THE REPUBLIC OF UGANDA

OFFICE OF THE AUDITOR GENERAL

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PROMOTION OF COTTON PRODUCTION AND FACILITATION OF VALUE ADDITION TO UGANDA'S COTTON BY THE COTTON DEVELOPMENT ORGANISATION

A REPORT BY THE AUDITOR GENERAL

DECEMBER, 2016

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AUDITOR GENERAL'S MESSAGE

31st December 2016

The Rt. Hon. Speaker of Parliament

Parliament of Uganda

Kampala

PROMOTION OF COTTON PRODUCTION AND FACILITATION OF VALUE ADDITION TO UGANDA'S COTTON BY THE COTTON DEVELOPMENT ORGANISATION.

In accordance with Article 163 (3) of the Constitution, I hereby submit my report on the audit undertaken on the promotion of cotton production and facilitation of value addition to Uganda's cotton by the Cotton Development Organisation.

My office intends to carry out a follow – up at an appropriate time regarding actions taken in relation to the recommendations in this report.

I would like to thank my staff who undertook this audit and the staff of the Cotton Development Organisation for the assistance offered to the audit team during the period of the audit.

John F. S. Muwanga

AUDITOR GENERAL

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES ii

LIST OF FIGURES ii

LIST OF ACRONYMS iii

EXECUTIVE SUMMARY iv

CHAPTER ONE

INTRODUCTION

1.1 Background 2

1.2 Motivation 2

1.3 Description of audit area 3

1.4 Audit objectives 5

1.5 Audit scope and approach 5

CHAPTER TWO

AUDIT METHODOLOGY

2.1 Sampling 7

2.2 Data collection 7

2.3 Data analysis 8

CHAPTER THREE

SYSTEMS AND PROCESS DESCRIPTION

3.1 Roles and responsibilities of key players 10

3.2 Process description 11

CHAPTER FOUR

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

4.1 LEVEL OF COTTON PRODUCTION 15

4.2 SUPPORT TO INCREASED VALUE ADDITION TO COTTON AND ITS BY PRODUCTS 18

TABLE OF CONTENTS

APPENDICIES

APPENDIX I: Organogram 25
APPENDIX II: Map of cotton growing areas of Uganda 26
APPENDIX III: List of people interviewed 27
Appendix IV: List of documents reviewed 28
Appendix V: Showing the Ugandan cotton value chain 29
Appendix VI: Detailing planned and actual volumes of key production inputs 30
Appendix VII: Showing formula for computation of average farm gate prices. 31
Appendix VIII: Detailing performance in achieving research targets 32
Appendix IX: Status of implementation of the key proposals of the textile policy 35
Appendix X: a) Comparing sector potential and the actual earnings by farmers 39
Appendix X: b) Comparing sector potential and the actual earnings from sale of Lint 39

LIST OF TABLES

Table 1: Funding for CDO activities for period 2012/13-2014/15 5
Table 2: Summarizing cotton production targets 15
Table 3: Showing actual cotton production levels 15
Table 4: Showing funds from UGCEA 16
Table 5: Comparison of consolidated quantities of production inputs 16
Table 6: Summarising performance of CDO in achieving value addition 19
Table 7: Approved guidance for utilisation of the buffer funding 21

LIST OF FIGURES

Figure 1: Comparing sector potential and actual earnings for farmers 20
Figure 2: Comparing Sector potential and actual earnings from lint 20

LIST OF ACRONYMS

ACE	Audit Control and Expertise Uganda
BPA	Bukalasa Pedigree Albar cotton
Bt cotton	Bio Technology cotton
CDO	Cotton Development Organisation
FEWs	Field Extension Workers
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MoES	Ministry of Education and Sports
MoFPED	Ministry of Finance Planning and Economic Development
MTTI	Ministry of Trade Tourism and Industry
NARO	National Agricultural Research Organisation
NaSARRI	National Semi-Arid Resources Research Institute
UGCEA	Uganda Ginners and Cotton Exporters Association
UIRI	Uganda Industrial Research Institute

EXECUTIVE SUMMARY

Cotton has for long been one of Uganda's major cash crops and foreign exchange earners for Uganda in addition to contributing to the livelihoods of most Ugandans both directly and indirectly. This contribution has been through employment, contribution to GDP, fight against household poverty and promoting social stability. Cotton as a product starts with seed cotton from the farmers and can be transformed into many products such as lint, yarn, fabric and garments. It can also be used for edible oil, seed cake soap and linters.

The cotton subsector faced a number of challenges which affected production, profitability and productivity of the sector during the 1980s which subsequently resulted in its liberalization in 1994 and formation of the Cotton Development Organisation (CDO) to oversee all the activities of the sector and to ensure that the sector performs to its full potential.

The Office of the Auditor General undertook an assessment of the effectiveness of the measures undertaken by the Cotton Development Organisation to promote cotton production and facilitate value addition to Uganda's cotton. The audit identified areas that need attention if CDO is to realise increased cotton production and increased value addition. These include:

KEY FINDINGS

i. The sector's production potential as detailed in the strategic plan 2010/11-2014/15 was not realised. Actual lint production for example, was below target by 247,381 bales, 371,636 bales, and 406,907 bales in FY 2012/13, 2013/14 and 2014/15 respectively. Similarly, the actual total acreage under cotton production was below target by 77,500 acres, 168,000 acres, and 93,600 acres in 2012/13, 2013/14 and 2014/15 respectively.

ii. A number of interventions designed to facilitate value addition to Uganda's cotton remained unimplemented. Consequently, an average of ninety five per cent (95%) of all the lint produced in Uganda was exported without any form of value addition, and the envisaged sector earnings for both farmers and dealers in cotton products were never realised.

iii. A number of causes explain the above performance. These include non-prioritization of the cotton by government, limited investments in the cotton sector, inadequate production inputs, and limited coordination among key government agencies undertaking cotton related activities.

KEY RECOMMENDATIONS

i. The government should revise its strategic approach towards the cotton subsector especially in areas of value addition.

ii. MAAIF together with CDO should find alternative ways of empowering CDO to ensure that the sector production targets are set and underlying activities directly implemented and monitored by CDO rather than relying on private sector.

iii. CDO and MAAIF should review the arrangement between CDO and UGCEA with a view of finding alternative ways of addressing the demand gap for production inputs which

cannot be met by the private sector.

iv. CDO should streamline the management of the buffer fund provided for procurement of buffer stocks by for example ensuring that guidelines are expeditiously approved, and detailed needs assessment is undertaken before replenishing the current stock.

OVERALL AUDIT CONCLUSION

The Cotton sub sector has to a large extent not achieved its full potential in regard to cotton production and value addition to cotton and its by-products. The sector can however perform better and achieve its strategic targets if the weaknesses identified such as non-prioritization of the sector, inadequate supply of production inputs, among others are addressed.

1

CHAPTER ONE

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Cotton has been one of Uganda's major cash crops since its introduction in 1903. Over the years, cotton gained much significance because it served the dual purpose of providing raw materials to the growing textile industry as well as introducing cash to the economy. During the 1960s, Uganda was Sub-Saharan Africa's largest cotton producer. However, political instability and poor policy choices of the 1970s led the sector to its demise. Attempts to revive the sector with lending operations during the 1980s failed, but policy reforms combined with a lending operation and the high cotton prices of the 1990s revitalized the sector.[1] The reforms liberalized the sector and also created the Cotton Development Organization (CDO) to monitor the production, processing and marketing of cotton in Uganda, promote the distribution of high quality cotton seed and to facilitate the development of the cotton industry.[2]

1.2 MOTIVATION

Cotton is Uganda's third largest export crop after coffee and tea. It is also the main source of income for some 250,000 households.[3] From 1970 until 1986 the country went through economic difficulties resulting in disruptions of cotton research, long delays in paying farmers for their crop among other numerous challenges. Since liberalization of the sector efforts such as provision of high quality planting seed to farmers, support to extension and farmer mobilization, support to farmer training, provision of inputs and extension services[4] have been devoted towards increasing yields with gradual introduction of modern farming techniques coupled with other reforms including appropriate institutional building.

The cotton sub-sector however still faces a number of challenges, for example, lack of cotton targeted input support, inadequate extension service delivery, low farm gate prices, poor crop management, low application of fertilizers and poor farmer organization.[5]
In addition, average cotton lint production has been unstable for the last five years ranging from 254,036 bales to 102,619, 78,364, and 93,093 bales in 2011/12, 2012/13, 2013/14 and 2014/15 respectively.[6] Earnings by farmers have also exhibited a similar trend reducing from 148 billion in 2011/12, to 59.83billions in 2012/13, 49.84 billion in 2013/14, and 54.2 billion in 2014/15.[7]

1 The cotton sector of Uganda – An Africa Region Working Paper Series No. 123 by the World Bank
2 The 1994 Cotton Development Act
3 www.cdo.go.ug
4 Cotton Development Organisation – Cotton sub-sector development plan 2010/11 - 201415
5 The Cotton Subsector Strategic Plan 2010/11 - 2014/15 :pg VI
6 Production data and statistics from the Cotton Development Organization
7 Production data and statistics from the Cotton Development Organization

According to CDO annual performance reports, value addition to locally produced lint was still very low. For instance in 2012/13, 97% of all the lint produced was exported without processing while in 2013/14, lint exports accounted for 95% of all lint sales.[8]

It is against this background that the Office of the Auditor General decided to undertake a review of the performance of CDO in promoting cotton production and value addition in the cotton subsector. In addition, the review also intended to identify the causes of the challenges noted and suggest possible recommendations to address the identified challenges.

