIT has funded a training coordinator responsible for training the farmers in tree planting and management, as well as assisting Dunavant to establish a farmer database and baseline which is critical for the development of the Project Design Document that forms the basis of any future carbon finance component. The first trees are expected to be planted in the next quarter.
- PROFIT and ACCE are currently seeking donor investment in the scheme, which will see a return on the investment in ten years once the carbon credits accrued through carbon sequestration are available for sale, at which point farmers will also receive a flow of funds as final owners of the carbon assets.
- ACCE and PROFIT hosted a successful visit by the World Bank BioCarbon Fund in the fourth quarter, as the Fund conducted a due diligence exercise on the agroforestry project. While the Fund is unable to forward purchase carbon credits, it made commitments to assist in promoting the project and assisting in the development of the carbon sequestration modeling process.
- During the last half of the year, PROFIT has also been closely involved in the development of a rural cook stove project, to be undertaken by ACCE in collaboration with a UK-based carbon finance company, ICECAP. During the fourth quarter, ICECAP and ACCE undertook a feasibility study into the carbon asset generated by a low-energy wood-based cook stove under rural Zambian conditions which appeared to demonstrate sufficient returns in terms of carbon emission reduction. ICECAP is now in advanced discussions with financing partners to implement potentially the largest rural cook stove project in the world, based on between 200,000 and 300,000 stoves to be installed in rural Zambia in communities that currently use wood as the main energy source.
- During the last quarter, PROFIT brokered a strategic relationship between ICECAP/ACCE and Dunavant which will be mutually beneficial - ICECAP requires a rapid roll-out of the project, with a target of 300,000 stoves in place within two years and in order to manage this, the company requires a partner with a large rural geographical footprint, a strong physical and administrative infrastructure and a management system that encompasses a large number of rural Zambians. Dunavant, for its part, will benefit in a number of ways from being associated with such a project. There are environmental sustainability obligations from financing partners that are complimented by household energy reduction initiatives and the significance of free cook stoves as a farmer recruitment incentive is not to be underestimated.
- With financing in place, it is intended that stoves are distributed starting in October 2010
- The testing project demonstrated that the cook stoves use on average 50% less fuel than a traditional open wood fire, which would have significant benefits for both rural households – with a particular impact on the amount of time women take to gather fuel – and the treed environment.

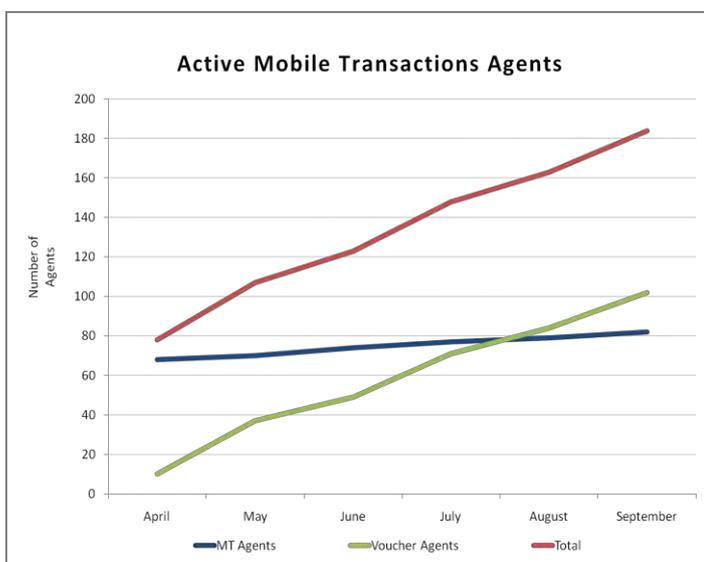
7. The expansion of MTZL’s e-transactions platform to provide basic financial and information transfer services to the agricultural retail industry

- Initial design work was completed during the fourth quarter on developing an information and payment system suitable for use by the agricultural retail industry in the management of agents and rural stockists with the intention of moving forwards with final system design and testing during early 2011.

