Uganda Coffee
Development Authority

Ministry of Agriculture, Animal
Industries and Fisheries

Uganda Coffee Development Authority

ANNUAL REPORT

VOLUME 21

OCTOBER 01, 2011 – SEPTEMBER 30, 2012

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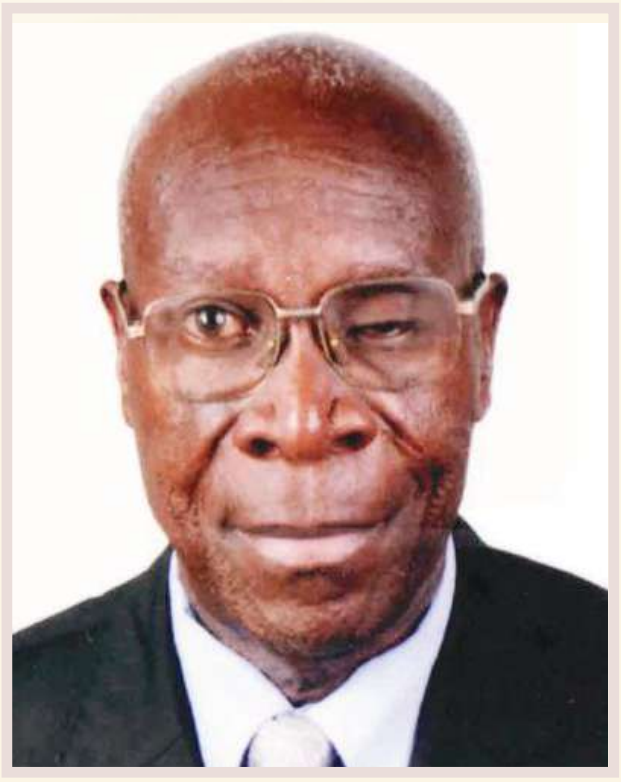
Hon. Tress Bucyanayandi
Minister of Agriculture, Animal Industry & Fisheries



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Minister of State for Agriculture

UCDA Board of Directors

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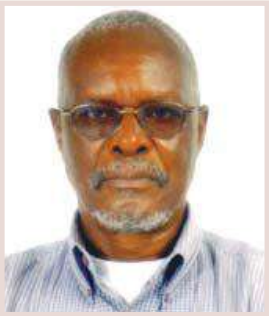
Chairman



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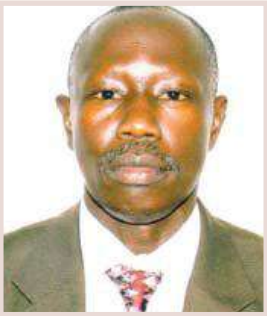
Representative of Coffee Farmers



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Representative of Coffee Farmers

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Representative of Processors

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Representative of Coffee Exporters

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Director General NARO
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Representative of Processors

Mr. Robert Wagwa Nsibirwa
Representative of Coffee Exporters

Mr. Henry Ngabirano
Managing Director, UCDA

Mr. Fred Luzinda
Board Sec./Head of Finance & Administration, UCDA

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Foreword

The Agriculture Sector Development Strategy and Investment Plan (DSIP) 2010/11 – 2014 remained the overriding guide in setting priorities for UCDA Work plans and activities of the Coffee Year 2011/12. In accordance with its mandate, UCDA developed a National Coffee Strategy to operationalize the National Coffee Policy that will guide the development of the subsector. In doing so, all effort was made to synchronize the strategic objectives with other existing National development frameworks including the National Development Plan, Prosperity for All and NRM Manifesto 2011-16.

This report presents the strategic interventions made by UCDA to promote increased investment in the coffee subsector. As the sector is private sector driven, we continue to realize increased interest and attraction to invest in coffee production. The dominance of smallholder farmers means that they are central to any strategy aimed at increasing production, productivity, quality and value addition.

UCDA continued to provide logistical support to Coffee organizations including Uganda Coffee Federation, NUCAFE and Uganda Coffee Farmers Alliance which embrace farmer organization approach which enhances outreach, collaboration and coordination in achieving the objectives of the subsector. These organizations have been instrumental in mobilizing farmers for trainings and advisory services that have visibly translated into better agricultural practices in coffee production and post-harvest management.

During the year, UCDA continued to promote coffee replanting and rehabilitation through mass production of Coffee Wilt Disease Resistant planting material using tissue culture as well as nodal cuttings. This is aimed at increasing coffee production and productivity. It is anticipated that by planting 20 million high yielding seedlings per year for three years, Uganda will be able to export at least 4.5 million 60kg bags of coffee in 2018 from the current average of 3 million bags.

Global Coffee production for the coming year is estimated to increase to 144.1 million bags, an increase of 7.2% compared to 134.4 million bags in 2011/12. Global Coffee Consumption is increasing steadily at 2.4%. There is a growing demand for sustainable coffees in consuming countries an opportunity we need to exploit.

Value addition is being promoted through wet processing in both Arabica and Robusta coffees which has improved coffee quality and incomes of farmers.

The steady growth in domestic coffee consumption is evidenced by increase in the number of cafes. The quality of service in these cafes is being enhanced by capacity building of the Ugandan Baristas who have been exposed to training programmes and competitions.

UCDA will continue to ensure that quality standards are adhered to through enforcement of Coffee Regulations. In an effort to enforce Coffee Regulations and maintain high quality Ugandan Coffee, UCDA has allied with all stakeholders including Coffee Associations, Civil Society Organizations, Police and Local Government Authorities.

Finally, I thank my fellow Board members, UCDA, Management and Staff and the entire coffee industry for the support rendered to the coffee sub sector. This gives me courage that much will be attained towards improving household incomes, quality improvement and meeting customer needs. Coffee stakeholders are encouraged to read this report and make comments for future improvement of the coffee industry.

Eng. Fabian R. Tibeita
Chairman-UCDA Board of Directors

ACRONYMS / ABBREVIATIONS

4Cs		Common Code for Coffee Communities
ABC		Africa Barista Championship
AEZ		Agro-ecological Zones
AFCA		African Fine Coffees Association
AGT		Agro-Genetic Technologies
BCQC		Basic Quality Control Course
BCTB		Black Coffee Twig Borer
BCU		Bugisu Co-operative Union
BOD		Board of Directors
CBB		Coffee Berry Borer
CBD		Coffee Berry Disease
CBN		Community Based Nurseries
cDNA		Complimentary Deoxyribonucleic Acid
CLR		Coffee Leaf Rust
CLS		Coffee Leaf Spot
COREC		Coffee Research Centre
CQI		Coffee Quality Institute, USA
CRSP		Collaborative Research Support Program
CSOs		Civil Society Organizations
CWD		Coffee Wilt Disease
CY		Coffee Year
DAO		District Agricultural Officer
DFI		District Farm Institute
DSIP		Development Strategy and Investment Plan
EU		European Union
FAQ		Fair Average Quality
FFS		Farmer Field Schools
GAPs		Good Agricultural Practices
GHPs		Good Handling Practices
GMPs		Good Manufacturing Practices
GPS		Global Positioning System
IACO		Inter-Africa Coffee Organization
ICA		International Coffee Agreement
ICC		International Coffee Council
ICIPE		International Centre for Insect Physiology and Ecology
ICO		International Coffee Organization
IITA		International Institute of Tropical Agriculture
IPM		Integrated Pest Management
IT		Information Technology
KARI		Kawanda Agricultural Research Institute
LEAD		Livelihood and Enterprises for Agricultural Development
MAAIF		Ministry of Agriculture, Animal Industry & Fisheries
MC		Moisture Content
MoFPED		Ministry of Finance, Planning and Economic Development

MoLG		Ministry of Local Government
MT		Metric Tones
NAADS		National Agricultural Advisory Services
NARO		National Agriculture Research Organization
NES		National Export Strategy
NGOs		Non-Governmental Organizations
NIHACOFA		Nile Highland Arabica Coffee Farmers Association
NUCAFE		National Union of Coffee Agribusinesses and Farm Enterprises
OT		Out-turn
PFA		Prosperity For All
RB		Red Blisters
RNA		Ribonucleic Acid
SCAA		Specialty Coffee Association of America
SCAE		Specialty Coffee Association of Europe
SCAJ		Specialty Coffee Association of Japan
SOM		Soil Organic Matter
UCDA		Uganda Coffee Development Authority
UCFA		Uganda Coffee Farmers Alliance
UCTF		Uganda Coffee Trade Federation
UMA		Uganda Manufacturers Association
UNAA		Ugandan North American Association
UNADA		Uganda National Agro-Input Dealers Association
UNBC		Uganda National Barista Championship
UQCTP		Uganda Quality Coffee Traders and Processors Association
US		United States Dollars
USAID		United States Agency for International Development
USDA		United States Department of Agriculture
WBC		World Barista Championship
WTO		World Trade Organization
ZARDI		Zonal Agricultural Research and Development Institute

EXECUTIVE SUMMARY

Overview:

In line with the statutory mandate to promote and oversee the development of the entire coffee industry through research, quality assurance, improved marketing, information dissemination and providing for other matters connected therewith; and the Vision of making Uganda a distinguished producer of high value coffee, Uganda Coffee Development Authority (UCDA) during the year focused on promoting production and marketing of coffee; supporting the management of pests and diseases; ensuring quality improvement of coffee along the value chain; promoting value addition and domestic coffee consumption as well as harmonizing activities of the coffee subsector associations in line with industry goals and policies.

Strategic Objectives:

In line with government policy framework stipulated in the National Development Plan (NDP) and Development Strategy and Investment Plan (DSIP), UCDA's emphasis for the Coffee Year 2011/12 was placed on the following:

1. Production of planting material; particularly the 7 Coffee Wilt Disease (CWD) resistant lines using tissue culture and nodal cuttings.
2. Supporting Coffee Research and development.
3. Promotion of Domestic Coffee Consumption.
4. Promotion of coffee replanting and rehabilitation.
5. Supporting coffee development in Northern Uganda.
6. Quality improvement through Technical Extension services and collaboration with stakeholders.
7. Quality assurance and Value addition.
8. Development of the National Coffee Strategy to operationalize the National Coffee Policy.
9. Efficient utilization of assets and resources.

During the year UCDA programmes and work plans were rolled out aimed at increasing coffee productivity, ensuring quality improvement, promotion of domestic consumption and generic promotion.

Achievements:

1) A total of 2,726,249 60-kilo bags of coffee valued at US $ 392,698,138 were exported during the year, while 3,114,363 60-kilo bags were procured at the exporter level. The weighted average price at export level was at $ 2.40 per kilo showing an increase of 2 US cents from the previous year which was US $ 2.38 per kilo.

2) The Ugandan coffee exports to the Arab world increased to 480,057 bags accounting for a market share of 17.61% of total exports. The coffee also continued to penetrate new markets directly with exports to China, Russia and Far East reaching 51,426 bags. This performance is a result of sustained promotions carried out in these new markets.

3) Programs of quality assurance and improvement were implemented through trainings in Good Handling, Manufacturing and Hygiene practices. With support from United States Agency for International Development (USAID)- Livelihood and Enterprises for Agricultural Development (LEAD) project, UCDA continued with the work of reviewing fine Robusta coffee protocols. Trainings were conducted in Basic Quality Control with 35 participants, Barista with 53 participants, Coffee roasting and brewing with 30 participants, and training of trainers in Robusta-R and Arabica-Q graders with 30 participants.

4) Promotion of coffee both at local and international exhibitions was done. UCDA participated in Uganda Manufacturers' Association, World Food day, Agricultural Trade Fairs and the District Coffee Shows. At the International level, UCDA showcased Ugandan coffee at a conference and exhibition organized by African Fine Coffees Association (AFCA), Specialty Coffee Association of Europe (SCAE), Specialty Coffee Association of America (SCAA), Specialty Coffee Association of Japan (SCAJ), Ugandan North American Association (UNAA) and promotional centers in China and Egypt. In all cases, the quality of Ugandan coffee was appreciated.

5) Coffee production campaign activities were carried out in all coffee producing districts and over 17 million seedlings were planted during the year out of 30 million seedlings generated benefitting 82,275 households. The distribution of seedlings was done through UCDA, Community Based Nurseries, and partner organizations. 10 Coffee shows were held in 10 districts to showcase better practices along the coffee value chain and create interaction between the farmers and other stakeholders. In order to tap the ever increasing niche markets, production of sustainable coffee continued to be promoted.

6) Promotion of Coffee production in new areas especially Northern Uganda by integration of commercial coffee and banana production into the farming system undertaken. Through this initiative, 1.56 million Coffee seedlings were planted out of the 2 million seedlings raised. Also, 4000 banana suckers were planted to provide shade, food security and income.

7) Coffee rehabilitation was emphasized as a way of improving yield of the old coffee trees and support such as pruning kits were given to farmers. Technical extension services and enforcement of the coffee regulations were intensified in order to improve on quality at post-harvest level. This initiative has resulted into an increase in yield (kilogramme/hectare) by 67% for Parchment in Mt. Elgon Region; 350% for Fair Average Quality (FAQ) by farmers in Mityana (Uganda Coffee Farmers' Alliance), and 400% for FAQ by farmers in Masaka.

8) In Research, emphasis was on dissemination of technologies for sustainable control of pests and diseases. There was continued propagation of 7 CWD resistant Robusta varieties by tissue culture and nodal cuttings where 29 Nursery operators were allocated plantlets to establish mother gardens for subsequent generation of clones. This brings the cumulative number of nursery operators to 45, with a total of 15,750 mother bushes established which will generate at least 472,500 trees in the first season.

9) Coffee Research Centre (COREC) in collaboration with the International Institute of Tropical Agriculture (IITA) and UCDA carried out an extensive survey to determine the

soil fertility and intensity of the damage caused by coffee pests. The results of the survey will form a basis for the development of a comprehensive research agenda that will lead to the realization of an effective, sustainable and environmentally sound Integrated Pest Management (IPM) package.

10) UCDA conducted targeted staff trainings and workshops in an effort to equip staff with necessary skills to improve performance. 2 staff trained in standards development; 1 in Basic Quality Control; 4 in certification and verification; 2 Executive Assistants in personal career development; 2 Heads of Department undertook a working visit to Vietnam to benchmark best practices in coffee value chain; 54 staff in team building and orientation, and change management; 1 staff attended a workshop on government accounting; and 1 staff in an e-learning course on the impact of the global financial and economic crisis. A team code of honor was also developed to guide internal behavior and culture.

Challenges:

The most critical challenges of the coffee subsector during the period include;

1. Long biological process of the propagation of the 7 CWD resistant lines and procurement of seedlings.
2. Insufficient funds for containment of pests and disease outbreaks.
3. Limited capacity for rehabilitation of the aged trees
4. Limited adaptation to climatic changes.
5. Weak enforcement of Coffee regulations.
6. High cost of investment in value addition especially the soluble plant.

Area of focus for the coming year will include:

1. Generation of clean planting materials through Elite seed and Vegetative propagation of the CWD resistant lines.
2. Management of diseases and pests – Black coffee twig borer, Coffee leaf rust, Coffee Berry disease, Antestia bugs and lace bugs, Stem borers.
3. Supporting research in the development of varieties for adaptation to climatic change.
4. Improving productivity through Rehabilitation.
5. Support coffee Replanting and sustainable coffee Production programmes.
6. Continue to support adoption of coffee growing in Northern Uganda.
7. Provide both technical and general extension to coffee stakeholders- farmers and processors.
8. Quality improvement and market access.
9. Quality assurance, Value addition for domestic consumption and Generic promotion.
10. Mainstreaming participation of Women and Youth in the Coffee value chain.

Chapter One

COFFEE MARKET PERFORMANCE

1.0 Introduction

For the coffee year 2011/12, a total of 2.73 million 60-Kilogramme bags (163,560 tonnes) worth US $ 392.70 million were shipped to various destinations, down from 3.15 million bags (188,965 tonnes) of coffee worth US $ 448.89 million recorded in the previous year. This comprised 1.904 m bags (114,251 tonnes) of Robusta valued at $ 223.98 m and 0.822 million bags (49,324 tonnes) of Arabica worth $ 168.72 m.

The weighted average price at export level stood at $ 2.40 per kilo compared to $ 2.38 in 2010/11 and $1.67 in 2009/10, depicting a positive trend. The slight increase in the weighted average price between 2011/12 and 2010/11 years, despite lower realized prices for the different types of coffee, is explained by a relatively smaller drop in the average price for Robusta over last year; and a rise in the proportion of Arabica in total exports.
The weighted average price for Arabica stood at $3.42 per kilo down from $ 3.86 in the previous year whilst that for Robusta was $1.96 per kilo compared to $1.98. Generally, these were in tandem with global supply-demand dynamics that reflected a negative trend in Arabica prices throughout the year.

European Union (EU) countries remain the main destinations of Uganda coffee holding a market share of 71% in terms of quantity, a drop from 75% registered last year. Sudan ranked second with a market share of 16%, up from 14% last year.

1.1 Coffee Procurement

Coffee procurement fell by 4.7% from 3.27 m bags (173,632 tonnes) in 2010/11 to 3.1 m bags (195,994 tonnes). There was a 15.2% drop in Robusta marketed production, attributed to prolonged drought and prevalence of black coffee twig borer mainly in the Central and Eastern regions. On the contrary, there was a 38.2% increase in Arabica. This is explained by the newly planted Arabica trees coming into production, a reduction in the incidence of pests and diseases (Coffee Leaf Rust and Coffee Berry Disease) and the biennial cycle characteristic of Arabica coffee.

Table 1.1 represents marketed coffee production (FAQ and Arabica parchment) to the export grading factories.

Table 1.1 Coffee Procurement by type: 2007/08 – 2011/12 - in 60-kg bags

Coffee Year	Coffee Type		Total	%-Age Change
	Robusta	Arabica		Over Previous yr.
Average	2,503,019	701,903	3,204,921	-
2011/12	2,224,302	890,061	3,114,363	-4.66
2010/11	2,622,380	644,185	3,266,565	12.88
2009/10	2,076,557	817,319	2,893,876	-11.22
2008/09	2,609,518	650,029	3,259,547	-6.61
2007/08	2,982,339	507,917	3,490,256	20.13

Table 1.2 shows monthly coffee receipts at the export grading factories in the coffee year 2011/12 as compared to 2010/11. Coffee procurement was highest during the last quarter (July-September), the main harvesting and marketing season for Masaka and the South-western regions.

Table 1.2 Comparative Procurement Figures - 60-Kg Bags

MONTH	2011/12			2010/11		
	Robusta	Arabica	Total	Robusta	Arabica	Total
TOTAL	**2,224,302**	**890,061**	**3,114,363**	**2,622,380**	**644,185**	**3,266,565**
OCT.	155,167	50,123	205,290	120,412	68,529	188,941
NOV.	160,012	65,012	225,024	212,477	69,323	281,800
DEC.	170,235	69,015	239,250	230,428	45,311	275,739
QTR – 1	**485,414**	**184,150**	**669,564**	**563,317**	**183,163**	**746,480**
JAN.	160,012	68,510	228,522	165,114	52,300	217,414
FEB.	165,009	90,018	255,027	160,006	53,107	213,113
MAR	106,105	85,658	191,763	155,001	52,176	207,177
QTR – 2	**431,126**	**244,186**	**975,312**	**480,121**	**157,583**	**637,704**
APR.	75,013	72,009	147,022	165,002	45,089	210,091
MAY	190,215	95,145	285,360	200,444	49,150	249,594
JUN.	252,148	80,146	382,294	321,793	53,087	367,100
QTR – 3	**517,376**	**247,300**	**814,676**	**687,239**	**147,326**	**826,785**
JUL	320,125	79,164	399,289	360,901	54,104	407,225
AUG.	270,125	70,103	340,228	286,903	52,009	332,132
SEPT	200,136	65,158	265,294	243,899	50,000	287,772
QTR – 4	**790,386**	**214,425**	**1,004,811**	**891,703**	**156,113**	**1,027,129**

Relatively high farm gate prices for Robusta from July onwards prompted farmers to sell more which explains high procurement during this period.

1.2 Internal Marketing

1.2.1 Registered industry players at post-harvest

Registered industry players were as follows; Exporters – 42, Export grading plants – 30, Primary processors – 308 and Roasters – 14. The number of registered roasters went up from 8 to 14 as a result of increase in domestic coffee consumption.

Table 1.3 represents the number of registered industry players at post-harvest level as 394[1]

Table 1.3: Registered subsector players at Post-harvest Value Addition Level

Industry Players	2011/12	2010/11	2009/10	2008/09	2007/08
Exporters	42	40	42	39	30
Export grading plants	30	32	19	19	19
Primary Processors	308	327	300	301	271
Roasters	14	8	8	7	4
Total	**394**	**407**	**369**	**366**	**324**

1.2.2 Local price trends

Monthly average price for Arabica parchment dropped from a high of Sh. 9,000/= per kilo at the beginning of the year to a low of Sh. 4,400 per kilo at the year's close. The highest price for Robusta Kiboko (dry unprocessed) was Sh. 2,250 per kilo.

The farm-gate prices averaged Shs. 1,840 for a kilogramme of Kiboko (dry Robusta cherries); Shs 3,940 for Fair Average Quality (FAQ); and Shs. 5,970 for Arabica parchment as illustrated in *Table 1.4*.

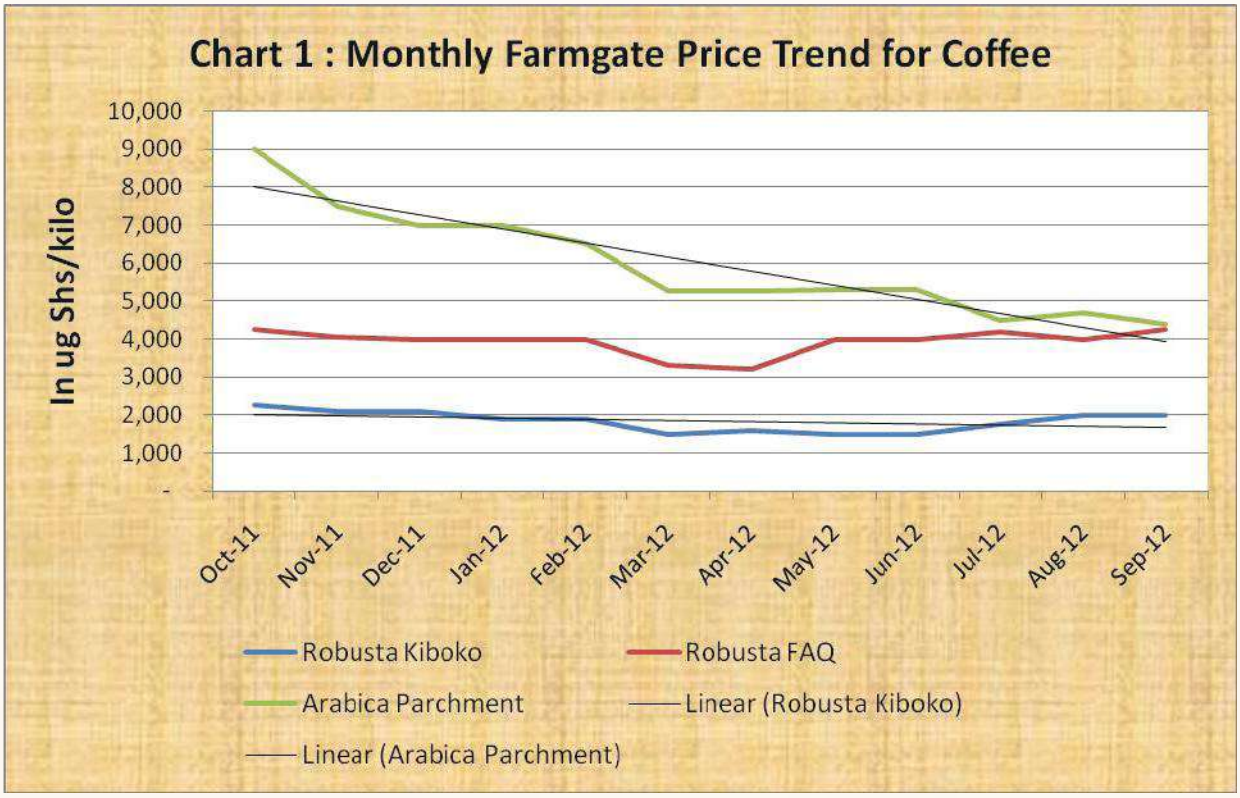
Table 1.4: Realized Monthly Average Farm-gate Prices – Shs/Kilo

2011/12	Robusta		Arabica
	Kiboko	FAQ	Parchment
Oct – 2011	2,250	4,250	9,000
Nov	2,100	4.050	7,500
Dec	2,100	4,000	7,000
Jan – 2012	1,900	4,000	7,000
Feb	1,900	3,300	6,500
Mar	1,500	3,200	5,250
Apr	1,600	4,000	5,250
May – 2012	1,500	4,000	5,300
Jun	1.500	4,200	5,300
Jul	1,750	4,200	4,500
Aug	2,000	4.000	4,700
Sep – 2012	2,000	4,250	4,400
Average	**1,840**	**3,940**	**5,970**

The negative trend in farm gate prices exhibited in Table 1.4 above and Chart 1 below especially for Arabica was in tandem with the negative global price trend throughout the year. This was on account of adequate inventories in importing countries and supply from major producing countries. On the other hand, Robusta farm gate prices were generally at

[1] This excludes the number of coffee buyers which was not readily available.

the same level due to stiff competition from exporters who had to fulfill contractual obligations with their buyers.



1.3 Closing Stocks

1.3.1 Domestic stocks

Table 1.5 shows Uganda's coffee balance as at the close of the year Oct/Sept 2010/11. Just above 430,000 bags of coffee (Robusta - 350,427 bags and Arabica - 75,223 bags) were in stock at various levels within the supply chain, 85% of which was with exporters in various grades.