1.3 DESCRIPTION OF AUDIT AREA

1.3.1 General description

Ugandan cotton is a rain fed annual crop whose production is mainly concentrated in the Northern region (Lira, Apac, Kitgum, Gulu, Kotido, Pader, Kaberamaiodo, Amuru, Lamwo and Amolatar); North Eastern region (Kumi, Soroti, Katakwi, Pallisa, Mbale, Sironko and Bukedea); Mid-west and Central (Masindi, Buliisa, Hoima, Nakasongola, Kiboga, Kibale and Kyenjojo); West Nile (Nebbi, Yumbe, Moyo, Arua and Adjumani); Western (Kasese, Kamwenge, Bushenyi) and South eastern (Kamuli, Iganga, Bugiri, Jinja, Mayuge, Tororo, Busia and Kayunga). A map of the major cotton growing areas of Uganda is attached as Appendix II. It is mostly grown by individual small scale farmers with an average of 1.2 acres. Uganda has been growing one cotton variety the Bukalasa Pedigree Albar (BPA 2002), before the introduction of the SZ 9314 and CR 2 varieties from Zimbabwe in 2014/15 as a replacement to the BPA 2002. Ugandan cotton has a fairly long growing season of 6-7 months and is usually planted in May/June and harvested in November/ December. The cotton is mainly processed into lint for both the domestic and international market. It is estimated that over 95% of all the cotton produced in Uganda is exported to mainly Asia, Europe, United States and neighbouring Kenya.

According to the Commodity Approach Strategy as approved by cabinet, Cotton is not among the priority commodities where government intends to make investments aimed at addressing the entire value chain.[9]

In 2005, Government partnered with Ginners to support cotton production. Government through CDO and NARO requested Ginners to support cotton production by way of providing pesticides, extension services, spray pumps and land opening. The Ginners agreed but in turn requested Government for protection of their investment through zoning production areas. Cotton produced within a specific zone was to be purchased by Ginners who would have invested in production in that particular zone. This arrangement was regularized by a Statutory Instrument No. 40 of 2005 which established cotton zones and segregated areas. Zoning however collapsed in 2007/8.

In 2011 after the collapse of the zoning system, the ginners under their umbrella body Uganda Ginners and Cotton Exporters Association (UGCEA) adopted the Cotton Production Support Program (CPSP) aimed at achieving increased production and productivity. In line with this the ginners initiated a Cotton Development Fund (CDF) to finance the program. To achieve the objectives of the CPSP UGCEA prepares and approves annual Cotton Production Plans (CPPs) and budgets which are implemented through a working arrangement between CDO and UGCEA through annual MoUs. Under this arrangement, UGCEA provides the required funds to implement the CPP while CDO monitors, supervises and coordinates the implementation of the CPP.

All activities relating to cotton production, cotton processing and cotton marketing are monitored

8 CDO annual performance reports for 2012/13. Pg 20. and 2013/14. Pg.20

9 Ministry of Agriculture Animal Industry and Fisheries Ministerial Policy Statement for 2014/15 pg. V

and regulated by the Cotton Development Organisation (CDO) which was created by the Cotton Development Act following the restructuring of the cotton sub sector in 1994.

1.3.2 Mandate:

Monitoring and regulation of the cotton sub sector is the mandate of the Cotton Development Organisation (CDO), and this mandate is derived from the 1994 Cotton Development Act. The Act mandates CDO to monitor the production, processing and marketing of cotton so as to enhance the quality of lint, cotton exported and locally sold, to promote the distribution of high quality cotton seed and generally to facilitate the development of the cotton industry.

1.3.3 Vision and Mission

Vision: "Building a competitive and sustainable cotton sub-sector in Uganda"
Mission: "To promote and monitor production, processing and marketing of high value cotton and its by-products for the welfare of our society"

1.3.4 Objective of the Cotton Development Organisation

The Cotton Development Organisation exists to promote and monitor production and marketing of cotton and represent all aspects of the cotton industry.

1.3.5 Activities of the Cotton Development Organisation

In promoting cotton production, processing and marketing, the Cotton Development Organisation undertakes a number of activities as detailed in the 1994 Cotton Development Act. This audit focused on the following activities

- Procuring, processing and distributing planting seeds within segregated areas and where appropriate supervise the production and distribution of later generation seeds outside segregated areas through selected ginneries;
- Facilitating cotton production, cotton research and extension through the Ministry responsible for agriculture;
- Monitoring and advising the cotton industry on the procurement and distribution of cotton inputs;
- Support addition of Value to cotton and its by-products as detailed in the strategic plan.

1.3.6 Organization Structure

The Cotton Development Organisation (CDO) is a semi-autonomous agency under the Ministry of Agriculture, Animal Industry and Fisheries. The activities of CDO are supervised and monitored by a board working together with the Managing Director. A detailed Organizational structure is attached in Appendix I.

1.3.7 Funding

CDO received a total of UGX 23.7 billion over the period 2012/13-2014/15. This was from government subventions, non-tax revenue, supplementary allocations, and releases for Capital development as detailed in Table 1 below;

Table 1: Funding for CDO activities for period 2012/13-2014/15

Source/period	12/13 "Billion"		13/14 "Billion"		14/15 "Billion"		Total "Billion"	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Non-Tax Revenue	1.5	1.8	1.5	1.5	1.7	1.8	4.7	5.2
Gov't Subventions	4.3	1.2	4.3	1.2	3.8	2.4	12.4	4.8
Value Addition ***	-	-	-	-	10.0	10	10.0	10
Capital Dev.	2.3	1.8	2.3	1.4	2.2	0.5	6.8	3.7
Totals	8.1	4.8	8.1	4.1	17.7	14.7	33.9	23.7

Source; OAG analysis of CDO's audited financial statements & Approved Budgets for the financial years 2012/13, 2013/14 and 2014/15

* Non Tax revenue includes all revenue locally generated by CDO. This includes all revenue from Cess, export registration fees, ginning registration fees, classification fees, rent and sundry incomes.
* Government subventions include money budgeted and received from the Central Government for recurrent activities related to cotton production. These activities include provision of planting seed, seed multiplication, farmer mobilization, provision of extension services and provision of ox-ploughs and monitoring in 2014/15.

* In 2014/15 a total of UGX 10 billion was received in relation to value addition to constitute a revolving fund for the purchase of lint buffer stocks. Out of this, UGX 6.6 billion was spent on procurement of lint stocks and related administrative costs. UGX 2.7 billion was spent on importation of planting seed while UGX 0.7 billion was returned to the consolidated fund due to non-absorption.

1.4 AUDIT OBJECTIVES

The overall audit objective was to assess the measures put in place by CDO to promote production, and facilitation of value addition to Ugandan cotton in order to improve earnings from the cotton sub sector.

1.4.1 Specific Audit objectives

The specific audit objectives were to assess:

i) The extent to which the cotton sub sector production targets for the period 2010/11- 2014/15 have been achieved.
ii) The extent to which facilitation of value addition has resulted in achievement of the sub sector earnings for farmers and dealers in cotton products for 2010/11-2014/15.

1.4.2 Specific Audit Questions

i) How has CDO ensured the achievement of the cotton subsector production targets through facilitating access to good quality and affordable planting seed, facilitating access to good quality and affordable production inputs and extension services, and facilitating cotton research?
ii) How has CDO facilitated value addition in order to realise the earning targets for farmers and dealers in cotton products?

1.5 AUDIT SCOPE AND APPROACH

The audit focused on the measures taken by the Cotton Development Organisation to promote production, and addition of value for Ugandan cotton. The study focused on interventions undertaken in the three financial years of; 2012/13, 2013/14 and 2014/15 in the cotton growing areas of Uganda.

2

CHAPTER TWO

CHAPTER TWO

AUDIT METHODOLOGY

The audit was conducted in accordance with the International Organisation of Supreme Audit Institutions (INTOSAI) Performance Auditing Standards and the Performance Auditing guidelines prescribed in the Office of the Auditor General (OAG) VFM audit manual. The standards require that the audit be planned in a manner which ensures that an audit of high quality is carried out in an economic, efficient and effective way and in a timely manner.

2.1 SAMPLING

The main focus of the audit was on the activities undertaken by CDO to promote cotton production and addition of value to cotton.

The team stratified the country into six regions which are the CDO operational areas/field offices. These were northern region, north eastern region, mid-west/central, West Nile field office, western field office, and south eastern region.

Interviews were conducted with the heads of all the six field offices as well as review of documents. In addition, data was collected through interviews with farmers from the mid-west/central offices and the western field regions since the farmers in these regions were still harvesting cotton. The districts visited were Kasese, Masindi, Rubirizi, Buliisa, Soroti, and Iganga. In addition, the team visited the National Agricultural Research Institute at Serere district.

2.2 DATA COLLECTION

The following data collection methods were used to gather evidence.

Audit Objective	Data collection method
To assess the extent to which CDO has promoted production of cotton.	The team interviewed CDO persons in the production and marketing departments. In addition the team reviewed production information for example production statistics, and interventions by CDO to promote production. The team interviewed officials responsible for research and reviewed the respective work plans and reports. The team interviewed farmers in order to collect evidence to ascertain the extent to which CDO has facilitated access to good quality and affordable planting seed and production inputs, and access to extension services by farmers. The team visited NaSARRI in Serere district to corroborate information obtained from interviews conducted and documents reviewed in relation to research.
To assess the extent to which CDO has facilitated addition of value for Ugandan cotton.	The team interviewed CDO officials as well as reviewed documents to understand the cotton value chain, identify the critical aspects/activities of the value chain, interventions undertaken by CDO to facilitate value addition, and the level of value addition to the cotton produced. The team also interviewed some spinners and ginners to understand the challenges they face and how these could be addressed.

The list of persons interviewed and documents reviewed is attached in Appendix III and Appendix IV respectively.

2.3 DATA ANALYSIS

For purposes of establishing trends, statistics for the last five seasons namely 2010/11, 2011/12, 2012/13, 2013/14, and 2014/15 have been analysed. In addition, the team used the targets in the approved cotton sub sector development plans to represent the cotton sub sector potential.

To support the findings and conclusions the team analysed both qualitative and quantitative data obtained using mainly trend analysis and variance analysis for quantitative data. This was done to establish trends, relationships and in other cases to explain certain observations. In order to use more representative information, statistics analysed were picked from the previous five years/ seasons. Qualitative data collected was summarized, grouped and compared in order to contextualize findings and their causes.

CHAPTER THREE

CHAPTER THREE

3

CHAPTER THREE

SYSTEMS AND PROCESS DESCRIPTION

3.1 ROLES AND RESPONSIBILITIES OF KEY PLAYERS

3.1.1 Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)

The Ministry of Agriculture, Animal Industry and Fisheries is the parent ministry under which CDO falls. The Ministry is mandated to support and guide the development of the agricultural sector. It is also mandated to supervise activities of the different organizations under its ambit including CDO. The Ministry also monitors, inspects, evaluates and harmonizes activities in the agricultural sector; strengthens human and institutional capacity to mobilize financial and technical resources for delivery of agricultural supplies.