8. The expansion of MTZL’s platform to incorporate the delivery of other basic financial services (micro-insurance, micro-credit, etc)

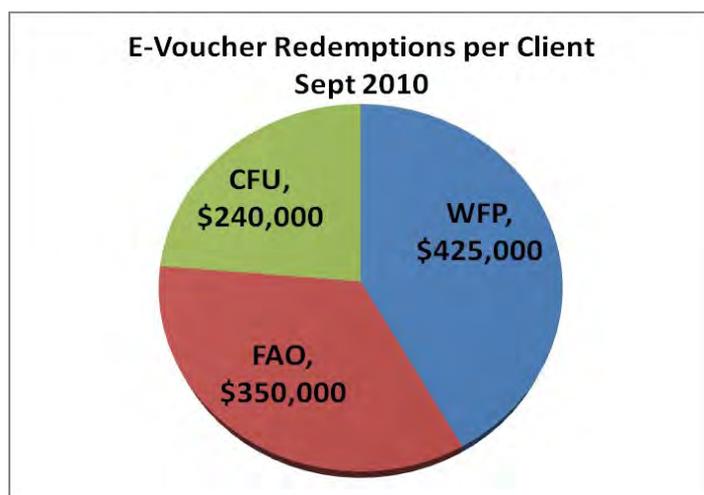
- In April this year Harmos Micro-Enterprise Development Limited and Mobile Transactions signed an MoU for the provision of electronic payment solutions to facilitate bulk loan disbursements to their unbanked and banked borrowers, and for the provision of a loan repayment module through the Mobile Transactions MaKwacha Agent network.

- Currently the town transfer and payments system engages over 180 active small business agents earning \$14,000 additional margin monthly



- The person-to-person town transfer system now carries \$400,000 per month

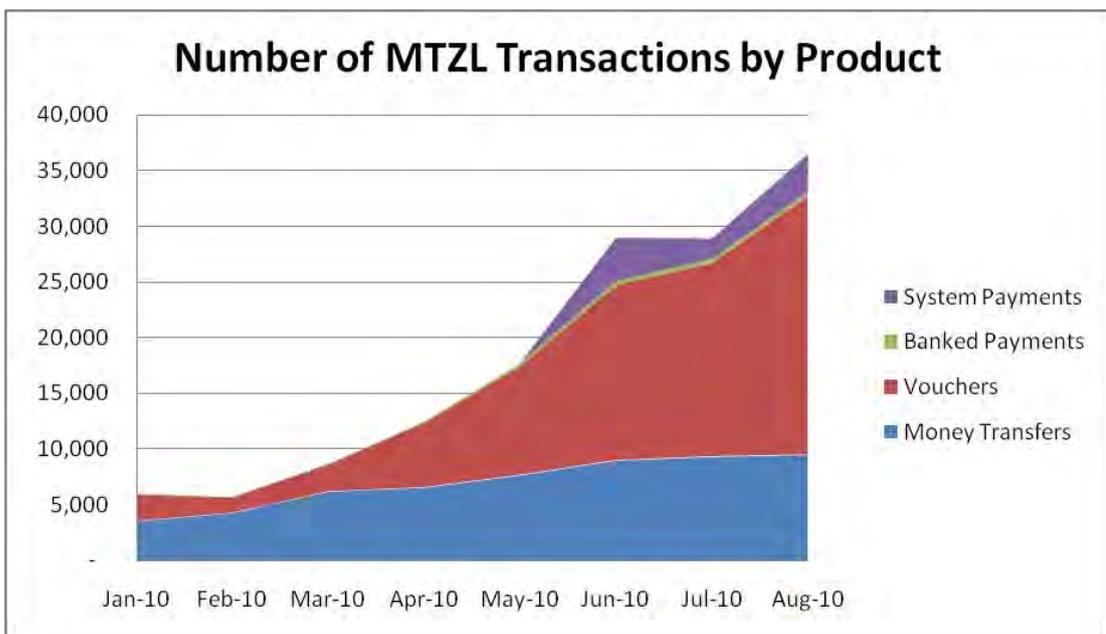
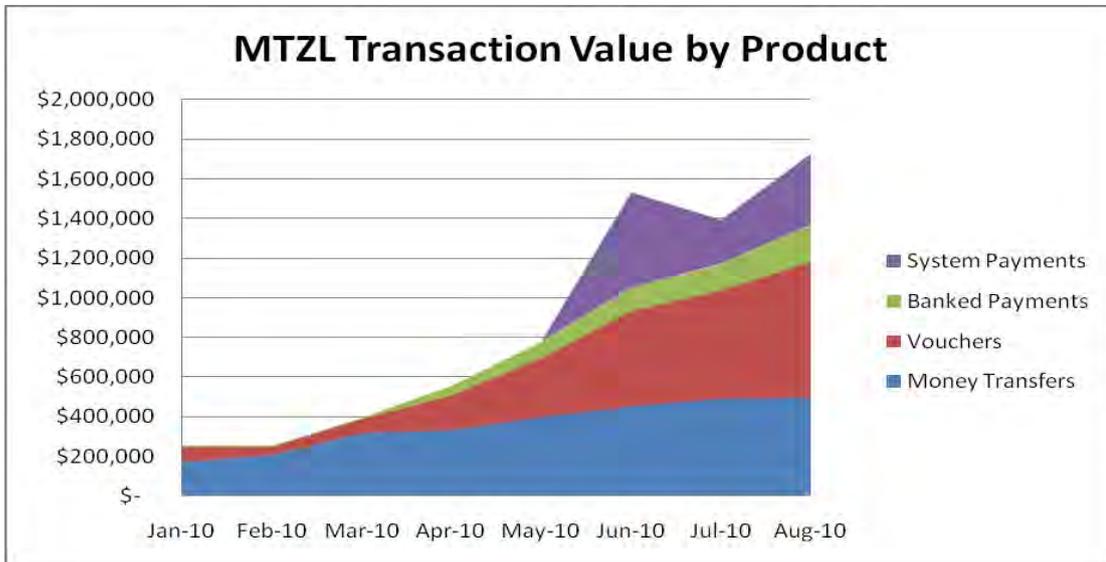
- The e-voucher system developed by PROFIT and Mobile Transactions is developing fast as a core business for the company, with new software making the transaction process faster and more efficient. Just over \$1m in voucher redemptions were transacted through the system by the three client agencies in September 2010, broken down above:



- Over the year, PROFIT has been instrumental in bringing FAO into discussions and then piloting an e-voucher system for the distribution of agricultural inputs into their conservation farming programmes. The initial pilot project targeted 12 districts, but due to the success of the project, has now been scaled up to 27 districts with 3,500 vouchers being redeemed per month. MACO, the main client and the staff of which have been engaged in the implementation process, is pleased with progress and keen

to explore other mechanisms in which vouchers could play a role. Anecdotally, it has been reported that the e-voucher system is 66% more cost-effective in service delivery than more traditional methods

- Since January 2010, Mobile Transactions financial throughput has grown over 950% with platform revenue in September 2010 of over \$2 million for that month.



NB: Banked payments are payments to banked clients, and System Payments are those that a company does through the MTZL system but the company manages the cash itself

9. Three ZAMACE warehouse receipts issued and financing secured against them.

- With a very poor environment in which to store crop and to speculate on future price upswings, there has been little in the way of warehouse receipting activity.

Additional Achievements

- On the back of considerable interest demonstrated by the insurance industry, PROFIT has contracted the Department of Meteorology to determine the extent of available weather records in a pilot area of Southern Province for the potential establishment of a weather index based micro-insurance products in Zambia
- Going forwards, PROFIT, in collaboration with IFC, will be working towards an initial feasibility study for the development of index-based insurance products for the next agricultural season.
- During the second quarter, PROFIT provided technical assistance to MTZL and the other players in the m-payments industry to provide an overview of the regulatory environment and to improve the position of the industry in relation to existing and proposed regulation. The consultant discovered that the regulatory environment provided by the Bank of Zambia has been highly enabling for the formation and evolution of a fledgling payments industry, but that both the industry and the regulator need to work closely together as both evolve in the near future. To this end, the consultant initiated the establishment of an m-payments industry association that can work with BoZ going forwards.
- Also during the second quarter, PROFIT finalised a study conducted in conjunction with FinMark Trust Zambia, and made a well-received presentation to stakeholders on the landscape of value chain finance in Zambia – a key piece of the overall financing continuum for agricultural and SME sectors that has been almost completely overlooked. The key findings were:
 - Agriculture is by far and away the most active sector for supply chain finance, where it occurs at all levels of the value chain and in multiple forms
 - Outside agriculture, the majority of supply chain finance is simply delayed payment terms, generally 30 day term, but „negotiable’ dependent on cash flow constraints. There are very few other value chain financing models in the market.
 - Difficulty enforcing contracts is a key impediment to the expansion in supply chain finance as is a lack of liquidity
 - Outside the grain trading market where financing is often a profitable product offered by traders in its own right, there is reluctance to lend and it is done out of pure necessity to facilitate business.
 - Competition drives both the amount of supply chain finance offered and the cost of the finance.
 - Outside of agriculture the majority of credit relationships seem to be „the wrong way round’ from a development perspective, whereby credit is extended by small firms to larger firms with the ability to dictate terms.
 - There is no formal or institutional environment for supply chain finance, but often driven by personal relationships and trust.