Table 1.5: Closing Stocks as on September 30, 2012

Oct 2011-Sep 2012	Coffee Type – 60Kg Bags		Total
	Robusta	Arabica	
Opening Stock Oct 01, 2011	350,427	75,223	425,650
Total Production	2,224,302	890,061	3,114,363
Availability	2,574,729	965,014	3,539,743
Domestic Coffee Consumption	164,400	45,600	210,000
Exports	1,904,176	822,073	2,726,249
Closing Stock Sept 30, 2012	506,153	97,341	603,494

1.4 External Market

1.4.1 Coffee Export Performance

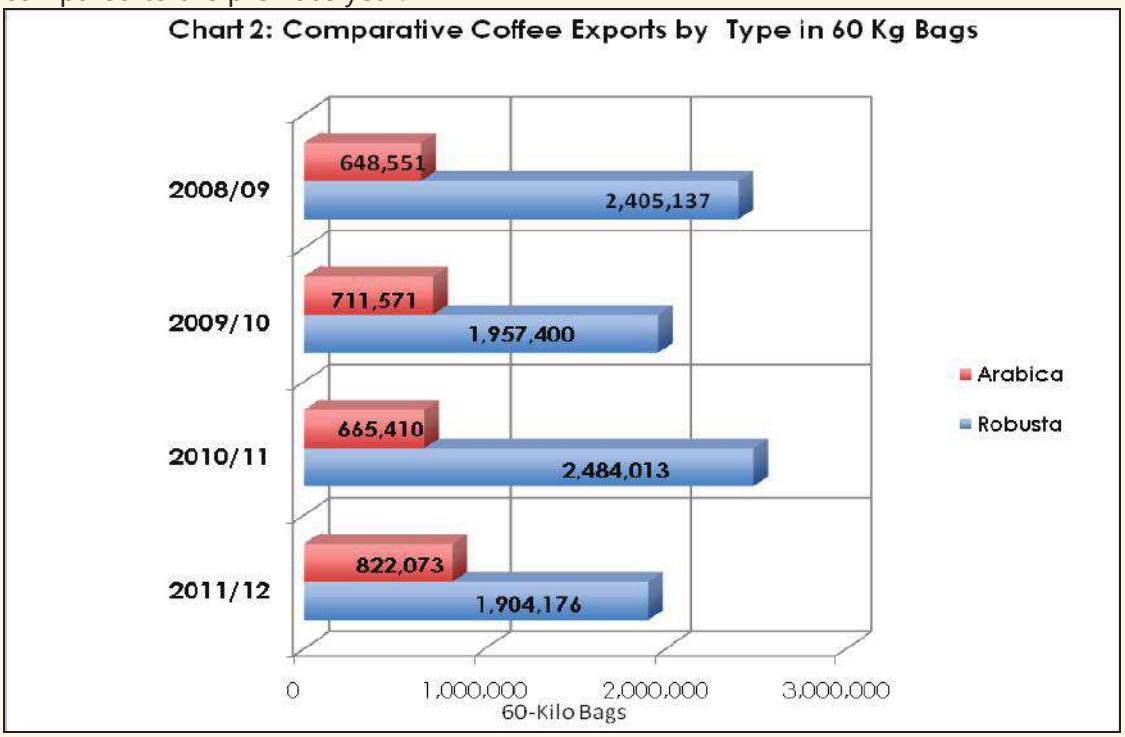
Annual coffee exports amounted to 2,726,249 60-Kilogramme bags (163,575 tonnes), a 13.4% drop compared to 3,149,423 bags (188,965 metric tonnes) realised in the previous year. The corresponding value also fell by 12.5% from US $ 448.89 million in 2010/11 to US $ 392.70 million in 2011/12.

Table 1.6 represents Uganda's coffee export performance on a monthly basis in terms of quantity and value during the year as compared to the previous year.

Table 1.6 Monthly Coffee Exports in 60-kg bags and US $

MONTHS	2011/12		2010/11		%-Age Change	
	Qty	Value $	Qty	Value $	Qty	Value $
G/ Total	**2,726,249**	**392,698,138**	**3,149,423**	**448,890,668**	**-13.44**	**-12.52**
October	215,285	31,106,808	188,012	23,300,353	14.51	33.50
November	227,177	34,095,283	266,726	32,206,730	-14.83	5.86
December	241,661	36,902,863	237,747	28,691,532	1.65	28.62
Qtr – 1	**684,123**	**102,104,955**	**692,485**	**84,198,615**	**-1.21**	**21.27**
January	226,462	33,870,470	215,180	29,981,006	5.24	12.97
February	244,289	36,149,470	193,965	27,888,920	25.94	29.62
March	187,592	30,220,858	228,579	34,839,722	-17.93	-13.26
Qtr – 2	**658,343**	**100,240,798**	**637,724**	**92,709,648**	**3.23**	**8.12**
April	141,220	21,864,582	175,540	26,997,877	-19.55	-19.01
May	252,443	35,738,198	247,460	39,255,651	2.01	-8.96
June	275,051	37,005,407	370,924	58,221,591	-25.85	-36.44
Qtr – 3	**668,714**	**94,608,188**	**793,924**	**124,475,119**	**-15.77**	**-23.99**
July	306,331	40,801,566	376,173	54,429,413	-18.57	-25.04
August	232,453	31,556,474	308,739	44,252,599	-24.71	-28.69
September	176,285	23,386,157	340,378	48,825,274	-48.21	-52.10
Qtr – 4	**715,069**	**95,744,197**	**1,025,290**	**147,507,286**	**-30.26**	**-35.09**

Chart 2 illustrates annual coffee export quantities by type – Robusta and Arabica in bags during the past 4 years. Arabica exports increased while Robusta exports dropped during coffee year 2011/12 compared to the previous year.



1.4.2 Coffee Exports by Type and Grade

The weighted average price for the year stood at $ 2.40 per kilo, an increase of 2 cents over the previous year despite the general negative price trend for both Robusta and Arabica globally. Arabica export prices averaged $3.42 per Kilogramme compared to $ 3.86 the previous year while that of Robusta was $ $ 1.96 per kilogramme slightly down from $ 1.98 the previous year. It is evident that quality improvement can result into realization of better prices by over 50%.

Table 1.7 illustrates coffee exports by type (Robusta and Arabica), grade and average realised prices for each grade during the year as compared to 2010/11.

Table 1.7 Comparative Coffee Export Grades & unit Prices

Coffee Type/Grade	2011/12			2010/11		
	Quantity	Value	Unit/Kg	Quantity	Value	Unit/Kg
TOTAL	**2,726,249**	**392,698,138**	**2.40**	**3,149,423**	**448,890,669**	**2.38**
ROBUSTA	**1,904,176**	**223,976,023**	**1.96**	**2,484,013**	**294,606,045**	**1.98**
Organic Robusta	6,770	841,500	2.07	5,480	722,621	2.20
Washed Robusta	10,239	1,377,595	2.24	14,247	1,887,414	2.21
Utz Robusta	990	137,545	2.32	-	-	-
Screen 18	236,315	30,471,309	2.15	257,530	33,092,691	2.14
Screen 17	85,100	10,783,739	2.11	99,711	13,077,733	2.19
Screen 15	941,857	116,726,527	2.07	1,277,443	157,922,775	2.06
Screen 14	5,700	671,036	1.96	1,750	203,705	1.94
Screen 13	334	39,762	1.98	23,592	2,516,339	1.78
Screen 12	325,877	37,967,855	1.94	473,212	56,394,486	1.99
BHP 1199	145,225	11,987,112	1.38	158,942	12,817,344	1.34
Other Robusta	145,769	12,972,044	1.48	172,106	15,970,937	1.55
ARABICA	**822,073**	**168,722,105**	**3.42**	**665,410**	**154,284,624**	**3.86**
Organic Okoro	3,414	733,219	3.58	13,808	3,782,104	4.57
Organic Bugisu	33,854	8,146,316	4.01	7,010	1,911,203	4.54
*Bugisu Premium	640	227,049	5.91	-	-	-
*Supremo	2,520	576,194	3.81	-	-	-
*Organic Wugar	2,448	660,396	4.50	-	-	-
*Organic Drugar	6,478	1,445,068	3.72	-	-	-
Bugisu AA	72,306	17,292,782	3.99	89,075	23,734,011	4.44
Bugisu A	14,560	3,415,596	3.91	14,945	4,263,334	4.75
Bugisu PB	8,988	2,047,155	3.80	3,034	874,897	4.81
Bugisu AB	38,554	8,364,285	3.62	58,225	15,057,191	4.29
Bugisu CPB	2,480	617,901	4.15	6,771	1,563,950	3.85
Bugisu B	766	221,532	4.82	257	69,049	4.48
Bugisu C	2,480	645,719	4.34	1,378	312,211	3.78
Mixed Arabica	3,040	461,9O8	2.53	1,017	100,894	1.65
Wugar	44,264	9,813,030	3.69	33,084	8,585,703	4.33
Drugar	475,747	100,026,017	3.50	310,073	73,692,520	3.96
Other Arabica	109,534	14,489,846	2.20	109,342	17,537,172	2.67

(*) denotes new grades introduced during the year

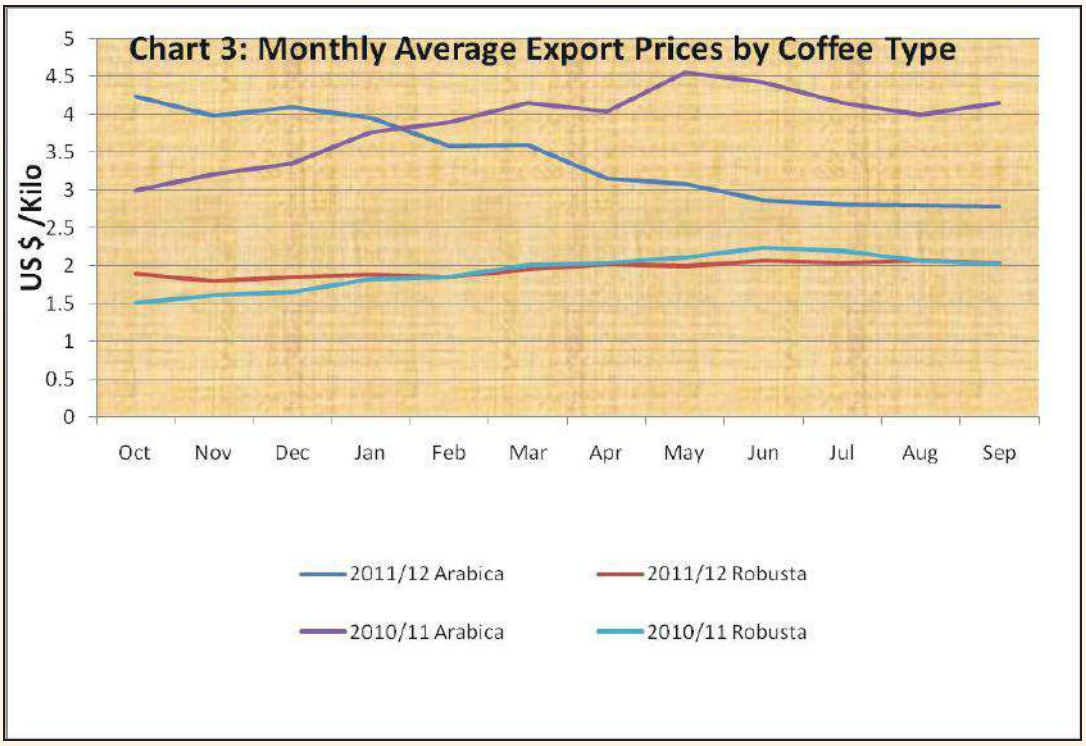
The slight increase in the weighted average price is explained by an increase in the proportion of Arabica in total volume of export.

Table 1.4 shows that price premiums are very distinct between speciality/sustainable and conventional coffees in both Robusta and Arabica. In Robusta, UTZ Robusta fetched $2.32 per kilo compared to Screen 18, a premium of 17 cents. Bugisu Premium sold in the specialty market realised $ 5.91 per kilo compared to Bugisu AA in the conventional market at $ 3.99, a price differential of 192 cents.

1.4.3 Realized prices at export level

The annual weighted average for the coffee year was US$ 2.40 per kilo (Arabica - 3.42 and Robusta - 1.96). The highest weighted average price was realized in March 2012 when it reached US $ 2.68 compared to May 2011 at US$ 2.64 per kilo, the highest in the previous year. The highest prices for Arabica were US$ 4.10 per kilo compared to US$ 4.55 the previous year and correspondingly $ 2.07 per kilo compared to $ 2.24 for Robusta

Chart 3 illustrates the monthly average prices for each type of coffee – Arabica and Robusta – on a comparative basis



1.4.4 Export Performance by Individual Companies

A total of 42 exporting companies were registered during the year and all exported coffee. In terms of the market share, 81% was held by 10 companies up from 80% in 2010/11, reflecting a stable but increasing concentration at the export level.

Table 1.8 shows the export performance of each company in terms of quantity (Robusta and Arabica), percentage share and cumulative market shares.

Table 1.8: Coffee Exports by Individual Companies

	Exporting Company	Quantity – 60 kg Bags			%-age Market hare	
		Robusta	Arabica	Total	Individual	Cumulative
	Grand Total	**1,904,176**	**822,073**	**2,726,249**	**100**	
1	Ugacof (U) Ltd	368,964	60,905	**429,869**	15.77	15.77
2	Kyagalanyi Coffee Ltd	198,236	190,722	**388,958**	14.27	30.04
3	Olam (U) Ltd	281,992	49,558	**331,550**	12.16	42.2
4	Kawacom (U) Ltd	78,953	175,209	**254,162**	9.32	51.52
5	Ibero (U) Ltd	150,759	18,301	**169,060**	9.2	57.72
6	Job Coffee Ltd.	79,228	74,762	**153,990**	5.65	63.37
7	Kampala Domestic store	142,916	350	**143,266**	5.26	68.62
8	Savannah Commodities	82,300	45,805	**128,105**	4.7	73.32
9	Great Lakes (U) Ltd.	14,420	96,348	**110,768**	4.06	77.39
10	**Pan Afric-Impex (U) Ltd.**	**94,980**	**-**	**94,980**	**3.48**	**80.87**
11	Lakeland Holdings Ltd	39,563	21,100	**60.663**	2.23	83.09
12	Nakana Coffee Factory	58,910	-	**58,910**	2.16	85.26
13	Penform Trading Company	53,638	1,900	**55,538**	2.04	87.29
14	LD Commodities	44,101	10,499	**54,600**	2	89.3
15	Armajaro Coffee Co. Ltd	46,519		**46,519**	1.71	91
16	Kamba Petroleum Ltd.	26,374	16,928	**43,302**	1.59	92.59
17	Kitasha Buyers Ltd.	37,447		**37,447**	1.37	93.96
18	Mbale Importers and Exporters	6,412	15,260	**21,672**	0.79	94.76
19	Ankole Coffee Producers Coop	20,866	286	**21,152**	0.78	95.53
20	Kisuule & Sons Ltd.	17,168	-	**17,168**	0.63	96.16
21	Wabulungu M-Purpose Estate Ltd	12,760	3,674	**16,434**	0.6	96.77
22	Risala (U) Ltd	12,968	1,332	**14,300**	0.52	97.29
23	Bakwanye Trading Company Ltd	654	12,080	**12,374**	0.47	97.76
24	Gumutindo Co-op Enterprises Ltd	-	11,580	**11,580**	0.42	98.18
25	Coffee Services Ltd.	7,973	3,151	**11,124**	0.41	98.59
26	Ankole Coffee Processors Ltd	8,168	2,720	**10,888**	0.4	98.99
27	Zigoti Coffee Works	5,938		**5,938**	0.22	99.21
28	Kaweri Coffee Plantation	4,320		**4,320**	0.16	99.37
29	Nile Highland Arabica Coffee Assn		3,550	**3,550**	0.13	99.5
30	Bukonzo Joint Cooperative Society	166	1,754	**1,920**	0.07	99.57
31	Anderson Investment Ltd.	1,600	320	**1,920**	0.07	99.64
32	Export Trading Company Ltd.	1,920		**1,920**	0.07	99.71
33	Coffee World.	980	640	**1,620**	0.06	99.77
34	Commodity Solutions	1,368		**1,368**	0.05	99.82
35	Green Holdings Ltd.		1,280	**1,280**	0.05	99.86
36	Budadiri Coffee Factory		960	**960**	0.04	99.9
37	Qualicoff	700		**700**	0.03	99.92
38	Kabum Trading Company		640	**640**	0.02	99.95
39	Gatto Estates Ltd.	250	288	**538**	0.02	99.97
40	Trans Gaz	345		**345**	0.01	99.98
41	Katuka	320		**320**	0.01	99.99
42	Masai Tours	221		**221**	0.01	100

1.4.5 Individual Coffee Buyers' Performance

The ten top buyers held a market share of 67% almost same as in the previous year (67%), a reflection of stability at the buyers' level and an assurance of a reliable origin. Sucafina had the highest market share of 13.8% slightly up from 13.4% the previous year. This was followed by Olam International with a market share of 11.4% compared to 8.0% the previous year and Ecom Agro Industrialists with a market share of 8.8% a slight rise from the previous year (8.6%).

The performance of buyers of Uganda coffee during coffee year 2011/12 in terms of quantity and market share is shown in *Table 1.9* below.

Table 1.9: Performance of Individual Coffee Buyers Companies in the Coffee Year 2011/12

	Buyers	Quantity	%-age Market Share	
		60-Kg Bags	Individual	Cumulative
	Grand Total	**2,726,249**	**100.00**	**-**
1	Sucafina	375,245	13.76	13.76
2	Olam International	309,554	11.35	25.12
3	Abaco International	238,883	8.76	33.88
4	Ecom Agro Industrial	237,242	8.70	42.58
5	Bemhard.Rothfos	155,981	5.72	48.30
6	Volcafe	138,395	5.08	53.38
7	Aldwami	99,260	3.64	57.02
8	Socadec	98,755	3.62	60.64
9	Icona Café	95,502	3.50	64.15
10	Louis Dreyfus	90,151	3.31	67.45
11	Coex Coffee	78,048	2.86	70.32
12	Cofftea Trading	62,512	2.29	72.61
13	Strauss Commodities	61,279	2.25	74.86
14	Armajaro	47,871	1.76	76.61
15	Coffee Services	42,164	1.55	78.16
16	Hamburg Coffee	38,474	1.41	79.57
17	Decotrade	37,298	1.37	80.94
18	Al- Mathahib	31,870	1.17	82.11
19	Tata Coffee	30,745	1.13	83.24
20	Guzman	27,906	1.02	84.26
21	Aziende	25,510	0.94	85.20
22	NKG Bero Italia	24,592	0.90	86.10
23	Luigi Lavaza	23,930	0.88	86.98
24	Gebr West	20,259	0.74	87.72
25	Supremo	17,630	0.65	88.37
26	Africa Tea and Coffee	17,600	0.65	89.01
27	World Botanical	15,759	0.58	89.59
28	Falcon Commodities	14,440	0.53	90.12
29	Bercher Consulting Group	13,920	0.51	90.63
30	Maison Jobin	11,840	0.43	91.06
31	Others	243,634	8.94	100.00

1.4.6 Coffee Exports by Destination

1.838 million bags of coffee (67.43%) were exported to European Union (EU) compared to 1.77 million bags (56% of total exports) the previous year. Coffee exported to Sudan totalled 0.427 million bags (15.68%) compared to 0.46 m million bags (or 14.6%) exported last year 2010/11. Coffee to other African countries amounted to 64,109 bags compared to 28,389 in 2010/11. USA was the third largest destination of Uganda coffee with a market share of

2.5% of the total exports during the year. India was the fourth with a market share of 2.7% followed by Switzerland with 2.4% compared to 3.8% the previous year, 2010/11. Penetration in Asia and Latin America was noted during the year.

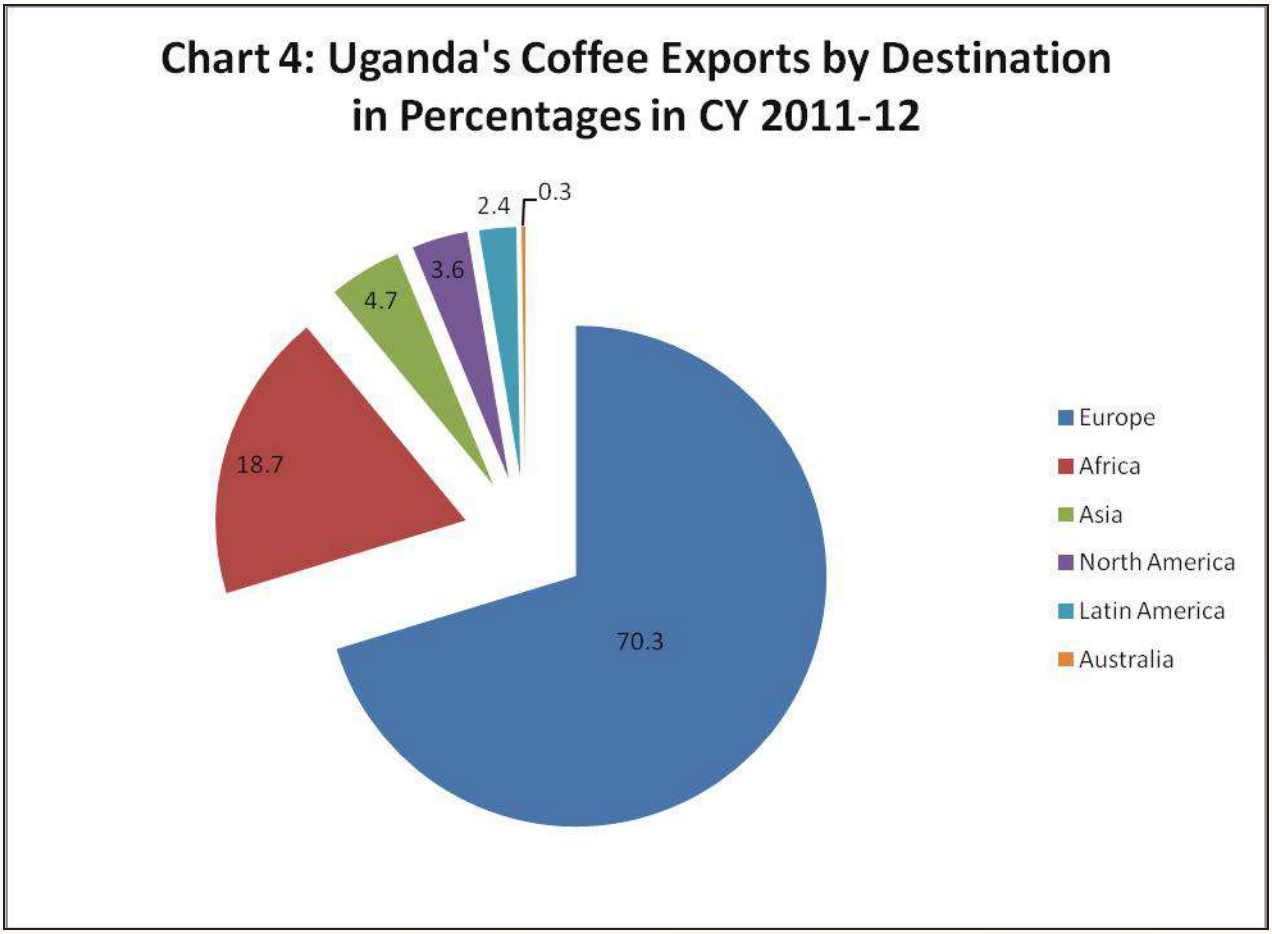
Table 1.10 represents Uganda's coffee exports by destination during the year in terms of volume and relative market shares.

Table 1.10: The Main Destinations of Uganda Coffee in 2011/12

	Destination	Quantity in 60-Kilo bags			%-age Market Share	
		Robusta	Arabica	Total	Individual	Cumulative
	Grand Total	**1,904,176**	**822,073**	**2,726,249**	**100.00**	**-**
1	EU[2]	1,187,580	650,703	1,838,283	67.43	67.43
2	Sudan	425,553	2,020	427,573	15.68	83.11
3	USA	16,972	79,164	96,136	3.53	86.64
4	India	54,630	18,558	73,188	2.68	89.32
5	Ecuador	57,600	7,029	64,629	2.37	91.69
6	Switzerland	30,718	11,092	41,810	1.53	93.23
7	Russia	28,909	5,192	34,101	1.25	94.48
8	South Africa	14,971	3,320	18,291	0.67	95.15
9	Vietnam	17,632	342	17,974	0.66	95.81
11	Morocco	12,910	4,842	17,752	0.65	96.46
12	Kenya	14,884	2,380	17,264	0.63	97.09
13	Tunisia	-	14,607	14,607	0.54	97.63
14	Israel	10,720	861	11,581	0.42	98.05
15	Egypt	4,643	4,330	8,973	0.33	98.38
16	China	5,405	2,740	8,145	0.30	98.68
17	Japan	5,479	1,580	7,059	0.26	98.94
18	Algeria	5,894	-	5,894	0.22	99.16
19	Middle East	4,618	640	5,258	0.19	99.35
20	Australia	1.280	3,840	5,120	0.19	99.54
21	Canada		2,265	2,265	0.08	99.62
22	Taiwan	1,240	960	2200	0.08	99.70
23	New Zealand		1,710	1,710	0.06	99.76
24	Singapore	1,220	320	1,540	0.06	99.82
25	Georgia	1,018	288	1,306	0.05	99.87
26	South Korea		1,280	1,280	0.05	99.92
27	Norway		1,050	1,050	0.04	99.95
28	Mexico		960	960	0.04	99.99
29	Sri lanka	300		300	0.01	100.00

Chart 4 illustrates destinations of Uganda Coffee by Continent in percentages. The dominance of Europe as a major destination is underpinned.

[2] Members of EU countries include: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, The Netherlands and United Kingdom



1.4.7 Global Outlook

According to International Coffee Organization (ICO), the total volume of exports in coffee year 2011/12 was a record 109.4 million bags, an increase of 4.5% compared to the previous year 2010/11. The estimated value however was US $ 21.6 billion, 8.3% lower than US$23.6 billion for a total volume of 104.7 million bags in 2010/11.

Global production for 2012/13 is estimated at 145 million bags compared to 134.4 million bags in 2011/12, a 7.9% increase due to the heavy investment in Brazil where production up to an estimated 50.3 million bags in spite of an off-year biennial crop. In addition, Vietnam is expected to produce 26 million bags. This is coupled with favourable weather in some producing countries especially Colombia and Peru. This may negatively impact the global Arabica market.

African production dropped by 8.7% from 16.2 million bags in 2010/11 to 14.8 million bags in 2011/12 and its share dropped by 1.2 percentage points from 12.2% to 11% in 2011/12. The drop was on account of low production in major origins, Ethiopia and Uganda. Cote d'Ivoire's production is on the increase reaching 2 million bags in 2011/12.

Global opening stocks for 2012/13 were estimated at 15.1 million bags compared to 18.2 million bags in 2010/11 in producing countries and 19.9 million bags in importing countries, a drop of 17.1% from the previous year.

Chapter Two

QUALITY AND REGULATORY SERVICES

2.0 Introduction

In execution of its mandate, UCDA implemented programs of quality improvement and assurance, training and skills development, generic promotion, promotion of domestic coffee consumption and value addition.