The MAAIF also develops, promotes collaborative mechanisms nationally, regionally and internationally on all issues pertaining to agriculture.

3.1.2 Department of Production and Marketing of the Cotton Development Organisation

The Department of Production and Marketing is responsible for ensuring that cotton is produced by farmers. It is responsible for:

- Ensuring that farmers are supplied with good quality and affordable planting seed at the beginning of each planting season.
- Ensuring that farmers have access to good quality and affordable production inputs throughout the cotton season.
- Ensuring that there is adequate access to extension services by the farmers.
- Computation and announcement of the indicative farm gate prices at the commencement of the marketing season.

3.1.3 Cotton Research Institutions

Research in the cotton sub sector is undertaken by the National Agricultural Research Organisation (NARO) through the National Semi-Arid Resources Research Institute (NaSARRI). These institutions undertake research aimed at developing new cotton varieties, improving existing varieties, controlling pests and diseases, and improving current farming practices.

3.1.4 The Private sector

The private sector is composed of ginners and their agents, cotton exporters and spinners. The ginners and exporters are organized under their umbrella body- the Uganda Ginners and Exporters Association (UGCEA). These support provision of production inputs using funds pooled by members into a Cotton Development Fund. They also undertake ginning of seed cotton and exporting of lint produced. Spinners facilitate value addition by procuring lint and turning it into yarn or thread for the textile industry.

3.2 PROCESS DESCRIPTION

In 2011, UGCEA adopted a Cotton Production Support Program (CPSP) and initiated a Cotton Development Fund to finance the CPSP. Every planting season, UGCEA comes up with an annual cotton production plan and budgets which are approved by its members. Using funds pooled by its members, UGCEA, working together with CDO, provides production inputs (planting seed, pesticides, spray pumps, fertilizers and herbicides), undertakes farmer mobilization and sensitisation, and provides extension services targeted at improving performance of the cotton crop, and agricultural mechanization. In order to achieve these outputs, a number of processes are undertaken as summarised below;

3.2.1 Processes of Cotton Production

a) Provision of extension services to farmers

Provision of extension services is aimed at improving performance of the crop through advisory services, training and sensitization of farmers on better farming practices. Extension services are provided by UGCEA in collaboration with CDO through a network consisting of field extension workers (FEWs) deployed in each region to mobilize and train farmers on aspects of; proper crop establishment and management, set up demonstration gardens, pest identification and pest control, and monitoring supply of inputs to farmers.
In order to access extension services and training, farmers are organized in groups headed by a lead farmer or any other farmer chosen from the group. This farmer becomes the focal person and coordinator between the FEWs and the farmers. Extension workers also conduct routine visits to monitor and asses the performance of the farmers, identify and advise on any challenges that the farmers may be faced with. In other cases, farmers can also contact the extension workers through their lead farmers.

Under this collaboration between UGCEA and CDO, CDO is responsible for identifying and recruiting filed extension workers, training, equipping and deploying the field extension workers, monitoring and supervising the activities of FEWs, and compiling and submitting regular performance reports to UGCEA. UGCEA on the other hand provides funds for all field extension activities, monitors the provision of extension services, and organizes meetings to review progress.

b) Provision of planting seed

Provision of planting seed is done by CDO with support from UGCEA. It is aimed at ensuring that there is adequate high quality planting seed for farmers at the beginning of every planting season. This begins with the planting of breeder's seed (seed from research) on small segregated plots to monitor the performance and existence of desired plant qualities/ characteristics, and to avoid cross pollination between varieties. Once it is confirmed that the variety meets the desired plant qualities, it is then grown on larger plots to produce large volumes of seed. These two activities are undertaken at the National Semi-Arid Resources Research Institute (NaSARRI) at Serere.

The seed is then distributed by CDO to selected farmers in segregated areas (Pallisa, Serere, Amolatar, Bulisa and Rubirizi) for multiplication to raise adequate quantities for distribution to other farmers. On maturity, the cotton is sold to selected ginners who then separate the seed from the seed cotton. The seed from the selected ginners is then processed, certified and packaged by the ginners under the supervision of CDO.
CDO is currently constructing a seed processing Plant to ensure that all planting seed is

processed by CDO using CDO facilities and machinery.

Under the working arrangement where CDO provides planting seed with support from UGCEA, CDO is responsible for the identification of good quality seed, certification of the seed, organizing delivery of planting seed to the dressing stations, delinting, grading and packaging of the seed, identifying seed sales agents, organizing delivery of dressed and packaged seeds to stores and agents, organizing issue of seeds to sales agents and monitoring recovery of money from sale of seeds, compiling and regularly submitting performance reports to UGCEA. On the other hand, UGCEA provides funds, monitors implementation of activities and organizes meetings to review progress of implementation.

c) Provision of fertilizers, pesticides, herbicides, spray pumps, and ox ploughs

Provision of production inputs is aimed at ensuring that farmers are able to control pests and diseases, clear the land for farming, control weeds and boost soil fertility. Provision of all production inputs with the exception of ox-ploughs is entirely done by UGCEA. Procurement and distribution of ox-ploughs is done by CDO. Production inputs are distributed by CDO through lead farmers or agents to the farmers on either credit or cash.

Under the arrangement between CDO and UGCEA, CDO is responsible for advising UGCEA on the procurement of production inputs, organizing the distribution of the production inputs, advising UGCEA on the input sales mechanisms, ensuring that once farmers pay for inputs taken on credit, the funds are deposited on the UGCEA account by the extension workers, evaluating the usage and adoption rate of production inputs by the farmers, compiling and regularly submitting performance reports on distribution of production inputs to UGCEA.

On the other hand, UGCEA provides funds and procures all production inputs except for ox-ploughs, monitors the distribution of all production inputs and organizes meeting with CDO to review progress and status of distribution of production inputs to farmers.

d) Undertaking Research

Continuous cotton research is aimed at ensuring that there are better cotton varieties for the farmers each season, and to develop better farming and production practices which are able to improve crop performance. Cotton research mainly takes the following forms:

Agronomy research: this is research aimed at improving farmer/ farming practices so as to improve both the quality and quantity of cotton yields. This looks at areas such as planting practices, how and when farmers should apply herbicides and pesticides, how to apply fertilizers, and any other farming practice.

Breeding research: this is research aimed at developing better varieties and improving existing varieties. Breeding research may in some cases take up to 14 years especially if it involves development of new and better varieties. Breeding research involves genetic investigations and combinations of different germplasm lines to produce varieties with better crop characteristics for example higher yields, better fibre quality, better staple length, resistance to diseases and pests.

Entomology research: this research involves all investigations into pests that affect cotton performance. This research is done to understand the behaviour and effect of certain pests on the performance of the crop and developing strategies of ensuring that the cotton plants are able to resist the pest or ways of controlling the pests from affecting the cotton plants.

Pathology research: this research includes all investigations into diseases that affect the cotton plant and the effects of such diseases. Pathology research is aimed at developing crops which are resistant to these diseases or ways of reducing the effects of such diseases on crop performance.

e) Facilitation for Value addition cotton

Addition of value to cotton involves all processes of transforming seed cotton into other cotton products along the value chain as illustrated in Appendix V. Support to value addition by CDO mainly targeted to achieve the following objectives:-

Value addition objective	Activities/Strategies
To add value to all locally produced lint	CDO planned to achieve this through supporting crop financing for ginners, supporting establishment of additional spinning capacity, supporting establishment of additional textile industries, supporting financing for lint buffer stocks for textile industries, closely monitoring substitutes to local garments and providing remedies to threats caused by the substitutes to the local garments and supporting use of locally made fabric by uniformed government officials.
To produce quality linters	This would be achieved through establishing a regulation that requires all ginners to de-lint all seeds prior to selling, developing infrastructure to produce quality linters, and sensitising all stakeholders on potential industries for linters.
To locally add value to cotton seed	CDO planned to support financing for buffer stocks for cotton seed oil industries, lobby government to tax imported crude oil in order to increase demand for cotton seed, promote integration of cotton seed cake in animal seed manufacturing, support technology upgrade for processing cotton seed.
To add value to cotton stalks	This was to be achieved through sensitisation of stakeholders on potential industries, and supporting establishment of industries for processing cotton stalks into particle boards and other by-products.

4

CHAPTER FOUR

CHAPTER FOUR

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The Cotton Development Organisation undertook a number of activities aimed at promoting cotton production and addition of value to cotton produced by Ugandan farmers. During this audit, assessment of the various activities involved in the promotion of cotton production and value addition was undertaken and the following observations were noted:-

4.1 LEVEL OF COTTON PRODUCTION

According to the Cotton Subsector Strategic Plan 2010/11 to 2014/1510, CDO set out to achieve the following production targets in the years 2012/13, 2013/14 and 2014/15 as detailed in Table 2 below:

Table 2: Summarizing cotton production targets

Production target	2012/13	2013/14	2014/15
Production of lint (bales)	350,000	450,000	500,000
Cotton production acreage (acres)	265,000	298,000	310,000

From review of cotton production statistics and trends, it was noted that the above targets were not achieved. The level of lint production for the period under assessment is summarized in Table 3 below;

Table 3: Showing actual cotton production levels

Actual Production levels	2012/13	2013/14	2014/15
Production of lint (bales)	102,619	78,364	93,093
Cotton production acreage (acres)	187,500	130,000	216,400

OAG analysis of CDO production statistics and review of annual reports

From Table 2 and Table 3 above, CDO failed to meet its annual lint production targets by 247,381, 371,636, and 406,907 bales in 2012/13, 2013/14 and 2014/15 respectively. In addition, CDO failed to meet its target production acreage by 77,500 168,000 and 93,600 acres in 2012/13, 2013/14 and 2014/15 respectively.

10 The Cotton Sub-Sector strategic plan 2010/11-2014/15 pg. 24

Management attributed this to a continued decline of international cotton prices which affected the morale of the farmers to grow the crop. Similarly the unstable prices of the seed cotton demotivated farmers. In addition, there were challenges of weather patterns, emergence of new pests and diseases in 2013/14 and competition from other crops.