Challenges

- The current difficulties in selling „forward’ credits for an approach without global precedent in the voluntary markets means that such an agroforestry project such as that being pioneered by ACCE requires the injection of significant donor funds to sustain the project before the carbon asset has been fully developed to a saleable level (in approximately ten years) and PROFIT is assisting in sourcing such funds.

- Financing for warehouse receipting is still a distant prospect and an unwise target in a year such as 2010 when a commodity price upswing to compensate for financing and storage costs is unlikely.
- The ability of Afgri to invest in the human resources necessary to initiate its leasing programme for emergent farmers and service providers has yet to be determined.

Administration and Field Team management: Theme 1:

Fostering improved knowledge management within market facilitation field team

Achievements against benchmarks

1) At least two staff management trainings conducted

- During the year under review a total of three staff management training were conducted, focusing on project implementation review and staff skill set upgrading to effectively facilitate the market dynamics resulting from the market response. During the August management meeting, the staff had an opportunity to bid farewell to Mark Wood, the Chief of Party (COP).



PROFIT Staff Management Meeting, Lusaka Apr & Aug 10

2) At least 16 Regional Team meetings conducted

- Due to budget constraints, only three regional staff meetings were held during the year under review. However, the regional team meetings were pushed forward to coincide with the staff management and training meeting in Lusaka focusing on building the capacity of the team members to strengthen their „coaching’ approach as they work with the firms.

3) Staff Annual evaluation conducted

- Achieved in the first quarter in December, 2009.

4) Staff performance incentives/awards schemes implementation

- During the year under review, the staff performance incentives/awards scheme based on the contribution to the project was implemented, focusing on non-monetary incentives such as circulating the staff achievements among the peers, etc.

5) Conduct regular field technical backstopping

- The technical team intensified its backstopping of the field staff as a way of providing both technical and supervisory roles. The Head Office team used a total of 300 man days to directly backstop the field staff focusing on building the staff skill base to facilitate the internal firm management capacity building, forecasting, strategic planning and in–community promotions.

6) Staff exchange visits continue to be implemented

- During the year under review the staff exchange visit internal to PROFIT was done by staff working in the cotton sector to examine ways of taking the service provision platform to scale, including expanding the services to other areas such as livestock.
- In addition, PROFIT hosted over 54 Aga Khan Foundation (AKF) senior programme managers from different projects across the world to learn the PROFIT market development methodology in their quest to shift from enterprise development to market development systems. The workshop was held in Lusaka in December and included field visits to Mumbwa, Mpongwe, Monze and Choma to meet with smallholders, service providers and their community agent network.

7) All component managers maintain effective performance and budget management practice

- The entire PROFIT staff is now more aware of budget and budgetary constraints. Each staff member has a budget attached to the work plan output targets and is more actively involved in ensuring that resources are handled effectively.

8) Full accounting and budget MIS developed and implemented as standard field practice

- Achieved while still working to speed up full budget monitor reports to more fully report budget actual on a timely basis.

1) Monthly accounts files submitted by 5th of each month with hard copy transmission by 15th

- Achieved and progressing well.

10) Continued implementation of ODC cost management systems complimenting monthly MIS reporting

- Achieved

11) Conclude auction of obsolete equipment during Q1 FY 09

- Awaiting ZRA approval of the auction process.