In quality improvement program, industrial players at post harvest level were trained on best handling and manufacturing practices, machine maintenance and best hygiene practices. Evaluation of the coffees in the field reflected good out-turn for both Arabica and Robusta though the moisture content was generally above the 14% reflecting further need to intensify sensitization on proper drying techniques.

In quality assurance, a slight drop in clean cups was registered reflecting a decline in handling practices along the value chain. All Organic coffee recorded the best cup largely attributed to establishment and strict observance of the certification process prescribing ethical, health and environmental standards.
UCDA reviewed Robusta coffee protocols/standards in a bid to differentiate and sell Uganda coffee in the specialty/fine markets.

Training programs were undertaken in: Basic Quality Control, Barista training, training of coffee roasters and brewers, training of trainers in Robusta-R and Arabica–Q graders, farmers` training in GHPs, and certification of Robusta and Arabica graders.

UCDA participated in local trade fairs and exhibitions to showcase Uganda coffee, and supported formation of university coffee clubs to promote coffee consumption among the youth.

Uganda Coffee was promoted on the global market through participation in international trade fairs, exhibitions and through support to promotional centres in China and Egypt.

2.1 Quality Improvement

2.1.1 Sensitization programmes of farmers, store operators and primary processors on Best Handling Practices (BHPs) were conducted. 398 farmers, factory operators and local leaders were trained on basic quality control techniques.

2.1.2 300 dry mill operators compared to 102 in 2010/11 were given technical support on machine maintenance, waste disposal, setting of hulleries and catadors. Best practices in hygiene were emphasized and improved disposal of husks was observed.

2.1.3 The moisture content (MC) and out-turn (OT) ranged from 13.2-15.2% and 40-60% respectively for Robusta. This was a slight improvement compared to 2010-11 which had OT ranging from 45-56%. Field samples for Washed Arabica had MC and OT

ranging from 14-16% and 79-82% respectively. Natural Arabica had out-turn of 45-48% and MC of 14-15%.

2.1.4 42 exporters, 308 primary processors, and 14 roasters were registered under the program of inspection and registration of all players at post-harvest level.

2.1.5 10 primary processing factories were suspended due to non-conformance and malpractices. These were located in Kasese, Rukungiri and Bushenyi. 1 coffee roaster was closed due to poor structures, lack of a husk collection chamber and poor sanitation.

2.1.6 39 Sensitization meetings were held with 1,865 participants trained in Best Handling practices, Good Agricultural Practices and compliance to Coffee Regulations. The trainings attracted Exporters, processors and members of Uganda Quality Coffee Traders and Processors Association (UQCTP).

2.2. Quality Assurance

2.2.1 Overall cup performance

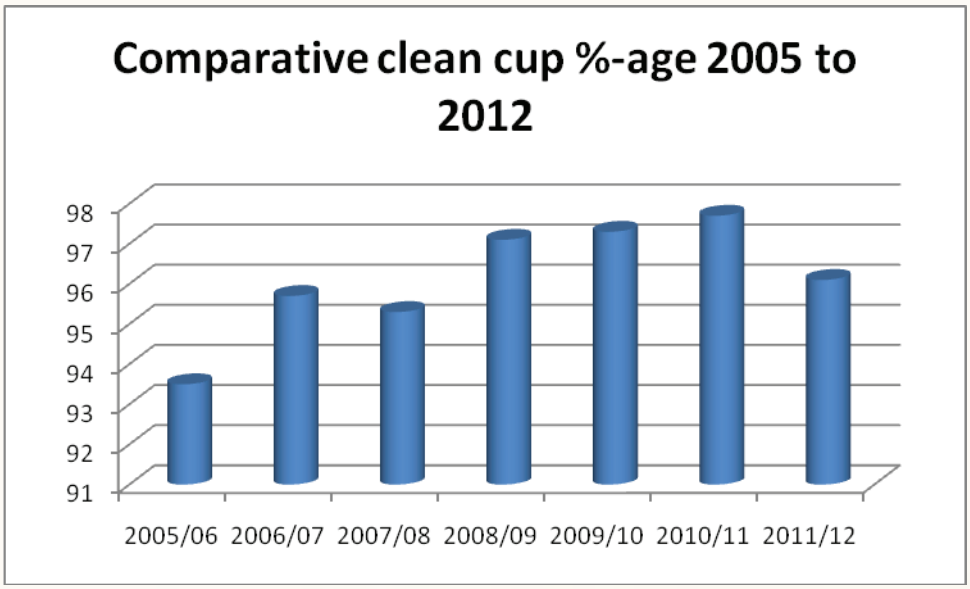
There has been a steady improvement in the annual percentage of clean cups in the last seven (7) years from 93.5% in 2005/06 to 97.7% 2010/11. However, there was a slight decline in cup quality in 2011/12 to 96.1% as indicated in Chart 5 below. This was attributed to drought during the bean formation stage. In general, improved post harvest handling practices within the entire value chain were observed.

Table 2.1 below gives the percentage of clean cups for each type of coffee and grade. The Bugisu Arabica continues to show a high percentage of clean cups with an average of 96.8%. Bugisu PB scored the least (94.7%) while Bugisu AA scored the highest (99.2%) followed by Bugisu A at 97.1% and Wugar at 96.5%. The cup quality of Natural Arabica, Drugar, was maintained as 95.0% compared to 95.4% in 2010/11.

Table 2.1 Comparative Percentage of Clean Cups: 2005/06 to 2011-12

TYPE	GRADE	2011/12	2010/11	2009/10	2008/09	2007/08	2006/07	2005/06
Bugisu Arabica	AA	99.2	100	100	99.6	97.3	98.3	95.5
	A	97.1	98.3	98.4	100.0	98.6	97.1	97.2
	AB	96.3	96.9	96.8	99.0	96.1	95.9	92.4
	PB	94.7	96.0	95.6	94.5	97.6	93.3	98.1
	B	-	-	-	-	97.8	97.7	92.9
Other Arabica	Wugar	96.5	100	100	99.4	98.8	96.2	96.5
	Drugar	95.0	95.4	95.1	98.1	94.9	92.7	90.3
Natural Robusta	Sc 18	95.2	95.9	95.7	94.8	94.2	90.6	87.8
	Sc 17	95.7	96.7	96.5	96.2	93.2	95.6	86.4
	Sc 16	-	-	-	-	-	100.0	97.6
	Sc 15	95.7	98.5	98.2	95.6	95.8	91.5	89.1
	Sc 14	93.2	95.4	90.3	96.6	98.2	93.6	89.2
	Sc 13	95.5	94.3	94.1	95.6	92.9	100.0	90.5
	Sc 12	95.2	97.5	97.4	95.8	91.9	90.3	88.4
Washed Robusta	Ungraded	98.1	98.3	97.9	93.0	92.1	96.7	100.0
Organic Coffee	Bugisu Arabica	100	100	100	97.6	97.1	100.0	96.4
	Okoro Arabica	94.8	100	100	-	100.0	93.2	100.0
	Robusta	95.1	100	100	100.0	83.9	100.0	95.2
Annual Average		**96.1**	**97.7**	**97.3**	**97.1**	**95.3**	**95.7**	**93.5**

Chart 5:



High percentage of the clean cups during 2010/11 coffee year was attributed to improved post-harvest practices resulting from intensified sensitization and enforcement of the coffee regulations, improved sector players attitude and good price.

There was a slight decline in the cup of washed Robusta coffee from 98.3% last year to 98.1%; the cup was well above the average for Natural Robusta (95.1%).

The organic coffees, Okoro Arabica (94.8%) and Robusta (95.1%) declined in cup quality compared to 100% clean cup in 2010/11. Organic Bugisu Arabica maintained 100% clean cup quality.

2.3 Coffee Referred For Reprocessing

56,347 bags were referred for reprocessing compared to 28,454 bags (2010/11). This was an increase compared to previous year due to drought and low screen retention. The most affected were Screens 18, 17 & 15.

Table 2.2. Coffee Rejections (60kg bags) 2007/08 to 2011/12

DEFECTS	2007/8	2008/9	2009/10	2010/11	2011/12	Percentage Defects
1.Wetness	17,618	10,366	13,962	4,268	9,016	16
2.Discoloured/Blacks	7,453	7,646	3,070	3,500	7,607	13.5
3. Poor Retention	9,522	22,163	10,318	16,617	31,498	55.9
4.Floats/BHP	2,735	-	2,052	1,582	3,775	6.7
5. Pods	3,256	1,308	2,709	1,503	2,761	4.9
6. Extraneous matter	0	920	1,234	984	1,690	3.0
TOTAL	**40,584**	**42,403**	**33,345**	**28,454**	**56,347**	**100**

2.4 Training programmes

35 participants of the Basic Quality Control Course (BCQC) consisting of 20 from the coffee industry and 15 from tertiary institutions of learning were trained in Basic Quality Control that covered defects' identification, moisture determination, roasting profiles and techniques, flavor profiles, and liquoring.

A total of 53 Baristas were trained (20 University coffee club members, 23 new and 10 practicing Baristas) in preparation for the 5th Uganda National Barista Championship (UNBC). Inter University Barista championship was conducted at Kyambogo University with the 20 participants from four Universities (Uganda Christian University, Makerere University, Kyambogo University and Kampala International University). The top six were selected to participate in the 5th UNBC that was held at Imperial Royal Hotel, Kampala in November 2011. Mr. Jay Caragay an international trainer conducted the training and headed a team of 14 judges at the competition. The winner and the runners up were Mr. Roberts Mbabazi from Barista PRO and Mr. Ochen Simon of Igongo Cultural Centre respectively. The Uganda Barista champion also won the Africa Barista Championship in Addis Ababa, and emerged the 47th at the World Barista Championship.

In an effort to promote coffee drinking culture among the youth, an essay competition under the theme "The Role of the youth in the Coffee Value Chain" was conducted attracting 16 participants from University Coffee Clubs. UCDA participated in two university bazaars at Makerere University (MUK) and Kyambogo University and inducted new coffee club members.

UCDA was recognised as the National Barista body representing World Barista Championships (WBC). Among the judges at the WBC in Vienna, Austria and Africa Barista Championships in Addis Ababa, Ethiopia, was a Ugandan.

The Q & R-Grading Certification trainings attracted 30 participants out of which, 10 were certified as Star cuppers. A Robusta assistant instructors' certification course was held and 10 participants were certified as R-Assistant Instructors.

30 roasters & brewers were trained in basics of roasting, cupping and blending with an aim of improving coffee quality on the market. An improved Nguvu coffee brand was introduced on the market. Two new brands namely: Nile Coffee and Star Gold were also introduced on the market.

One Quality Controller was trained in Food Safety and Management Systems. Two officers attended a consultative workshop on the formation of standardization, metrology, conformity assessment and accreditation organized by Ministry of Trade Industry and Cooperatives.

2.5. Generic promotion, Value addition and Promotion of Domestic coffee consumption

2.5.1. Promotion of Domestic Coffee Consumption

Ugandan Coffee was showcased in local trade fairs at; World Food Day in Arua, monthly corporate league events, UMA international and regional exhibitions, Buganda Farmers' exhibition, Jinja Agricultural Trade show and regional coffee shows under the Coffee Production Campaign. In these local exhibitions, UCDA supported local roasters with exhibition space for display of their finished products.

11 cafes were opened; 10 in Kampala Metropolitan and 1 in Masaka town reflecting an increased investment in coffee consumption ventures.

Coffee was promoted through **"Raise training program"** which trained teachers around Kampala. Teachers were sensitized to carry the message of the benefits of coffee consumption to the youth.

Coffee was also promoted under the theme "Coffee on The Road"in Masaka, Mbarara, Fort Portal, Gulu, and Jinja.

2.5.2 Participation in International Trade Fairs & Exhibitions

UCDA showcased Uganda coffee in international fairs at; the Specialty Coffee Association of America (SCAA) exposition in Oregon-USA, Specialty Coffee Association of Japan (SCAJ), Canton Import & Export Trade Fair, Guangzhou International Food Festival, Guangzhou Coffee Expo (China), Coffee Expo 2012 (Korea), International Food Le Café exhibition (Cairo, Egypt), UNAA in Philadelphia, and the African Fine Coffees Conference and Exhibition in Addis Ababa, Ethiopia.

At the SCAA conference in Oregon, UCDA hosted Kabum Specialty Coffee and Crop to Cup, Ugandan coffee buyers in USA in a bid to promote Uganda Coffee.

In 2011/12 Uganda exported 96,136 bags to USA compared to 95,168 bags exported in CY 2010/11. The exports to China, Russia and Far East were 51,426 bags. The exports to the Arab world were 480,057bags realizing a market share of 17.61% of total exports. These volumes of exports were a result of promotions carried out in these markets.

2.6.3 Joint Ventures

The Joint Ventures in China and Egypt were supported in terms of technical assistance and promotional activities.

China:

UCDA participated in Xiamen Hong Kong coffee Expo and Canton Commodity Exhibition and conferences. A promotion centre was opened in Guangdong province.

The joint venture launched a 3-in-1 Mountain Gorilla coffee brand in China and at the Coffee Expo in South Korea. The new brand is expected to increase the market share of Uganda coffee in China.

Egypt:

UCDA participated in the international Food and Le Café Exhibition in Cairo where 300 small packets of coffee and 3,281 brochures were given out. In an effort to increase awareness of Uganda coffee in Egypt, promotional visits were made to hypermarkets, Supermarkets, Coffee shops, hotels, cafes and coffee importers.

2.6.4 Development of protocols for the Fine Robusta Coffees for the specialty market

UCDA partnered with USAID-LEAD Project (LEAD- Livelihood and Enterprises for Agricultural Development) and developed Robusta grading standards. R & Q standards were developed, 800 copies printed and disseminated to stakeholders.

Chapter Three

COFFEE PRODUCTION PROGRAMMES

3.0 Introduction

The Coffee Production Campaign initiatives and successes so far attained continue to be consolidated in the UCDA programmes, and are tailored at achieving the production target of 4.5 million bags by 2018.

These programmes are aimed at improving productivity and production through;

- Promoting generation and production of clean planting material through seed sourcing, tissue culture, and support to Clonal propagation of the Coffee Wilt Resistant lines for mass multiplication and distribution to farmers.
- Promotion of coffee replanting by supporting community based and private commercial nurseries; and direct provision of seedlings to various farmer groups and special interest groups.
- Coffee Rehabilitation by supporting specific lead farmers with demonstrations at various community locations to improve yield of the old coffee trees.
- Support to Coffee production in new areas especially Northern Uganda by integration of commercial coffee and banana production into the farming system.
- Promotion of Sustainable Coffee Production Initiatives such as Organic, Utz, 4Cs, Fair Trade and Rainforest Alliance so as to increase the unit value of coffee at farm - gate level.
- Continued deliberate support and strengthening of Coffee Research by provision of financial, technical and material support.
- Promotion of collaborative participatory coffee Extension with other stakeholders.
- Promotion of technical extension services in an effort to improve quality at post- harvest and ensure enforcement of the coffee regulations.
- Strengthening the functions and visibility of the Regional offices so as to provide better service to the coffee stakeholders.
- Coordination and implementation of key activities under the coffee production campaign together with other stakeholders.

3.1 Promotion of planting material production

Under this programme, the objective is to create a sustainable demand driven initiative in production of coffee seedlings, using both elite seed and vegetative cuttings. This involves provision of clean certified seed to various farmer groups and private commercial nursery operators, support to nursery proprietors involved in vegetative propagation and sourcing Biotechnology services for mass multiplication of clonal material through tissue culture. Key achievements under this programme included;

- 15,358 Kgs of Elite Robusta and Arabica seed was distributed to community based nursery groups through Field Officers, Local leaders, Political leaders, organized farmer Associations and Exporter based farmer Groups. This will generate at least 30.716 million seedlings.
- Through partnership with Hima Cement, 1.2MT of Arabica seed was distributed to farmers in Kasese and Kamwenge Districts for generation of seedlings for planting by the communities which benefitted 10,000 households.
- 200 Kgs of Albizia tree seed procured and distributed to farmer groups mainly in Northern Uganda to provide shade during the prolonged dry spells in the region.
- Multiplication of the CWD – Resistant lines at the Coffee Research centre, 29 Nursery operators were allocated plantlets to establish mother gardens for subsequent generation of clones. This brings the cumulative number of nursery operators to 45, with a total of 15,750 mother bushes established which will generate at least 472,500 trees in the first season.
- Tissue Culture - with release of 7 new lines resistant to CWD, services were procured from the Private sector AGT Buloba for speedy generation of 2 million plantlets by Tissue culture. These plantlets shall be distributed to nursery operators to generate a critical mass of material before releasing to farmers for planting. In addition, continued support was given to COREC to generate additional material at the tissue culture laboratory at Kawanda.
- Buginyanya (Sironko District) and Zombo (Zombo District) Arabica seed gardens were supported and rehabilitation of Nyamigogo (Kisoro District) was completed. These sites were able to generate 1,208 Kgs of seed and have ensured a sustainable source of clean and certified seed.
- To ensure sustainability of programmes in the new coffee growing areas, especially in Northern and North Eastern Uganda, support was provided to the seed gardens at Ngetta ZARDI (Lira District) and Serere ZARDI (Serere District). These sites were able to produce 500 Kgs of Elite Robusta seed.

A well maintained commercial nursery

3.2 Management of Diseases and Pests

Though the spread and prevalence of the Coffee Wilt disease has generally been managed through good agricultural practices, there is an increasing challenge that is posed by escalation of existing diseases and pests, and the emergence of new ones especially the black Coffee twig borer. The following diseases and pests posed a considerable challenge; Black Coffee Twig Borer, Coffee Leaf Rust, Caterpillars, Stem Borers, Coffee Berry Borer and Red Blister Disease. Several interventions were implemented to address the challenges;

- Sensitization and creation of awareness by all stakeholders through Radios, posters/flyers, training and workshops.
- UCDA provided chemicals and equipment to critically affected farming communities in Mukono, Ntungamo, Masaka, Luwero, Buikwe, Butambala, Mbale, Sironko and Kapchorwa.
- Additional support was provided to Coffee Research centre to continue with surveillance and characterization of the Black Coffee Twig Borer. The findings will guide on deciding appropriate interventions to be put in place, and also provide a long term solution to the spread of the Black Coffee Twig Borer.

3.3 Promotion of Coffee Replanting

To ensure increased coffee production, communities were mobilized for planting seedlings raised under community based and private commercial nurseries. The beneficiaries of these activities were; individual farmers, farmer groups, commercial farmers, exporter based farmer groups, projects and the NAADS programme. The following were achieved;

- 10.847 million seedlings were planted by members of Community Based Nurseries and other interest farmer groups where 54,235 households benefitted.
- Private nursery operators supplied 1.2 million seedlings for planting under arrangements with NAADS, Local Governments, Non-Governmental Organizations, Community Based Organizations and commercial entities.

- UCDA, in a special intervention, sourced plantlets for organized farmer groups, women groups and Youth. A total of 4.8 million seedlings were planted by 24,000 households.
- Under the Public Private Partnership, 300,000 seedlings were distributed under the UCDA/HIMA/KASESE District Local Government initiative. Uganda Coffee Farmers Alliance was supported with 170,000 seedlings for member groups. In addition, the Neumann Stiftung project in Masaka was given 70,000 seedlings.

3.4 Coffee Rehabilitation

In a bid to improve the yield per tree from at least 0.5 kg to 1.0 kg of clean coffee, a number of initiatives were implemented.

- 19 sets of pruning kits were allocated for community pruning. Support was given in form of fuel and servicing of power saws. A total of 802 acres were stumped. Yield increases registered from 600 – 1000 Kilograms per acre of Parchment in Mt. Elgon Region; 400 – 1800 Kilograms per hectare of FAQ by farmers in Mityana (UCFA), and 300 – 1500 per hectare of FAQ by farmers in Masaka.
- Farmer competitions were held in 25 districts involving 50 farmers per district. The Competitions were an initiative to speed up and encourage farmers to rehabilitate their coffee and were based on adoption and implementation of Good Agricultural practices. The best 10 performing farmers per district were rewarded with various items (hand pulpers, tarpaulins, drying trays, solar panels). These farmers were able to Register on average 50% increase in Yields.
- 70 farms were supported to act as demonstrations on sustainable soil management practices and establishment of tree nurseries to address the challenges posed by occurrence of landslides (Mt. Elgon, Rwenzori). Farmers use these sites as learning centers for adaptation to challenges related to climate.

3.5 Support to Coffee Development in Northern Uganda

A programme for promoting commercial coffee production in the nontraditional coffee areas was undertaken. These areas amongst others include; Mid-Northern Uganda districts of Apac, Kole, Gulu, Kitgum, Lira, Pader, Oyam, Amolatar, Dokolo, Nwoya, Alebtong, Lamwo and Amuru.

The major goal is to create wealth and improve the welfare of the people in the non-traditional coffee growing areas through sustainable income and to ensure food security. It is also envisaged that such an approach would provide a fallback position for coffee amidst Coffee Wilt disease attacks in traditional coffee areas.

The following were achieved;

- 3 sensitization workshops and seminars for local leadership and other stakeholders.
- Two groups of farmers (29 and 32) were taken on field tour to other areas within Northern Uganda and West Nile. The objective was to create more effective awareness and knowledge in coffee value chain activities amongst their counter- parts within the same region.

- 12 radio sessions of 30 minutes each were aired on radios in the region. The messages address all activities along the coffee value chain.
- 13 farmer groups and 1 association were formed. 6 – one day workshops were organized to improve farmer group knowledge in managing groups and associations**.**
- 150 community, based nurseries were formed with a capacity of 20,000 seedlings each. Out of these 56 nurseries have turned private. There has been an improvement of the seedlings' survival rates from 80% to 85%.
- 1.746 million seedlings were raised by the Community Based Nurseries out of which 1.27 million coffee seedlings and 0.302 million shade trees were planted benefitting 3,175 Households. In addition, 0.29 million coffee seedlings were directly procured and distributed to various farmer groups, benefitting 975 households. 17,600 seedlings were planted by Lututur Prison Farm and farmers neighboring the Farm.
- 44 Farmer Field School (FFS) sessions were facilitated attracting 636 participants.
- 1 seed garden (Ngetta ZARDI) was given financial support. In addition, 6 private seed suppliers were supported with seed processing equipment to create a sustainable source of elite seed for the region from within.
- 20 technology development sites were established to act as training and demonstration sites on new technologies. These sites are also used as multiplication fields for banana suckers distributed to farmers for intercropping with coffee. 8,019 banana suckers were distributed benefiting 154 households. This together with cover crops provides early incomes to coffee farmers besides catering for food security.
- 2 workshops were conducted on processing and market development. 16 coffee drying trays, 200 tarpaulins were distributed to 40 farmer groups as a drive to improve quality at post harvest.
- 118.61MT of Kiboko was sold by farmers (Acholi 35.1MT; Lango 83.514 MT at an average price of shs 2000/Kg.
- 1 characterization survey was carried out. Field Data on crop Morphology collected in collaboration with COREC. Preliminary findings revealed that average yields of coffee in Mid North stands at 0.9, 0.8, 1.5 and 1.6 kilograms per tree of FAQ for Gulu, Oyam, Lira and Apac districts respectively.

3.6 Promotion of Sustainable Coffee Initiatives (Organic, Utz, 4C, Fair Trade, Rainforest Alliance)

As part of the strategy to improve value addition at farm level and support penetration to niche and specialty markets, support is given to farmer groups and organizations that are promoting sustainable coffee.

The following was achieved under this initiative;

- Farmers practicing Rainforest Alliance were registered. 40 Rainforest Alliance farmer fields were mapped out in Zombo and Kapchorwa. This was done in collaboration with stakeholders sponsoring the programme. To-date 45,032 farmers registered under various sustainable programmes. Under this initiative, 49,000 bags of Coffee were exported.

- 15 Farmer groups trained as follows; Kasese (6), Kisoro (1), Nebbi/Zombo (5), Sironko (1), Kapchorwa (1) and Kween (1). The training covered all aspects in sustainable coffee production systems.
- Translation of Brochures on Management of Pests and Disease under Organic Production system into local languages (Luganda, Runyakitara) was done and 2,000 Brochures printed.
- The Memorandum of Understanding with the University of Florida was renewed for 5 years. This will allow further collaboration in soil analysis and other aspects on procedures under the National Organic Program of (USA) that allows export of organic coffee into the US market.
- UCDA supported NIHACOFA (West Nile) for Fair Trade Certification and also provided a Wet mill in an effort to improve post-harvest quality.

3.7 Farmer Training and Extension Liaison

In collaboration with other stakeholders (NAADS, Local Governments, Projects, CSOs), farmer training was carried out to improve knowledge and skills.

- 5 inter regional field trips were undertaken by farmers to learn and appreciate the practices of their colleagues in other regions. This helps in knowledge sharing and transfer, as better practices are identified and adopted.
- 10 Coffee shows were held in 10 districts to showcase better practices along the Coffee value chain and to create interaction between farmers and other stakeholders, especially input suppliers. It was done in collaboration with other stakeholders under the coffee production campaign.
- 382 Seminars were carried out attracting 30,560 participants from coffee growing districts to address aspects of coffee production, quality improvement and enforcement of coffee regulations.
- 60 programmes were aired on Radios in 5 Regions. Farmers were sensitized on various issues along the Coffee value chain with respect to farm activities and any emerging issues such as disease and pest out- breaks.
- Farmers and processors were sensitized on quality at post-harvest level through district coffee platforms. UCDA spearheaded all activities of the National Steering Committee of the coffee production campaign including the deliberations of the Annual stakeholders' Meeting.
- As part of the effort to create operational efficiency and take services nearer to the farmers, support was provided to Officers in the Regional Offices to offer diligent services to all stakeholders, Government agencies and local governments in addressing interventions within the coffee value chain.

3.8 Provision of Technical Extension Services and Quality Enhancement

As part of the Quality improvement drive, programmes were put in place to ensure that quality aspects are upheld at post – harvest level, in addition to enforcement of the Coffee Regulations. The following were achieved;

- 596 Buying stores registered

- 308 Primary Processing factories were Licensed
- 30 Export Grading factories were registered
- 21 Workshops were held for traders, processors and buyers attracting 314 participants.
- Regional Task forces were formed for Central, Eastern, South – Western and Northern Regions. The task forces carried out spot inspection of Stores and factories to ensure adherence to the Coffee Regulations.
- 3 multi-stakeholder task forces were instituted in Eastern, South – Western and Central Regions. These task forces enforced adherence to Coffee Regulations in addition to sensitization of industrial players.

