

Competitive Supply Side Analysis Of
Cotton, Textile & Apparel Sectors In
East Africa-Kenya, Sudan, Tanzania and
Uganda



African Cotton and Textile Industries Federation



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wazir

Intertek

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We would also like to acknowledge the inputs provided to us by about 100 industry stakeholders during primary research work in target countries covering ginners, spinners, textile mills, garment manufacturers, associations, support institutes, government bodies, etc. without which the report would not have accomplished the study objectives.

Abbreviations

ACTIF	African Cotton and Textile Industries Federation
AGOA	African Growth Opportunity Act
ASAL	Arid and Semi-Arid Lands
Bn	Billion
BPA	Bukalasa Pedigree Albar
CAGR	Compounded Annual Growth Rate
CDE	Centre for the Development Enterprise
CDO	Common Development Organization
CODA	Cotton Development Authority
CSR	Corporate Social Responsibility
CTA	Cotton, Textile and Apparel
CTDP	Cotton and Textile Development Programme
EAC	East African Community
ECGA	Eastern Cotton Growing Area
ELS	Extra Long Staple
EPA	Economic Partnership
EPZ	Export Processing Zones
EPZA	Export Processing Zone Authority
EU	European Union
FOB	Free on Board
FOT	Free on Truck
FBGs	Farmer Business Groups
GDP	Gross Domestic Product
GM	Genetically Modified
GOT	Ginning Out Turn
IARI	Ilonga Agricultural Research Institute
ICA	International Cotton Association
IMF	International Monetary Fund
IRCC	Industrial Research and Consultancy Centre
KAMEA	Kenya Apparel Manufacturers and Exporters Association
KARI	Kenya Agricultural Research Institute
KEBS	Kenya Bureau of Standards
KEPHIS	Kenya Plant Health Inspectorate Service
LDC	Least Developed Country
LZARDI	The Lake Zone Agricultural Research Development Institute
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
Mn	Million
MT	Metric Tones
MTTI	Ministry of Tourism, Trade, and Industry
MUB	Manufacturing Under Bond
MFPED	Ministry of Finance, Planning & Economic Development
NAADS	National Agricultural Advisory Services

NACRRI	National Agricultural Crop Resources Research Institute
NaSARRI	National Semi-Arid Resources Research Institute
NARO	National Agriculture Research organization
NCSF	National Cotton Stakeholders Forum
NEMC	National Environment Management Council
NGO	Non-Government Organization
NPT	National Performance Trial
R&D	Research and Development
RLDC	Rural Livelihoods Development Company
RVP	River Valley Project
SADC	South African Development Community
SATU	Serere Albar Type Uganda
SCCL	Sudan Cotton Company Limited
SCIA	Sudanese Chambers of Industries Association
SEZ	Special Economic Zones
T&A	Textile and Apparel
TBS	Tanzania Bureau of Standards
TCA	Tanzania Cotton Association
TCB	Tanzania Cotton Board
TEMAU	Textile Manufacturer Uganda
TOSCI	Tanzania Official Seed certification institute
TPRI	Tropical Pesticides Research Institute
UDC	Uganda Development Corporation
US	United States
USAID	United States Agency for International Development
USD	United State Dollar
WCGA	Western Cotton Growing Area

Executive Summary

African Cotton and Textile Industries Federation (ACTIF), which is a not for profit regional industry/trade body, with the support of Centre for the Development of Enterprise (CDE), proposed to get a comprehensive supply side analysis done for the Cotton, Textile and Apparel sector of 4 East Africa countries – Kenya, Sudan, Tanzania and Uganda. Intertek (Mauritius) and Wazir Advisors (India) as a consortium were selected through a competitive bidding process as Consultants to conduct this study.

The purpose of the study is to analyse the existing supply chain, identify potential regional strengths (product emphasis) and weaknesses, identify gaps in the institutional structures and communication channels and make recommendations for promoting the sector. Another major objective of the study is to provide a source of information for buyer/seller matchmaking to grow exports and encourage regional integration.

The project involved a combination of primary and secondary research, data analysis and interpretation, which was followed by strategy formulation. Primary research was conducted in target countries of Kenya, Uganda, Tanzania and Sudan with the assistance of local consultants. The discussions with various stakeholders were held using the structured questionnaires and/or discussion guides.

After completion of the primary and secondary research, the data was collated and analysed to present an overall picture at the country and regional level. In addition to providing factual industry trends and insights, we have also presented our own interpretation, recommendations & key insights about the sector. On the basis of collected facts and figures, we have analysed and brought out the underlying reasons for issues and recommended strategies to address the same.

Findings of each of the countries have been summarised below:

1. Kenya

Cotton sector in Kenya is characterized by a large number of small holder farmers in the Eastern zone comprising Coastal, Eastern and North eastern regions and Western zone comprising Nyanza, Rift Valley and other western regions. Cotton exports from the country are almost negligible; rather most of the domestic requirements are met through import of cotton from neighbouring countries like Tanzania and Uganda.

Domestic spinning and weaving capacities have reduced drastically from ~ 52 mills in 1983 to about 6 mills currently. This is due to the failure of country's cotton sub sector, large scale imports of intermediate products as well as imports of second hand clothing, high production cost and poor infrastructure.

The garment sector of Kenya is principally driven by exports to the US under the African Growth and Opportunity Act (AGOA) initiative. There are ~170 large scale garment manufacturing units operating in Kenya today. In 2010, garment sector remains the dominated sector in EPZ which constituted 29% of all EPZ enterprises, 78% of total EPZ local employment, 56% of EPZ exports, 52% of total EPZ sales and 30% of all EPZ private investment.

Country's trade data shows that Kenya has been a net importer in T&A sector since 2005. Share of T&A exports in country's total exports have declined gradually from ~11% in 2005 to ~6% in 2009 and share of T&A imports in country's total imports have declined from ~17% in 2005 to ~7% in 2006 and it is consistently at ~7% thereafter. Kenya's exports consist of Women's woven suits, jackets, knitted jerseys, pullovers whereas imports constitute worn clothing and woven fabric of synthetic filament yarn. USA is the leading market for Kenya whereas China is the leading supplier.

Major challenges faced by the industry include high costs of doing business related to power and fuel. The existing costs of borrowing are also very high at ~16-18% which makes it difficult for the sector to bear high costs. In addition, the formalities for loan approvals, requirements for collaterals and other documentation are also intense. Current machineries / technology in use are very outdated in the textile sector, which further adds to the costs of manufacturing. Sector is currently facing lack of new investments for upgrading technology. There are huge imports of second hand clothes in the country which is posing a big threat to the economy.

There is a huge requirement of enhancing the skills of people to increase their efficiency levels. The current infrastructure provides for few such institutions which have limited capacities. There is a significant need to promote training institutions and support such programs with necessary infrastructure and train a large number of trainees each year in line with the sector demand.

There is a lot of scope for making value added products particularly for the export markets such as adding embroidery, sequins, other style/design elements. This will bring in incremental revenue to the sector and will also lead to more employment creation and skill enhancement.