Administration and field team management: Project Close-out completed

Achievements against benchmarks

1. **Project close out plan out associated documentation in place and approved by HO by 30th April 2010.**
 - Redundant, as the project has been extended to end in September, 2011.
 2. **Asset Disposition plan approved by AO by 31st May 2010.**
 - Redundant, as the project has been extended to end in September, 2011.
 3. **Field Office close out complete by September 31st 2010.**
 - Redundant, as the project has been extended to end in September, 2011.
-

Establishment of a local non-profit entity: Update

- A local non-profit company owned by six members of PROFIT staff was established in July 2010, for the purposes of continuing and taking to scale the market development work of PROFIT after the close of the PROFIT programme. The initiative arose as a direct result of the USAID-led Agricultural Growth Partnership initiative fostering a coordinated „PROFIT-style’ approach to agricultural development in which PROFIT became a coordinating entity at the centre of an informal alliance of actors in the agricultural development arena, such as Conservation Farming Unit, IFC, ZNFU and WFP P4P
- A small contract was signed with IFC in July 2010 for one year for the establishment of the local entity, allocating \$90,000 in funds and \$60,000 in staff time (being 50% of the time of the IFC Zambia Agribusiness Finance Programme Manager, Ms Siobhan Franklin).. The rationale for IFC investment in PROFIT Zambia is to establish a platform for the support to current and future IFC investments in the agricultural value chain that have downstream or upstream links to the smallholder market.
- In July, PROFIT Zambia signed a small and short term consultancy contract with Imani Development (a Malawian firm) to assist Imani establish links with the agricultural business community in Zambia to roll out into Zambia the DFID Business Innovation Facility, of which Imani is the Zambia Country Manager. The purpose of the facility is to support companies as they develop or scale up innovative „inclusive business’ models.
- Following a meeting with USAID in September and according to the resolutions of that meeting, PROFIT Zambia formally changed its name to Musika Development Initiatives Zambia (Musika Zambia for short), and removed any formal links with the USAID project. It was also agreed to keep USAID informed of developments taking place within the local entity.

MONITORING AND EVALUATION

Annual Summary

Over the year, the PROFIT learning network gained vitality through the engagement of not only PROFIT staff but senior, middle and field management from client firms. PROFIT continued to put learning at its core to ensure that staff at all levels of the project implementation learnt from the activities and drew lessons for the purposes of adjusting project activities and informing decision making. In the same vein, the PROFIT staff engaged firm staff, in selected industries where PROFIT was intervening, to use learning as a way of improving their business management. Learning was done through a learning loop where all staffs (head office and field) were involved in the learning. The learning loop had a feedback mechanism which enabled business advisors and head office staff to receive feedback from each other. Further, the lessons learnt were shared with the industry players as a way of enhancing the ownership of the process of learning by the industry players.

During the year, PROFIT monitoring and evaluation was focused on achieving success on benchmarks in three thematic areas namely:

- ***fostering the culture of learning at every stage of the pathway***
- ***improving private sector firms ability to monitor and evaluate their own agent networks, and***
- ***intensifying the internal evaluation of impact as measured by results of behaviour change and develop improved methods of knowledge dissemination.***

Under theme 1: Fostering the culture of learning at every stage of the pathway:

A number of activities were targeted to strengthen learning., including data quality assessments (DQAs), regional team meetings and staff management trainings. The regional team and staff management meetings provided for more implicit knowledge capture on lessons learnt from the selected sectors such as cotton, livestock (beef and dairy), output markets and agriculture inputs. Further, visits to the various regions by both M&E and other technical staff continued to provide on the job support to the business advisors and firm staff to cement the learning process. The BAs were given individualized feedback in areas where they were stronger and areas where they were required to improve. In turn, the BAs and firm staff provided essential feedback to the technical team on what was working or not working. Overall, there was marked improvement in achieving this benchmark. In addition, BAs share the lessons learnt with the industry players to enhance the performance of the industry players.

The second thematic area which was looking at ***improving private sector firms ability to monitor and evaluate their own agent networks*** also had a number of activities earmarked. The activities included training on the basics of monitoring and evaluation and the importance of monitoring agent networks. Additionally, training was conducted for firm staff on how to develop and use of monitoring and evaluation tools. During the year 2010, a number of firms adopted learning as a way of enhancing their business management. There was good buy-in on the use of monitoring and evaluation as a business management tool by some firms and improvement was evident in the

management of their village agent networks. Firms are now developing systems and tools for the monitoring the performance of their agents.