Chapter Four

COFFEE RESEARCH

4.0 Introduction

The emphasis on coffee research at the Coffee Research Centre (COREC) remained to be the development and dissemination of technologies for sustainable control of (1) coffee wilt disease (CWD) and (2) Black coffee twig borer (BCTB) on Robusta and (3) coffee leaf rust (CLR), (4) coffee berry disease (CBD), (5) root mealybugs and (6) stem borers on Arabica. The research builds on the progress made in previous reporting periods. This report highlights accumulative research progress up to September 30, 2012 while emphasizing October 2011 to September 2012 achievements.

4.1 Robusta Coffee Research

4.1.1 Multiplication of 7 elite CWD resistant Robusta coffee varieties by tissue culture

COREC planned to generate at least 300,000 plants of the 7 elite CWD resistant Robusta coffee varieties by September 2011, using the tissue culture facility at Kawanda, for distribution to nursery operators and farmers. The progress to date is given in *Table 4.1* below. The plants in poly pots shall be available for distribution to nursery operators from October 2012 to March 2013.

Table 4.1: Progress on propagation of the 7 CWD resistant Robusta coffee varieties by tissue culture during October1, 2011 – September 30, 2012

Explants in the laboratory phase					***Plants at ex-laboratory phase***		
Variety	**P.D**	**Flasks**	**T.T**	**RITA**	***Poly Box***	***In poly pots (for field)***	***Plants given out***
KR1	490		530	110	*0*	*70*	*286*
KR2	480	2	321	206	*148*	*939*	*945*
KR3	440	16	702	119	*102*	*1,390*	*626*
KR4	1200		309	36	*0*	*36*	*196*
KR5	1260		396	10	*0*	*65*	*191*
KR6	960	26	263	56	*40*	*580*	*120*
KR7	210	20	430	75	*48*	*194*	*251*
Total	**5040**	**64**	**2951**	**612**	**338**	**3,274**	**2,615**
Expected plants/embryo	1,260,000	16,000	73,775 0	15,300 0	***338***	***3,274***	***2,615***
Likely % loss	20%	20%	20%	20%	***20%***	***20%***	***5%***

Key:

1) P.D = explants in Petri-dishes (first stage); T.T = explants in tests tubes
2) Each unit at laboratory phase (Petri-dishes, test tubes, Flasks and RITAs) has explants and each explant is expected to generate about 250 plants.
3) KR1-KR7 = Kituza R1 – Kituza R7

Other achievements

Optimization of protocols for KR4 and KR5 is still in progress

Procured RITA spares and glassware and for expected increased production of embryos from explants by 10 fold.

- Installed water tanks, which greatly enhanced availability and quality of water for the plantlets.
- Procure 230 buckets for planting more mother bushes
- Number of mother bushes increased from 113 to 249 *(Table 4.2)*. However, this is still short of the required minimum of 310. The increase is also to take care of supplying explants to AGT Buloba.
- Optimization of protocols for KR4 and KR5 is still in progress
- Supplied leaves for explants to AGT Buloba in fulfillment of the tri-partite agreement between NARO, UCDA and AGT for raising tissue culture plantlets of CWD resistant Robusta varieties by AGT Buloba.
- Procured an autoclave and orbital shaker to increase efficiency in the laboratory
- Procured coconut peat as media for improved weaning of tissue culture plantlets
- Obtained a water purifier for de-ionizing water for laboratory use

Table 4.2: Mother bushes of CWD resistant Robusta varieties at the T/C Lab.

Variety	Old bushes	New bushes	Total	Required minimum
KRI	10	28	38	50
KR2	21	5	26	40
KR3	18	7	25	40
KR4	12	16	28	50
KR5	19	41	60	50
KR6	17	29	46	40
KR7	16	10	26	40
Total	**113**	**136**	**249**	**310**

4.1.2 Multiplication of the 7 CWD resistant Robusta coffee varieties by rooted cuttings

COREC continued to maintain a mother garden of the CWD-R varieties at Kituza, by weeding, adding fertilizer, mulching and watering. The old mother garden was gap filled and a new one established, also at Kituza, as indicated in *Table 4.3*. Cuttings were exclusively harvested from the old mother garden and planted in cages at the coffee nursery in Kawanda. Rooted cuttings were maintained in the nursery by watering, adding fertilizer and removing weeds from the pots. The newly planted mother bushes (in the new mother and old gardens) shall be in production in second half of 2013 and therefore there will be increased production of planting materials. An irrigation system was installed in the old mother garden.

Table 4.3: Progress on Propagation of CWD-resistant Robusta coffee varieties by rooted cuttings

Variety	Old mother garden	Gap filing old mother garden	New mother garden	Cuttings under cages	Given	Available Rooted cuttings
KR1	89	3	60	1,590	820	0
KR2	61	31	80	959	477	136
KR3	94	3	100	1,965	663	1,192
KR4	10	5	15	273	264	0
KR5	63	28	60	2,019	1,114	0
KR6	95	0	100	2,651	1,444	1,040
KR7	44	54	60	1,003	867	0
Total	**456**	**124**	**475**	**10,460**	**5,649**	**2,368**

Note

- The 2,368 available rooted cuttings will be distributed to nursery operators for planting between October 2012 - May 2013 period.
- It is anticipated that about 7,000 rooted cuttings will be available from the plants under cages for giving out to nursery operators within March-May 2013
- Another set of cuttings will be planted under cages in November 2012 and plants from this set will be ready for giving out in the September-November, 2013 period.

4.1.3 Dissemination of planting materials of the CWD resistant Robusta coffee varieties

COREC in conjunction with UCDA, have been giving out planting materials of the 7 CWD resistant varieties to nursery operators with effect from 2009/10, for planting mother gardens in preparation for further propagation and dissemination of the varieties to farmers. In the period October 2011 to September 2012, 4,983 plants, comprising of 2,615 plants from tissue culture and 2,368 rooted cuttings, were given out to 24 coffee nursery operators to establish new coffee mother gardens/nurseries and also to 19 that had nurseries in the period ending September 2011 *(Table 4.4)* for gap filling. This is less than the 50 new nurseries we had projected for the period. However 4,992 plants (2624 of tissue culture and 2368 rooted cuttings) are available at COREC-Kawanda nursery for setting up more mother gardens, but majority (97%) of them are of 3 varieties (KRI 2, KR3 and KR6), which respond well to both propagation methods. It is still difficult to balance production of plants between the varieties but new permutation will be worked out, perhaps issuing plants in unequal numbers between varieties, to enable utilization of the remaining plants. Scientists from COREC and UCDA also made follow up visits to the nurseries to ascertain status of the planted mother gardens and bushes, assess needs at each of the nurseries and provide on spot advice for improving management of the mother gardens.

4.1.4 On-farm validation of CWD resistant elite varieties

In 2008, trials comprising of 25 promising Robusta coffee CWD resistant lines, among them the 7 varieties which were released for cultivation in 2009, were planted in 4 on-farm multi-location trials in Mityana, Mukono and Ibanda districts. The purpose of these trials was to determine the yield, quality and resistance to major coffee diseases of the test lines under different agro-ecologies of the Robusta coffee growing areas within Uganda. The study also aimed at comparing the on-farm performance with that of on-station at Kituza and involving farmers in choosing varieties, which would create a preamble for early and quick adoption of varieties that would be released. The results of these studies would then form a basis for full release of the best varieties to the farming communities.

Scientists continued to collect pest, disease and other morphological data to build on data collected in previous periods, for characterizing all the 25 CWD lines. Some of the attributes assessed are plant height, plant diameter, tree girth, length of primary branches, length of internodes of primary branches, length of stem internodes, number of berries per node, shape and size of berries. Analysis of the data on these parameters is on-going. From the observations, CWD pathogen has not developed on any of the CWD resistant varieties planted in the trials. Still insignificant incidence of CLR disease was observed on other lines included in these trials but not on the 7 released varieties. Red blister disease has not been observed on any of the varieties at all sites.

Trials of 10 newly selected lines were planted in Kayanga and Nakaseke districts, for multi-location evaluation.

4.1.5 Up scaling of elite CWD resistant Robusta Coffee varieties

COREC continued to screen more of the 1,500 CWD resistant Robusta coffee genotypes/individuals which were identified at the time of artificial inoculations and planted in on-station trials at Kituza, for agronomic and commercial qualities upon which better lines/varieties would be selected. These would supplement the current 7 CWD-R commercial varieties selected during the first batch of assessments carried out on 200 genotypes. Another 10 lines were selected from this batch and they are being cloned for multi-location trials. Assessment of another batch of 351 CWD resistant genotypes continued in the on-station field trials at Kituza. The attributes considered in this evaluation are yields, incidence and severity of attack by major insect pests and diseases (to determine the variety resistance levels), tolerance to drought, cup and physical bean qualities. Analysis of the data collected is still in progress.

Planting materials generated from the 10 lines that were selected in the previous period were maintained in the nursery and they will be planted in on-farm trials in the first rains of 2012. Another batch of planting materials from these lines are being raised under cages at Kituza.

4.1.6 Generation and evaluation of progenies of CWD-R x CWD-S parents for yield, disease resistance, quality.

COREC maintained a trial at Kituza of 183 specific hybrid progenies using the good agricultural practices for Robusta coffee. Collected data on, diseases, yield and growth, which

Table 4.4: Recipients of planting materials of CWD-resistant Robusta coffee varieties as at October 1, 2012

			KR1		KR2		KR3		KR4		KR5		KR6		KR7		Total		1st Issue date
	Recipient	**District**	TC	C	TC	C	TC	C	TC	C	TC	**C**	**TC**	**C**	**TC**	**C**	**TC**	**C**	
1	DAO	Buikwe	0	25	0	9	0	50	0	13	0	29	0	41	0	26	**0**	**193**	2010/11
2	Mr. Mpimbe	Bukomansimbi	35		40		70		60		15	35	40	10	25	35	**285**	**80**	2010/11
3	Mountain View Farm	Bushenyi	0	0	0	5	0	5	0	5	0	5	0	5	0	0	**0**	**25**	2009/10
4	Rwabubare	Bushenyi	15	15	50		50		10			50		50		50	**125**	**165**	May-12
5	Ankole processors Ltd	Ibanda	0	25	0	50	0	70	0	0	0	50	0	15	0	40	**0**	**250**	2010/11
6	Mr Musaala	Iganga	35	15	50	0	50	0	35	0	35	15	35	15	35	15	**275**	**60**	2010/11
7	LAVIT	Jinja	0	20	0	20	0	20	0	20	0	20	0	20	0	20	**0**	**140**	Jun. 2012
8	Dr Tumwine	Kamwenge	25	0	52	0	52	0	27	0	25	0	25	0	27	0	**233**	**0**	2010/11
9	kigundu Juma	Kayunga		50	50		50				25	25		50		25	**125**	**150**	7-Jun-12
10	Royal Murseries/Kaijuka	Kyenjojo		50	50		50		20	30		50		50		50	**120**	**230**	Jun-12
11	Magambo Anthony	Kyenjojo	25	25	50			50			25	25		50	25	25	**125**	**175**	Aug. 2012
12	Joy Oketch	Kiboga			50		50					50		50			**100**	**100**	Sept. 2012
13	Mr Semakula	Luwero		48		39		84		52		71		59		52	**0**	**405**	2009-11
14	Semakula Richard	Luwero		30	76		50				30		30		30		**216**	**30**	Aug. 2012
15	Mayengo Eriabu	Luwero		20	50		50					25		50	25		**125**	**95**	Aug. 2012
16	Gerald Sendawula	Masaka	10		50		50				10	40	10	40	15		**145**	**80**	Nov-11
17	Masaka coop Union	Masaka	20		35	15	35	15			10	20	15	35	10	25	**125**	**110**	Mar-12
18	kamama farm	Masaka		25	50			50				50		50		25	**50**	**200**	May-12
19	Muganga JBS	Masaka	20	30	50		50			10	25	25		50	25	25	**170**	**140**	Jun. 2012
20	Mbarara ZARDI	Mbarara			50		50				25			50			**125**	**50**	Aug. 2012

21	Mr Semanda	Mityana	11	0	60	0	59	0	14	0	29	0	20	0	60	0	**253**	**0**	2010/11
22	Mr Senoga	Mityana	50	0	50	0	50	0	50	0	50	0	50	0	50	0	**350**	**0**	2010/11
23	Mrs. Magembe F	Mityana	10	40	40	10	30	20	10	15	15	35	15	35	20	30	**140**	**185**	12-Feb
24	Ms Hakuza A	Mityana	15	35	50		50				25	25		50	25	25	**165**	**135**	Oct. 2012
25	NUCAFE	Mpigi		50	45	5	45	5	0	10	0	50	0	50	0	50	**90**	**220**	2009-10
26	Rev Buwamatsiko	Mubende	11	0	60	0	59	0	14	0	29	0	20	0	60	0	**253**	**0**	2010/11
27	MUZARDI	Mukono	30	0	40	0	50	0	30	0	30	0	30	50	30	0	**240**	**50**	2010/11
28	COREC-Kituza 1	Mukono		99	0	99	0	99	0	44	0	99	0	99	0	99	**0**	**638**	2008-11
29	COREC-Kituza 2	Mukono	10	50	50	30		100		15		60		100	50	10	**110**	**365**	Apr, 2012
30	Sabiiti Baram	Mukono	25		50		50		25			50		50		50	**150**	**150**	May-12
31	Mr Kalule	Nakaseke	25	0	100	0	100	0	25		33	0	23	0	69	0	**375**	**0**	2009-2011
32	Wamala Yuda	Nakaseke	10	40	40	10	30	20	10	15	15	35	15	35	20	30	**140**	**185**	12-Feb
33	Kemigisa Anne	Ntungamo	25	25	50		50				50			50		50	**175**	**125**	Aug. 2012
34	Mrs Kava	Rakai	15			100	50		35		50		15		15		**180**	**100**	2010/11
35	Mrs Kava	Rakai			25	25	25	25	25		50		25	25	50		**200**	**75**	Aug. 2012
36	Rakai - Mr D. Lubega	Rakai	0	0	50	0	50	0	10	0	10	0	10	0	15	0	**145**	**0**	2010/11
37	Nalukwago R	Rakai	50				50				30	20		50			**130**	**70**	Oct. 2012
39	Mrs Mukiibi	Lwengo	35	15	60		70		35		20	35	40	10	35	35	**295**	**95**	2010/11
40	Yiga Edward	Sembabule	25	25	50			50				50		50	25	25	**100**	**200**	Aug. 2012
41	Gidagui	Wakiso		38		60	50			10		20		50		50	**50**	**228**	Sept. 2012
42	Nsibirw Wagga	Wakiso	50	0	50	0	50	0	0	0	50	0	50	0	50	0	**300**	**0**	Nov-11
43	Vincent Bukenya	Wakiso		25	50		50			25		50		50			**100**	**150**	Aug-12
	Total		**582**	**820**	**1673**	**477**	**1625**	**663**	**435**	**264**	**711**	**1114**	**468**	**1444**	**791**	**867**	**6285**	**5649**	
	Grand total		**1402**		**2150**		**2288**		**699**		**1825**		**1912**		**1658**		**11934**		

Note

TC = Plants raised by tissue culture

C = Plants raised by cuttings

are being processed for analysis. Green coffee bean samples were prepared from some genotypes and submitted to UCDA for cup quality analysis.

4.1.7 Harnessing biotechnology tools for scientific improvement

It was anticipated that molecular and biotechnology laboratory would be established at Kituza however it was not possible due to budget limitation. It was anticipated that a Ph.D. student would be attached to characterize the CWD resistant and susceptible clones at Kituza, continue work on creating double haploid populations and identifying important molecular markers for coffee biotechnology work, but still this was not entirely covered due to a limited budget. Only a few haploids that were created in the previous reporting period were maintained in the green house at Kawanda and characterization is on-going for few genotypes (section 9 below).

4.1.8 Characterization, conservation and utilization of Robusta coffee germplasm.

COREC intends to create a core collection of Robusta coffee germplasm at Kituza and a backup collection at Bulegeni, for safety by transferring germplasm from Kawanda to Kituza and Bulegeni, introducing more germplasm from the farms in different parts of the country and outside the country. The collections would be evaluated and characterized using morphological and molecular characters and the data would be used to develop a strategy for utilizing the germplasm either directly as new varieties or in breeding programmes by providing genes of complementary traits for improving other lines.

During the reporting period, germplasm plots of 651 collections from farms within Uganda and 125 genotypes introduced from Ivory Coast, which were planted at Kituza in the previous reporting periods, were maintained. Data was collected from these trials on yield, response to diseases and growth parameters. Analysis of these data is on-going. Over 120 of the Kawanda collections were planted at Kituza and the plots maintained.

DNA extraction for Molecular characterization of the 41 elite CWD resistant genotypes is on-going in the biotechnology laboratory at Kawanda.

In Robusta, coffee exists in the wild forests of Kibale, Itwara, Zoka, Budongo and probably elsewhere. The Ugandan Robusta grows on plateaus at about 1,000m altitude while elsewhere it is commonly found in lowlands as low as sea level. Another important factor concerning Robusta coffee is that it is one of the parents of the Arabica whose origin is believed to be in Ethiopia. Uganda is then currently the closest region to the alleged center of origin of *C. arabica*. A mission of collecting wild *Coffea canephora* genotypes for molecular characterization and including in the on-station in situ collection was conducted by COREC scientists in collaboration with scientists from the Institut de Recherche pour le Développement (IRD) in France. The mission also aimed at collecting other species in the forests that would hold a clue towards evidence of natural hybridization of Robusta and Euginoides to create Arabica.

COREC prospected Zoka forest in the North-North-West of the country (3° 57′ N – 31° 39′ E) and the Budongo Forest in the West (1°38/55′ N – 31° 24/43′ E). In both forests, there was continuous presence of Robusta either as isolated trees or in small groups of very few individuals, often seedlings were growing at the base of mature trees. *Coffea euginoides*, was

also encountered. In total leaves from 85 genotypes of *C. canephora* were collected, 25 in Zoka forest and 60 in Budongo Forest. In addition 14 genotypes of the *C. euginoides* were also sampled, 1 in Zoka and 13 in Budongo. The leaf samples were submitted to IRD for molecular analysis. 100 seedlings, which were collected from the forest undergrowth, were planted at Kituza for inclusion in the germplasm plots in the near future.

4.1.9 Developing tools for quick diagnostic of CWD

Construction of both serology and molecular diagnosis for CWD pathogen is in progress. For serology, two more proteins have been identified and being evaluated before eventual construction of ELISA test for lab based diagnosis and simple format for direct field use. For molecular diagnosis, it is more specific and reliable than serology method. RNA has been extracted and synthesized into cDNA,. The cDNA will be cloned and expressed in bacteria to enable the gene responsible for the diagnostic protein to be identified and used as a probe (Primer) for PCR based diagnosis of the pathogen.

4.1.10 Surveillance of Black Coffee Twig Borer.

COREC Scientists in collaboration with various stakeholders including International Institute of Tropical Agriculture (IITA) and Uganda Coffee Development Authority (UCDA) have assessed the status of the black coffee twig borer in various districts throughout the country. An extensive survey was conducted in 25 districts in the 5 major coffee growing regions of Uganda (Figure 1.1). Preliminary results show that BCTB was present in all the 5 districts sampled in the central region including Mukono, Luwero, Mpigi, Mubende and Mityana. In addition, BCTB was observed in 50% of the districts sampled in the southwestern region including Bundibugyo, Kasese and Rubirizi (Table 4.5). However, the pest was yet to be observed in West Nile, northern and Mt. Elgon regions of the country. The prevalence, incidence and damage are shown in table 5 and fig. 1 below. In addition, BCTB has been reported and confirmed in Kayunga, Masaka, Rakai, Lwengo, Kalungu, Bukomansimbi, Sembabule, Buikwe, Nakaseke, Nakasongola, Kiboga and Wakiso districts (Central region), Kanungu, Bushenyi and Rukungiri districts (Southwestern region) and Jinja, Luuka, Kamuli and Buyende districts (Busoga region). However, a more comprehensive survey is planned for the month of November and December, 2012. This will lead to the completion of the BCTB national distribution and infestation intensity map. This will also provide necessary information to be used in demarcating the country into zones. The results of the survey shall provide the necessary ingredients that will form the development of a comprehensive research agenda that will lead to the realization of an effective, sustainable and environmentally sound Integrated Pest Management (IPM) package for long term management of BCTB in Uganda. In addition, these data sets generated from such a survey will be vital in developing and producing a countrywide distribution map. This map will divide the country into BCTB-infestation zones i.e. already infested (endemic), frontline and free/threatened (not yet infested) zones. The intervention strategies in the different zones definitely differ. In areas not yet infested, quarantine (prevention of movement of planting or fresh coffee materials from infested areas) measures may work best, in frontline zones, practices which may halt further advance of the pest will be the best and in already infested zones, Phytosanitary (pruning and

burning/burying infested materials) followed by a blanket application of chemicals may be necessary.

Figure 1: Preliminary distribution map for BCTB in Uganda

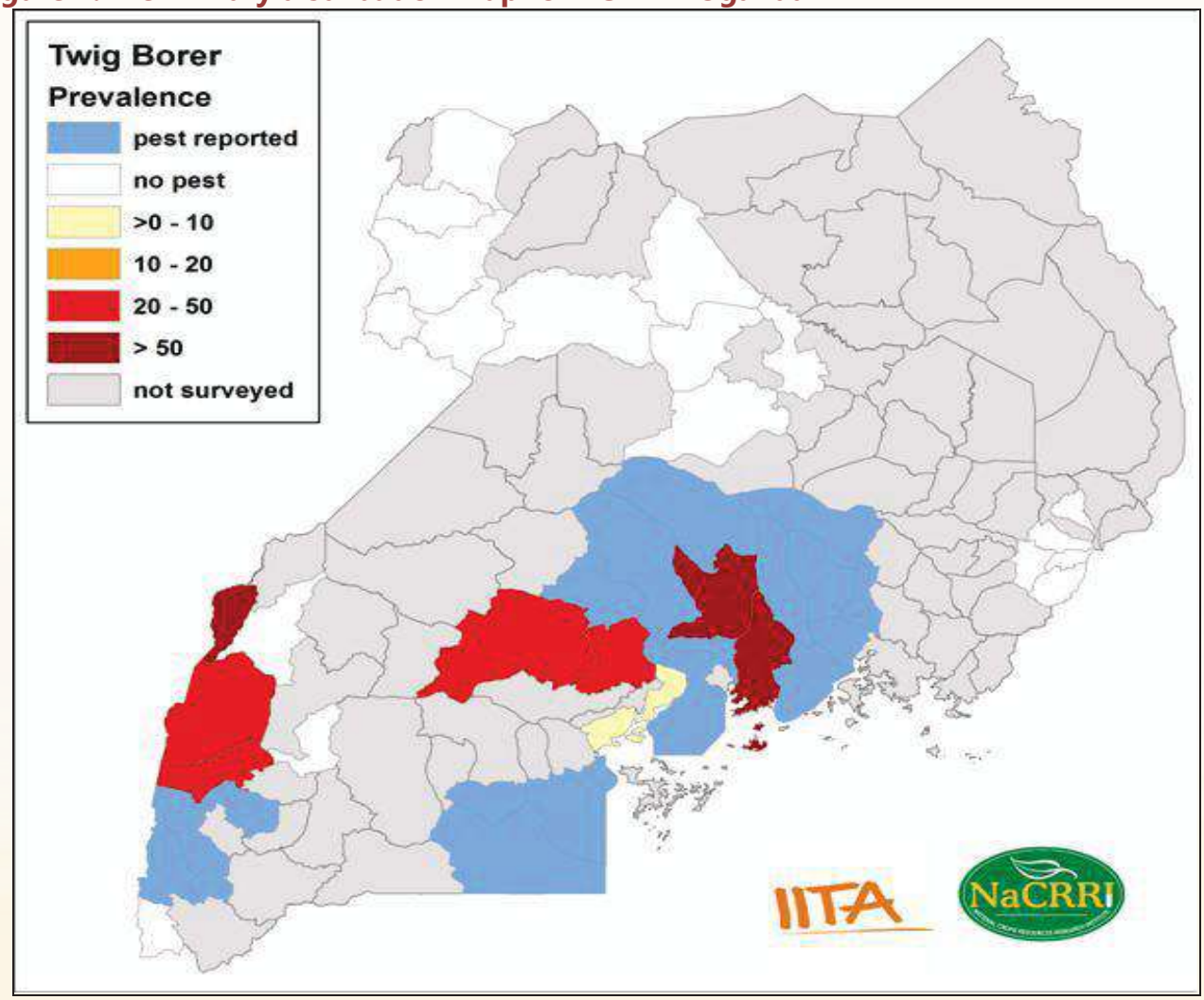


Table 4.5: Percentage prevalence, incidence, damage and farmer's knowledge of Black coffee twig borer in the central, southern, western, West Nile and northern coffee growing regions of Uganda

4.1.11 Specific identification of BCTB, and characterization of BCTB and ambrosia

Region	District	Percentage of infested farms (Prevalence)	Percentage of infested trees (Incidence)	Percentage of infested twigs (Damage)	Percentage of farmers who know BCTB
Central	Luwero	100.0	73.3	5.23	100.0
	Mukono	100.0	91.7	13.6	100.0
	Mityana	50.0	5.0	0.15	30.0
	Mubende	30.0	0.0	0.00	20.0
	Mpigi	10.0	0.0	0.00	20.0
	Mean	**58.0**	**34.0**	**3.8**	**54.0**
Southwestern	Rubirizi	40.0	0.8	0.02	30.0
	Ibanda	0.0	0.0	0.00	0.0
	Kisoro	0.0	0.0	0.00	0.0
	Bundibugyo	62.5	44.8	4.81	50.0
	Kasese	30.0	0.8	0.05	40.0
	Kabarole	0.0	0.0	0.00	0.0
	Mean	**22.1**	**7.7**	**0.81**	**20.0**
West Nile	Arua	0.0	0.0	0.00	0.0
	Maracha	0.0	0.0	0.00	0.0
	Nebbi	0.0	0.0	0.00	0.0
	Yumbe	0.0	0.0	0.00	0.0
	Zombo	0.0	0.0	0.00	0.0
	Mean	**0.0**	**0.0**	**0.00**	**0.0**
Northern	Lira	0.0	0.0	0.00	0.0
	Gulu	0.0	0.0	0.00	0.0
	Oyam	0.0	0.0	0.00	0.0
	Apac	0.0	0.0	0.00	0.0
	Nwoya	0.0	0.0	0.00	0.0
	Mean	**0.0**	**0.0**	**0.00**	**0.0**

Fungus associated with BCTB.