2. Sudan

Cotton provides an important livelihood for an estimated 200,000 cotton growers and their families, in addition to employing seasonal labour during harvest time. Cotton is grown in Sudan under both irrigated and rain-fed modes of production. The majority of Sudan's extra-long staple cotton is grown in the Gezira irrigation scheme. While the scheme is government managed, tenant farmers decide which areas and varieties to plant. In recent years, more than half of Sudan's cotton exports have been Barakat, which requires a longer growing season but earns more at export.

Country's overall trade statistics show that Sudan was a net importer till 2006 but in 2007 exports surpassed imports and the same trend was seen till 2009. The CTA sector exports have decreased since 2005 from US\$ 0.08 bn to US\$ 0.03 bn in 2009. Share of CTA exports in country's total exports also declined from 1.5% in 2005 to 0.4% in 2009. On the other hand CTA imports have witnessed increase from US\$ 0.27 bn in 2005 to US\$ 0.42 bn in 2009, thus registering a compounded growth of 12%. Share of CTA imports in country's total imports has increased from 4.4% in 2005 to 6.1% in 2009.

Cotton fiber accounts for almost 98% of Sudan's CTA exports whereas imports constitute Men's woven suits, jackets, women's knitted suits, dresses, etc. Egypt is the leading market for Sudan whereas China is the leading supplier.

The major challenges faced by the industry are closure of large capacities, high cost of doing business and low utilization of manufacturing capacity and unavailability of finance. Technology is

another key area of concern which needs upgrading to enhance the competitiveness of the overall textile industry. Most of the cotton produced is exported out of the country. Farmers have shifted from cotton to other crops in last few years as a result of existing low prices and less demand at that time. This resulted in significant decrease in area under cotton cultivation and hence the cotton production.

3. Tanzania

Cotton in Tanzania is grown mainly on small scale farms by who own between 0.5 to 10 acres and grow mostly in the rain fed areas. Major production areas are the Western Cotton Growing Area (WCGA) and the Eastern Cotton Growing Area (ECGA). WCGA accounts for over 98% percent of production. Cotton production in Tanzania is largely meant for exports. Major importers of Tanzania's cotton are China, Indonesia, Thailand, Kenya, Portugal, Bangladesh, Vietnam and Pakistan. Initiatives have been taken to introduce contract farming to promote the industry.

The Tanzanian textile sector consists of two standalone spinning mill and several integrated firms. The industry spins mostly cotton yarns for both knit and woven fabric. A few fabric mills concentrate in making woven printed women khanga and kitenge; as well as yarn dyed woven kikoi fabrics, bed linen and home textiles. Most of these traditional fabrics are sold in Tanzania; a few exported in the surrounding countries; and limited amounts into some of the island states off the east African coast. Tanzania is the world's 2nd largest sisal producer. Tanzania has a number of sisal processors which spin/weave sisal and make products such as sacks, ropes, twines, mats, etc.

Country's trade data shows that Tanzania is a net importer in CTA sector, with net imports amounting to US\$ 0.23 bn. CTA exports have slightly increased since 2005 from US\$ 0.16 bn to US\$ 0.17 bn. However, share of CTA exports in country's total exports have declined gradually from 11% in 2005 to 8% in 2009. Tanzania mainly exports cotton fiber and home furnishing whereas imports constitute worn clothing and woven fabric of synthetic filament yarn. Kenya and India are the leading market for Tanzania whereas China is a major supplier to them.

Major challenges faced by the industry are too many disruptions in the power supply which lead to increased costs for the manufacturers. The borrowing costs for the sector are relatively high at ~15%. So, it becomes highly unaffordable for the manufacturers to borrow from the banks. The technology currently in use is highly outdated in all areas like ginning, spinning and weaving. Many mills have lot of dysfunctional machineries which is just lying with them for many years. There is huge requirement of modern technology and training people to operate these machineries, to improve productivity in the sector. There are huge imports of second hand clothes in the country which is posing a big threat to the economy. The present legal framework is not strong enough to prevent this practice.

The present workforce lacks the requisite skills and training to do the required job. There is requirement of skilled workers especially in areas like efficient farm practices, weaving and textile manufacturing. There is a huge requirement of enhancing the skills of people to increase their efficiency levels. The current infrastructure provides for very few such institutions with limited capacities and has few enrolments for the training facilities. There is a need for promoting these institutions (new and old), support these with the necessary infrastructure and churn out large no. of trainees each year.

Tanzania has limited value added services and 80% of the cotton produced in the country is exported without any value addition. Country offers huge scope for introduction of value-added services but requires additional manufacturing facility for that.

4. Uganda

In Uganda, cotton is grown in nearly every part of county and is entirely rain fed. It is grown on a regular basis by over 10,000 farmers. Over 90% of cotton is exported raw out of. Uganda's Cotton is among the most commonly produced and traded cotton variety in the world and belongs to the species *Gossypium birsidum*, accounting for 75% of world trade.

In Uganda, textile firms are mostly small or medium-sized. Mostly the capacities remain underutilized. These mills produce both clothing and cloth for sale on the local market. Most Ugandan textile mills do not produce large volume fabric orders, but rather concentrate on producing small runs of a variety of fabrics. Uganda's apparel sector largely consists of small, locally owned companies that produce apparel and uniforms for domestic and regional markets. Most of these apparel producers uses domestically produced yarn or fabric, or they import from Asia.

Country's trade data shows that Uganda is a net importer in CTA sector, with net imports amounting to US\$ 0.09 bn. CTA exports have declined since 2005 from US\$ 0.06 bn to US\$ 0.03 bn. CTA imports have witnessed increase from US\$ 0.07 bn in 2005 to US\$ 0.12 bn in 2009, thus registering a compounded growth of 15%. Share of CTA imports in country's total imports has consistently been at 5%. Cotton fibre accounts for 81% of Ugandan CTA exports whereas it imports mainly worn clothing and twines, cords. China is the biggest supplier to Uganda whereas the biggest export market is Indonesia.

Major challenges faced by the industry include high energy rates, while reliability of electricity service is also an issue. Also since the region is land locked, firms have to incur high internal and external transport costs. Textile sector manages to borrow funds at a very high finance rate ranging between 18-24%. Technology and lack of skilled workforce are other areas of concern which needs to be addressed to enhance the competitiveness of the overall textile industry.

Regional Level Analysis

Kenya, Sudan, Tanzania and Uganda together account for significant quantities of cotton production. This is sufficient to not only meet the domestic requirements but also export significant quantities. The cotton industry has been one of the key areas in these countries and significant population has been dependant on the sector for more than a century.

These regions enjoy preferential market access and their products can enter most of the world's richer economies free of any customs duties and with limited quota restrictions. Some of the trade agreements these countries have signed up for preferential market access includes African Growth and Opportunity Act (AGOA), Economic Partnership Agreement (EPA) with EU, East African Community (EAC) and others.