Theme 3 which was looking at **intensifying the internal evaluation of impact** improved during the year under review. A number of activities including the production of notes from the field, video production and surveys were done. Notes from the field have been produced that have enabled the project to show impact at farmer as well as in-community staff levels. In addition, the production of the video documenting the work of PROFIT is almost complete and will be ready for distribution soon. Further an external impact assessment was conducted which supported the results of the internal assessments.

Monitoring and Evaluation: Theme 1

Fostering the culture of learning at every stage of the pathway

Achievements against benchmarks

1) At least 4 data quality assessment reports done

- This brings the annual number of data quality assessments done during the year to 8 DQAs. The other six data quality assessments that were conducted earlier in the year included Monze, Choma, Mumbwa, Mpongwe and Kapiri. The DQA covered the following firms: MRI, Pannar, Croppack, Minelands, Gemini and Cropserve. The firms generally showed improvement in the way they were collecting data that they give to the BAs. The firms have receipt books and agent records that they use to capture the data to monitor the performance of their agent networks. The BAs aggregate the data collected from the various firms and partners and send it to M&E in Lusaka. Progress was achieved in the way the BAs were using the data collection tools and hence contributed to the improvement of the quality of data that they sent to head office

2) Quantitative tool continually revised and ready to be used to gather the monthly reporting data

- In the fourth quarter, no new activity was done on this benchmark. However, during the first quarter, quantitative tools were revised and were used throughout the year by BAs to gather monthly reporting data. The revision of the tool included such aspects as revising the notes defining the various observations to ensure clarity. In addition, a new quantitative tool was developed for the cotton BAs so that they can also gather data relevant for the cotton sector to contribute towards the reporting on cotton. Further, formulae were included in the vet, ag-inputs and cotton quantitative tools for ease of data inputting by the BAs. This benchmark was well achieved
- Regular feedback continued to be provided to the BAs on monthly basis to ensure proper and consistent use of the reporting tool.

3) Qualitative tool revised abridged taking into account the need for continued analysis bearing in mind the pathway

- The monthly qualitative tool was revised and was utilized in providing qualitative data for reporting purposes. The old and new monthly and quarterly narrative tools were combined to avoid duplicity in reporting. This enabled the BAs to free off some time to do more of their field activities with the firm. The BAs showed steady improvement in reporting during the year under review. This benchmark was achieved.
- In addition, feedback continued to be provided on quality reporting and also provision of regular support to the BAs to improve their reporting skills. This was done on a monthly basis and the exercise was beneficial.

4) At least 10 firms will have adopted learning as part of their business Management Information System

- During the fourth quarter, no new firms adopted learning as part of the business management system. However, over the year, 10 firms adopted learning or monitoring and evaluation as part of their business management system. The firms include Cropsolve, MRI, Pannar, Zamseed, Minelands, Croppack, Gemini, Twiga, ,Mana agrochemicals and Vet Haven

5) Quarterly reports including 1 end of project report completed

- One quarterly report done for quarter four indicating the strides that the PROFIT project has made. The annual total for the number of quarter reports done was four.

6) One video documentary completed highlighting PROFIT methodology and outcomes.

- The production of the video documentary showing the work that PROFIT has done is almost ready.

Challenges

- Inconsistencies in quality of data from business advisors as the data forms a critical part of our learning systems
- Reluctance among firms to employ new ways of managing their business systems. Firms seem to be reactive than proactive in taking up new ideas.

Monitoring and Evaluation: Theme 2

Improving private sector firms' ability to monitor and evaluate their own agent networks

Achievements against benchmarks

1. At least 10 firms to have implemented monitoring and evaluation systems

- During the fourth quarter, there were no new firms that adopted monitoring and evaluation systems for the management of their agent networks and their

businesses. Nevertheless, during the year under review, a total of 10 firms were implementing monitoring and evaluation systems. The firms included Pannar, Zamseed, MRI, Cropserve, Minelands, Croppack, Gemini, Mana Agrochemicals, Vethaven, and ATS.

2. Adoption of skills from the training by firm staff and utilising the skills to better their M&E systems (behaviour change)

- During the fourth quarter, staff support continued to be provided to the firm staff on the use of various skills in enhancing their ability to manage their own agent networks. Over the year, on-the-job training was conducted with staff from MRI, Pannar, Croppack, Minelands and Cropserve on the importance of utilizing M&E in their business management. For those with computers including MRI, Pannar, Croppack and Cropserve, some basic skills on the use of Microsoft Excel were shared. Some firms including Pannar, MRI and Zamseed have developed databases to be used for monitoring their village agent networks.