Information on the pest species is vital in designing species specific control measures since species differ in their biology and ecology. This study was initiated to properly identify the BCTB prevailing in Uganda to species and to determine the existence of intra and inter-specific variations within the Uganda population. Twig borers commonly attacking the primary branches of coffee in tropical Africa are scolytid beetles, either of the *Hypothenemus*, *Xylosandrus* or *Xyleborus* genera. They all belong to the family of the *Hypothenemus* borer, *Hypothenemus hampei* Ferrari, that commonly attack coffee berries in Uganda and elsewhere. However, a number of *Xyalosandrus* species have been recorded elsewhere.

For this purpose, samples were gathered from the districts of Mukono, Rukungiri and Kanungu, variously located in three main ecological zones where Robusta coffee is grown and is being devastated by BCTB. These included live insect samples and plant parts taken from healthy and CWD infected plants. The samples were submitted to ICIPE for various analyses. The preliminary genetic analysis results confirmed that the twig borer damaging

Robusta coffee in Uganda is *Xylosandrus compactus* Eichhoff. The results also indicated the insect samples were homogenous (no intra specific variation).

Likewise, COREC continued with studies to establish the inter and intra specific diversity of the ambrosia fungus, which is associated with BCTB in Uganda. Preliminary results of tests conducted at COREC show that the fungal material isolated from BCTB and its associated galleries from central Uganda (Kituza) is *Fusarium solani* (Martius) Saccardo. Preliminary homogeneity test for ambrosia conducted at Kituza on the ambrosia isolated from different locations in Uganda exhibited homogeneity suggesting that it is composed of a single fungal species. Secondly, other pathogenic fungi which might be associated with BCTB need also to be isolated and identified.

4.1.12 Evaluating effect of Ambrosia fungus on survival of Black Coffee Twig Borer

The black coffee twig borer (BCTB) *(Xylosandrus compactus*) bores into the young branches of coffee (twigs), killing them in a few weeks. The entrance holes are about 0.8 mm diameter and are located predominantly on the basal part of branches. In its new habitat, the BCTB feeds on ambrosia fungus (and therefore belongs to the ambrosia group of beetles). Once inside the twigs, it does not feed on the host plant material but uses it as a medium for growing the fungus which acts as its food and for its larvae. Against this background, it was a decided to evaluate and determine the effect of ambrosia fungus on the survival of the BCTB. The information gathered could be included in the package for effective management of the pest.

The activities involved are expanded below;

- *In vitro* screening and selection of systemic fungicides that effectively inhibit the growth of ambrosia fungi which provides nutrition to the young brood of BCTB; Isolation and specific identification of the fungi that compose the ambrosia complex associated with BCTB in Uganda;
- Field collection of ambrosia samples from Mukono, Nakaseke, Luwero Rukungiri, Bundibugyo and Kanungu districts and analysis of the samples at Kituza and ICIPE (Nairobi) Initiating a field trial at Kituza in order to compare the efficacy of a tank mixture of fungcide tebucozanole (Orius) and chloropyrifos (Dursban) against that of Dursban (Current recommended insecticide for BCTB control in Hawaii, USA) alone and the untreated control for BCTB control.
- From each district, five coffee farms were identified and samples of coffee twigs damaged by BCTB were collected with help of sterile secateurs. The farm details and GPS location of the farms were also noted.
- For laboratory isolation of Ambrosia fungi, samples were surface sterilized with 40% ethanol to eliminate other field contaminants and finally cleansed with distilled water. With help of a surgical blade, the bored twigs were longitudinally cleaved to expose the tunnel of the beetles. The beetles were collected in labeled sterile vials, while the wall of the tunnels from where the beetles used to inhabit were scrapped off and also collected in separate vials. The collected beetles were crushed in the vial so as to expose the propagules of the fungi concealed in their mycangia. This was diluted with distilled water

to make a suspension which was cultured on petri dishes containing PDA. The cultures were incubated at room temperature.

Achievement

Field samples were collected from Mukono, Nakaseke, Luwero Rukungiri, and Kanungu districts and the collected samples analyzed at Kituza pathology laboratory and ICIPE (Nairobi). At ICIPE, eight isolates were obtained from the beetles, purified and were sent back to Kituza for specific identifications. The ambrosia isolates were found to consist of *Fusarium solani*. Pathogenicity tests of the collected isolates to understand fully the relationship between the ambrosia fungi and the coffee wilt disease was also carried out. None of the isolates had *Fusarium xylarioides,* the casual organism for coffee wilt disease.

Preliminary *in-vitro* tests indicated that the fungicide tebucozanole (Orius) is very effective for the inhibition of ambrosia growth in the laboratory. Ambrosia fungus provides the feed for BCTB broods; hence its elimination using Orius limits BCTB multiplication by denying the broods their essential food.

The ambrosia fungus belongs to the same genus as *Fusarium xylarioides* Steyaert (*Gibberella xylarioides* Sacc and Heim), the causal organism of CWD. Incidentally, the initial reports of BCTB and CWD in Uganda came from the same district and at the same time prompting us to speculate a likely linkage in transmission and spread of CWD by the BCTB. Fungal isolations from BCTB collected from CWD-infected and non-infected coffee trees are being cultured in the laboratory at Kituza to detect the presence of the CWD casual organism. CWD pathogen is yet to be detected in the samples. These studies shall continue on BCTB collected from CWD-infected trees from the different locations (AEZ's) to further investigate and clarify the role of BCTB in CWD transmission.

4.1.13 Phytotoxicity and pathogenicty of *Fusarium solani* isolated from the BCTB and its associated galleries in coffee twigs to coffee plantlets

The BCTB attacked twig normally wilts and eventually dries within a few weeks. However, limited information on the actual cause of the wilting and eventual death of coffee twigs upon infestation by BCTB exists. It could probably be due to disruption of water and nutrient movement across the BCTB-infested galleries or due to phytotoxins produced by the ambrosia fungus. Several strains of Fusarium spp. have been reported to produce a number of phytotoxins such as: - fumonisins, moniliformin, fusaric acid, 2,5-anhydro-Dglucitol (AhG) and trichothecenes, T-2 toxins, HT-2, zearalenone, neosolaniol, naphthazarin among others. In fact, *F. solani* is known to be pathogenic to plants including coffee, causing cankers, root rots and wilts.

Young coffee plants were inoculated with the fungus using wounding and drenching methods. However, preliminary results show that plantlets did not develop any infection symptoms after 105 days. This implies that the toxins produced by the ambrosia fungus associated with the BCTB collected from Kituza, central Uganda were not leathal to coffee plantlets, which is in contrast with field observations of affected plants reaction to BCTB attack. The studies on the phytotoxicity of the ambrosia fungus from the different agroecological zones (AEZ) of Uganda are continuing.

4.1.14 Search for BCTB alternate hosts.

Possible alternate host plant species for BCTB have been searched for through farmers' interviews and a survey conducted by COREC scientists in several districts of Western, south-western and Central Uganda. In addition, community groups in the sub-counties of Ntenjeru and Nabaale (Mukono district) and Nakaseke (Nakaseke district) were also mobilized to participate in the search for alternate hosts within their localities. *In-vivo* tests to confirm whether these plant species are alternate hosts for BCTB have also been set-up in the screen-house at Kituza. More than 30 host plant species in 17 families have been so far identified as in *Table 4.6*. Further search and *in-vivo* screening for BCTB alternate hosts is still on-going and the results shall be incorporated into the over-all phyto-sanitary BCTB management package.

Table 4.6: Inventory of BCTB alternate hosts so far identified

Family	Scientific name	Common name	Local name (Luganda)	Characteristics	Farmers	Researchers	*In vivo* tests
Acanthaceae	*Acanthus pubescens* Engl.	Spiney Acanthus	matovu	Shrub/ medicinal	-	+	
Anacardiaceae	*Mangifera indica* L.	Mango	muyembe	Horticultural	+	+	+
Asteraceae	*Tithonia diversifolia* (Hemsley) A. Gray	Wild sunflower		Shrub/green manure	-	+	
Asteraceae	*Vernonia amygdalina* Delile	Bitter leaf	mululuza	Shrub/ Medicinal	-	+	
Asteraceae	*Vernonia auriculifera* Hiern		kikokoma	Shrub/ medicinal	-	+	
Bignoniaceae	*Markhamia lutea* (Benth.) K.Schum.	Nile tulip tree	musambya	Shade tree	-	+	+
Fabaceae	*Senna occidentalis* (L)Link..	Stinking weed	muttanjoka	Shrub	-	+	
Fabaceaea	*Senna spectabilis* (DC.) Irwin & Barneby	Cassia	gasiya	Shade tree	-	+	
Capparaceae	*Maerua duchesnei* (De Wild.) F		muzikiza	Shrub/ medicinal	-	+	
Asteraceae	*Crassocephalum crepidioides (Benth.) S.Moore.*	Thickhead, Redflower ragleaf, Fireweed	sekoteka	Shrub	-	+	
Euphorbiaceae	*Sapium ellipticum* Pax	Jumping seed tree	musasa	Forest tree	-	+	
Fabaceae	*Entada abyssinica* Steud.	Tree Entada	mwolola	Shade tree	-	+	
Fabaceae	*Albizia coriaria* Oliv.		mugavu	Shade tree	+	+	
Fabaceae	*Albizia chinensis* (Osbeck) Merr	Chinese albizia	mugavu musini	Shade tree	+	+	+
Fabaceae	*Albizia zygia* (DC) Macbr.		nongo	Shade tree	+	+	
Fabaceae	*Indigofera arrecta* A. Rich.	African indigo	kabambama liba	Shrub	-	+	
Lauraceae	*Persea americana* Mill.	Avocado	ovakeddo	Horticultural	-	+	+
Fabaceae	*Leucaena leucocephala* (Lam.) De Wit	kola-haole	lusina	Fodder	+	+	
Fabaceae	*Calliandra calothyrsus* Meissner	White lead tree	kaliisambuzi	Fodder	-	+	
Fabaceae	*Sesbania sesban (L) Merr.*	Common sesban	Muzimbandeya omubimba	Fodder	-	+	

Tiliaceae	*Grewia trichocarpa* A. Rich		Mukomakoma	Shrub	-	+	+
Moraceae	*Ficus natalensis* Hochst.	Natal Fig Back-cloth Fig	mutuba	Shade tree	-	+	
Moraceae	*Artocarpus heterophyllus* Lam.	Jackfruit	ffene	Horticultural	-	+	+
Myrtaceae	*Eucalyptus* spp.	Eucalyptus	kalitunsi	Forest tree	-	+	+
Rhamnaceae	*Maesopsis eminii* Engl.	Umbrella tree	musizi	Forest tree	+	+	+
Rubiaceae	*Coffea arabica* L.	Arabica coffee	mwanyi	Commercial crop	+	+	+
Rubiaceae	*Coffee canephora* Pierre	Robusta coffee	mwanyi	Commercial crop	+	+	+
Solanaceae	*Solanaceous aethiopicum* L.	Bitter tomato	ntula	Food crop	+	+	
Solanaceae	*Solanum melongena* L.	Egg plants	biriganya	Food crop	+	+	
Solanaceae	*Solanum incanum* L.	Sodom' Apple	ntengotengo	Shrub	-	+	
Sterculiaceae	*Theobroma cacao* L.	Cocoa	kooko	Commercial crop	+	+	
Theaceae	*Camellia sinensis* (L.)Kuntze)	Tea	ccaayi	Commercial crop	-	+	

4.1.15 Evaluation of community based phyto-sanitary interventions for management of the Black Coffee twig borer.

Community groups were formed in the sub-counties of Ntenjeru and Nabaale (Mukono district) and Nakaseke (Nakaseke district) to implement the phyto-sanitary interventions for BCTB control that included de-suckering, pruning and burning of infested coffee plant parts and alternate host plants. The farms with phyto-sanitary practices were periodically compared with farms where there were no phytosanitary practices in order to establish the efficacies of the approach. Community participatory alternate hosts search was also conducted by the respective FFS members.

The trials were set up at different times hence data has been collected over varying periods as follows: Over 15 months period (Ntenjeru), 11 months period (Nabaale) and 9 months period (Nakaseke). Community mobilization was completed in all 3 study sites. All the 3 participating groups have been transformed into coffee farmers' field schools (FFSs) as follows: Twekembe Coffee Farmers Field School (Ntenjeru), Nabaale Coffee Group FFS (Nabaale) and Kezimbira Coffee Farmers Field School (Nakaseke), with membership as in *Table 4.7* below. Implementation of the evaluations was therefore done in the context of FFSs curricula. Monthly sessions conducted for each FFS by area Extension Officer with technical backs-topping by the IPM research team (COREC). This is meant to ensure the monthly application of the phyto-sanitary measures, as well as impart other coffee management technologies based on the FFS curriculum. Coffee management season calendars, incorporating the phyto-sanitary measures were developed for Ntenjeru and Nakaseke FFSs.

Preliminary results clearly show a decline in BCTB incidences in all the 3 test sub-counties with implementation of phyto-sanitary recommendations *(Table 4.8)*. However, the incidence among phyto-sanitory farms is still high, although the method appeared more effective over a longer period of time. Farmers have complained that the method is slow

and labor intensive, and does not completely eliminate the problem. Inevitably, removal of infested plant parts ought to be accompanied by elimination of any alternate hosts within and in the vicinity of the coffee field, cleaning weeding to bury fallen infested plant parts. In addition, farmers need to open up the plantation through regular desuckering and making sure the bushes are pruned to not more than the recommended 3-4 stems per bush. Likewise, optimal placement of banana stools in coffee intercrop with the sequential 3 suckers per stool is essential to avoid bushy-ness of the plantation.

Table 4.7. Participating FFS membership by site and gender

Gender	Twekembe Coffee Farmers' Field School (Ntenjeru)	Nabaale Coffee Group FFS (Nabaale)	Kezimbira Coffee Farmers' Field School (Nakaseke)
Male	15	21	17
Female	4	7	8
Total membership	**19**	**28**	**25**

Table 4.8. BCTB incidences in phyto-sanitary and non phyto-sanitary farms in test 3 sub-counties in Central Uganda .

	Mean incidence (%)			
	Ntenjeru		Nabaale	Nakaseke
Trial period	*9 months*	*15 months*	*5 months*	*3 months*
Non phyto-sanitary farms	62.0	14.3	53.0	49.0
Phyto-sanitary farms	36.0	10.1	44.0	38.0
Reduction in incidence	41.9	29.3	16.9	22.4

4.1.16 Screening pesticides for BCTB control

Up to 48% BCTB infestation of coffee planting materials has been recorded in the nursery at Kituza implying nursery materials can be a serious vehicle of BCTB spread. Trials were conducted in the nursery at Kituza on 5 selected insecticides in order to identify suitable insecticides for protection of coffee nursery materials against BCTB.

Methodology:

Replicated trials were established in the nursery in order to compare the effects of chlopyrifos (Dursban), endosulfan (Thionex), dimethoate (Rogor), imidacloroprid (Imaxi), Malathion on BCTB population dynamics. The most effective insecticides together with the appropriate rates and frequencies of their application were to be determined and recommended for use by farmers.

Table 4.8. Preliminary results of efficacy tests on selected insecticides for BCTB management in the coffee nursery

Treatment	Total cumulative infested seedlings	% reduction in cumulative no. of infested seedlings
Control (None)	27	0
Dursban (Chlorpyrifos)	29	0
IMAX (Imidacloprid)	21	22.2
Malathion	23	14.8
Rogor (Dimethoate)	29	0
Thionex (Endosulfan)	21	22.2

On the basis of the preliminary results, IMAXI and Thionex are the most efficacious for BCTB control *(Table 4.8)*. Malathion performed moderately but Dimethoate and Dursban were completely ineffective against BCTB. Because of restricted use of Malathion and Thionex, IMAXI is provisionally selected for use against BCTB. Although the results showed no-effectiveness for Dursban, the insecticide has also been provisionally recommended because it is already being used for BCTB control elsewhere (e.g. Hawaii, USA and India).

The trial has been revisited to compare other candidate systemic insecticides – thiamethoxam (Actara), acetamiprid (Golan) and fenitrothion (Sumithion) against imidacloroprid (Imaxi) and chlorpyrifos (Dursban) for BCTB management.

The new nursery experimental set-up for insecticides screening against BCTB

ACTARA: One of the new insecticides being evaluated for efficacy of BCTB control

4.1.17 Developing trapping options for management of BCTB and CBB (Coffee berry borer)

BCTB Trapping trials at Kituza, Mukono focused on the development of protocols based on traps modifications, selection of attractants and traps placement methods. A modified trap has been adopted using a combination of ethanol and methanol (see photos below). McCartney vials have been adopted as dispensers of the attractants in the modified traps. Preliminary trappings using the ethanol and methanol combinations consisted of BCTB, Coffee Berry Borer (CBB) and an assortment of coleopteran and lepidopteran insects. New attractants such as ETOH, ETOH-PHERO and Eugenol are currently being evaluated before a final shortlist of attractants is generated for field mass BCTB trappings evaluation trials. Meanwhile protocols for the evaluation of efficacies of two known BCTB repellants, Verbenone and Limonene, are being designed.

Modified BCTB trap made up of a perforated mineralwater bottle and a Mc'Carthney vial dispenser inside

BCTB traps placed in the upper, middle and bottom third of coffee tree canopy

The entomology team shall endeavour to identify a locally available BCTB attractant that is easily accessed by the coffee farmers.

4.1.18 Developing IPM support systems for coffee agro-forestry systems in Uganda

Concerns over global warming and general climate and their adverse effects on coffee have stampeded scientists in most coffee producing countries into frantic search for mitigating strategies. Evidence now abounds both in Uganda and elsewhere that climate change has resulted in changing disease and insect pest profiles. The emergence of BCTB as key pest of coffee in Uganda and intensification of attacks by CBB in south-central Uganda are two prominent examples. Coffee agro-forestry systems are mitigating factors for climate change that are currently being promoted in Uganda.

Besides mitigating the effects of prolonged droughts and diversifying farm income, coffee agro-forestry systems are purported to maintain organic matter content of the soil by contributing biomass from litter and small twigs, influence incidences of diseases and insect pests, and improve yield and the quality of the coffee bean and cup. Ultimately therefore, the system leads to improved profitability of the coffee enterprise and provides considerable environmental benefits.

A preliminary study conducted on an existing Robusta coffee farm located in Namugongo during 2008 found significantly higher damage by BCTB on coffee inter-planted with *Albizia chinensis* than on coffee under *Ficus natalensis* shade trees, and the un-shaded counterparts.

This study has therefore been designed to generate the contingent IPM technical support information for coffee agro-forestry systems in Uganda.

Study sites have been established in Manafwa, Kapchorwa, Kasese, Rubirizi and Ibanda for Arabica coffee agro-forestry systems and in Buikwe, Kayunga, Luwero, Masaka and Rakai for Robusta coffee. Assessments of insect pest diversity and population dynamics are to be done in due course.

4.1.19 Developing IPM support systems for organic and other specialty coffee systems in Uganda

The organic coffee farming movement has increasingly gained in importance in Uganda on the back of world-wide craze and price incentives for specialty coffee. However, the promotion of organic coffee farming in Uganda has mostly been pursued by private coffee buyers and non-governmental organizations with little if any technical support from coffee research. Concerns have variously arisen over the sustainability of the system. Of particular concern is the effectiveness of the organic pesticides that could potentially lead to the build-up of insect pests and diseases prevalence. Very low coffee yields have been reported in areas such as Kasese and Kisoro thus greatly damaging the profitability hence competitiveness of the coffee enterprise. This study was therefore designed to review the existing pest control packages for organic coffee systems and consequently develop a technically IPM package for the system in Uganda.

As part of the activities geared towards the development of IPM support systems for the organic coffee movement in Uganda, 3 study sites have been established in Eastern region (Bududa, Sironko and Kapchorwa), 3 in Western region (Kasese, Bushenyi and Rukungiri) and 1 in West-Nile region (Zombo and Arua) districts. Treatment applications shall be done in the coming season.

4.1.20 Developing programmes for bio-control of the Black Coffee Twig Borer and Coffee Berry Borer

As part of the long-term strategy for management of the black coffee twig borer in Uganda, studies have commenced to establish a basis for a biological control programme for the borer. In tandem with surveillance activities for the borer, search for natural enemies has been conducted in Mukono, Kayunga, Luwero, Nakaseke, Masaka, Rakai and Lwengo districts. So far, three (3) wasps of unknown specific identity have been recovered from BCTB colonies. These are to be submitted for specific identification. Further natural enemies search is to be conducted during the comprehensive national surveys. Plans are also underway to import known BCTB natural enemies from its origin in Asia.

Running cultures of two BCTB entomopathogens (*Beauveria bassiana* and *Metarhyzium anisopliae)* have been established in the pathology laboratory at Kituza. The *B. bassiana* samples were extracted from CBB infested coffee berries and a BCTB infested avocado seedling. Both in-vitro efficacy tests for BCTB mortality have begun, but field tests still await the completion of in-vitro uniformity tests.

Work also continued on biological and ecological studies of the coffee berry borer and its natural enemies. (Activity co-funded by UCDA and NARO, with funds from UCDA covering field research activities and NARO covers laboratory bio-assay studies). This study aimed to:

- Understand the essential biology and ecology of the coffee berry borer and its natural enemies under field conditions, and *in-vivo* under controlled conditions;
- Develop procedures for mass rearing of the parasitoids and entomo-pathogens of the coffee berry borer;
- Design and implement a bio-control programme for the coffee berry borer in Uganda, and integrate it with available cultural control recommendations.

On-station field diagnostic studies continued with elucidation of field interactions amongst the 3 key CBB parasitoids. Again, the 5 field sites in Jinja, Kamuli, Iganga, Masaka and Rakai were not visited during this period owing to the shift of focus to the BCTB emergency. The study is due to fully resume in the coming financial years.

4.1.21 BCTB field diagnostic studies

Various preliminary field diagnostic studies have been conducted by the COREC scientists to determine the ecological factors influencing the population dynamics and infestation of BCTB. Results from an on-station study at Kituza show that BCTB infestation is influenced by slope with higher infestation being observed down-slope than up-slope. In addition, higher infestation levels were observed on primary branches located in the lower parts as compared to the upper parts of the coffee canopy. Also, along the infested primary branches, infestation (as indicated by the number of BCTB characteristic entry holes) was higher on the basal parts than the tip end parts. This implies that BCTB infestation is higher on older twigs or plant parts which are already stressed due to their physiological state. Further results show that BCTB infestation is higher on coffee growing under shade compared to full sun grown coffee. A study comparing BCTB infestation on coffee growing under different shade tree species shows that the highest BCTB infestation was recorded on coffee growing under trees with high canopy cover (shade) such as *Ficus natalensis* and *Artocarpus heterophyllus* (mango) compared to trees with low canopy cover such as *Maesopsis eminii*. Also higher infestation rates were recorded on coffee under poor soils and low management (unpruned and undescuckered) as opposed to coffee growing under good soil, nutrient and agronomic management. All this information is vital in designing an IPM package for the twig borer.

4.1.22 Evaluating effect of shade on insect pests, yield, quality and soil fertility

Coffee production in Uganda is constrained by, among others, prolonged droughts, which drastically curtails productivity and quality of the coffee. Currently there is deliberate effort by the coffee development agencies in Uganda e.g. COREC, UCDA, NAADS, NGOs etc, to promote interplanting coffee with shade trees for mitigating effects of prolonged droughts and improve yield and the quality of the coffee bean and cup. Besides shade trees are purported to have a number of positive factors on coffee production, which include: maintenance of organic matter content of the soil by contributing biomass from litter and small twigs, and hence contributing to recycling of other soil nutrients (Kyalo *et al* 2008). Shade is also purported to influence incidences of diseases and insect pests. The purpose of this investigation therefore was to verify the effect of shade trees on coffee yield, bean and cup quality, disease and insect pests and soil properties that contribute to soil fertility

The study, which involves on-farm and on-station components, was initiated in 2008, by a multi-disciplinary team. The on-farm studies involved imposing studies on an existing Robusta coffee farm located in Namugongo, which is interplanted with *Ficus natalensis* and *Albizia chinensis as* shade trees and later extended to other sites in Masaka. The Namugongo field consisted of varieties 1s/3, 1s/6, 236/26 and 258/24. On station studies involved planting a new trial of CWD resistant Robusta coffee lines interplanted with *Ficus natalensis, Albizia chinensis* and *Gravellea robust* shade trees.

Shade effects on soil fertility and PH.

The mean effect of each tree species on the pH and soil nutrients are shown in Figures 2.1 to 2.4. The units for the data in the figures are numbers for pH; organic matter is in %; phosphate, calcium, magnesium and potassium are in ppm.