However, the industry suffers due to the use of outdated technologies particularly in ginning and textile manufacturing. The sector is dominated by smallholder producers with limited knowledge on crop and farm management practices, price and market trends, input procurement and supply trends which results in low cotton yield. There are issues with regard to the quality of cotton as it

has high contamination. The cost of doing business including high power costs and/or inadequate power supply and high costs of borrowing. Bankers are quite reluctant to lend loans to the CTA sector. Large scale import of second hand clothing has crippled the development of domestic market. Emergence of alternative cash crops, which are cheaper to grow but fetch higher returns than cotton in the major cotton growing areas, are also a threat for the sector.

Benchmarking

The four target countries are compared with the leading countries and benchmarked on some of the key parameters relevant for the industry. The idea is to understand world-wide best practices or some of the key initiatives undertaken by these countries to promote their respective industries. These indicators include:

1. Cotton Productivity

Kenya, Tanzania, Sudan and Uganda all have cotton productivity far less than the world average. Most of the large cotton producers globally have better productivity levels than these 4 countries. Australia has the highest cotton yield in the world. About 85% of cotton area in Australia is irrigated, which partly explains why the average cotton yield is high. Apart from fertile soil and a favourable climate, the high yields are a result of the national cotton breeding program and better farm management practices.

2. Fiber Contamination

ITMF's cotton contamination survey 2009 shows that among the target countries, contamination is a major issue with Sudanese cotton whereas Ugandan cotton is the better one. Degree of contamination varies a lot with growing area and farm practices. In general, cotton from India, Pakistan, Syria and some African countries are known to have higher contamination level than the world average, whereas cotton varieties of Australia, Brazil, China, Mexico and USA possess minimum contamination.

The major reasons for contamination are lack of awareness of the importance of reducing contamination, absence of QC procedures, manual picking, dirty storage environment, use of polypropylene (PP) and jute bags or wrappings, poor supervision, improper ginning process.

3. Value addition

Most of the cotton produced in Tanzania, Sudan and Uganda is exported out of the country in raw form. A major reason behind this is the absence of sufficient manufacturing capacities in the countries to consume cotton. In Kenya, the cotton exports are nil, but the cotton production volume there is also low.

Most of the large cotton producing countries have established capacities to consume maximum cotton within their own countries. Value addition opportunity is lost by exports of raw cotton, it also loses out on creation of extra jobs across the value chain – spinning, weaving or knitting, dyeing & processing and garmenting. For e.g., China's cotton exports have dwindled since the last decade and it is now the world's largest importer of cotton.

4. Technology level

The primary survey conducted for this assignment in all the four countries revealed a general lack of modern technology machinery for textile manufacturing. The reason behind non-upgradation of machines is lack of major new investments in the sector.

Many of large manufacturing nations address this issue by reducing the effective cost of investment thus encouraging the entrepreneurs to invest in the sector. For example in India, the flagship scheme of Ministry of Textiles, known as Technological Upgradation Fund Scheme (TUFS) provide an interest subsidy of 5 percentage points on the bank credit for modernization of ginning, textile and apparel companies. It also provides a capital subsidy of 10% or 25% on selected machinery for processing and technical textiles.

5. Logistics

In today's price and time sensitive markets, logistics holds the key to make or break an exporter's position in its target market. The intercity connectivity from port to manufacturing locations in target countries is satisfactory with lot of highway development happening all across. The issue sometimes is of paperwork and hassles at border post (from Uganda to Kenya) and delays for clearances at the ports itself.

6. Power scenario

There are two aspects related to power scenario of a country – cost of power and quality of power. In terms of cost of power, it is quite competitive in Tanzania whereas costs in Kenya are the highest amongst the target countries. The quality of power was reported satisfactory only in Kenya; whereas in other countries the availability was erratic and fluctuations were common.

The model followed by some of the countries to promote captive power generation to improve the power scenario is allowing manufacturers to produce, say hydro-based power at one place in the country, sell it to the main grid and purchase at its manufacturing location at same cost. Similarly some countries promote alternative power sources like windmills by providing appropriate incentives e.g. subsidies, accelerated depreciation, tax exemption, etc.

7. Business Financing

High cost coupled with low availability of business financing is one of the major issues in the region that has resulted in low investment in CTA sector.

The rate of interest charged by banks is more related to the macroeconomic environment of the country and policies. The effective rates to any sector may however be reduced by the Government by identifying it as a priority segment and providing interest subsidies on loans offered by banks to businesses in that sector.

8. Supply chain linkages

Kenya has a strong garment manufacturing capacity but no backward linkages within the country to support it. Uganda and Sudan produces cotton, but lacks further downstream processes. Tanzania has some capacities from cotton to fabrics, but lacks value addition in terms of fabric type as well as garment conversion.

For countries where substantial benefits for exports are available, it becomes important to have a complete supply chain as buyers prefer integrated supply bases. Importing yarn or fabric leads to higher costs, higher lead time and loss of employment opportunity.

9. Training and Education

Cotton, Textile and Apparel sector is one of the largest employment providers in developing nations. The sector has potential to employ manpower in significant quantum specifically at the start of value chain (farming and ginning) and towards the end (apparel manufacturing).

Countries like India have paid special attention to this aspect and have built up a strong education infrastructure, and also have launched several capacity building programs. There are also a host of schemes launched by various arms of Government for development of skills required in the textile sector.

10. Market development

The domestic market in all the target countries is dominated by imports of yarn, fabrics, finished goods and second hand clothing (except in Sudan).

For development of exports market, it is important to showcase the product range, manufacturing capacities, etc. to buyers who have not yet made inroads in the region. Such buyer-seller meets / programs are run all over the world by trade and government bodies. For example, in India there are 10 export promotion councils in CTA sector, entrusted with export market development of specific products.

11. Investment Promotion

Promotion of investments from domestic and foreign investors is a must for every country. All the target countries have investment promotion cell/department but these are not specific to CTA sector, such as Kenya Investment Authority (Kenya), Ministry of Investment (Sudan), Tanzania Investment Center (Tanzania) and Uganda Investment Authority (Uganda).