Through document review and interviews with management, audit established that the failure to achieve the desired cotton production levels for the subsector was also caused by:

4.1.1 Provision of production inputs (Fertilizers, Pesticides, Spray Pumps) and Extension Services

The Cotton Development Organisation partnered with the private sector, that is, ginners and exporters to provide additional support to the cotton subsector as a way of promoting cotton production. A review of the memoranda of understanding between CDO and UGCEA for the years 2012/13, 2013/14 and 2014/15 revealed that UGCEA agreed to provide up to UGX 56.28 billion worth of support to the sector from resources pooled by its members into the Cotton Development Fund as shown in Table 4 below.

Table 4: Showing funds from UGCEA

Period	Amount to be provided in UGX billion
2012/13	26.9
2013/14	14.98
2014/15	14.4
Total*	56.28

Source: OAG analysis of MoUs between UGCEA and CDO

* During the execution of the MoUs, physical inputs were provided instead of direct transfer of funds. Since this is a private sector arrangement, audit was not able to access records to confirm that the value of these inputs was equivalent to the amounts stated in the MoUs.

A review of the MOUs, cotton sub sector strategic plan, and OBT reports, revealed that quantities of key production inputs (pesticides, fertilizers and spray pumps) delivered were less than what was agreed upon. In addition, these quantities supplied were also not sufficient to meet the quantity of production inputs needed by sub sector as summarised in Table 5 below;
Details of the quantities of production inputs provided on an annual basis are detailed in Appendix VI

Table 5: Comparison of consolidated quantities of production inputs

	Pesticides (units) "000"	Fertilizers (Mt)	Spray Pumps (No. of Pumps)
Production inputs needed by the sub sector (A)	2,487	7,857	13,000
Planned quantities between CDO and UGCEA (B)	1,720	4,311	7,468
Actual quantities provided by UGCEA (C)	1,640	1,427	7,963
Shortage (A-C)	847	6,430	5,037

Source: OAG analysis of CDO Strategic Plan, MOUs between UGCEA and CDO, and OBT reports prepared by CDO

From Table 5, it can be seen that:

- Even with the support of UGCEA, there was still a shortage of 847,000 units of pesticides, 6,430 Mt of fertilizers and 5,037 spray pumps to achieve the input requirements of the cotton subsector as estimated in the strategic plan which directly affected the performance of the sector in achieving the desired cotton production targets. This shortage is explained by the fact that the production inputs provided by UGCEA are dependent on the resources that UGCEA can mobilise from its members to invest in provision of production inputs and not the broader cotton subsector targets detailed in the CDO strategic plan.

- In implementing the MoUs, CDO has no responsibility to contribute towards provision of these production inputs. Its role is limited to advising, supervising and coordinating procurement and distribution of these inputs. This implies that CDO has no direct control over the amount of production inputs provided and the resultant cotton production levels.

- Dependency on the Private sector for a key production activity such as provision of production inputs, risks the sustainability of the sector and enables the private sector to exercise influence over farmers and CDO. For example, in determining the farm gate prices, audit established that the formula used to compute the indicative farm gate prices produces a price that shields the ginners from the key production costs, namely, ginning costs, bank interests, loading and unloading charges, CESS fees, among others at the expense of the farmers, which affects the morale of the farmers to engage in cotton production. (The detailed formula of how farm gate prices are computed is attached in Appendix VII).

Management Response:

As a result of liberalization, farmers were expected to source for production inputs from private dealers and stockists while government took care of research and extension services. Production, however, stagnated at around 100,000 bales after 1996/97 season due to lack of access to inputs by farmers, especially pesticides and extension services, which had prior to liberalization been provided by government. The ginners who are the major stakeholders were left to support farmers during production since government had many other priorities. Although the quantities provided may be inadequate, at least the production inputs are available to farmers who choose to grow cotton. In addition, they are provided on time, and as close to farmers as possible on top of being provided at affordable prices.

Audit comment

Although this arrangement seems to be addressing the gaps created by liberalization, it does not provide a conclusive solution to the challenge of ensuring adequate supply of production inputs to meet the overall sector production input requirements.

4.1.2 Support to cotton research

A review of CDO annual reports in relation to research activities undertaken indicated that research objectives in relation to agronomy, entomology and pathology had to a large extent been achieved as detailed in Appendix VIII. On the other hand, breeding research had not produced improvements to the existing variety for every season as desired in the strategic plan and research work plans.

Underperformance of breeding research was partly attributed to absence of critical research personnel at NaSARRI for example seed breeder, a cotton entomologist and research assistants. In addition, audit noted that there was no clear coordination mechanism between

CDO, NARO and NaSARRI which are the key government agencies with the responsibility of ensuring that there is adequate research in the cotton subsector. Audit noted that these key players do not have mechanisms of joint planning, joint monitoring of progress, and information sharing. Each of the parties works in isolation given that they have different mandates. This led to poor performance of the existing varieties. Interviews of farmers and review of the minutes of a top management meeting held on 14th and 21st of January 2014 revealed that the variety planted during the period under assessment had deteriorated and had become less competitive.

This partly explains why CDO spent UGX 2.7 billion on importation of planting seed from Zimbabwe in FY 2014/15.

Management Response:

CDO takes note of the recommendation. To this effect, under the leadership of NaSARRI, pre- season stakeholders' workshops are organized annually to review work done, collect stakeholders' research needs and develop action plans for follow-on research. CDO has been participating in and sometimes providing some limited funding for these workshops.

Recommendations:

- MAAIF together with CDO should find alternative ways of empowering CDO to ensure that the overall sector production targets are set and underlying activities directly implemented and monitored by CDO rather than relying on the private sector
- Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) together with CDO should review this arrangement with the aim of finding alternative ways of filling the gap between the quantities of production inputs provided by UGCEA and the quantities of production inputs required to meet the broader cotton subsector production targets.
- Although CDO has provided some support towards research, CDO should strengthen the coordination between CDO, NARO and NaSARRI for effective implementation of activities related to cotton research.

Conclusion

The cotton production levels attained were below the sector production potential. Although management undertook interventions such as, partnering with the private sector to provide inputs, these interventions did not provide a conclusive solution to the challenges of access to production inputs by farmers which affected the output from the farmers, and the broader cotton production targets as spelt out in the CDO strategic plan.

4.2 SUPPORT TO INCREASED VALUE ADDITION TO COTTON AND ITS BY PRODUCTS

In order to improve the earnings of the farmers and dealers in the cotton products, CDO set out to support value addition to cotton and its by-products. This was mainly to be undertaken in the following areas:

- Addition of value to all the locally produced lint,
- Producing quality linters,
- Addition of value to cotton seed, and
- Addition of value to cotton stalks.

Table 6 below details the objectives, targets and performance of CDO in achieving the intended targets in relation to value addition

Table 6: Summarising performance of CDO in achieving value addition

Objective	Target	Observation
To support domestic value addition to lint.	To provide crop finance for ginners. At least 30% of the bales to be financed by government annually.	There is currently no crop financing for ginners and therefore this has not been achieved.
	Additional spinning capacity of 25,000 spindles annually.	A total 10,000 spindles has been added over the three year period under review.
	Lint buffer stocks of 25,000 bales per year.	A total of only 7,122 bales were procured in 2014/15.
To produce quality linters.	To establish one plant per season of brush de-linters and linter cleaners until there is one plant per region.	No plant has been established.
To add value to cotton seed	Provide cotton seed buffer stocks. At least 30% of the cotton seed to be financed by government every season.	This has not been achieved.
	Technology up-gradation of oil mills. At least 50% of the oil mills to be upgraded by government every season.	Although Government set out to provide technology up grade, technology upgrade for all the eight oil mills currently in operation was done by the individual millers.
To add value to cotton stalks	To establish cotton stalks processing machinery. One plant per season until there is one plant per region	No plant has been established.

Source: OAG analysis of the approved cotton sub sector strategic plan for 2010/11-2014/15

Audit established through document review and interviews with management that the failure to achieve increased value addition to cotton by products was attributed to:

4.2.1 Prioritization of the Cotton Sub sector

A review of the commodity approach strategy approved by Cabinet showed that cotton is not categorized among the key priority commodities for Government interventions. The commodity approach strategy guides investments addressing entire value chains for the priority commodities in which Uganda has a competitive advantage. These priority commodities are coffee, tea, maize, beans, rice, bananas, citrus fruits, fish, meat and dairy products. This has substantially affected the level of investment in cotton production and cotton related activities. A review of the allocations to the sub sector showed that CDO required government to invest UGX 22.8 billion, UGX 19.2 billion, and 12.7 billion in 2012/13, 2013/14 and 2014/15 respectively to implement the various interventions in the strategic plan, such as, support to the establishment of additional spinning capacity, and support to financing of buffer stocks for cotton seed oil industries. However, according to CDO financial records and annual reports, the sector received UGX 4.8 billion in 2012/13, UGX 4.1 billion in 2013/14, and UGX 4.7 billion in 2014/15 representing 21%, 21.3% and 37% of the required government investments for 2012/13, 2013/14, and 2014/15 respectively. As a result, many of the key proposed interventions needed to enhance value addition to cotton were not implemented.

Related to this, it was also observed that government developed the National Textile policy which was operationalised in 2009. The policy detailed interventions and incentives that would facilitate the development of the sector by attracting investments in Value addition. A review of the implementation of the proposed strategies revealed that most of the proposed strategies remained unimplemented. This was partly attributed to lack of resources to implement the interventions, and absence of coordination mechanism between the key government implementing agencies namely MoFPED, MTTI, MAAIF, UIRI and MoES. Appendix IX details the status of the implementation of the strategies proposed in the textile policy.