Figure 2.1

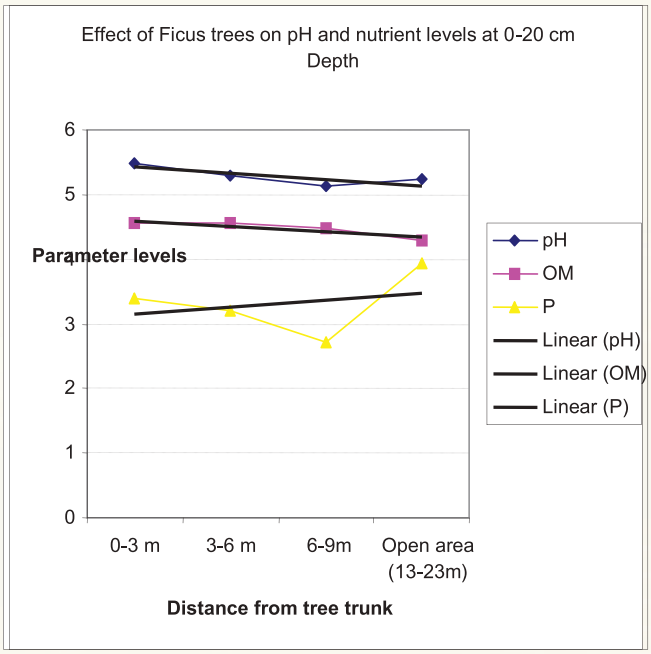


Figure 2.2

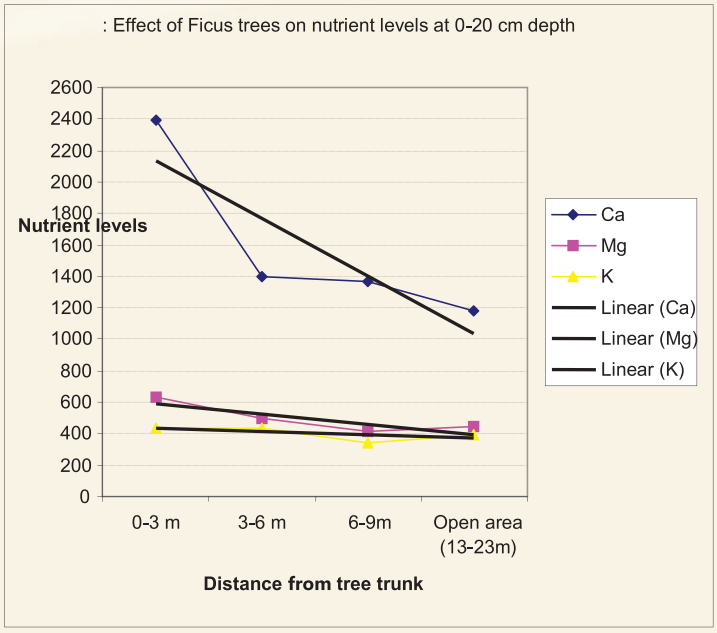


Figure 2.3

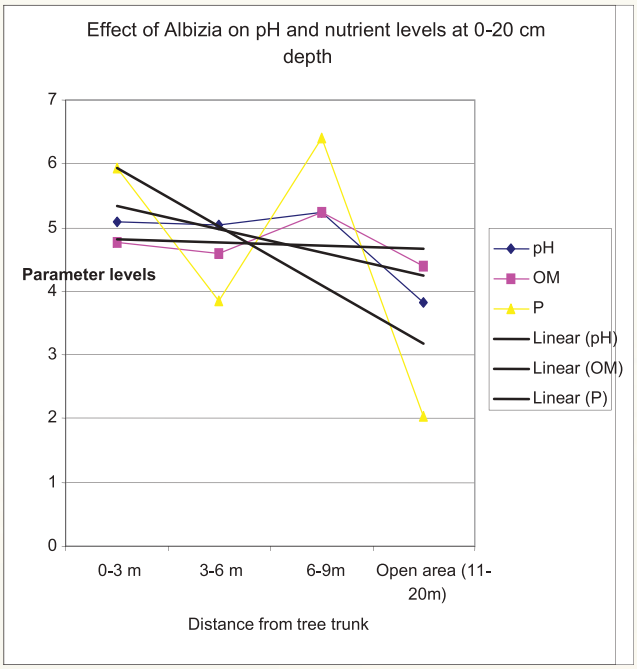
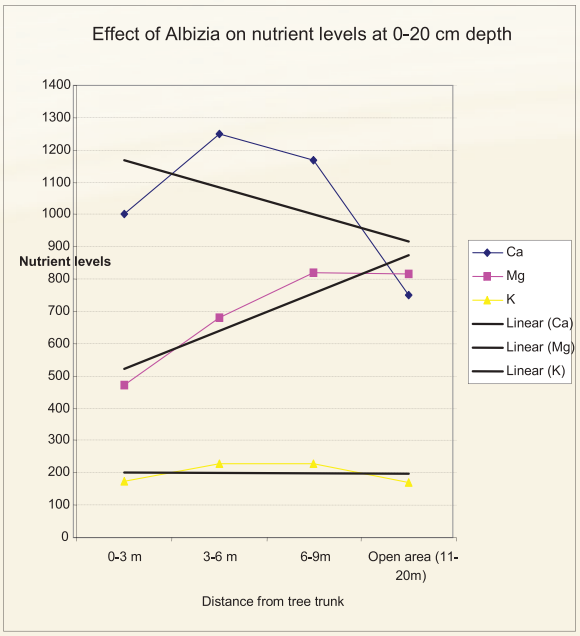


Figure 2.4



Ficus trees showed decreasing levels of organic matter, calcium and potassium with increasing distance from the trunk base or as one moves away from the tree canopy. Overall the decrease of organic matter in the open area compared to the canopy area under *Ficus* was 6 %.Corresponding figures were 30 % for calcium, 29 % for magnesium and 8 % for potassium. There was a slight decrease in pH with increasing distance from the trunk base of 4.7%. There was an increasing trend of 14 % with increasing distance from the tree trunk

Albizia trees showed reduction of 25 % for pH, 10 % for organic matter and 62% for phosphate, 34 % for calcium and 18 % for potassium and increase of 24 % for magnesium with increasing distance from the shade tree trunk.

The data indicate that there were generally high nutrient levels under shade tree species of *Ficus natalensis* and *Albizia chinensis* than in the open including lowering of pH. This was true for both species for pH, organic matter, calcium, and potassium. However whereas there was high level of magnesium under *Ficus* canopy this was the opposite for *Albizia* for which no explanation can be offered. Similarly whereas there was higher level of phosphate under *Albizia* canopy compared to the open in the case of *Ficus* this was vice versa. Okia *et a*l (1999) found decreasing levels of organic matter, potassium, calcium and magnesium with increasing distance from the canopy of *Ficus mucosa* at 0-15 cm soil depth (top soil) as was the case for *Ficus natalensis* and partially for *Albizia chinensis* in the study. They did not observe a similar effect for phosphate and total nitrogen the latter of which we did not assess in our study.

The higher content of Soil Organic Matter under tree canopy than outside it has been construed by Okia *et al* (1999) as a natural phenomenon reflecting that trees input organic matter into the soil system through litter fall and decay. Similar increases in soil organic matter have been reported for tree species canopies such as *Faidhebia albida* (Felker, 1989), *Azadirachta indica* (Randwanski and Wickens, 1981) and *Prunus capuli* (Altieri et al.,1987). Among the reasons advanced for increased soil organic matter under tree canopy are a) the provision by the tree of mild temperatures and humid conditions which are favourable for fast decomposition of organic materials, hence leading to integration and accumulation of Soil Organic Matter (Okia et al., 1999), (b)addition to soil from excreta by animals and birds that perch and feed on the tree products (Katende *et al*., 1995; Young 1989) and (c) the no tillage practice which is often found under the tree canopy. Young (1989) considered that tillage increases Soil Organic Matter oxidation by disrupting soil aggregates, exposing new surfaces to microbial attack, and changing redox conditions within the soil profile. In contrast, outside the tree canopy, SOM is quickly oxidized due to high intensity of cultivation.

It has also been observed that key soil fauna groups such as earth worms and termites find a suitable habitat under the tree litter. These fauna perform their roles as regulators of decomposition, nutrient cycling, SOM formation and soil structure improvement (Young, 1989). On the contrary, soil conditions outside the tree canopy are not favourable for these fauna, hence, the observed trend in Soil Organic Matter.

It can therefore be inferred that the expected higher coffee yields under tree canopy are partly due to the higher SOM accumulation in the soil often associated with higher soil productivity particularly in the tropical soils. Soil organic matter is known to be the reservoir of nutrients; it improves physical properties such as structure and water holding capacity (Swift, 1984). It also increases cation exchange capacity, as well as detoxification of certain phytotoxic elements such as Al^{3+} (Sanchez, 1976).

The observation that K^{+}, Mg^{2+} and Ca^{2+} reduced with increasing distance from the trunk can be explained by a similar decrease in SOM (Young, 1989; Campbell et al., 1991; Kellman, 1980). The decrease in soil exchangeable bases with increasing distance from the trunk could have contributed to a decrease of pH with increasing distance from the tree trunks

The magnitude of changes in various soil properties with increasing distance in this study were generally smaller than observations made elsewhere, suggesting that the data were not comprehensive. The study was based only on one observation on a number of shade trees whose age was not only known but also variable. Ideally such a study should cover all the seasonal changes of the year (preferably four times a year) which may correspond with changes in the amount of litter under the tree canopy. Given the high variability of some of the data, the study could have been improved by having more shade trees. This study could also have been strengthened by analysis of coffee foliar nutrients at different distances from the shade tree canopy over several seasons in the year. What is at issue is to relate the results obtained in this study to the findings coffee productivity comprising yield and quality. Another farm is being identified to ascertain these observations

Shade effect on coffee diseases

The effect of *Ficus natalensis and Albizia chinensis* shade levels on severity of Coffee Leaf Rust (CLR), Red Blisters (RB) and Coffee Leaf Spot (CLS) was not statistically significantly different, *(Table 4.9, Chart 6)*.Highest disease incidence was observed with Red blister, followed by Coffee Leaf Rust and lastly by Coffee Leaf Spot under all shade levels and varieties. Red blister levels were generally similar under ficus and Albizia shade, however, in full sun light incidence levels declined

Chart 6. Effect of shade on disease severity

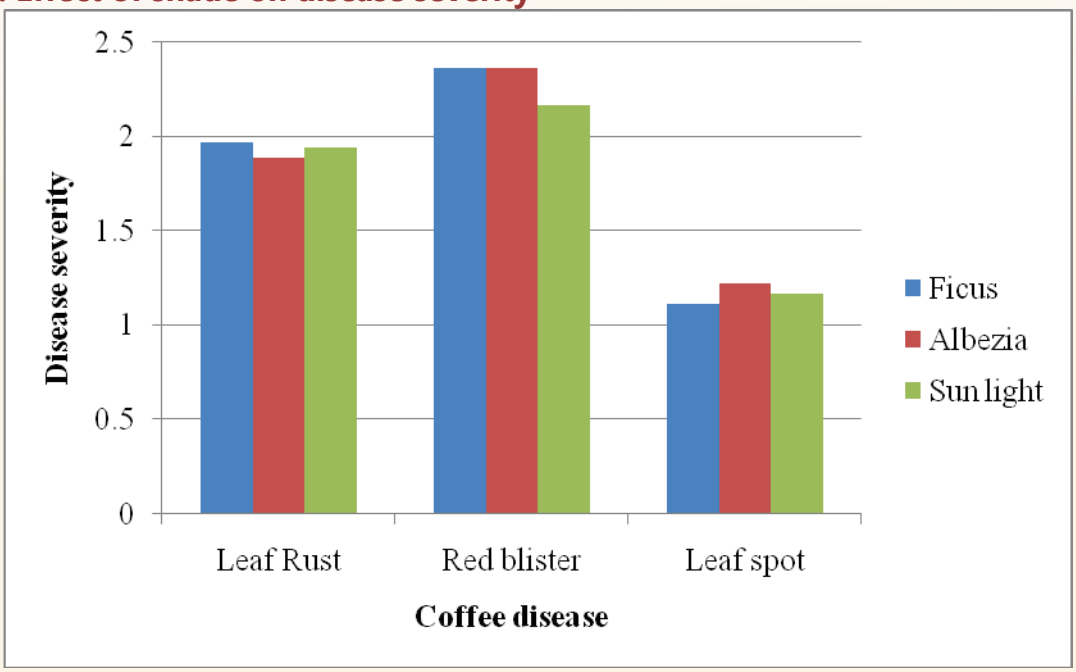


Table 4.9. Effect of shade on major coffee diseases

Treatment	Disease		
	Leaf Rust	Red blister	Leaf spot
Ficus	1.972	2.361	1.111
Albezia	1.889	2.361	1.222
Sun light	1.944	2.167	1.167
LSD	0.29	0.2871	0.1868
CV%	32.1	26.7	34.3

Coffee Leaf Rust was generally highest in coffee trees under ficus shade (1.972), followed by trees under full sunlight (1.944) and least under albezia shade (1.889) as indicated in table 4.9 Coffee Leaf Spot incidence was highest under full sun light (1.167), then followed by albizia shade (1.222) and lastly ficus shade (1.111)

Effect of shade on coffee productivity and quality

Productivity was determined by collecting yield data from experimental coffee trees located under shade and where there were no shade conditions. Ripe cherries were handpicked, dried to kiboko and hulled to obtain green coffee. Yield was measured gravimetrically. Green coffee was cleaned of all bean defects including; floaters, shells, insect damage, broken, dry cherry, stinkers, malformed, black and half black beans to standardize bean size for roasting (Uniform), brewing and liquoring. Bean size was determined using standard screen of sizes 20, 18, 17, 15, 14 and 12. Clean coffee beans were roasted, ground, brewed liquor tested by a panel of experts following Coffee Quality Institute (www.coffeeinstitute.org) protocols. The data on coffee productivity and quality was analyzed and compared using ANOVA (Gens tat data analytical package).

Shade condition did not have any significant effect on yield *(Table 4.10)* and insect infestation was prominent in unshaded coffee (Sun) conditions and statistically significant at $P<0.05$. There was no significant specific effect of individual shade tree species on Robusta productivity and quality under the canopy.

Table 4.10: Influence of shade on coffee yield

	Yield Variables (g)					
	Cherry	**Kiboko**	**Green Coffee**	**Out Turn**	**Insect Damage**	**Bean Diameter**
Albizia	1408.9	551.25	291.44	52.331	23.482	6.985
Ficus	1313.4	530.72	282.22	53.273	25.738	6.989
No Shade	1176.4	483.9	253.63	52.226	31.273*	6.84
LSD	352.4	155.2	88.43	3.929	7.145	0.303
CV %	32.7	35.8	38.6	9	31.8	5.2

* Statistically significant at $P<0.05$

Influence of shade on quality:

Shade condition and varietal differences did not have any significant contribution on coffee bean size/diameter. However, there was some shade influence on liquor, coffee under Ficus canopy generated some degree of superior cup, though both conditions fall in the same quality grade of 7 to 7.75 (Very Good).

Table 4.11: Influence of shade on cup quality

Shade	**Quality Parameters**								
	Aroma	**Flavor**	**A .T**	**M .F**	**B/S**	**Bal.**	**S**	**S/A**	**O.S**
Albizia	7.2	7.1	7.2	7	7.1	7.3	7.6	7	7.2
Ficus	7.3	7.2	7.1	7.3	7.1	7.3	8	6.9	7.3
Un-shaded	7.2	7.2	6.7	7.2	7.1	7.4	7.3	6.7	7.1

A.T = after taste; S = Softness; 6-6.75 = good; 8.8-9.75 = outstanding
M.F = Mouth feel; S/A = Salt/Acid; 6-7-75= very good;
B/S = Bitter/Sweet; O.S = Overall score 7.8-8.75 =excellent;

There was no significant variation in liquor under shade and no shade since they all ranged in the same quality scale *(Table. 4,11)*. The effect of shade on yield and quality was not detected because the trial was carried out on only one already existing farm and old coffee. The studies could be tried in more sites to validate these findings.

On-station studies on effect of shade on yield, quality, soil fertility, soil Ph, and incidence and severity of diseases and insect pests

The aim of this trial, which is being conducted at Kituza, is to verify on-farm findings about the effect of different tree species on Robusta coffee yield, quality and disease and pest incidences and severity for different coffee varieties.

Plant materials

The trial was planted using six (6) none commissioned coffee wilt disease (CWD) resistant Robusta coffee lines, which are interplanted with four (4) shade tree species i.e. *Granville Robusta*, *Ficus* natelensis, *Albizia chinensis* and *Albizia coriaria*) in three replicates (Table 4.12). The six Robusta coffee lines were chosen because they are resistant to coffee wilt disease and therefore they are expected to live up to the time when the shade trees are mature enough to show their effects. CWD is a serious problem to non-resistance Robusta coffee materials. The coffee planting materials were raised as clones by rooting cuttings following the routine procedures. The shade tree species were chosen because they are the most commonly used by farmers and they are being recommended to farmers by the coffee development agencies. Open pollinated seedlings of the trees purchase from private nursery operators were used.

Field layout

The trial was planted at Kituza in April 2009, in a field void of other trees and coffee plants. The experimental field was divided into three replicates, with the replicates running along contours. Each replicate was divided into 5 plots. The shade tree species were randomly assigned to the plots. Each plot was planted with 36 coffee trees in a mixture of the six varieties in equal proportion (Chart 7;(6 trees per variety)). The coffee trees were planted at a spacing of 3 metres by 3 metres, which is the recommended spacing of Robusta coffee in Uganda. Within the gaps of the coffee trees in each plot, trees of the signed shade tree species were planted at a spacing of 6 meters by 6 metres. This shade tree density was designed to provide early shade and it is anticipated that some trees will be rouged out as the trees mature.

Table 4.12: Field layout

Replicates		**Plot 1**	**Plot 1**	**Plot 3**	**Plot 4**	**Plot 5**
Block 1		*Gravillea robust*	*Ficus*	*Albizia*	*Albizia*	No shad tree
Block 2		*Ficus*	*Albizia*	No shade	*Albizia*	*Gravillea*
Block 3		Control	*Albizia*	*Gravillea*	*Albizia*	*Ficus*

Key: Shaded border areas are planted with two lines of coffee guard rows

Chart 7: Plot lay out

L1	L3	L6	L4	L2	L5
L2	L5	L1	L3	L4	L6
L3	L1	L4	L6	L5	L2
L4	L6	L5	L2	L3	L1
L5	L2	L3	L1	L6	L4
L6	L4	L2	L5	L1	L3

Key: Varieties:

L1 = 12.01/16/1; L4 = MFCT2; shade tree = O
L2 = J24/13/20/4; L5 = 203/32/2;
L3 = MFCT1; L6 = 267S/25/7.:

The shade and coffee trees have well established. The coffee trees have just had the first flowering and the crop is expected in November-December 2012. We expect to start realizing the effect of shade in the same year.

4.2 Arabica Research

4.2.1 Evaluating new introductions of Arabica coffee for yield, quality and resistance against leaf rust, berry disease and other diseases

Coffee in most of the well managed trials has reached its first bearing. Data collection on diseases and growth parameters and maintenance of on-station and on-farm trials of two (2) Arabica coffee lines which were introduced from India and planted in Kapchorwa), Manafwa and Nebbi . Despite repeated plea by COREC scientists, one (1) farmer in Kapchorwa district and one (1) in Zombo district abandoned managing trials on their farms and converted the trial sites into grazing and maize gardens, respectively.

Coffee plot with *Grevillea robust* Coffee plot with *Ficus nantelensis*

A blossoming and bearing tree of Indian selection 6 in a field trial at Kituuza and in Zombo respectively

Analysis of data collected from the well maintained trials during the reporting period is in progress, however, this report gives a summary of growth parameter for the trials in Manafwa district *(Table 4.13)*. Green coffee bean samples are being prepared from these trials for quality analysis.

Table 4.13 showing growth parameter data for 6 Arabica varieties

Variety	HS	GS	IS	NP	LP	IP	BP	BN	NB	CD	H1	LA
KP432	79.3	1.7	5.6	20.7	22.1	6.1	1.3	0.0	0.0	93.0	65.7	80.7
SLN 6	72.0	1.7	5.3	16.0	26.4	5.8	4.1	0.0	0.0	93.0	54.0	65.0
SLN 5	71.6	1.6	5.0	18.8	20.9	5.0	4.4	0.4	0.0	82.0	59.2	62.4
Bugisu local	69.3	1.4	5.6	16.3	21.5	5.5	1.3	0.3	0.0	69.5	52.3	58.3
Ruiru	68.1	2.0	4.1	24.7	23.9	4.0	14.6	2.7	0.0	96.1	61.6	81.1
SL14	47.0	1.2	4.1	12.0	14.7	5.6	1.0	0.0	0.0	59.0	37.0	47.0

HS = stem high,
GS = Girth of stem,
IS = number of internodes on stem,
NP = number of primaries,
LP = length of primaries,
IP= number of internodes on primaries,
BP= Bearing primaries,
BN = Bearing nodes,
NB = Number of berries per node,
CD = canopy diameter,
HI = height from first primary,
LA = leaf area.

General observations from the trials show that Ruiru 11 was generally the best performing variety in terms of field establishment and vigour.

4.2.2 Evaluation of other Arabica coffee introductions for yield, quality and resistance against leaf rust, berry disease and other diseases

Data was collected from trials of other Arabica coffee germplasm bred at Kituza and planted at Bugusege and Kituza, to assess the new lines for yield and resistance to leaf rust. Disease, pest and growth parameter data have not been analyzed. Quality results of 11 new lines in Elgon A trial, which were analyzed by UCDA, are given in Appendix 1 at the end of this report. From these results five lines were recommended for further testing in on-farm trials and planting materials are being raised from these lines for this purpose (Table 4.14). It was also reported in previous reports that these lines are all resistant to leaf rust but they have not yet been tested for resistance against CBD.

Table 4.14: Lines recommended for field trials

SAMPLES	FLAVOR	BODY	ACIDITY	> sc 1600	DENSITY INDICATOR	OT	REMARKS
E/13/2 Elgon A	Very good	Very good	Very good	91.7	20.03	93.6	Excellent cup, big beans, and high screen distribution.
D/12/6 Elgon A	Very good	Good	Good	96.5	20.7	96.8	Very good and balanced cup, big beans and high screen distribution.
A/13/7 Elgon A	Very good	Good	Good	97.9		94.6	Very good balanced cup, very big beans and screen distribution.
D/12/11 Elgon A	Very good	good	Very good	97.3		95.2	Very good and balanced cup, big & dense beans and high screen distribution.
D/11/7Elgon A	Good	good	Good	95.2		94	Good balanced cup , ,excellent bean size and screen distribution but with traces of insect damaged beans

All the above five coffee samples recommended for farm trials have an average screen distribution of 95.2 % and high density indicator .This shows that the coffee has heavy big sized beans dominated by AAA, AA and A grades a sign of high commercial potential.

Other achievements in this area include;

- Collection of data for evaluating other Germplasm existing at Bugusege, Kawanda and Kituza continued. Prominent among them is the ex-cooke germplasm, where 59 genotypes have been selected for further tests (Appendix 2).

4.2.3 Generation and evaluation of Arabica coffee hybrids for resistance against diseases, yield and quality

- Trials of the F1 hybrid progenies were maintained at Bugusege and Buginyanya.
- 1,137 seedlings belonging to 45 F1 hybrid progenies of crosses of commercial or once commercial lines (SL14, SL28, SL34, Bugisu local, KP432) with disease resistant lines (NG9257, NG9258, NG9260, Ruiru 11, Rume Sudan and Hybrido de Timor), were maintained in the nursery at Bugusege.
- 478 Backcross one seedlings belonging to 14 progenies of crosses involving lines Bugisu local, SL14, KP423, SL34 and SL28 as recurrent parents, were maintained in the nursery at Bugusege. The seedlings will be planted out in field trials at Kituza and probably Buginyanya in April-May 2012
- New crosses were conducted at Kituza to generate more F1 and Backcross 1 hybrid progenies.

Some of the seedling progenies in the Bugusege nursery

Blossoming coffee tree with pollinated flowers covered with pollination bags

4.2.4 Arabica coffee germplasm characterisation, conservation and utilization

- Continued to maintain germplasm fields at Kawanda, Kituza and Bugusege
- Continued to generate planting materials for re-locating the germplasm from Kawanda to Kituza and Bugusage

4.2.5 Screening fungicides for CLR control

COREC continued to collect data from on station and on-farm trials.

4.2.6 Developing IPM packages for key Arabica coffee insect pests in the Mt. Elgon area

This research work is due for completion at the close of this coffee season. This is a joint UCDA and IPM-CRSP supported activity. The broad objectives of the study are to:

i. Derive a pest profile for Arabica coffee in the Mt. Elgon zone;
ii. Determine economic threshold injury levels for key insect pests;
iii. Test selected IPM options for controlling root mealybugs;
iv. Test IPM options for control of stem borers.

The study on Arabica coffee pests profile was completed and results presented at several fora (See IPM-CRSP website). The result of the study has informed all subsequent coffee IPM research agenda for the Mount Elgon zone. A manuscript entitled "Profile of Arabica coffee Pests in the Mt. Elgon area" has been submitted for publication to the American Journal of Economic Entomology.

On-station studies at Bugusege on improving IPM packages for coffee root mealybugs and stem borers were completed in 2009 and results being edited for publication. The studies have now been advanced to participatory on-farm trials in 3 locations in Buwasa sub-county, Sironko district in order to verify the on-station findings. 2 routine FFS sessions were conducted during this period focusing on weed management, change of cycle, soil improvement and erosion control. Up-scaling of stem smoothening and stem wrapping technologies for management of stem borers continued through reviews and promotions during FFS sessions



(a) Up-scaling stem smoothening technology for root mealy bug control. Coffee tree trunk damaged by the coffee stem borer,
(b), An extension worker demonstrating stem smoothening technology,
(c) While a farmer tries his hands on the technology during a FFS session at Bugusege, Sironko district.

On-station economic threshold injury level studies have continued and an MSc student from Makerere University has been assigned to the study. Treatment re-application for the new cropping season has been completed and routine monthly data collection and analysis of available data on-going.

Biological and ecological studies of the coffee berry borer (*Hypothenemus hampei* Ferrari), and 3 of its natural enemies endemic to the Uganda coffee agro-ecologies (*Prorops nasuta* Waterston; *Heterospilus coffeicola* Schmied and *Phymasticus coffeae* La Salle) that aims to develop and apply a comprehensive bio-control programme for the pest in Uganda was suspended during this period due to the urgent need to attend to the BCTB out-break. The activities are however to resume soon. (Activity co-funded by UCDA and NARO, with funds from UCDA covering field research activities and NARO covers laboratory bio-assay studies)

Chapter Five

FINANCE AND ADMINISTRATION

5.1 Organisational Structure And Staff Matters:

UCDA maintained a total of 58 Staff in four departments (Production, Quality and Regulatory Services, Strategy and Business Development, and Finance and Administration) in addition to the Managing Director`s office.

Table 5.1 shows the distribution of Staff in the respective departments in 2011/2012 Coffee Year.

Table: 5.1: Distribution of Staff per Department

Department	Title	Number of staff
Office of the Managing Director	Managing Director	1
	Principals (Auditor and HR)	2
	Executive Assistant	1
Finance and Administration	Board Secretary / Head Finance & Administration	1
	Principal Accountant	1
	Senior Officers (Procurement Officer & Accountant)	2
	Administration Officer	1
	Assistant Accountant	1
	Executive Assistant	1
	Accounts Assistant	1
	Driver	4
Production	Manager	1
	Principal Development Officers / Regional Supervisors	5
	Technical Extension Officers	3
	Coffee Extension Officers	18
Quality and Regulatory Services	Manager	1
	Principal Quality Controller	1
	Senior Quality Controller	1
	Quality Controllers	7
	Laboratory Assistant	1
Strategy and Business Development	Manager	1
	Principal Information Officer	1
	IT Officer	1
	Market Analyst	1
		58

5.2 Staff Training & Workshops

The following members of staff were trained:

- One Quality Controller in standards development and 1 Coffee Extension Officer in Basic Quality Control.
- 4 Coffee Extension Officers in certification and verification under the sustainable coffee program.
- 2 Executive Assistants in personal career development.
- 2 Heads of Department (Production, and Strategy and Business Development) undertook a working visit to Vietnam to benchmark practices in value addition and sustainability of the coffee sector.
- 54 staff in team building and orientation, and change management. A UCDA team code of honor was developed thereafter.
- 1 Finance staff attended a workshop on government accounting organized by MFPED.
- 1 Strategy and Business Development Strategy staff participated in a 2-months e-learning course on the impact of the global financial and economic crisis and governments' response facilitated by the World Bank Institute.