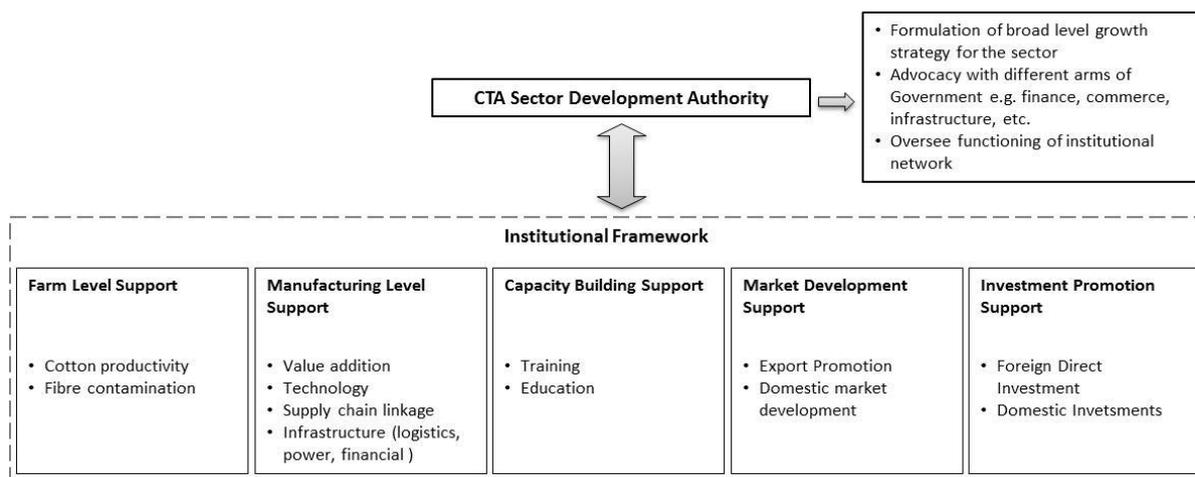
The initiatives undertaken by leading textile and apparel manufacturing nations to promote the sector includes organising Investor Summit and inviting large scale participation, allowing 100% FDI in the sector through automatic route (without pre-approval), improving investment climate through administrative streamlining, etc.

12. Government support

Government support in the target countries is very limited than what it should have been as the sector is of the strategic importance to the country as well as region.

Specific support to textile sector is provided by governments in China, India, Bangladesh and Turkey largely in the form of providing suitable infrastructure, incentives for investments in the sector, incentives for promoting exports, marketing support, single window clearance system, trade agreements with major suppliers and buyers, supporting research and development activities, etc.

However, in order to implement any intervention successfully, the utmost importance is of establishing strong institutions in the country to promote, plan and monitor the sector growth. In an ideal scenario, following should be the institutional framework for implementing various initiatives:



Recommendations:

Listed below are some of the strategic issues which need to be addressed keeping in mind the relative strength areas of each country and the CTA sector. Following recommendations are made for improving/strengthening the CTA sector performance:

S.no.	Objectives	Recommendations
1	Increasing cotton quality and yield	<ul style="list-style-type: none"> • Improve farm practices • Create awareness among farmers • Support R&D centers for introducing high yielding seeds • Promote contract farming on a larger scale • Offer more extension programmes • Exercise stringent quality controls at the ginning level
2	Promoting value addition in the sector	<p>Region has abundant cotton supply but the downstream industries i.e. textile and apparel manufacturing are limited. Value addition in the sector should be promoted by providing:</p> <ul style="list-style-type: none"> • Support schemes/fiscal incentives on value addition • Promoting clusters for doing value addition
3	Support for modernization and capacity expansion	<ul style="list-style-type: none"> • Interest subsidies shall be provided for upgrading machineries or installing new machineries • Textile & Apparel sector shall be classified as Priority sector and thus, increased lending to the sector should be a prime focus • Establish JVs with international partners
4	Improving skills of people through adequate training	<p>Introduce schemes for training and skill development and create a fund for implementing the scheme which will aid:</p> <ul style="list-style-type: none"> • Establishing new training centers • Establishing new training programs • Strengthening existing training centers • Linking existing centers with the Industry
5	Promote education in the field of textiles	<ul style="list-style-type: none"> • Establish new colleges for textiles • Link existing centers with the Industry • Update course curriculum regulatory as per industry requirements

		<ul style="list-style-type: none"> • Tie-up with other international colleges for student exchange/knowledge exchange programs
6	Improve existing infrastructure and rationalize costs of doing business	<ul style="list-style-type: none"> • Adopt cluster based development approach where suitable infrastructure is provided to the units operating within those and at reasonable costs • Various clusters should be identified by doing a detailed study and then promoted as 'Textile & Apparel districts' within the region
7	Initiatives to promote domestic market development	<ul style="list-style-type: none"> • Phase out supply of second-hand clothing from the market through appropriate policy interventions • Develop a mechanism to regulate flow of cotton to domestic market
8	Investment promotion activities	<ul style="list-style-type: none"> • Organize Mega Trade show in the region showcasing business opportunities in cotton and textile sector and facilitating buyer seller meets

1. Project Background and Objective

The cotton, textile and clothing exports from the East African nations (Kenya, Uganda, Tanzania & Sudan) into the EU market are almost negligible despite the potential of the region and the existence of trade agreements between EU and these Eastern African countries.

To promote trade in Cotton, Textile & Apparel (CTA) sector between East African region and the EU, the African Cotton and Textile Industries Federation (ACTIF), which is a not for profit regional industry/trade body, with the support of Centre for the Development of Enterprise (CDE), proposed to get a comprehensive supply side analysis done for the CTA sector of above mentioned four countries.

The study aims to accomplish following objectives:

- a) Provide a source of information for buyer/seller matchmaking to grow exports and encourage regional integration.
- b) Monitor growth (exports/employment trends).
- c) Identify potential regional strengths (product emphasis) and weaknesses.
- d) Identify gaps in institutional structures and communication channels.
- e) Provide a base for encouraging optimum use of existing R&D and Training facilities within the region.
- f) Explore the status and potential for each country to explore niche segments in the EU market through fair trade & bio cotton (organic) or equitable cotton production.

As a result of this intervention, ACTIF will be empowered to provide better services to its members and encourage trade linkages of Africa with the EU Market. This includes:

- I. Assistance to ACTIF to update the supply side information for developing linkages with the prospective buyers regionally and internationally.
- II. ACTIF will benefit by increasing its membership and developing linkages with potential regional and EU market buyers with an interest to import from its members.
- III. A comprehensive sector analysis report will help ACTIF to advise government and other agencies on the needs to develop exports.
- IV. Assist ACTIF to generate a sustainable plan for the growth of fiber to fashion value chain through Private Public Partnerships (PPP).
- V. ACTIF members stand to benefit from a sector supply side analysis which will establish the short comings of the existing suppliers and identify the needs for up gradation for the plants and machinery as well as capacity building to be able to access regional and international markets.

- VI. ACTIF members with a potential of increasing their exports or developing exports would benefit by understanding the demand and the procedures to enter the EU market.
- VII. The Supply Side Analysis Report will identify the gaps in institutional structures, communication channels & competitiveness.
- VIII. The report will also provide a base for encouraging optimum use of existing R&D and Training facilities within the region.
- IX. The report on Fair trade & bio cotton (organic) or equitable cotton production will enable ACTIF to draw up recommendations to its members for exploiting the niche segments within the EU market.