Limited support to value addition resulted into ninety five per cent (95%) of all the lint produced between 2010/11 and 2014/15 being exported without any form of value addition. This affected the profitability of the sector since the unprocessed lint fetched low prices. In addition to this, the cotton sector's earning potential for both farmers and dealers in cotton products were never realised as shown in Figure 1 and Figure 2 below. (Refer to Appendix X for details)

Figure 1: Comparing sector potential and actual earnings for farmers

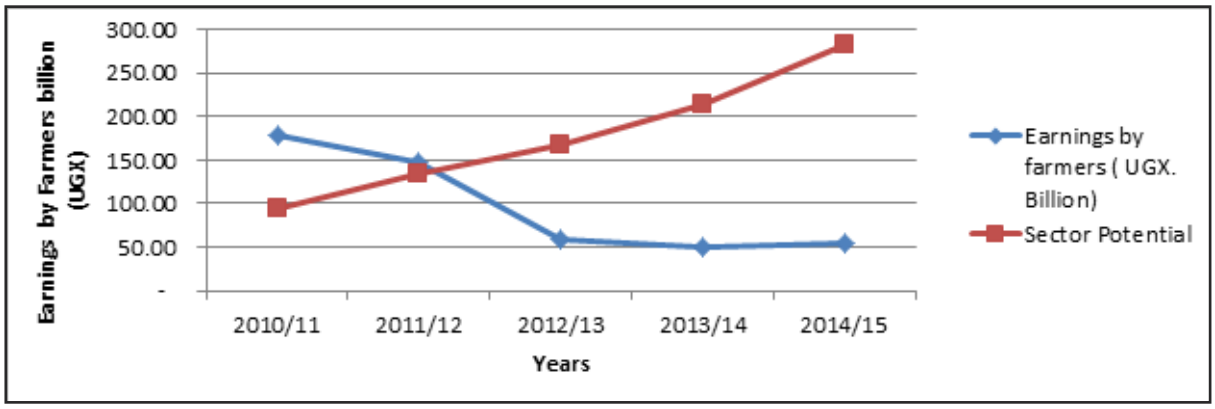
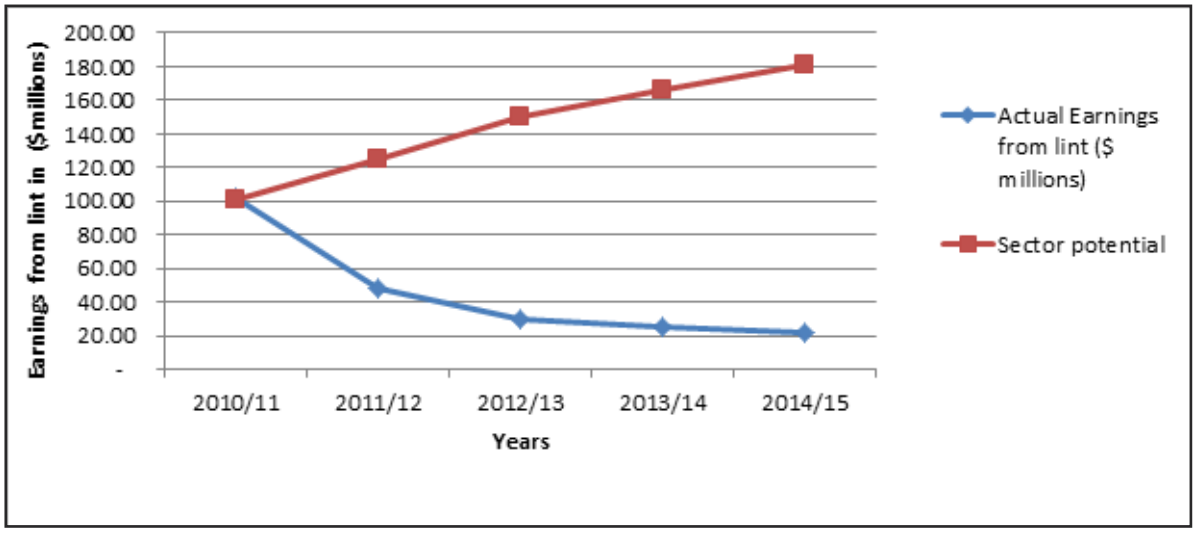


Figure 2: Comparing Sector potential and actual earnings from lint



Management Response:

Government needs to prioritize cotton at the highest level, and take deliberate steps;

- To source for serious investors in the cotton value addition chain for example using the Ethiopian approach which provides incentives for investments across the entire cotton value chain.
- And consider investing in a spinning mill (under a public private partnership) for production of cotton yarn to spur establishment of cottage industries especially for rural households including women and youth.
- To provide funds for lint buffer stocks to ensure all year supply of lint to local spinners given that the cotton crop season is only 6 months and in a liberalized market, ginners cannot be asked to hold stocks without payment. Lint buffer stocks will not be for competition with merchants of lint, since the ginners will sell off excess stocks beyond the requirements for the buffer. Secondly, buffer stocks will be an incentive to attract more investors in spinning resulting into sizeable value addition to Ugandan lint. Ultimately this would stabilize farm gate prices to the farmer, as savings in transportation of lint for exports together with increased revenue realized from sale of higher value-added products of cotton(locally and/or exports) would be channelled backwards to the farmer.

Recommendations

The government should revise its strategic approach towards the cotton subsector especially in areas of value addition. In the meantime, CDO should liaise with MoFPED, MTTI, MAAIF, UIRI, and MoES to expedite the implementation of the strategies detailed in the textile policy.

4.2.2 Management of cotton buffer stocks fund

In the 2010/11 to 2014/15 cotton subsector strategic plan11, CDO planned to support domestic value addition to lint through the establishment of lint buffer stocks. Consequently, in 2014/15 Government of Uganda through the MoFPED provided UGX 10 billion to CDO to constitute a revolving fund from which CDO would procure and store lint in buffer to ensure adequate supply and stability in the cotton price. The processors would therefore be able to purchase cotton lint at fair prices in periods of scarcity. The funds were to be used as detailed in Table 7 below:

Table 7: Approved guidance for utilisation of the buffer funding

Activity	Amount
Purchase of cotton lint (buffer stocks)	9,750,000,000
Rent for the store where the lint was to be kept	115,000,000
Consultancy fees for the firm to manage the stocks	100,000,000
Other associated expenses (Insurance and Travel inland)	35,000,000
Total	**10,000,000,000**

Source: OAG analysis of the authorization instruction from MoFPED for the supplementary funding

11 Cotton subsector strategic plan 2010/11 – 2014/15 pg. 27

From a review of the utilisation of the disbursed funds it was noted that:

- Out of the UGX 10 billion disbursed for the procurement of lint stocks, UGX 6.55 billion was used for procurement of the stocks and the related administrative expenses such as insurance, consultancy fees and rent. UGX 2.71 billion was reallocated and used for importation of planting seed from Zimbabwe, while UGX 0.74 billion was returned to the consolidated fund due to non-absorption.
  This implies that the revolving fund is currently worth UGX 6.5 billion (cash and stock) instead of UGX 10billion given that the funds amounting to UGX 3.5 billion was either returned or used for other purposes.
- It was observed that there was no proper needs assessment of what was the annual lint demand required for the buffer stock. The estimates used to arrive at the UGX 10 billion were based on the estimated demand requirements provided by one spinner. This explains why out of the 7,172 bales procured, only 2,750 (38.3%) bales have been consumed for a period of one year12. This unused stock continues to attract costs of insurance, storage and depreciation.
- There were no clear guidelines detailing how the disbursed funds were to be used. These guidelines would clarify who the beneficiaries are, how sale proceeds are managed, how procurements are done, and so on. This partly explains why part of the sales proceeds amounting to UGX 45.2 million was returned to the consolidated fund yet all sales proceeds were meant to replenish the revolving fund. Related to this, audit noted that despite expression of interest from other spinners, only one spinner benefited from the stocks.
- CDO paid for the lint bales at FOB13 prices quoted in dollars yet some of the costs were not justified for example freight or shipping costs since the lint was procured from ginners within Uganda.

Management Response:

In December 2014, Government at the highest level officially launched a new textile factory called Fine Spinners (U) Ltd located in Bugolobi. During the launch, the investor had raised concerns regarding availability of locally produced cotton lint given that the Uganda cotton marketing period was very short each year (January-May) and that all the lint was likely to be exported as no ginner would be willing to hold lint bales without payment. An investor in the textile sector who required lint bales for the entire year would have to purchase and stock a sizeable quantity of lint bales hence locking up their working capital in the stocks.

Government therefore gave an assurance to the investor –Fine Spinners (U) Ltd of a constant and stable supply of raw materials (cotton lint) to feed the factory throughout the year which resulted in Fine Spinners (U) Ltd writing to Government confirming that their one year demand would be 2,000Mt of lint. On this basis, the Ministry of Finance, Planning and Economic Development released UGX.10 billion towards the procurement and handling of lint buffer stocks for Fine Spinners (U) Ltd. The low utilization rate by Fine Spinners was caused by delays in shipment and installation of their machinery.

CDO together with stakeholders have developed detailed draft guidelines titled" Guidelines to vertically integrate textile millers interested in accessing the cotton lint buffer stocks". An initial review on the draft guidelines was done by the Ministry of Finance, Planning and Economic Development. Further, this was followed by a meeting between MOFPED, CDO and the stakeholders to improve on the draft guidelines. A final approval is being awaited from the MoFPED.

12 The computations were done on 15th November, 2016.

13 FOB (free on Board/ Freight on Board) means a price which includes goods plus the service of loading those goods onto a vessel at the seller's expense to an agreed/ specified point.

CDO has also proposed increased funding to buffer stock of UGX. 20 billion to cover other local spinners like Southern Range Nyanza, however, this has remained an unfunded priority in 2015/16 and 2016/17.

Audit comment

The authorization for the supplementary release of UGX 10 billion for purchase of lint buffer stocks indicated that the funds were meant to constitute a revolving fund from which CDO would procure cotton, and store in a buffer to ensure adequate supply and stability in the cotton price thus enabling purchase of cotton lint at fair prices by the processors in periods of scarcity. The authorisation letter also indicated that 2000Mt valued at UGX 10 billion was the estimated amount of cotton buffer stocks required to spur production and productivity in the cotton industry as assessed by CDO.

Recommendation

CDO should streamline the process of managing the cotton buffer stock fund including ensuring that the draft guidelines are expeditiously approved, and detailed needs assessment is done before replenishing the current stocks. CDO should also explore the option of having other ginners utilise the available stock before requesting for replenishment of the fund.