3. At least one firm integrates electronic platform in agent management

- This benchmark was not achieved, but a scope of work was drawn up for this work to be undertaken by Mobile Transactions in 2011

Challenges

- Inadequate data capturing by the firms due to lack of appreciation of regular monitoring and evaluation of their business systems.
- Putting in place the right incentives for the firms and their staff to keep the momentum in implementing and utilising the monitoring and evaluation skills and tools.
- Despite the appreciation by firms in using M&E, computer skills are quite low among many firm staff.

Monitoring and Evaluation: Theme 3

Intensify internal evaluation of impact as measured by results of behaviour change and develop improved methods of knowledge dissemination

Achievements against benchmarks

1. At least two surveys done showing the impact the project has in changing the livelihoods of the rural households in Zambia

- The survey plan was developed and shared during the fourth quarter. The plan spelt out what activities were to be done to have a successful survey. The plan also included how the survey was going to be conducted, and the resources required.
- The survey will cover at least 100 households in the various PROFIT programme districts.
- The survey is underway and will be concluded before the end of the next quarter

- 2. At least two reports on the household surveys done on the impact of the project at smallholder household level**
 - Report for the survey will be ready in the first quarter of 2011

- 3. At least one impact assessment done determine the end of project position of the PROFIT project.**
 - The impact assessment will cover households in the rural communities where the PROFIT project was intervening, agents and the firms.
 - The survey is being done and impact assessment information will be ready in the first quarter of 2011

- 4. 12 BAs to continue improving their knowledge in answering the 'so what?' question**
 - During the fourth quarter, PROFIT BAs continued to receive training on improving their knowledge in answering the „so what' question Cost of production surveys were conducted by BAs and hired research assistants. 100 focus group discussions were conducted and data gathered which was entered, analyzed and will be ready for dissemination soon. The data captured was from 15 districts in Southern, Central, Lusaka, Copperbelt, and Eastern Provinces

 - During the third quarter, a dairy assessment was conducted. The data was entered, analyzed and the information was ready for use in Q4 10. From the dairy assessment, the information showed that there was an increase in productivity per cow from 7.7litres to 8.09 litres per cow per day. The assessment for the dairy survey showed that the gross margin per dairy cow had increased to \$636.41 compared to last year's figure of \$505. This represented an increase of 26% over last year's figure. In terms of use of disposable income, the dairy farmers spend their money on buying food, paying school fees, purchasing household items, paying their farm workers and supplementary feeding for their cows.

 - During the first quarter, an assessment on spray service provision was conducted covering Katete, Petauke, Chipata and Chama districts in Eastern province. The preliminary results of this survey show an increased number of women engaging into cotton production (44%) of those surveyed. Among other benefits that the farmers mentioned for using spray services in cotton included reduction in the cotton loans as chemicals were effectively used by the SSPs and reduction in labour, the labour which they were now employing in doing other activities such as preparing other fields for sweet potatoes and also weeding in maize and groundnuts. Furthermore, the farmers said that they had a cleaner cotton crop, healthier plants with more balls of cotton (potential for better yields). The farmers also expressed eagerness to upgrade their cotton production due to the services they are getting from the SSPs. The full report will be finalized and disseminated during the next quarter.

- 5. At least 10 notes from the field produced and disseminated**
 - Four notes from the field were produced during the fourth quarter. This brings the total number of notes from the field produced during the year to ten. The notes from the field enabled PROFIT to tell the story of impact better and improve our

knowledge management. The stories focused on the benefits that have accrued to the farmers and agents and farmer experiences from the PROFIT interventions. The notes that were produced during the year 2010 had various themes which included;

- awareness on fake seed
- hybrid seed vs. local seeds
- benefits of CropLife branding
- sheller services
- spray services
- spray race innovations.

The stories received a lot of acclaim from the various stakeholders of the PROFIT project. This benchmark was achieved.

- Further, the notes from the field were also used as tools to market the work of PROFIT and bring more awareness on the work that PROFIT was doing.