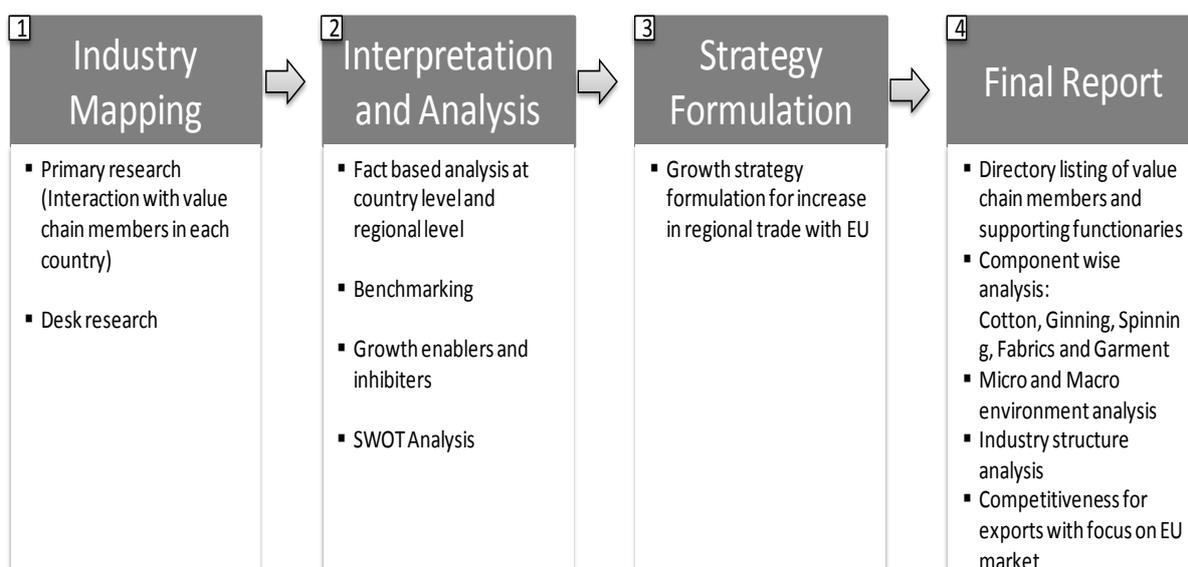
Intertek (Mauritius) and Wazir Advisors (India) as a consortium were selected through a competitive bidding process as Consultants to conduct this study. The Consultants, with the assistance of ACTIF, further appointed local consultants in each of the target countries to conduct deeper research in these regions.

2. Project Methodology and Timeline

2.1. Methodology

The project involved a combination of extensive primary and secondary research, data analysis and interpretation based on the following work-steps:

Figure 1: Project Methodology



2.1.1. Industry Mapping

A comprehensive mapping of the CTA sector in each of the four countries was done through extensive primary and secondary research work. The details are as follows:

Primary Research

Primary research was conducted in target countries of Kenya, Uganda, Tanzania and Sudan with the assistance of local consultants. The discussions with various stakeholders were held using the structured questionnaires and / or discussion guides (included in annexure).

The primary objective of these one-to-one meetings was to understand the current industry scenario, identify key issues the industry is facing from different perspectives (for e.g. ginner, textile mill, association, etc.), and identify some of the key initiatives taken by the industry, amongst others.

Following was the timeline for conducting primary research:

Table 1: Primary Research Timeline

Country	30 Apr	1 May	2 May	3 May	4 May	5 May	6 May	7 May	8 May	9 May	10 May	11 May	12 May	13 May	14 May	15 May	16 May	17 May	18 May	
Kenya																				
Tanzania																				
Uganda																				
Sudan																				

In addition to the above timeline, local consultants were in touch with the industry stakeholders on continuous basis for the entire duration of the project. Stakeholder interaction also happened over phone and emails, primarily for follow-ups.

The coverage of primary research was as follows:

Table 2: Primary Research Coverage

Country	Ginning units	Spinners	Weaving companies	Knitting companies	Process houses	Garment companies	Trade union	Investment promotion authority	Cotton board	Trade zones	Fashion house	University / Fashion schools	Trade association	Government bodies / ministries	Cotton merchant	Agriculture research institute	Bureau of standards
Kenya	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	
Sudan	✓		✓		✓	✓	✓		✓			✓	✓	✓			✓
Tanzania	✓	✓	✓	✓	✓	✓		✓	✓			✓		✓	✓	✓	
Uganda	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓

Secondary Research

An exhaustive secondary research was carried out for the target countries, EU market and leading global T&A exporters by studying a large number of documents and databases available online or otherwise, as mentioned in the section on sources of information. The review of existing literature also included country / issue specific reports provided by associations in target countries. The list of sources of information is included as annexure.

2.1.2. Interpretation and Analysis

Fact Based Analysis

The information and data collected through primary and secondary research was collated and analyzed to present an overall picture at the country and regional level. In addition to providing factual industry trends and insights, we have also presented our own interpretation, recommendations & key insights about the sector.

Benchmarking

Comparison of CTA sector of each of the target countries has been done with other major exporters (like China and India) to see the difference in terms of:

- Policy support
- Marketing approach
- Manufacturing capability
- Technology level
- R&D input
- Product offering
- Pricing
- Services

Growth enablers and inhibitors

The various growth enablers and inhibitors in each country are analyzed and discussed in length in respective sections, covering:

- Growth in demand of textile products in globally and EU
- Concentration of textile production activity in certain clusters
- Fluctuation in raw material price
- Adoption / emergence of new technology
- Competition from other nations
- Partnership Change in regulatory environment

Directory Listing

Directory listing of all the significant stakeholders across the value chain has been done comprising of ginners, spinning & weaving, processing, garmenting, etc. In addition to these, all the National associations or other important stakeholders, such as Government Ministries/departments and training/research facilities has also included in the directory listing.

2.1.3. Strategy Formulation

On the basis of collected facts and figures, we have analyzed and brought out the underlying reasons for issues and provided strategies to address the same at the country level and regional level.

2.1.4. Final Report

The final report containing all the information as specified in Terms of Reference for the assignment and our recommendations has been compiled in report form for submission.

The report is divided in two sections:

Section A – CTA Supply Side Analysis of Target Countries

Section B – Directory Listing

2.2 Project Timeline

The assignment has been completed on time following the timeline as mentioned in the original proposal, which was:

Table 3: Project Timeline

Activity	March	April	May	Jun	July
Project planning					
Secondary research					
Primary research					
Data Collation and Analysis					
Strategy formulation					
Final Presentation					
Final report submission					