4.2.3 Installation of seed processing plant

CDO procured ginning equipment to install in the seed processing plant under construction in Pader district before completion of the plant. Consequently, UGX 240,734,596 was spent as clearing and storage charges for ginnery machinery which was not going to be immediately put in use. This expenditure could have been avoided and funds used for other activities.

This also exposes CDO to other indirect costs such as idle time associated with this machinery not being used, continued depreciation of the machinery, storage and insurance charges and non-utilisation of the warranty period in case there is need for repair or replacement of the machinery due to malfunction as a result of a manufacturer's defect.

Management Response:

CDO takes note of the recommendation. However, it is worth noting that at the beginning of the project, money was released but the initial activities related to acquisition of land took longer than had been anticipated due to the protracted processes of buying communal land in Acholi region. Therefore, in a bid to avoid withdrawal and loss of funds which had already been released, CDO undertook procurement of the machinery.

Recommendation

In future, CDO should endeavour to adequately plan to avoid incurring avoidable costs.

Conclusion

The level of value addition to Uganda's Cotton has remained very low due to non-implementation of interventions proposed in the strategic plan and the textile policy. Weaknesses in the facilitation of value addition identified should be addressed if the desired earnings for the farmers and dealers in cotton products are to be realised.

OVERALL AUDIT CONCLUSION

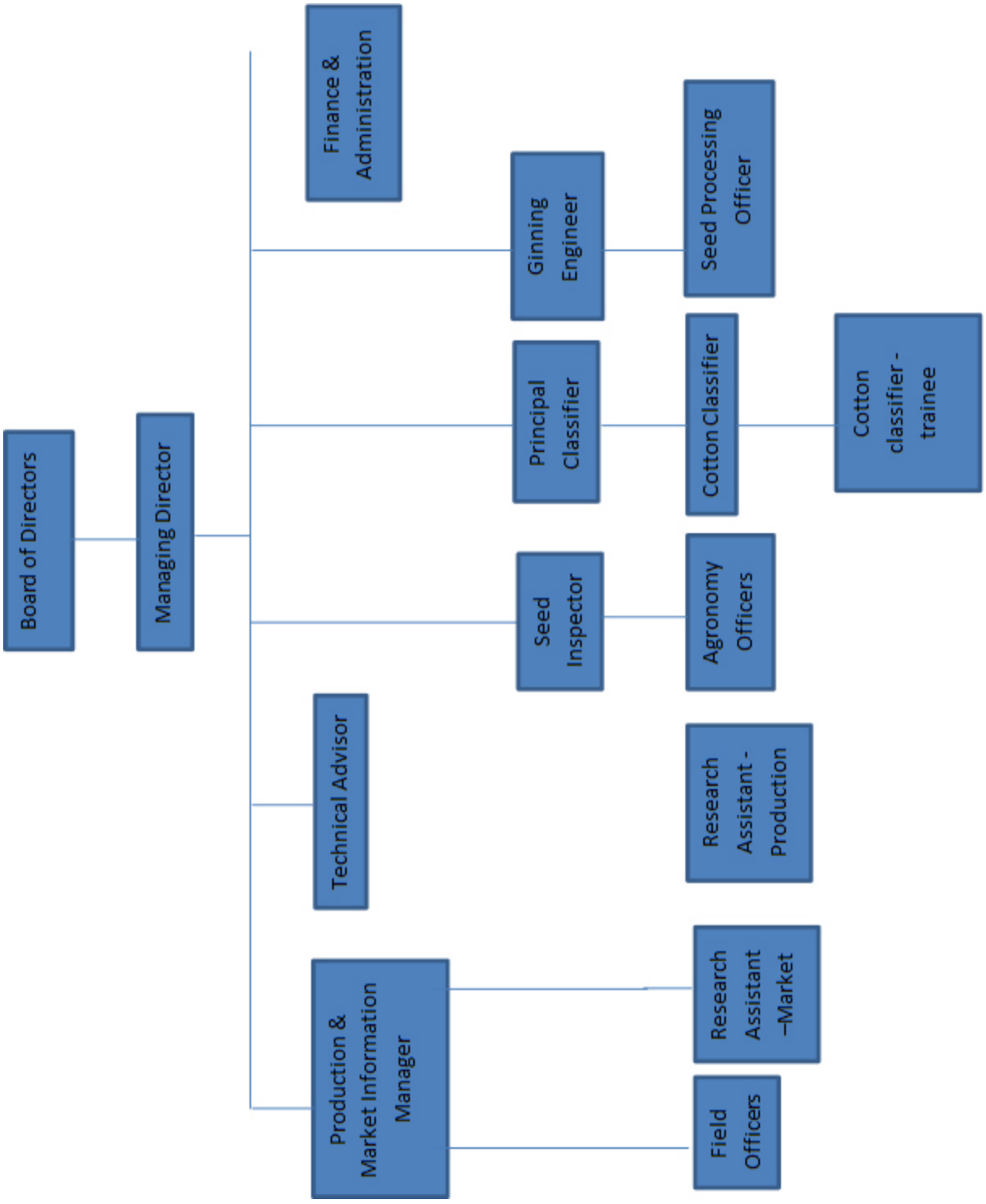
The Cotton sub sector has to a large extent not achieved its full potential in regard to cotton production and value addition to cotton and its by-products. The sector can however perform better and achieve its strategic targets if the weaknesses identified such as non-prioritization of the sector, inadequate supply of production inputs, among others are addressed.

GLOSSARY OF TERMS

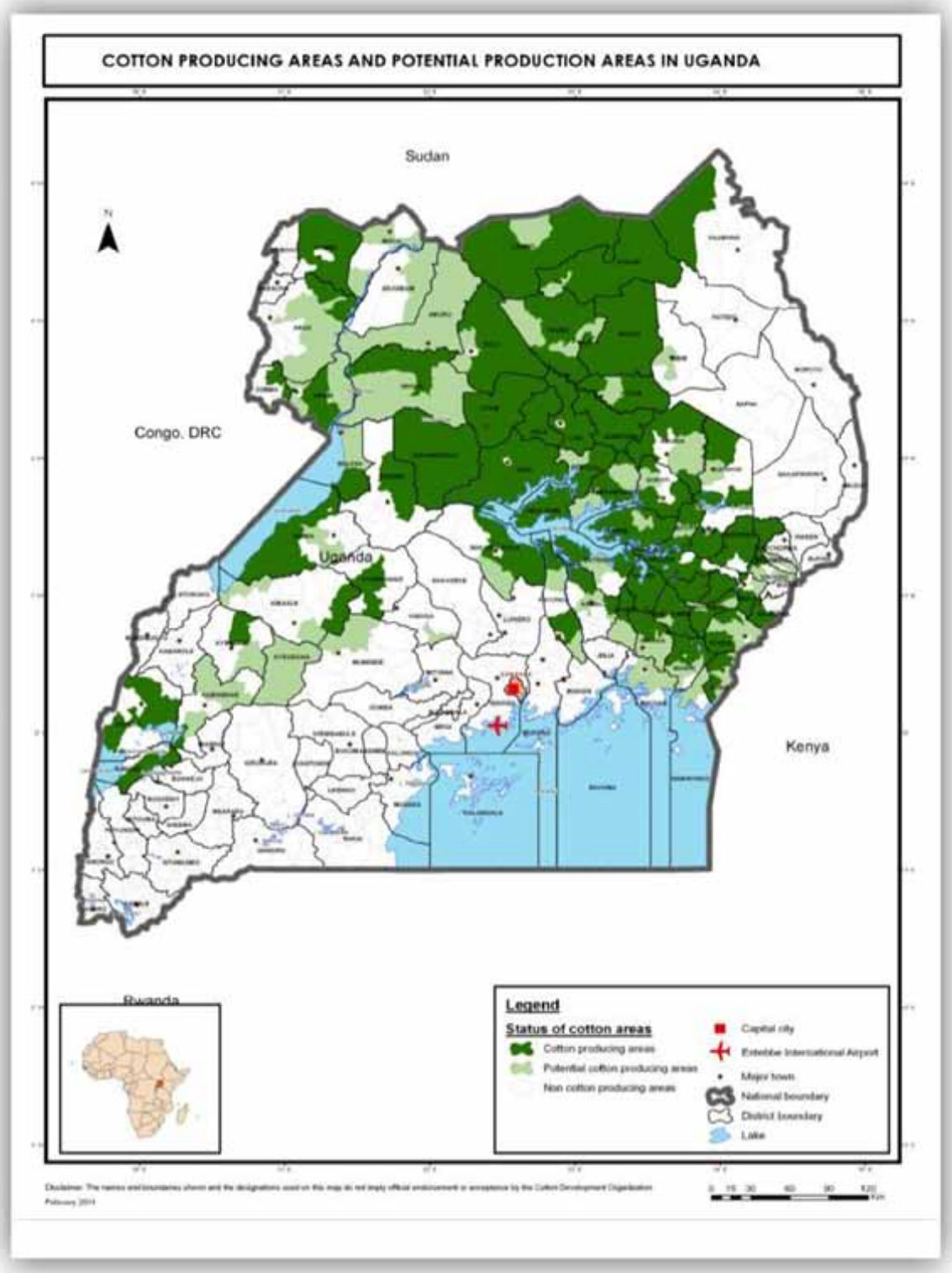
CESS	A levy on the value of sales ex ginnery of all lint cotton.
Cotton lint	Ginned cotton which has been removed either mechanically or chemically.
Cotton seed	Seed produced from seed cotton after ginning.
Farm gate price	The price received by cotton farmers.
Fibre/staple length	The Average length of a spinnable fibre
Foundation seed	Seed produced from breeders' seed or produced under the control of NaSARRI at Serere
Ginning	The process of separating cotton lint from cotton seed
Ginning Outturn	The ratio of lint/or seed produced from seed cotton ginned
Seed cotton	Cotton which is not yet ginned
Segregated areas	specifically selected areas used for seed multiplication

APPENDICES

APPENDIX I: Organogram



APPENDIX II: MAP OF COTTON GROWING AREAS OF UGANDA.