5.3 UCDA Team Code Of Honor

In the continuous effort to satisfy the stakeholders, a team code of honor was developed by Staff to guide internal behavior and working culture, and to promote teamwork. The team resolved to commit to;

- Being accountable, transparent, & honest at all times;
- Supporting, protecting and defending the UCDA team ideals, goals and vision;
- Meeting all set deadlines and targets;
- Respecting other people's opinions, appreciating and understanding them;
- Sharing & exchanging ideas in the team and being open to new ideas;
- Coming to meetings well prepared;
- Providing feedback to emails, letters, correspondences, missed calls and requests within 24 hours;
- Showing interest in what is happening in UCDA.

5.4 Staff Recognition and Award

Staff were recognized and awarded for outstanding performance through the 'Employee of the Year' initiative. The employee of the year was Mr. Chesang Francis Bhatia. Mr. Apollo Kamugisha and Mrs. Peruth Kasozi were the first and second runners up respectively.

5.5 Board of Directors

As part of its mandate, the Board;

- Appointed new Officers for the following positions; Regional Coffee Extension Officer (Kasese and Iganga), Information Technology Officer, Regional Coffee Technical Officer, and Assistant Accountant.

- Held 14 meetings where they considered the annual report for the CY 2010/11, the National Coffee Strategy, budget estimates and work plans for coffee year 2012/13, 2010/11 management letters and risk assessment report, Revised Financial Procedures and Accounting Manual, performance measurement instrument (BSC) for senior staff, and a board self-evaluation tool.
- Approved a car loan insurance facility to ease facilitation of staff with transport.
- Renewed employment contracts for the Principal Development Officer (Northern Region) and the Principal Accountant.

The Board Committees were reviewed and restructured whereby the Technical Committee, and the Promotion and Value Addition Committee were merged into Technical Programmes Committee. The following committees were constituted;

- Audit Committee
- Finance and Policy Committee
- Technical Programmes Committee

A retreat was held for the Directors to evaluate their performance, and to reflect on the sub-sector challenges. Specific recommendations were made to the line Ministry.

5.6 International Meetings/Conferences

Uganda participated in the international coffee arena and the Managing Director UCDA Mr. Henry Ngabirano was elected as the Chairperson of the International Coffee Council for the Coffee Year 2011/2012.

Uganda participated in the following meetings and conferences;

- 107th ICO Council session meetings.
- ICO General meeting.
- The 50th IACO Annual general meeting where Uganda fielded a candidate for the position of IACO General Secretary.
- The UCDA Board, MAAIF and NARO Scientists attended the 1st Scientific conference on Robusta Coffee in Brazil.
- At all these fora, Uganda was recognized as the Centre of Excellence for Robusta coffee.

5.7 Management Of Assets

- A consultancy was initiated for the redevelopment and regeneration of selected UCDA properties.

- Maintenance and repair of buildings and equipment was undertaken.
- The existing fleet of 7 vehicles and 19 motor cycles was regularly serviced and maintained in good running condition. 6 motor cycles were procured to replace an ageing fleet. A new generator was purchased for Lugogo Laboratory.

5.8 Shared Corporate Value, Memberships and Subscriptions

We continued to strengthen our commitment to corporate social responsibility by supporting institutions and the local communities through;

- Donation of primary school Geography textbooks with coffee tailored information to primary schools in Nyakishenyi.
- Internship program that benefitted 17 students from Institutions of higher learning.
- Participation in corporate league activities.
- Subscription and membership to; Café Mundi, SCAA, SCAE, EAFCA, Institute of Corporate Governance, UMA, Corporate league and Federation of Uganda Employers.
- Support was extended to the following: Kick-Polio campaign, donation to SEHTICAL for improving sanitation and to projects of faith based organizations.

5.9 Monitoring And Evaluation

Monitoring and evaluation activities were carried out as follows;

- The Board made a visit to Northern Uganda to; evaluate the progress of coffee growing in Northern Uganda, and assess farmers' adaptability to growing coffee as an alternative crop. The following districts were visited; Zombo, Gulu , Lira and Nwoya.
- The Audit Committee of the Board travelled to China to review the performance of the Beijing – Chenao Coffee Company Limited (Joint Venture Company) and coffee market penetration efforts in the Far East.

- Routine monitoring and evaluation exercises in the 5 coffee regions were done to assess implementation of programmes and identify gaps that need strategic interventions.

STATISTICAL APPENDICES

APPENDIX I MONTHLY COFFEE EXPORTS BY INDIVIDUAL COMPANIES IN 60 KILO BAGS. 2011/12

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Ugacof (U) Ltd	30,672	32,763	36,311	33,098	38,892	28,319	10,552	58,480	41,652	53,768	36,058	29,304	**429,869**
Kyagalanyi Coffee Ltd	27,974	33,508	32,555	32,805	35,931	18,242	16,337	27,479	21,762	46,074	54,572	41,719	**388,958**
Olam (U) Ltd	44,267	35,887	25,693	21,732	25,630	22,578	18,854	17,908	33,014	44,520	22,018	19,115	**331,216**
Kawacom (U) Ltd	20,338	17,882	25,333	26,846	23,220	31,531	18,470	30,731	15,840	14,707	15,720	13,544	**254,162**
Ibero (U) Ltd	7,899	16,094	20,615	10,600	19,195	19,513	10,381	16,976	21,648	10,221	10,635	5,283	**169,060**
Job Coffee	12,728	17,771	17,101	9,269	11,430	11,296	12,294	9,144	2,349	17,685	23,998	8,925	**153,990**
Kampala Domestic Store	12,060	10,400	8,446	18,300	11,270	2,350	6,220	14,448	16,393	27,734	10,025	5,970	**143,616**
Savannah Commodities	6,520	7,720	16,380	14,342	13,252	12,410	9,110	14,276	11,940	13,562	5,413	3,180	**128,105**
Great Lakes Coffee Ltd	12,460	13,170	14,810	9,390	8,242	11,138	9,334	7,620	9,780	6,848	3,672	4,304	**110,768**
Panafric Impex	6,690	2,930	9,250	8,375	7,700	5,760	6,880	9,070	23,902	5,970	5,538	2,915	**94,980**
Lakeland Holdings Ltd	2,320	10,280	5,710	4,700	4,250	1,024			11,599	13,520	4,840	2,420	**60,663**
Nakana Coffee Factory	2,284	3,012	5,078	6,058	5,917	2,636	1,308	9,347	9,498	4,740	5,652	3,380	**58,910**
Penform Trading Company	700	2,800	5,670	4,200	5,850	6,850	3,850	10,416	4,852	7,784	2,200	700	**55,872**
LD commodities	12,760	3,705	-	1,913	2,070		2,361		21,953	1,920	5,608	2,310	**54,600**
Armajaro Coffee Co. Ltd	2,668	3,340	334	4,764	5,332	2,799	2,266	2,004	3,080	6,024	6,396	7,512	**46,519**

Kamba Petroleum Ltd	2,425	7,278	5,926	3,708	5,702	974	2,324	2,716	3,950	5,627	1,002	1,670	**43,302**
Kitasha Buyers Ltd		1,327	700	5,200	4,900	1,750	3,150	4,870	4,490	4,840	2,720	3,150	**37,097**
Mbale Importers & Exporters	990	980	700	960	1,980	1,690	990	3,250	1,994	2,370	3,070	2,698	**21,672**
Ankole Coffee Producers	1,960	320	660	330	2,556	1,300	330	660	1,290	3,584	3,904	4,258	**21,152**
Kisuule & Sons Ltd								2,032	3,414	4,834	2,338	4,550	**17,168**
Wabulungu M-purporse	330	2,402	3,100	2,702	1,652	1,648	334	974	2,312	980			**16,434**
Risala (U) Ltd	1,800		600	1,000	2,400	1,050	675	1,350	2,325	700	900	1,500	**14,300**
Bakwanye Trading Co. Ltd	1,920	1,340	1,340	1,340	1,280		1,280	1,340	1,280	640	320	654	**12,734**
Gumutindo Co-op Enterprise Ltd	290	640	640	940	1,760	920	1,360	1,280	620	2,170	960		**11,580**
Coffee Services Ltd	2,565	630	2,888	360	720	360			1,450	1,231	920		**11,124**
Ankole Coffee Processors		360		320	668	654		3,804	1,384	1,644	2,054		**10,888**
Zigoti Coffee Works										1,654	640	3,644	**5,938**
Kaweri Coffee Plantation				1,600	1,600	480		320	320				**4,320**
Nile highland Arabica Coffee Assn			640	620		320	960	300		20	640		**3,500**
Anderson Investment Ltd			320				1,600						**1,920**
Bukonzo Joint Co-op Society			320	640	640					320			**1,920**
Export Trading Co. Ltd													

												1,920	**1,920**
Coffee World	320		320					660				320	**1,620**
Commodity Solutions								668				700	**1,368**
Green Holdings Ltd									640	640			**1,280**
Budadiri Coffee Factory											320	640	**960**
Qualicoff		350		350									**700**
Kabum Trading Company								320	320				**640**
Gatto Estates Ltd		288			250								**538**
Trans Gaz	345												**345**
Katuka											320		**320**
Masai Tours			221										**221**
Total	**215,285**	**227,177**	**241,661**	**226,462**	**244,289**	**187,592**	**141,220**	**252,443**	**275,051**	**306,331**	**232,453**	**176,285**	**2,726,249**

APPENDIX II: 24-Year Coffee Export Performance Series By Type & Unit Price - $/Kilo

- in 60 Kilo Bags -

Coffee Year	Robusta		Arabica		Total		Unit Price in US $ /Kilo		
	Qty	Value $	Qty	Value $	Qty	Value $	Robusta	Arabica	Average price
1988/89	2,938,860	273,806,235	175,536	21,061,646	3,114,396	294,867,881	1.55	2.00	1.58
1989/90	2,228,293	125,970,229	136,458	13,615,502	2,364,751	139,585,731	0.94	1.66	0.98
1990/91	1,924,319	105,733,784	160,948	15,647,712	2,085,267	121,381,496	0.92	1.62	0.97
1991/92	1,884,183	91,742,542	169,034	12,813,523	2,053,217	104,556,065	0.81	1.26	0.85
1992/93	1,841,510	90,576,148	247,132	18,117,843	2,088,642	108,693,991	0.82	1.22	0.87
1993/94	2,471,960	192,307,120	533,245	81,351,730	3,005,205	273,658,850	1.30	2.54	1.52
1994/95	2,284,109	338,762,354	507,644	93,731,757	2,791,753	432,494,111	2.47	3.08	2.58
1995/96	3,762,347	345,136,777	386,456	43,779,380	4,148,803	388,916,157	1.53	1.89	1.56
1996/97	3,789,013	288,858,906	448,101	66,267,735	4,237,114	355,126,641	1.27	2.46	1.40
1997/98	2,691,278	227,361,611	341,060	49,112,624	3,032,338	276,474,235	1.41	2.40	1.52
1998/99	3,291,540	247,869,096	356,449	35,126,416	3,647,989	282,995,512	1.26	1.64	1.29
1999/00	2,390,682	121,850,127	526,575	42,899,788	2,917,257	164,749,915	0.85	1.36	0.94
2000/01	2,617,777	79,703,961	456,996	25,072,463	3,074,773	104,776,424	0.51	0.91	0.57
2001/02	2,715,955	64,496,820	430,426	19,440,133	3,146,381	83,936,953	0.40	0.75	0.44
2002/03	2,221,440	81,843,934	442,448	22,943,160	2,663,888	104,787,094	0.61	0.86	0.66
2003/04	1,979,353	82,611,561	543,689	33,093,283	2,523,042	115,704,844	0.70	1.01	0.76
2004/05	1,986,890	105,833,286	518,000	56,262,950	2,504,890	162,096,236	0.89	1.81	1.08
2005/06	1,408,314	103,873,269	594,010	66,470,317	2,002,324	170,343,586	1.23	1.87	1.42
2006/07	2,144,482	192,779,546	559,754	63,801,298	2,704,236	256,580,844	1.50	1.90	1.58
2007/08	2,713,498	316,060,409	497,105	72,337,793	3,210,603	388,398,202	1.94	2.43	2.02
2008/09	2,405,137	212,848,980	648,551	78,912,759	3,053,688	291,761,739	1.47	2.03	1.59
2009/10	1,957,400	163,484,690	711,571	103,230,931	2,668,971	266,715,621	1.39	2.42	1.67
2010/11	2,484,013	294,606,045	665,410	154,284,625	3,149,423	448,890,669	1.98	3.86	2.38
2011/12	1,904,176	223,976,023	822,073	168,722,105	2,726,249	392,698,138	1.96	3.42	2.40
AVERAGE	**2,418,189**	**182,170,561**	**453,278**	**56,587,395**	**2,871,467**	**238,757,956**			

APPENDIX III: Coffee Exports by Volume and Value 2007/08-2011/12

GRADE	2011/12		2010/11		2009/10		2008/09		2007/08	
	QTY	VALUE $	QTY	VALUE $	QTY	VALUE $	QTY	VALUE $	QTY	VALUE $
TOTAL	**2,726,249**	**392,696,138**	**3,149,423**	**448,890,669**	**2,668,971**	**266,715,621**	**3,053,688**	**291,761,739**	**3,210,603**	**338,398,200**
ROBUSTA	**1,904,176**	**223,976,023**	**2,484,013**	**294,606,045**	**1,957,400**	**163,484,690**	**2,405,137**	**212,848,980**	**2,713,498**	**316,060,409**
OCT	167,645	18,987,639	118,422	10,761,243	146,711	11,789,081	151,155	17,139,504	131,879	12,722,394
NOV	149,684	16,060,997	200,269	19,394,818	185,004	15,012,284	220,268	21,582,136	165,986	16,742,817
DEC	167,558	18,694,380	187,487	18,580,525	208,903	16,509,486	251,386	24,439,607	237,168	24,416,389
JAN	159,446	17,991,284	159,880	17,495,886	209,993	17,019,416	269,395	24,046,556	326,466	34,736,650
FEB	157,860	17,606,100	142,834	15,938,202	184,432	14,653,763	248,364	22,481,152	281,583	31,583,620
MAR	104,260	12,244,136	172,243	20,795,170	145,988	11,613,230	195,535	16,769,099	238,938	30,141,261
APR	70,758	8,563,982	129,578	15,844,878	91,882	7,242,599	142,893	11,754,995	177,037	22,484,225
MAY	168,233	20,193,776	193,356	24,484,235	105,498	8,641,248	158,341	12,875,835	179,389	21,620,095
JUN	215,940	26,844,583	306,392	41,108,666	173,598	14,644,776	209,503	17,194,480	228,771	27,944,904
JUL	235,689	28,873,154	334,502	44,052,764	210,977	18,950,466	215,767	16,910,898	289,684	36,693,251
AUG	172,506	21,472,939	257,823	32,059,107	170,178	16,056,668	203,986	16,433,983	276,757	34,705,424
SEPT	134,597	16,443,052	281,227	34,090,553	124,236	11,351,674	138,544	11,220,734	179,840	22,269,379
ARABICA	**822,073**	**168,722,115**	**665,410**	**154,284,625**	**711,571**	**103,230,931**	**648,551**	**78,912,759**	**497,105**	**72,337,793**
OCT	47,640	12,119,169	69,590	12,539,111	52,300	6,883,497	28,079	3,818,259	40,697	4,927,599
NOV	77,493	18,034,286	66,457	12,811,912	48,507	6,950,918	46,464	5,892,864	32,878	4,257,336
DEC	74,103	18,208,484	50,260	10,111,007	63,852	9,188,988	47,262	5,878,310	35,351	5,068,397
JAN	67,016	15,879,186	55,300	12,485,120	53,021	8,126,715	59,816	6,422,790	34,409	4,990,387
FEB	86,429	18,543,370	51,131	11,950,718	78,361	11,624,043	71,241	8,562,260	36,430	5,389,755
MAR	83,332	17,976,722	56,336	14,044,553	73,696	10,352,161	60,722	7,154,243	40,310	6,156,947
APR	70,462	13,300600	45,962	11,152,999	60,758	8,303,960	62,832	7,304,272	60,189	9,477,784
MAY	84,210	15,544,422	54,104	14,771,417	71,882	9,592,094	62,279	7,290,706	52,053	7,878,807
JUN	59,111	10,160,825	64,532	17,112,925	61,358	8,376,326	44,523	6,016,435	49,336	7,581,507
JUL	70,642	11,928,412	41,671	10,376,649	55,238	8,581,474	49,800	6,453,488	35,396	5,324,249
AUG	59,947	10,083,535	50,916	12,193,492	47,106	7,645,086	56,250	7,128,798	47,370	6,802,180
SEP	41,688	6,943,105	59,151	14,734,721	45,492	7,605,669	59,283	6,990,335	32,686	4,482,845

APPENDIX 1V: Monthly Coffee Procurement Figures in 60-Kilogrammes bags

Month	2009/10			2010/11			2011/12		
	Actual			Actual			Actual		
	Robusta	Arabica	Total	Robusta	Arabica	Total	Robusta	Arabica	Total
Oct	165,911	60,500	226,411	120,412	68,529	188,941	155,167	50,123	205,290
Nov	206,504	50,201	256,705	212,477	69,323	281,800	160,012	65,012	225,024
Dec	225,637	65,123	290,760	230,428	45,311	275,739	170,235	69,015	239,250
Jan	200,454	65,001	265,455	165,114	52,300	217,414	160,012	68,510	228,522
Feb	193,502	75,008	268,510	160,006	53,107	213,113	165,009	90,018	255,027
Mar	152,103	76,159	228,262	155,001	52,176	207,177	106,105	85,658	191,763
Apr	92,018	75,001	167,019	165,002	45,089	210,091	75,013	72,009	147,022
May	121,513	89,523	211,036	200,444	49,150	249,594	190,215	95,145	285,360
Jun	179,494	75,096	254,590	321,793	53,087	367,100	252,148	80,146	382,294
Jul	204,100	82,132	286,232	360,901	54,104	407,225	320,125	79,164	399,289
Aug	180,121	56,046	236,167	286,903	52,009	332,132	270,125	70,103	340,228
Sep	155,200	47,529	202,729	243,899	50,000	287,772	200,136	65,158	265,294
Total	**2,076,557**	**817,319**	**2,893,876**	**2,622,380**	**644,185**	**3,266,565**	**2,224,302**	**890,061**	**3,114,363**

APPENDIX V: Coffee Exports by Individual Buyers CY 2011/12 in 60- Kilo bags

S/N	Buyer	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1	Sucafina	21,434	27,102	32,821	31,532	23,112	21,122	6,000	51,616	44,078	55,650	35,628	25,150	375,245
2	Olam International	45,167	36,487	26,393	20,562	25,220	21,758	19,814	19,884	23,147	33,617	22,622	14,883	309,554
3	ABACO International	15,010	9,800	22,430	31,125	30,450	24,050	12,250	23,450	33,845	22,978	2,100	11,395	238,883
4	Ecom Agro Industrial	19,688	17,582	25,973	23,406	20,070	29,121	17,500	28,301	15,020	14,467	15,720	10,394	237,242
5	Bernhard Rothfos	7,579	16,094	18,615	10,600	18,235	15,673	11,301	17,212	14,754	11,480	10,955	3,483	155,981
6	Volcafe Ltd	15,079	11,790	15,710	14,835	14,154	4,370	2,240	9,010	7,540	19,164	13,370	11,133	138,395
7	Aldwami	5,950	1,750	3,500	11,140	12,600	4,200	2,800	12,250	9,100	17,070	7,000	11,900	99,260
8	Socadec	7,358	20,658	10,589	9,909	6,286	8,090	9,230	6,214	7,589	4,575	1,310	6,947	98,755
9	Icona café	5,734	11,790	9,196	7,582	9,586	3,584	3,270	8,600	10,158	16,238	6,016	3,748	95,502
10	Louis Dreyfus	14,860	3,705		1,913	2,070	3,000	6,201	8,688	23,873	9,233	12,008	4,600	90,151
11	Coex Coffee	1,600	1,600	6,840	6,900	13,830	7,180	9,960	8,000		3,840	16,320	1,978	78,048
12	Cofftea Trading	3,500		238	5,600	1,400	2,450		5,890	9,290	20,970	8,320	4,854	62,512
13	Strauss commodities	2,095	5,100	8,723	3,730	6,767		2,135	2,799	3,382	8,291	12,772	5,485	61,279
14	Armajaro	2,668	3,340	1,336	4,764	5,332	2,799	2,266	2,004	3,430	6,024	6,396	7,512	47,871
15	Coffee services	3,845	1,590	3,698	660	5,880	680	120		6,280	11,921	7,490		42,164
16	Hamburg coffee	3,500	4,910	7,162	2,990	1,602		700	3,190	6,580	2,438	2,752	2,650	38,474
17	Decotrade					3,570	2,160			3,598	8,570	8,600	10,800	37,298
18	Elmathahib	2,450	3,150	1,370	3,850	4,550	2,100	2,800	3,850	3,500	1,050	1,500	1,700	31,870
19	Tata coffee		5,550	4,500	1,200	7,700	900	5,320	4,980				595	30,745
20	Guzman Global	1,320	1,980	4,748	2,644	1,980	2,000		3,964	2,660	2,960	1,650	2,000	27,906
21	Aziende		1,325	350	960	675	2,050	2,740	3,095	4,090	3,400	3,745	3,080	25,510
22	NKG Bero Italia	2,560	2,360	1,320	3,320	1,600	1,120	1,962	974	3,840	2,962	960	1,614	24,592
23	Luigi Lavazza	4,620	3,620	5,220	1,280							7,210	1,980	23,930
24	Gerb West		1,080	5,040	3,580	1,400	2,130	5,647					1,382	20,259
25	Suremo	640	1,080	3,000	3,230	2,440	1,040	2,160	1,040	680	1,720	600		17,630
26	Africa tea and Coffee	1,800	600	2,800	1,000	2,400	2,250	675	1,350	2,325		900	1,500	17,600
27	World Botanical	1,840	280	1,614		960	640	320	3,258	2,965	1,600	1,948	334	15,759
28	Falcon Commodities	1,920	2,240	2,560	1,600	1,280	640	1,280	640		1,920		360	14,440
29	Bercher		2,000		960	3,000	2,060	1,740	1,400		960		1,800	13,920
30	Maison Jobin	320	320	960	640	1,280	960	640	1,920	1,600		3,200		11,840
31	Others	22,748	28,294	14,955	14,950	14,860	19,465	10,149	18,864	31,727	23,233	21,361	23,028	243,634
	Total	**215,285**	**227,177**	**241,661**	**226,462**	**244,289**	**187,592**	**141,220**	**252,443**	**275,051**	**306,331**	**232,453**	**176,285**	**2,726,249**

APPENDIX VI: Coffee Exports by Destination in CY 2011/12 - 60Kilo bags														
S/N	Destination	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1	EU	135,176	182,032	175,464	143,285	152,650	122,315	90,401	166,791	161,516	206,150	177,144	125,359	1,838,283
2	SUDAN	27,110	14,250	26,050	54,485	48,650	28,250	18,200	44,800	56,139	61,321	17,954	30,364	427,573
3	USA	4,460	5,440	7,402	10,514	14,340	19,388	8,954	7,040	1,250	5,228	6,916	5,204	96,136
4	INDIA	5,180	9,360	6,900	1,200	8,600	1,500	5,270	10,120	11,085	3,514	7,744	2,715	73,188
5	ECUADOR	10,240	320	7,349	960	10,880	5,760		11,200	6,080	5,760	5,440	640	64,629
6	SWITZERLAND	14,040	3,705		1,913	2,670		2,361		16,781	320		20	41,810
7	RUSSIA	4,595	2,894	5,176	4,220	2,280	334	1,920	960	3,944	1,920	3,562	2,296	34,101
8	SOUTH AFRICA	1,920	1,280	2,747	2,220	320	1,920	2,227	924	960	2,520	320	933	18,291
9	VIETNAM						320	3,860	3,365	5,590	580	3,075	1,184	17,974
10	MORROCO	2,672	1,308	1,670	1,500		1,280	4,522	1,600	320	2,880			17,752
11	KENYA	1,540		2,822	1,010	2,400	2,292	675	1,350	2,325	670	1,880	300	17,264
12	TUNISIA									4,441	8,566	1,600		14,607
13	ISRAEL	300	1,322	3,143				660	660	320	334	4,202	640	11,581
14	EGYPT	2,885	910	598					150	2,030	2,400			8,973
15	CHINA	330	620		1,290	245	1,630	560	630	990	1,250		600	8,145
16	JAPAN	619	600	1,040	1,225	314	1	200	1,200	300	940		620	7,059
17	ALGERIA	900	300	660			1,002		668	360	668	1,336		5,894
18	MIDDLE EAST	320	988		1,680						350		1,920	5,258
19	AUSTRALIA	960	320	640					320		320	1,280	1,280	5,120
20	CANADA		640		320	320		320	345		320			2,265
21	TAIWAN		600		640		640				320			2,200
22	NEWZEALAND	320				300		150	320	620				1,710
23	SINGAPORE							320					1,220	1,540
24	GEORGIA	668	288										350	1,306
25	SOUTH KOREA					320		320					640	1,280
26	NORWAY	1,050												1,050
27	MEXICO						960							960
28	SRI LANKA							300						300
	Total	**215,285**	**227,177**	**241,661**	**226,462**	**244,289**	**187,592**	**141,220**	**252,443**	**275,051**	**306,331**	**232,453**	**176,285**	**2,726,249**

THE REPUBLIC OF UGANDA

REPORT OF THE AUDITOR GENERAL ON THE FINANCIAL STATEMENTS OF UGANDA COFFEE DEVELOPMENT AUTHORITY FOR THE YEAR ENDED 30TH SEPTEMBER, 2012

OFFICE OF THE AUDITOR GENERAL

UGANDA

UGANDA COFFEE DEVELOPMENT AUTHORITY (UCDA)

REPORT OF THE AUDITOR GENERAL ON THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 30th SEPTEMBER 2012

I have audited the accompanying financial statements of Uganda Coffee Development Authority which comprise the Statement of financial position as at 30th September 2012, the Statement of financial performance, the Statement of Cash flows for the year then ended and a summary of significant accounting policies and other explanatory information as set out on pages 1 to 9.