3. Country Level Analysis

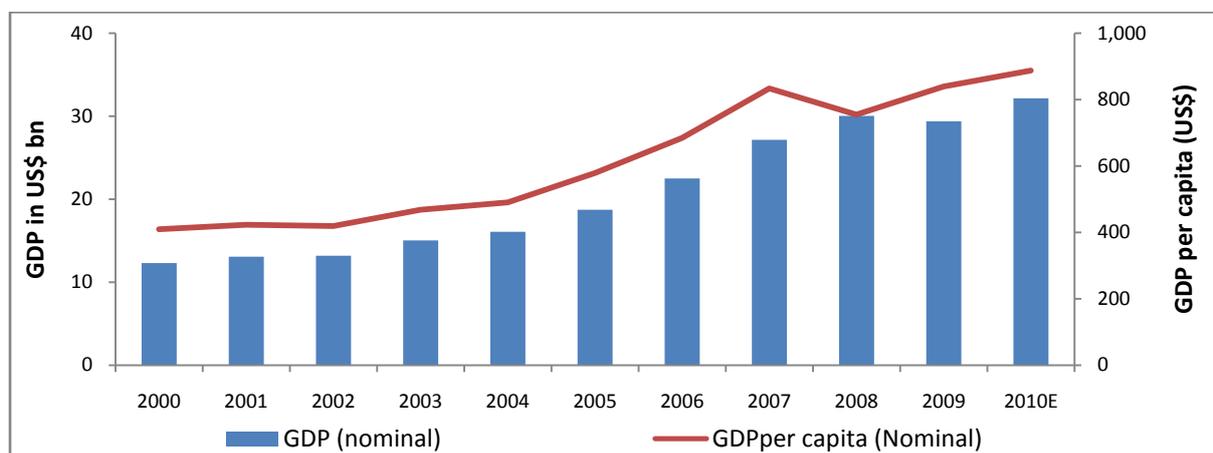
3.1. Kenya

3.1.1. Country Overview

Kenya is the regional hub for trade and finance in East Africa. Kenya's economy is market-based, with a few state-owned infrastructure enterprises, and maintains a liberalized external trade system. The country's economic prospects are positive with expected GDP growth of 4-5%, largely because of expansions in tourism, telecommunications, transport, construction and a recovery in agriculture.

The current size of Kenyan economy is US\$ 32 Bn (2010, nominal GDP). The per capita GDP is estimated at ~ US\$ 888 (2010, Nominal). The service sector is the largest contributor to economic activity, contributing ~62% to the GDP; dominated largely by trade hotels and restaurants, transport and communications.

Figure 2: Economic Snapshot, Kenya



Source: World Economic Outlook Database, IMF

3.1.2. Cotton, Textile and Apparel Sector Overview

Cotton was introduced in Kenya in the year 1902 by British Colonial administration. In the year 1953, Cotton Lint and Seed Marketing Board were established by the government whose major role was to undertake production, processing and marketing of the cotton sector. At the same time, the Cooperative Unions were also formed to handle primary activities like input supply and payment to the farmers.

Since Independence (1963), Kenya's cotton textile and apparel industry has gone through major phases. At the time of independence, the industry was dominated by the private ginners. Over the next ten years, Government provided a lot of support in the form of well organised marketing

system and timely payments. In addition to this, the Government also invested in number of textile mills which largely supplied to the large private apparel (garment) manufacturers.

Kenya's cotton industry was largely controlled by Cotton Board of Kenya till 1991. However, the government decided to liberate the sector in 1991 and allowed private investors to participate in the cotton sector. As a result of this, the government support started declining, and this subsequently resulted in the decline in cotton production.

Cotton is mainly grown in Arid and Semi-Arid Areas where there are limited economic activities. It is grown solely by small-scale farmers in Western, Nyanza, Central, Rift Valley, Eastern and Coast provinces of Kenya. An estimated 200,000 farmers grow most of the cotton on holdings of less than one hectare.

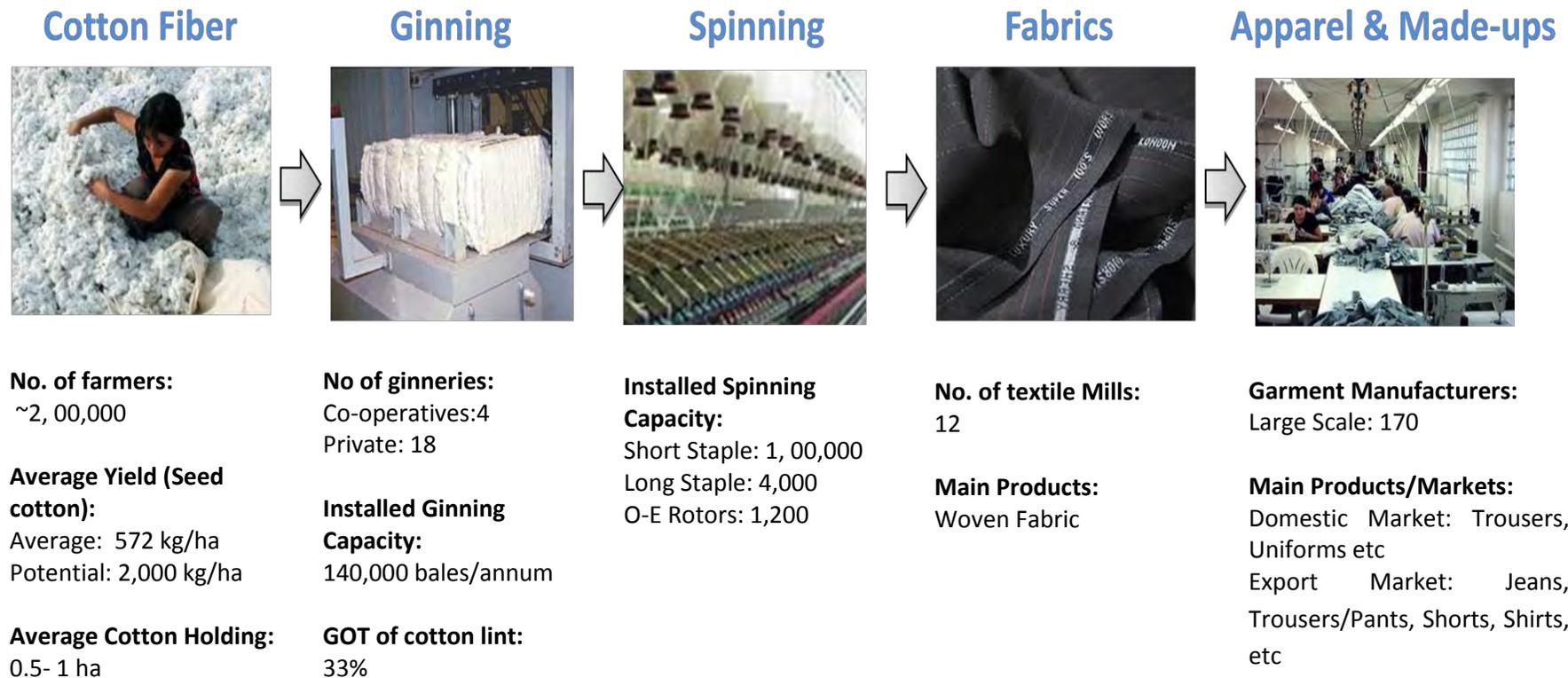
The sector faces certain challenges which include competition from the synthetic fabric, cheap imports of second hand clothes, high production cost, etc. Cotton production has shown a declining trend in the past two decades. However, it is slowly picking up after years of neglect and disillusionment among farmers.

Cotton is considered under the Country Vision 2030 and in the Government Medium Term Plan 2008-2012 as one of the most important industries to implement the long term Arid and Semi-Arid Lands (ASAL) development initiatives and industrialization strategy. The government is implementing revival initiatives of the sector that started in 2005.