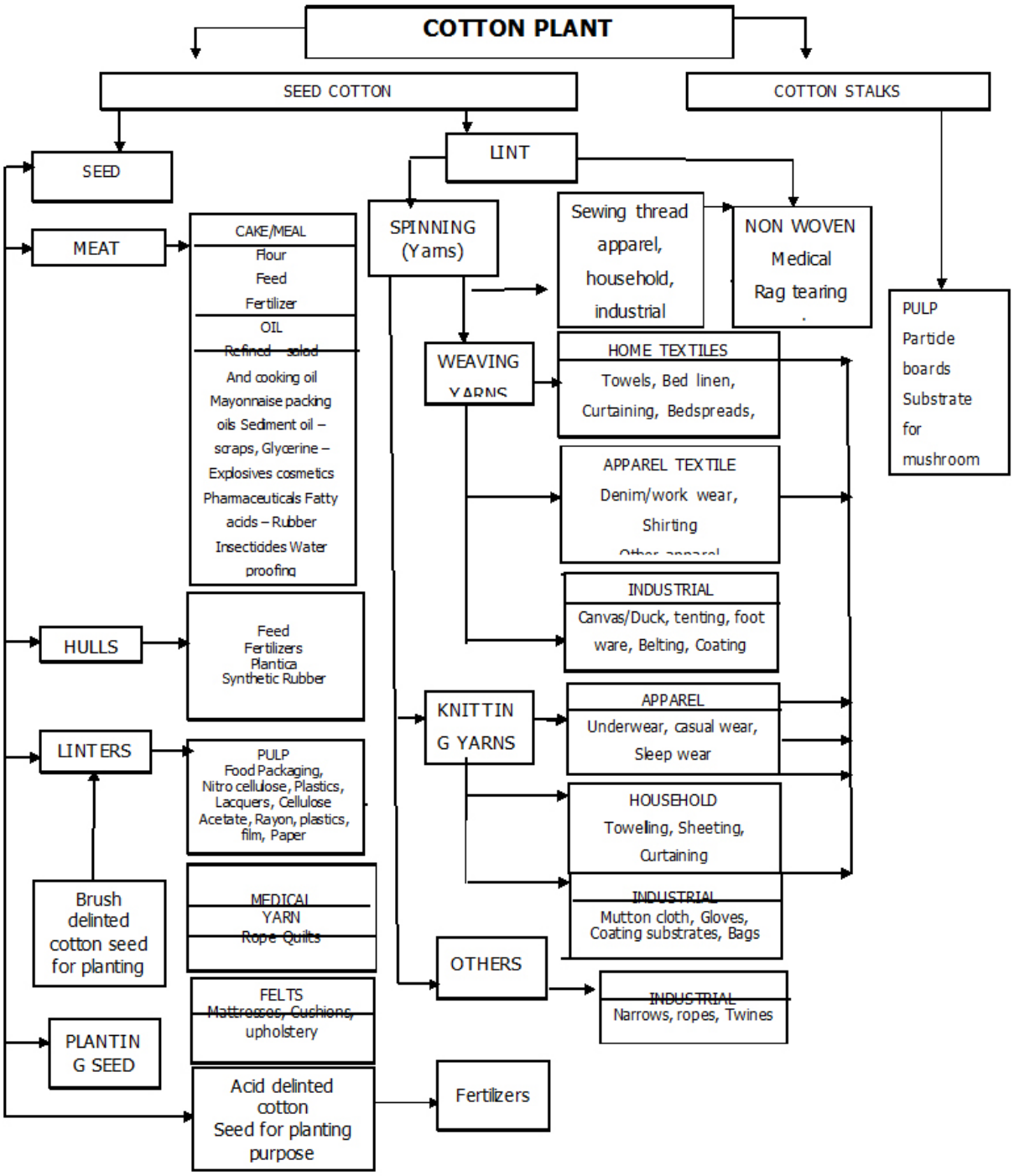
APPENDIX III: LIST OF PEOPLE INTERVIEWED

Position	Reason for interview
Managing Director	To understand the mandate and role of CDO in relation to the activities undertaken in the cotton sub sector, to understand the strategic interventions, and challenges of the subsector, and to understand the key processes and key stakeholders in the cotton sub sector.
Finance and Administration Manager	To understand the financial and administrative processes and activities of the Cotton Development Organisation.
Production and Market Information Manager	To understand the processes of Cotton Production, Processing and Marketing of cotton.
Seed Inspector	To understand the processes of seed breeding, seed multiplication, seed certification and seed distribution.
Ginning Engineer	To understand the processes of Ginnery inspection, certification and computation of the Ginning Outturn
Research Technical Advisor	To understand activities and processes undertaken in conducting research and investigations to develop and improve cotton varieties, agronomical practices, cotton breeding and control of pests and diseases
Principle Classifier	To understand the processes in relation to grading and classifying of cotton
Farmer groups	To ascertain the provision of services by CDO to the farmers and to collaborate information from document review
Ginners	To understand the processes of cotton ginning, challenges faced by the ginners and the role of the ginners in the promotion of cotton growing in Uganda. .
Heads of Regional Offices	To corroborate information obtained from other interviews regarding production, processing and marketing of cotton.

Appendix IV: List of documents reviewed

Document Reviewed	Purpose of the Review
Statistical Abstract 2015	To assess the cotton industry statistical performance.
The Cotton Development Act	To assess the role and mandate of CDO
Procurement files	To ascertain if the various procurements undertaken by CDO were done following the PPDA requirements.
UGCEA write up	To ascertain the role and functions of UGCEA
Ministry Policy statements and budgets, and work plans FY 2012/13,13/14, and 2014-15	To determine CDO funding as well as annual goals/ plans
CDO annual reports	To establish CDO's annual performance
Annual performance reports from Output Budgeting Tool (OBTs)	To establish CDO'S quarterly performance and output
Quality and Marketing of Cotton Lint in Africa - World Bank Working Paper.	To establish the type and performance of west African cotton
2014 West Africa Cotton and Products by USDA	
The cotton sector of Uganda – An Africa Region Working Paper Series No. 123 by the World Bank	To establish the history of Uganda cotton industry, the problems faced and interventions.

Appendix V: Showing the Ugandan cotton value chain



Appendix VI: Detailing planned and actual volumes of key production inputs

Period	Pesticides (units) '000'			Fertilizers (Mt)			Spray Pumps (Pumps)		
	CDO Planned	UGCEA Planned	Actual Procured	CDO Planned	UGCEA Planned	Actual Procured	CDO Planned	UGCEA Planned	Actual Procured
2012/2013	663	700	700	2,385	75	915	5,000	5,000	5,000
2013/2014	894	420	250	2,682	255	250	5,000	2,000	2,000
2014/2015	930	600	690	2,790	3,981	262	3,000	468	963
Cumulative Total	2,487	1,720	1,640	7,857	4,311	1,427	13,000	7,468	7,963

Source; OAG analysis of the Cotton sub sector strategic plan, MOU signed between CDO and UGCEA and the OBT reports produced by CDO.

APPENDIX VII: SHOWING FORMULA FOR COMPUTATION OF AVERAGE FARM GATE PRICES.

	VARIABLE	REFERENCE	AMOUNT	UNITS
	International Price of Lint announced in Liverpool	(A)	XX	USD/lbs
less:	transportation to the Port	(B)	(XX)	USD/lbs
	price of Lint FOT	(C)	XXX	USD/lbs
	conversion of Lint from USD/ lbs to USD/kg [C/0.453259]	(D)	XX	USD/kg
	conversion of Lint from USD/ kg to SHS./kg [D X Spot exchange rate]	(E)	XX	SHS./kg
	conversion from LINT to SEED COTTON [E/3] unit price of a kg of seed cotton	(F)	XXX	SHS./kg
add:	Ex - ginnery price of seed	(G)	XX	SHS./kg
less:	Cess levy (2% per kg)	(H)	(XX)	SHS./kg
less;	Ginning costs	(I)	(XX)	SHS./kg
less:	Bank Interest (Ginners Cost of Capital)	(J)	(XX)	SHS./kg
less:	Ginners' Transport cost	(K)	(XX)	SHS./kg
less:	Bokers' commission	(L)	(XX)	SHS./kg
less:	Loading/unloading charges	(M)	(XX)	SHS./kg
	AVERAGE FARMGATE PRICE		XXX	SHS./kg
	Standard conversion rates			
	1 pound = 0.453259 kgs			
	3 kgs of seed cotton = 1 kg of Lint			

APPENDIX VIII: DETAILING PERFORMANCE IN ACHIEVING RESEARCH TARGETS

YEAR	RESEARCH TYPE	OBJECTIVE	OUTPUT	ACHIEVEMENT/ PERFORMANCE	AUDIT COMMENTS
2012/2013	Agronomy	To determine effective agronomic options that enhance soil fertility for increased cotton production	Effective agronomic options that enhance soil fertility for increased cotton production identified	Two intercropping systems were designed evaluated and demonstrated to farmers. A number of fertilisers were also tested and results evaluated	Annual targets Achieved
	Breeding	To develop drought tolerant cotton varieties with high yield and fibre qualities to meet market demand	Drought tolerant cotton with high yield and fibre qualities (Medium to long) developed and released	No cotton variety was released to farmers although a number of varieties were evaluated.	Partially achieved since no variety was released
	Entomology	To identify effective pest management options for the control of cotton bollworms, lygus bugs and strainers.	Effective integrated pest management options for control of wilt disease in cotton is identified	Surveys were conducted and evaluations conducted. There was also use of alternative host crops as baits for management of lygus bugs. Evaluation of the effectiveness of organic and inorganic pesticides was done.	Annual targets Achieved
	Pathology	To determine effective integrated disease management options for the control of wilt disease.	Effective integrated disease management options for control of wilt disease in cotton identified	Surveys were conducted, samples of cotton wilt plant collected and seed dressing chemicals were tested	Annual targets Achieved