Directors' responsibility for the financial statements

Under the provisions of the Uganda Coffee Development Authority (UCDA) Act (Cap 325), the Directors are responsible for the preparation and fair presentation of the financial statements in accordance with International Financial Reporting Standards and for such internal controls as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on the audit. The audit was conducted in accordance with International Standards on Auditing. Those standards require that I comply with the ethical requirements and plan and perform the audit to obtain reasonable assurance as to whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the Auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risks assessments, the Auditor considers the internal controls relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purposes of expressing an opinion on the effectiveness of the Organization's internal control. An audit also includes evaluating the appropriateness of

accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence obtained is sufficient and appropriate to provide a basis for my opinion.

Opinion

In my opinion the financial statements together with the notes thereon present fairly in all material respects, the financial position of Uganda Coffee Development Authority as at 30th September 2011 and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards and the Uganda Coffee Development Authority Act (Cap 325)

Emphasis of Matter

Without qualifying my opinion, attention is drawn to the matter described below;

Investments in Wet Coffee Processing Machines

The Authority invested Shs.834,815,878 in Wet Coffee Processing machines which were financed by government under the Strategic Exports Program. These machines were offered to the beneficiaries at a 50% discounted price under a finance lease arrangement managed by DFCU in 2003. However not all the machines were installed.

John F. S. Muwanga

AUDITOR GENERAL

KAMPALA

24th March 2012

PART "B"

DETAILED REPORT OF THE AUDITOR GENERAL

This Section outlines the detailed audit findings, management response, and my recommendations in respect thereof.

1.0 Investments in Wet Processing Equipments

As reported in the previous reports, it was noted that several wet coffee processing machines which were allocated to various beneficiaries had not been put to their intended use. Five of them had not been installed, while three had been partially installed and another five which had been installed and commissioned had not been operationalized. This implies that this investment may not be able to achieve the intended objective in the near future.

Management explained that given the high cost of installation the beneficiaries' efforts to secure operational funds from financial institutions had failed to materialize as a result of high costs of borrowing.

Management further highlighted the challenges facing the installation and operating of the wet mills as being high costs, competition in acquiring red cherry, high cost of borrowing and high working capital requirements.

In addition the intended Stanbic Bank financing intervention had not materialized none of the beneficiaries was able to finalize a deal with the bank. The rejuvenation of the DFCU financing lease had also not provided tangible solutions.

Management had in the meantime sought the Solicitor General's advice on this matter and was advised that the lease was purely a contractual matter and hence the law of contract had to be applied to it when determining whether or not to extend it.

I await Management action on this matter.

2.0 Rental Income arrears

Examination of rental income ledgers of the Authority revealed that by the close of the financial year, Shs.73,225,240 was due from the tenants. Whereas the tenancy

agreement was very clear that tenants had to pay three months in advance, many of them had continued to occupy the properties despite being in arrears. There seemed to be laxity in close monitoring from management. Some of the tenants had taken advantage of this leading to accumulation of arrears as reflected in the case of M/s Jay Links International (tenant) who after accumulating rental arrears to the tune of Shs.10,239,232 disappeared and could not be traced.

Management explained that despite reported reminders to tenants to pay, there were few that were difficult and as a result had accumulated arrears. The legal process of recovery and eviction had not helped to eliminate arrears as the tenants in question placed injunctions, paid up outstanding arrears and requested not to be evicted and fell back into arrears soon after.

Regarding Jay Links International, management explained that the Directors of the Company were involved in a fatal road accident and one of them died on the spot while the other was hospitalized for a long period. After contact with the surviving partner, it was established that the Company had become non- functional and therefore unable to pay the arrears. Steps were taken to hold on to the office furniture and equipment while the surviving partner attempted to make good of the debt. In the circumstances, a specific provision for bad debts in 2011/2012 for Shs.10,239,232 was considered.

I advised Management to strengthen rental collection procedures to minimize the risk of rental default.

3.0 Assets Management:

The entity owns quite a number of properties in the following places: Bugolobi flats block 33, Basker Avenue Kololo, Elizabeth Avenue Kololo, Windsor Cresent Kololo, Mutesa 11 road Ntinda and Bazara Drive Bugolobi. The rental income from these properties forms one of the major sources of revenue for the entity. A physical inspection carried out on these properties showed that almost all of the properties were in need of renovation. There was an earlier development plan drawn in 2007 for the rehabilitation of these houses, but no official communication was obtained from management as to why it did not take off. Meanwhile the rental fees charged on these

properties was below the market rates, possibly because of the poor condition in which these properties were. Rental income from these properties was likely to continue falling below the market rates if no immediate action is taken to renovate these properties.

Management explained that they had appointed an administration officer to undertake the role of estate management. The Board had also approved engagement of a property development consultant to prepare a property development plan whose procurement was under progress.

I advised Management to allocate funds in its budget for the purpose of rehabilitating the houses, as well as appointing an estates officer to oversee the status of the entity's estate and directly deal with the tenants.

FINANCIAL APPENDICES

UGANDA COFFEE DEVELOPMENT AUTHORITY

STATEMENT OF DIRECTORS' RESPONSIBILITIES FOR THE YEAR ENDED 30 SEPTEMBER 2011

The Uganda Coffee Development Authority Act requires the Directors to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the Authority as at the end of the financial year and its surplus or deficit. It also requires that the Authority keep proper accounting records that disclose, with reasonable accuracy, the financial position of the Authority. They are also responsible for safe guarding the assets of the Authority.

The Directors accept responsibility for the annual financial statements set out on pages 1 to 9, which have been prepared using appropriate accounting policies supported by reasonable and prudent judgements and estimates, in conformity with International Financial Reporting Standards and the requirements of the Uganda Companies Act. The Directors are of the opinion that the financial statements give a true and fair view of the financial affairs of the Authority and of its surplus or deficit for the year. The Directors accept responsibility for the maintenance of accounting records that may be relied upon in the preparation of financial statements as well as adequate systems of internal control.

Nothing has come to the attention of the Directors to indicate that the Authority will not remain a going concern for at least the twelve months from the date of this statement.

.....
Mr Robert W. Nsibirwa
Chairman- Finance & Policy Committee

.....
Mr Kenneth Mugambe
Chairman- Audit Committee

.....
Henry A. Ngabirano
Managing Director

UGANDA COFFEE DEVELOPMENT AUTHORITY
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
FOR THE PERIOD ENDING 30 SEPTEMBER 2012

	Notes	2011/2012 SHS	Restated 2010/2011 SHS
Fixed Assets(Net)	2	16,181,169,526	16,450,078,072
Investments			
Investment in Joint ventures	12	886,754	134,994,345
Other investments and work in progress	13	407,532,905	407,532,905
Current Assets			
Retirement Benefits Scheme	3	837,042,799	560,396,266
Short-term Fixed Deposit(Operations)	4	2,993,775,000	1,365,000,000
Cash at Bank	5	1,123,585,579	2,677,504,380
Cash at Hand	6	1,000,000	366,300
Debtors	7	1,423,734,283	1,748,537,248
Prepayments	8	158,694,472	67,601,371
		6,537,832,133	**6,419,405,565**
Less Liabilities			
Creditors: Amounts falling due within one year	9	2,375,329,754	1,187,994,321
Retirement Benefits Scheme	10	831,112,474	555,053,133
		3,206,442,228	**1,743,047,454**
Net Current Assets		**3,331,389,905**	**4,676,358,111**
Net Assets		**19,920,979,079**	**21,668,963,433**
FUNDED BY			
Funds of the Authority	11	17,249,670,512	17,249,670,512
Retained Earnings	14	2,671,308,567	4,419,292,921
TOTAL		**19,920,979,079**	**21,668,963,433**

HENRY A. NGABIRANO
MANAGING DIRECTOR

FRED LUZINDA- MUKASA
BOARD SECRETARY/HEAD OF FINANCE & ADMINISTRATION

UGANDA COFFEE DEVELOPMENT AUTHORITY
CONSOLIDATED STATEMENT OF FINANCIAL PERFORMANCE
FOR PERIOD ENDING 30 SEPTEMBER 2012

	Notes	2011/2012 U Shs	2010/2011 U Shs
REVENUE	i		
UCDA Revenue & Share of Joint Venture		12,298,077,828	12,576,341,283
Less: Share of Joint Venture		186,081,607	57,328,018
Total Operating Revenue		**12,111,996,221**	**12,519,013,265**
OPERATING EXPENSES			
Staff Costs	ii	3,085,021,356	2,405,878,355
Administrative Expenses	iii	954,059,167	864,653,271
Programme Expenses	iv	8,385,842,886	4,381,652,387
Support to Coffee Organisations	v	154,894,005	109,820,040
International Obligations	vi	679,226,421	524,480,083
Depreciation/ Provisions	vii	529,653,202	512,500,850
Total Operating Expenses		**13,788,697,037**	**8,798,984,986**
UCDA Operating Surplus/ (Deficit)		**(1,676,700,816)**	**3,720,028,279**
Loss on disposal of fixed assets			2,294,480
Share of Joint venture loss in China		(86,078,934)	(126,639,007)
Share of Joint venture loss in Egypt		(7,285,192)	(9,963,134)
Share of Joint venture loss in Denmark		(23,723,420)	(18,500,840)
Net Surplus/ (deficit)		**(1,793,788,363)**	**3,562,630,818**

UGANDA COFFEE DEVELOPMENT AUTHORITY
CONSOLIDATED STATEMENT OF CASHFLOWS
FOR PERIOD ENDING 30 SEPTEMBER 2012

	2011/2012	2010/2011 Restated
	Shs	Shs
Cash flows from Operating Activities		
Net Operating Deficit	(1,793,788,363)	3,562,630,818
Adjustments for:		
Depreciation	471,371,971	431,447,851
Loss on disposal of fixed assets	-	2,294,480
Provision for bad & Doubtful debts	58,281,231	81,052,999
Unrealised loss on IACO b/fwd balance	75,239,167	32,531,746
Prior year adjustments	45,804,009	(50,414,044)
Decrease in Debtors & prepayments	233,709,864	(980,879,198)
increase in Liabilities	1,187,335,433	815,644,079
Net cash flows from operating activities	**277,953,313**	**3,894,308,731**
Cashflows from Investing Activities		
Construction of Laboratory equipment/Land & Buildings	(18,771,000)	-
Purchase of computers	(31,067,848)	(23,226,260)
Purchase of Furniture	(33,397,180)	(11,140,000)
Purchase of Liquoring Equipment	(1,900,000)	(18,095,810)
Purchase of Office Equipment	(5,280,750)	(1,878,080)
Purchase of Motorcycles	(77,665,547)	(39,162,750)
Purchase of Espresso Machine	(34,381,089)	-
Disposal of Fixed Assets	-	-
Net Cash from Investing Activities	**(202,463,414)**	**(93,502,900)**
Net Cash flows from financing Activities	**-**	**-**
Net increase in cash and cash equivalents	**75,489,899**	**3,800,805,831**
Cash and cash equivalents at the beginning of the period	**4,042,870,680**	**242,064,849**
Cash and cash equivalents at the end of the period	**4,118,360,579**	**4,042,870,680**

UGANDA COFFEE DEVELOPMENT AUTHORITY
NOTES TO THIS STATEMENT OF FINANCIAL PERFORMANCE FOR THE PERIOD ENDING 30 SEPTEMBER 2011

		2011/2012	2010/2011
NOTE 3. RETIREMENT BENEFITS SCHEME			
Short Term Fixed Deposits		730,000,000	370,000,000
Standard Chartered Bank (Staff Pension Funds collections Acc)		107,042,799	190,396,266
Total		**837,042,799**	**560,396,266**
		2011/2012	**2010/2011**
NOTE 4. SHORT TERM FIXED DEPOSITS			
Operations		2,993,775,000	1,365,000,000
Total		**2,993,775,000**	**1,365,000,000**
NOTE 5. CASH AT BANK			
Stanbic Bank City Branch A/C 0140007511801		626,366,807	542,155,746
Stanbic Bank City Branch A/C 0140007222101		139,546,214	356,773,949
Standard Chartered Bank (Salary Account)		305,541,936	1,125,971,342
Barclays Bank Ltd. (Rent Account)		16,649,353	128,890,455
Housing Finance Company of Uganda Ltd		183,374	78,870
Tropical Africa Bank		31,050,234	523,146,405
Tropical Africa Bank Dollar A/C		4,247,661	487,613
BOU- Govt funding		-	-
Total		**1,123,585,579**	**2,677,504,380**
		2011/2012	**2010/2011**
NOTE 6. CASH AT HAND		**1,000,000**	**366,300**
NOTE 7. DEBTORS			
		2011/2012	**2010/2011**
Staff Advances	76,582,678		
Motor Vehicle Loan scheme	221,850,208	298,432,886	190,572,261
Rent Receivable	45,363,855		
5% General Provision for bad and doubtful debt for rent	(2,268,193)	43,095,662	52,503,878
Cess Debtors	1,120,260,773		
5% General Provision for bad and doubtful debt for cess	(56,013,039)	1,064,247,734	1,487,503,109
Other debtors		17,958,000	17,958,000
Total		**1,423,734,283**	**1,748,537,248**
NOTE 8. PREPAYMENTS(Rent for regional Offices)		**2011/2012**	**2010/2011**
Rent for Regional Offices		17,555,868	900,000
SCAJ		16,588,000	48,939,031
Others (ISP,Subscriptions, & Parking stickers,adverts,fuel,etc)		124,550,604	17,762,340
Total		**158,694,472**	**67,601,371**

NOTE 9. CREDITORS AMOUNTS FALLING DUE WITHIN ONE YEAR	2011/2012	2010/2011
Prepaid Export Licence	7,500,000	6,000,000
Prepaid coffee processing fees	-	300,000
Prepaid Rent	26,066,134	74,744,038
Inter Africa Coffee Organization (IACO)	-	373,139,001
RBS payable	(1)	1
NSSF payable	(9)	(8)
Accruals	2,321,460,054	718,817,586
Local Service tax	3,632,500	3,632,500
witholding tax	2,145,158	15,727,646
PAYE	192,544	192,344
Water/Gabage	10,399,707	4,502,903
VAT	3,933,667	(9,061,690)
Total	**2,375,329,754**	**1,187,994,321**

	2011/2012	2010/2011
NOTE 10. RETIREMENT BENEFIT SCHEME	**831,112,474**	**555,053,133**

NOTE 11. FUNDS OF THE AUTHORITY	2011/2012	2010/2011
General Reserves	2,216,750,000	2,216,750,000
C.F.C Counter Funding	266,315,261	266,315,261
Revaluation Reserve	11,507,934,349	11,507,934,349
Asac Funding	746,529,785	746,529,785
Stabex Funding	847,800,000	847,800,000
UCDA Coffee Seedlings	1,664,341,117	1,664,341,117
	17,249,670,512	**17,249,670,512**

NOTE 12. INVESTMENT IN JOINT VENTURES

	2011/2012	2010/2011
Share of Assets in China	451,932,821	712,816,744
Share of Liabilities in China	(561,819,257)	(712,240,167)
Share of Assets in Egypt	237,344,326	265,804,000
Share of Liabilities in Egypt	(310,497,136)	(341,202,912)
Share of Assets in Denmark	184,541,000	211,046,680
Share of Liabilities in Denmark	(615,000)	(1,230,000)
Total	**886,754**	**134,994,345**
Exchange rates used		
China	398.873	438.889
Egypt	409.997	469.326

NOTE 13. OTHER INVESTMENTS

	2011/2012	2010/2011
Wet Processing Machines	417,407,905	417,407,905
Other Investments	(9,875,000)	(9,875,000)
Total	**407,532,905**	**407,532,905**

UGANDA COFFEE DEVELOPMENT AUTHORITY

NOTES TO THIS STATEMENT OF FINANCIAL PERFORMANCE FOR THE PERIOD ENDING 30 SEPTEMBER 2011

		2011/2012	2010/2011
1	**REVENUE**	**U Shs**	**U Shs**
	Cess 1%	9,810,705,861	11,114,301,231
	Rent Income	604,185,934	586,519,118
	Interest Earned	128,775,000	72,432,680
	Export & processing licence	116,802,000	97,010,000
	Sundry Income	65,697,526	75,626,236
	Government Contribution	1,385,829,900	573,124,000
		12,111,996,221	**12,519,013,265**
	OPERATIONAL EXPENSES		
2	**Staff Costs**		
	Salaries and Wages	1,920,783,495	1,442,147,229
	Performance Allowance	11,225,000	10,332,500
	Public Holiday Expenses	25,368,400	23,857,600
	Leave Allowance	236,673,536	250,915,400
	N.S.S.F. Contribution	218,109,854	163,413,105
	General Staff Welfare	23,332,980	21,162,100
	Welfare Costs (funerals)	8,870,000	4,830,000
	Retirement Benefit Scheme	277,453,520	210,158,223
	Contract Gratuity	47,124,917	33,715,943
	Staff training	42,512,514	32,028,177
	Outsource Allowance	17,999,000	14,400,000
	Medical Insurance	161,436,838	115,806,200
	Fuel town runnning/refund	91,768,226	60,077,119
	Acting Allowance	2,363,076	23,034,759
		3,085,021,356	**2,405,878,355**
3	**Administrative Expenses Maintenance and Consumables**		
	Repairs - Buildings	32,193,316	29,023,521
	Repairs - Office Equipment	15,704,985	20,860,736
	Other Services/Office Cleaning	48,468,152	48,970,584
	Repair & Maintenance - Cars	26,115,024	23,363,862
	Motor vehicle fuel	71,534,832	71,705,000
	M & S - Auto Supplies	19,877,360	36,033,049
	Vehicle Registration/Licences	4,134,000	3,605,000
		218,027,669	**233,561,752**
	Establishment expenses		
	Telephone, Fax Bills	51,626,294	40,765,171
	Postage, and Delivery	7,224,300	11,934,930
	Professional Fees	29,555,600	30,438,216

Donations/Contributions	9,300,000	3,130,000
Insurance	53,688,971	49,570,541
Utilities - Water	19,280,962	14,681,336
Utilities - Electricity	45,828,380	35,192,013
Bank Charges/Interest Charges	37,603,809	21,610,523
Property Rates and taxes	24,576,027	27,864,582
Printing & Stationery	38,611,295	33,767,360
News Papers/Periodicals/subscription	26,724,780	6,051,374
Directors Expenses	99,403,028	72,692,967
Office Security	52,774,733	45,124,800
Internal Travel Costs	22,193,195	33,104,876
Legal Fees	28,181,800	17,628,000
Foreign Exchange Differences	(7,157,177)	(2,321,783)
Rental Income tax	100,852,324	106,545,023
Brochures, Corporate shirts& cards	27,043,625	14,646,700
Publicity & Advertisement	68,719,552	63,128,815
	736,031,498	**625,555,444**
	954,059,167	**859,117,196**

4 **Programme Expenses**	**2011/2012 U Shs**	**2010/2011 U Shs**
Research and Development Costs		
COREC Support	818,370,508	1,093,738,674
Regional Coffee Extension Officers	232,958,085	152,288,696
Supervision & Reporting	214,132,250	-
Replanting Program	2,111,581,065	1,116,575,054
Radio Programs	59,995,008	46,855,200
Training and seminars	226,988,700	230,119,429
Technical Extension Services	154,489,400	161,000,648
Coffee Development in N. Uganda	209,649,139	164,409,550
Regional Officers facilitation	66,771,471	84,802,800
Propagation of CWD-R Lines AGT	1,403,336,000	-
Management of Diseases & Pests	622,658,900	-
	6,120,930,526	**3,049,790,051**
Strategy & Business Development costs		
Departmental Publications	35,102,475	22,259,930
Market Evaluation/Stock Survey		9,527,000
Information Technology Functions	68,326,838	59,555,302
Monitoring & Evaluation	91,471,025	5,894,500
Strategies Development	95,134,043	-
	290,034,381	**97,236,732**
Quality and Regulatory Services		
Generic Promotion	1,665,398,569	960,275,740
Promotion of Domestic Consumption	108,941,679	32,477,725

	Quality Assurance	173,571,471	110,399,596
	Training of quality controllers	26,966,260	65,405,828
	Quality enhancement thru mould prevention	-	8,832,400
		1,974,877,979	**1,177,391,289**
	Total Programme costs	**8,385,842,886**	**4,324,418,072**
5	**Other Support Expenses**		
	Support to Coffee Organisations		
	UCTF Support	72,076,802	46,990,040
	NUCAFE Support	55,452,000	57,760,000
	Coffee Roasters Association	19,788,400	5,070,000
	Support to Uganda Farmers Alliance	7,576,803	
		154,894,005	**109,820,040**
6	**International Obligations**		
	ICO - Contributions	199,107,200	149,766,435
	IACO - Contributions	364,618,200	374,713,648
	External Travel -ICO	76,399,906	50,560,780
	External Travel - IACO	39,101,115	12,209,610
		679,226,421	**587,250,473**
7	**Depreciation/Provisions**		
	Land	106,789,687	106,789,687
	Buildings	238,751,170	211,212,468
	Office Furniture	10,313,959	7,166,247
	Computers and Peripherals	23,221,044	19,356,200
	Office Equipment	9,960,075	10,598,165
	Motor Vehicle	7,790,888	9,738,610
	Commercial Vehicle	17,534,856	23,379,808
	Liquoring Equipment	10,488,192	11,659,309
	Moisture meters	11,996,577	13,632,474
	Motor Cycle	24,517,255	11,230,181
	Generator	2,315,664	2,631,436
	Espresso Machine	5,016,278	1,011,986
	Farm Equipment	2,676,326	3,041,280
	Provision for Cess& Rent debtors	58,281,231	81,052,999
		529,653,202	**512,500,850**

NOTES TO THE FINACIAL STATEMENTS
FOR THE PERIOD ENDING 30TH SEPTEMBER 2012
NOTE 2: FIXED ASSET SCHEDULE

COST/VALUATION	Land	Buildings	Office Furniture	Computer &	Office Equipment	Motor Vehicles	Commercials	Uquoring	Motor	Generator	Moisture	Espresso	Farm	
At 1 October 2011	4,080,000,000	12,130,000,000	262,360,508	226,267,917	168,457,312	177,002,159	340,946,135	288,983,302	81,700,650	61,390,771	132,809,000	10,890,000	28,800,000	17,989,587,754
Additions 2011/2012		18,771,000	33,397,180	31,067,848	5,280,750			1,900,000	77,665,548			34,381,089		202,463,415
At 30 September 2012	**4,080,000,000**	**12,148,771,000**	**295,757,688**	**257,335,765**	**173,738,062**	**117,002,159**	**340,946,135**	**290,883,302**	**159,366,198**	**61,370,771**	**132,809,000**	**45,271,089**	**28,800,000**	**18,192,051,169**
DEPRECIATION														
At 1 October 2011	634,659,141	1,780,589,061	209,808,031	186,968,966	90,737,433	138,047,718	270,806,710	203,481,702	36,779,925	42,073,570	32,837,523	3,468,770	6,497,280	3,636,755,830
Adjustments	(527,869,453)	(1,569,376,585)												(2,097,246,038)
Adjusted opening depreciation	106,789,688	211,212,476	209,808,031	186,968,966	90,737,433	138,047,718	270,806,710	203,481,702	36,779,925	42,073,570	32,837,523	3,468,770	6,497,280	1,539,509,792
Depreciation for the Year	106,789,687	238,751,170	10,313,959	23,221,044	9,960,075	7,790,888	17,534,856	10,488,192	24,517,255	2,315,664	11,996,577	5,016,278	2,676,326	471,371,972
At 30 September 2012	**213,579,375**	**449,963,646**	**220,121,990**	**210,190,010**	**100,697,508**	**145,838,606**	**288,341,566**	**213,969,894**	**61,297,180**	**44,389,234**	**44,834,100**	**8,485,048**	**9,173,606**	**2,010,881,764**
NBV 30.9.12	**3,866,420,625**	**11,698,807,354**	**75,635,698**	**47,145,755**	**73,040,554**	**31,163,553**	**52,604,569**	**76,913,408**	**98,069,018**	**16,981,537**	**87,974,900**	**36,786,041**	**19,626,394**	**16,181,169,415**

UGANDA COFFEE DEVELOPMENT AUTHORITY
NOTES TO THE FINAL ACCOUNTS FOR PERIOD ENDED 30 SEPTEMBER 2012

1.1 BASIS OF ACCOUNTING

The accounts of the Authority are prepared under the historical cost convention and accruals basis and in compliance with International Financial Reporting Standards.
The reporting currency is Uganda shillings.

1.2 RECOGNITION OF REVENUE

i) Cess; Recognized at the time of export.
ii) Rent; Recognized at the beginning of the month.
iii) Government contribution; Recognized at the time of expenditure.
iv) Other revenues (Licenses and interest earned on account); Recognized on realization.

1.3 DEPRECIATION & IMPAIRMENT

Depreciation is calculated to write off the cost of fixed assets over their expected useful life using reducing balance method at the following annual rates: -

*	Commercial Vehicles	25%
*	Buildings	2%
*	Plant, Furniture and Equipment	12%
*	Motor Vehicles	20%
*	Computers & Peripherals	33%

Land and buildings are reported separately in accordance with the requirements of IAS 16.
Given that all the land of the Authority is held on term leases, it is therefore accounted for in accordance with the requirement of IAS 17.

1.4 BAD AND DOUBTFUL DEBTS

Specific provisions are made for all known doubtful debts in addition to a general provision that is estimated by Management (5%). Bad debts are written off after approval of the Board of Directors.

1.5 CONVERSION AND TRANSLATION OF FOREIGN TRANSACTIONS

Transactions in foreign currencies during the year are converted into Uganda Shillings at rates ruling at the transaction dates. Assets and liabilities denoted in foreign currencies are translated into Uganda Shillings at the rates ruling at the balance sheet date. The resulting differences from conversion are recognized within the Income and expenditure account, while translation differences are charged against retained surplus or deficit in the year they arise.

1.6 GOVERNMENT CONTRIBUTIONS ON VOTE 160: UGANDA COFFEE DEVELOPMENT AUTHORITY

Total Government contribution was Shs 1,385,829,900 for the coffee year 2011/2012.

Coffee House, Plot 35 Jinja Road
P.O. Box 7267, Kampala - Uganda
Tel: +256 414 256 940/233 073
+256 312 260 470/1
Fax: +256 414 256 994
E-mail: ucda@ugandacoffee.org
Web: www.ugandacoffee.org