3.1.3. Value Chain Analysis

3.1.3.1. Overview

Figure 3: Kenya's CTA Value Chain Overview



3.1.3.2. Cotton Fiber

The cotton sector in Kenya is characterized by a large number of small holder farmers. Eighty percent of Kenya's land area is Arid and Semi-Arid Land (ASAL) with limited economic opportunities for the communities in these areas. Cotton is among the few cash crops that flourish in the ASAL regions, and hence a major potential source of employment, income generation and food security. From the year 2005 to date the Government through the Ministry of Agriculture has continued to support the cotton sector.

Table 4: Cotton Sector Profile, Kenya

No. of farmers	~2,00,000
Average Productivity	<300 kg/acre
Seed cotton price paid to farmers	
Price in Currency	KES 35/kg cotton seed
Euro Equivalent	0.27 Euro/kg
Average Yield	
Current	253 kg/ha
Potential	2,000 kg/ha
Seed Planting Rate	15 kg/hectare
Variety of Cotton	Gossypium Hirsutum (American upland cotton)
Average farm size	0.5- 1 ha
Land Available for Cotton Production	43,000 ha

Exchange Rate used: Euro=130 KES

Source: Primary Research Findings

Production Statistics

In Kenya, cotton is currently grown mainly by small-scale farmers in Western, Nyanza, Central, Rift Valley, Eastern and Coast Provinces of Kenya. An estimated 200,000 farmers grow most of the cotton on holdings of less than one hectare.

Majority of the production takes place in the Eastern zone comprising Coastal, Eastern and North eastern regions. These regions contribute to ~85% of the production. While the Western zone, comprising Nyanza, Rift Valley and other western regions, contribute to about 15% of the seed cotton production.

Table 5: Regional Cotton Seed Production 2010, Kenya

Zones	Region	Area Planted (Ha)	Area Harvested (Ha)	Seed Cotton Production (Tons)	Price of Seed Cotton (KES/Ton)
Western	Nyanza	1,887	1,451	1,117	50,000
	Western	782	537	197	55,000
	Rift Valley	852	840	483	34,000
	Western Total	3,521	2,828	1,796	
Eastern	Coast	8,027	6,248	3,624	37,000
	Eastern	13,000	11,000	6400	37,000
	North Eastern	5	3	2	37,000
	Eastern Total	31,020	21,032	10,026	
	Grand Total	34,541	23,860	11,822	

Source: Cotton Development Authority, Kenya

Cotton Statistics (1990-2011)

Production was low, at <23k bales up to 2005 due to lack of incentives to growers in terms of prices, marketing system, credit and poor coordination of the sector. But due to government intervention in form of provision of seeds, chemicals, training, streamlined marketing system, etc., the cotton production gradually started increasing reaching to ~55k bales in 2011.

Significant improvement in yield is visible and has resulted in higher production. This has also lowered the dependence of Kenya's CTA sector on imported cotton.

The cotton imports have reduced over the years as the demand has remained more or less constant whereas the production has improved considerably. There are almost nil cotton exports from Kenya. In 2009 the mill demands were lower than previous years, but the production that year was even lower. The equation ultimately resulted in almost halving the country's cotton inventory.

Table 6: Cotton Balance Sheet (1990-2010), Kenya

Values in '000 (480-pound) bales

Year from Aug 1 to Jul 31

Year	Opening Stocks	Prod.	Import	Total Supply	Mill Use	Export	Ending Stocks	Harvested area (000) Acres	Yield Pounds/Acre
2010	8	49	5	62	50	0	12	104	226
2009	17	23	8	48	40	0	8	99	112
2008	13	46	13	72	55	0	17	106	208
2007	17	38	8	63	50	0	13	89	205
2006	15	46	11	72	55	0	17	82	269
2005	10	20	40	70	50	5	15	74	130
2004	10	20	40	70	50	10	10	91	105
2003	15	20	40	75	55	10	10	124	77
2002	25	20	40	85	55	15	15	124	77
2001	35	20	30	85	50	10	25	74	130
2000	40	20	35	95	50	10	35	136	71
1999	30	30	40	100	60	0	40	136	106
1998	20	30	40	90	60	0	30	136	106
1997	10	30	40	80	60	0	20	136	106
1996	10	25	35	70	60	0	10	136	88
1995	10	20	40	70	60	0	10	148	65
1994	15	15	40	70	60	0	10	99	73
1993	15	20	40	75	60	0	15	138	70
1992	15	20	35	70	55	0	15	138	70
1991	16	24	35	75	60	0	15	148	78
1990	15	26	37	78	62	0	16	151	83

Source: National Cotton Council of America

Planting Seasons

The growing seasons of cotton in Kenya is shown in the table below

Table 7: Cotton Planting Seasons in Kenya

	Eastern Kenya	Western Kenya
Sowing	October	March
Bottom crop	Jan / Feb	-
Main crop	July	Aug/Sep
Ginning period	Bottom crop – 1 month Main crop – 2/3 months	2/3 months

Source : Primary Research Finding

Cotton Characteristics

The cultivated cotton in Kenya is mainly of the American Upland type (*Gossypium hirsutum*). Currently there are two varieties of cotton grown in Kenya i.e. HART 89 M and KSA 81 M.

Cotton Grades

The main Quality and Grade measure for local cottons is by Grades A (AR) and B (BR); and Variety (HART 89M and KSA 81M). Grade AR is the higher grade of the Roller ginned cotton and BR is the lower grade of the Roller ginned cotton. All the cotton in the country is roller ginned.

Cotton Types

Currently there are two dominant varieties of cotton grown in Kenya:

Table 8: Kenyan Cotton Varieties

Variety	Length	Fineness (Micronaire)	Share	Growing area	Yield-rain fed Kg/ha	Yield- irrigated Kg/ha
HART 89M	28-29	3.8-4.2	60%	East of rift	2,500	4,000
KSA 81 M	28-29	3.8-4.2	40%	West of rift	2,000	3,000

Source: Cotton Development Authority

There are now over five new varieties of cotton that are undergoing national performance trials with Kenya Plant Health Inspectorate Service (KEPHIS).

Key Initiatives

Bt Cotton

Bt (*Bacillus thuringiensis*) cotton trials had been carried out in Kenya for last 5-6 years in confined fields by Kenya Agricultural Research Institute (KARI) with an aim to control African bollworm and make cotton pest control more efficient thereby increasing farmers return while conserving the environment. Bt cotton produces an insecticidal protein from the naturally occurring soil bacterium Bt making it insect resistant. This reduces the cost of production as no pesticides would be required.

The commercialization initiative has been carried out by various stakeholders to revive the cotton industry. Bt cotton technology would increase the productivity and hence would help boost the revival of the sector. It is expected to commercialize by 2014.

Organic Cotton

Organic cotton trials are being carried out in Kenya for last five years in Lamu. Gin in Kiboka processes organic cotton from Tanzania.