2013/2014	Agronomy	To identify effective soil management options that enhance soil fertility in cotton cropping system.	Effective foliar fertilizers identified for improvement of cotton yield. Effective cover crops for soil improvement under cotton production	6 foliar fertilisers were tested on cotton Use of cover crops for soil improvement was evaluated	Achieved
	Breeding	To develop cotton varieties with long fibres, tolerant to drought, insect pests and wilt diseases.	Drought tolerant cotton with high yield and fibre qualities (Medium to long developed and released)	6 potential cotton varieties were identified and selected as promising cotton varieties for further evaluation.	Partially achieved since no variety was released
	Entomology	To identify effective options for management of prevalent pests (bollworms, lygus bugs and strainers) and wilt diseases in cotton production system.	Integrated pest management options for cotton lygus bugs, bollworms and strainers generated.	Database for cotton pests and their distribution was generated Two broad spectrum pesticides used to control pests were evaluated	Annual targets Achieved
	Pathology		Effective integrated disease management options for control of wilt disease in cotton identified.	Two new seed dressing chemicals were used and generated more seed cotton	Annual targets Achieved

2014/2015	Agronomy	To determine effective agronomic options that enhance soil fertility for increased cotton production	Soil fertility amendments that enhance cotton productivity identified. Foliar fertilizers that enhance cotton productivity identified	Four rates of Tithonia were applied and evaluated using two methods at NaSARRI Foliar fertilisers were tested and evaluated.	Annual targets Achieved
	Breeding	To develop drought tolerant cotton varieties with high yield and fibre qualities to meet market demand.	Cotton with long fibre, high yield and tolerance to wilt disease. Nucleus and foundation seed produced	15 newly constituted cotton lines were evaluated Produced 176kgs of clean and graded nucleus seed was produced and supplied to CDO for further multiplication.	Annual targets Achieved
	Entomology	To identify effective pest management options for the control of cotton bollworms, lygus bugs and stainers	Most effective synthetic and bio pesticides for the control of bollworms, lygus bugs and stainers in cotton identified.	Six synthetic pesticides and 2 bio pesticides tested in laboratory and in the field. Results were evaluated.	Annual targets Achieved
	Pathology	To determine effective integrated disease management options for the control of wilt disease	Effective seed dressing chemical for the control of wilts and other seedling diseases in cotton identified.	Four new seed dressing chemicals were tested and their effectiveness evaluated.	Annual targets Achieved

Appendix IX: Status of implementation of the key proposals of the textile policy

Objective	Main activities to achieve the out put	Status of Implementation	Responsible Agency	Reasons for non-implementation (cases where the strategies were not implemented)
To improve the local Business Environment	To amend the Income Tax and Value Added Tax Acts to enable new vertically integrated textile mills investing US$ 25 Million in plant and machinery, using local cotton as the key raw material and the existing operational mills to be accorded the following incentives: • 10 years Corporation Tax Holiday. • 5 years Value Added Tax exemption on all in-puts/raw materials.	Vertically integrated Textile Mills have benefited from the VAT and Import Duty interventions. The only challenge is that both benefits are annualized which complicates investment decision taking that require Policy certainty for a longer period.	MFPED, MTTI	
	To mainstream and provide annualized technology up gradation funds for the textile sub-sector in the sums of US$ 5 Million that should be availed to commercial banks/ Uganda Development Bank for on-ward lending to vertically integrated textile mills doing cotton value addition at a maximum 10% interest rate per annum in Uganda Shillings to enable further mills rehabilitation and value addition.	This has not been achieved. The investors were advised to apply for the wider agricultural incentive credit facility under BOU. Government also provided funding for all industrialists under UDB at a Minimum of 10-12% interest rate.	MFPED	The challenge is that UDB is still under funded which is why no textile mill is yet to partake of the concessional credit under UDB.
	To pay for electricity charges beyond US$ 5 Cents per KWH for vertically integrated textile mills for a period of three years or until the Bujagali Dam power is available on the national grid(whichever fall fast).	This has not been achieved. However, Government in principle agreed, but to start with the next financial year. when it is anticipated that refinancing of Bujagali Energy Limited shall have been completed	MFPED	
	To establish a revolving Cotton Buffer Stock Fund of US$ 3Million per annum managed by Uganda Development Bank/intermediating commercial banks that shall avail to millers cotton finance at 1-3% interest per annum to enable textile millers buy cotton lint without blocking business working capital throughout the year. The cotton financing shall be managed under a Collateral Management Regime by a reputable international firm to ensure accountability and sustainability.	MoFPED provided UGX 10 billion to constitute the cotton buffer fund. Initially, it was Phenix Logistics that was benefiting, but the other two also started benefiting. At present, Fine Spinners is benefitting. Southern Range Nyanza Limited is yet to start accessing the cotton buffer stock though work is in progress to enable this in the course of 2017.	MFPED	

To strengthen textile subsector support institutions	To transform the Textile Development Agency (TEXDA) into a fully-fledged Garmenting, Fashion and Design Vocational Training Institute based on a Public Private Partnership Model working with Textile Manufacturers Association of Uganda (TEMAU) as the lead private sector Agency targeted to training at least 100 technicians (87% of the SME Garmenting Operators are women) per annum to bridge the skill gap prevalent in the sub sector at present.	This has not been achieved. However, the Agency has been getting support from the Ministry and COMESA in terms of equipment for training, capacity building for their staff and has been training the textile garmenting youth and women since then.	MTTI, MFPED	
	To improve funding for the lead agencies for the textile sub sector development. Such lead agencies include UNBS, UEPB, UIRI, Department of Textile Technology, Faculty of Science, Kyambogo and Busitema Universities.	To some extent this has been done. UNBS got funding and they built their own home including laboratories. UEPB and UIRI have all improved financing for their operations. Kyambogo university has been getting funding from MoES and well as Busitema University, which got support through Uganda Millennium Science Initiative MSI Project	MTTI, MFPED & MES.	
To increase the raw materials supply bas	To support private sector commercial cotton farming	This has not been achieved. Instead, the CDO has innovated and organized ginners to support extension services provision to farmers/farmer groups which presently remain the back bone for cotton production in Uganda. GoU has also incentivised the Army and Prisons to grow cotton. The two institutions are now the largest cotton growers in Uganda, by acreage	MFPED & MAAIF	
	To support the silk and other fibre production and processing	A Silk project in Bushenyi has been supported to some extent, but needs further funding.	MAAIF	
	To support new technologies in the area of fibre research and development as the case is for the banana fibre textiles	Research has been going on under UIRI, where some other products from the banana fibre have been developed.	MTTI, MAAIF, UIRI, MES	It needed more funding to get to the Banana fiber textiles

To Strengthen Domestic Market Development	To amend the Public Procurement and Disposal of Public Assets Act with the view to supporting the "Buy Uganda-Build Uganda" sourcing strategy.	In 2014, the PPDA Law was amended to provide for reservation and preference schemes. The Reservation Scheme is presently being processed for the mandatory local sourcing of textiles requirements in Uganda. It is expected to be out in January 2017.	MFPED & MTTI,MFPED	
	To support the introduction and mainstreaming of School Uniforms provision to all children attending Universal Primary and Secondary Education (UPE& USE) in Uganda.	This has not been achieved as provision of Uniforms remains an obligation of parents under the Education Act. It is though anticipated that the PPDA Reservation on Uniforms shall gradually be broadened to demand that all Uniforms be sourced locally by the parents.	MFPED, MTTI & MES	MoES was still rolling out the Universal PE &SE. Lack of resources.
To enhance Human Resources Development	To strengthen the existing institutions offering textile science and technology courses such as Busitema and Kyambogo Universities, TEXDA training Institute to conduct courses in textile technology, fashion, textile design and international marketing and merchandising.	Busitema University and TEXDA got some support through projects to strengthen their textile training facilities. In respect to human resources not yet done	MTTI, MFPED, MES	All the three institutions still need more capacity building.
	To support and fast track the strategic idea of COMESA establishing and owning a World Class Regional Training Centre for Textile Technologists with the support of the University of North Carolina at Busitema University.	Partly COMESA has supported TEXDA with equipment and conducting training programs. For North Carolina, not yet.	MFPED, MTTI	There is need for an MOU to be signed, which will handled next year 2017

To support a Regional Cotton – Textile Subsector Development Strategy	To continue negotiating and promoting Uganda's membership to key trading blocs based on the principle of mutual benefit with the trading partners	This has been on going, such as AGOA, COMESA and EAC.	MFPED, MTTI,	
	To promote Uganda as an attractive investment destination and establish economic zones necessary for the attraction of foreign direct investment in the sub sector and cluster based enterprises	This has been partially achieved	MFPED, MTTI	
	To lobby other Partner States within the EAC/COMESA for the creation of a regional approach to the development of the textile sector through the review of the present Common External Tariff Structure "sensitive" categorization of textile imports into EAC so that a minimum dutiable value of US$ 5 Dollars per Kilo of textile imported into EAC is established on which a 70% Import Duty should be charged to mitigate the excesses of gross under valuation of imports from especially Asia that distort global textile trade, which, coupled with export incentives given to exporters in Asia undermine competitiveness of Sub Saharan textile manufacturers.	Discussions have been going on over the matter. It is anticipated implementation to start next year 2017, following the EAC Summit pronouncement that Second Hand Clothes be phased-out gradually. A comprehensive strategy that supports optimal development of the CTA value chain in EAC is being developed at EAC Level.	MTTI, MFPED	

APPENDIX X: A) COMPARING SECTOR POTENTIAL AND THE ACTUAL EARNINGS BY FARMERS.

Period/Season	Earnings by farmers (UGX. Billion)	Sector Potential	Variance
2010/11	179.06	95.40	(83.66)
2011/12	148.10	133.56	(14.54)
2012/13	59.83	166.95	107.12
2013/14	49.84	214.65	164.81
2014/15	54.27	283.50	229.23
Average	98.22	178.81	80.59

Source; OAG analysis of cotton subsector production statistics for 2010/11-2014/15

APPENDIX X: B) COMPARING SECTOR POTENTIAL AND THE ACTUAL EARNINGS FROM SALE OF LINT

Period/Season	Earnings Value from lint ($ millions)	Sector potential	Variance
2010/11	101.91	100.37	(1.54)
2011/12	47.94	125.46	77.52
2012/13	30.19	150.55	120.36
2013/14	25.08	165.60	140.52
2014/15	22.04	180.66	158.62
Average	**45.43**	**144.53**	**99.10**

Source; OAG analysis of cotton subsector production statistics for 2010/11-2014/15

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