Certified Seed Cotton Production

In order to improve the cotton production and create employment, the CODA in consultation with the stakeholders convened a meeting to chart the way forward for cotton seed production in Kenya. Kenya Seed Company was identified as the most suitable seed

merchant for certified seed cotton production. The plan for implementation of Certified Seed cotton production for the next 3 years is given below:

Table 9: Implementation Plan for Certified Seed Cotton, Kenya

	2011		2012		2013	
	Western	Eastern	Western	Eastern	Western	Eastern
Area under certified seed	Plant 60 acres of breeders seed in June at Ahero.	Plant 1 acre of breeders seed in October in Hola/Bura	Plant 300 acres of pre-basic seed in Ahero/Perkera in March	Plant 200 acres of Standard seed in March in Hola/ Bura. Plant 100 hectares of breeders seed in October at Hola/Bura.	Plant 300 acres of basic seed in Ahero/Perkera in October	Plant 300 acres of pre basic seed at Hola/Bura in October.
Expected Yields (kgs)	72,000	1,200	360,000	240,000 (standard seeds) 120,000 (certified seed)	360,000	360,000

Source: Kenya Seed Company Ltd

Fair-trade Cotton

Fair-trade Cotton is a two year project which aims at improving the lives of small-scale cotton farmers in two of Kenya's poorest districts, Kitui and Mwingi. This project is funded by Comic Relief. It will enable small holder farmers in Kitui and Mwingi to increase their income from cotton by helping them in improving their production and linking them into a fair trade supply chain through a local ginnery. Guaranteed fair trade sales will mean farmers receive an increased and consistent price for their cotton and are able to improve their families' standard of living. In total, the lives of 2,500 farmers and their families (12,500 people) will be improved.

3.1.3.3. Ginning

There are 22 ginneries spread out in the cotton growing provinces in Kenya. Out of these only 10 are operational. The operating ginneries are - Meru Ginnery, Makueni Ginnery, Kitui Ginnery, Nyanza Ginnery, Salawa Ginnery, Ndeere Ginnery, Luanda Farmers' Cooperative Union Ginnery, Mwea Ginnery, Malindi Ginnery, Voi Ginnery and Mpeketoni Ginnery.

However, these ginneries are underutilized due to the low supply of seed cotton, which currently stands at about 25,000 MT.

The cotton co-operative societies own four cotton ginneries in Nyanza and Western provinces – Ndere, Nambale, Malaba, /Malakisi and Luanda. Three have been leased to private ginnery operators while only Nambale ginnery is operated by the cooperative society. The leased ginneries are

operational but underutilized and the unions are re-organizing themselves to repossess them. These ginneries are in poor state of maintenance. There are high costs associated with ginning in the country due to old machineries/equipments and low capacity utilisation.

Table 10: Installed and Operational Gins in Kenya

Province	Number of firms	Operational	Factory
Central	1	1	Mwea
Coast	5	3	Voi, Mpeketoni and Malindi
Eastern	5	3	Kitui, Makueni, Meru (1994)
RVP	1	1	Salawa (Rift Valley Products)
Western	4	0	Luanda on lease (A collection yard for RVP)
Nyanza	6	2	Nyanza and Ndeere (Operating but in a very poor state)
Total	22	10	1 cooper (Ndeere) & 9 privately owned

Source: Primary Research Findings

Out of the existing private ginneries, six were originally owned by the Cotton Board of Kenya (Mwea, Makueni, Kibos, Meru, Salawa and Hola) but were later sold to private entrepreneurs through divestiture in the 1990s.

Table 11: Ginning Sector Profile, Kenya

No. of Ginneries	22
Cooperatives	4
Private Investors	18
Annual Installed Ginning Capacity	140,000 bales
Ginning Equipment	Roller - medium to medium long staple cottons
Average GOT% for lint	33%
Capacity Utilization	17-31%
Price for cotton seed FOB/FOT ginnery	KES 35/kg cotton seed
Seed Cotton Storage capacity	25,253 MT

Source: Primary Research Findings

3.1.3.4. Textiles

During the year 1983, Kenya had 52 textile mills operating with an installed capacity of 115 million square meters per annum. After market liberalization in the early 1990's, there was a decline in textile and apparel industry. The reasons that contributed to the decline of the sector were an enormous import of textile products and garments and an increase in import of second hand clothing. Though the Kenyan Government reacted by imposing a duty on such imports, but the Government's efforts to limit the import of second hand garments and fabrics was a failure.

Other factors that aggravated the problem include the failure of country's cotton sub sector,

increased use of synthetic fibers and a worse operating environment in terms of high production cost and poor infrastructure.

Currently 80% of the domestic lint requirement is met through imports by yarn spinners and fabric manufacturers. Annual local fabric demand is over 225.0 million square meters and to meet this demand, about 200,000 bales of cotton are required annually which is for more than the available cotton. The average capacity utilization for the textile firms is less than 50% capacity and is likely to remain low unless local supply of lint, yarn and fabric is improved. At present, there are only six textile mills that spin and weave in the country.

Major products manufactured by the textile sector are listed below:

- For local and regional markets Woven fabric for blankets, acrylic yarn
- For export markets Organic cotton yarn, organic cotton knit fabric, yarn and fabric of cotton/manmade-fiber blends, thread

3.1.3.5. Apparel

The garment sector of Kenya is principally driven by exports to the US under the African Growth and Opportunity Act (AGOA) initiative. As of 2008, there are 35 large scale garment manufacturers exporting to the US of which 15 are located in the Export Processing Zones (EPZ), 7 enjoy Manufacturing under Bond (MUB) while 5 operate outside the EPZ and MUB.

It is estimated that there are 170 large scale and ~74,000 small and micro garment/apparel manufacturers operating in Kenya today. The range of apparel products for both local and domestic market includes the following:

- For local and regional markets Trousers, uniforms, overalls, vests, inner garments
- For export markets Jeans, trousers/pants, shorts, shirts, nightwear, blouses and dresses

The local production of garment accessories (zippers, buttons, etc.) is very limited in terms of variety and quality. Currently, most of the garment manufacturers import their accessories for finishing the product.

EPZ Apparel Sector

There has been a lot of emphasis by Kenya's Export Processing Zone Authority to promote and provide attractive investment opportunities for the export-oriented business ventures in the country. It also aims at employment creation and generation of foreign exchange earnings, technological transfer and creation of linkages with the customs territory in various sectors. One of the key sectors supported by EPZ is Garment and Textile sector. EPZ textile exports on average make up 80% of total Kenyan textile exports. According to the Export Processing Zones Annual Program report, 2010, garment sector remains the dominated sector which constituted 29% of all EPZ enterprises, 78% of total EPZ local employment, 56% of EPZ exports, 52% of total EPZ sales and 30% of all EPZ private investment.

Table 12: Garment Sector Performance, Kenya (2010)

(Values in US\$ mn)	Firms	Local Jobs	Exports	Sales	Investments
Garment and Support Services	22	24,137	179	186	78
Others	53	6,889	140	170	181
Proportion of T&A sector	29%	78%	56%	52%	30%

Source: Annual report EPZA

Exports of apparel articles have increased by 27% to US\$180 Mn in 2010 from US\$ 141 Mn in 2009. Investment on other hand registered an increase of 27% on account of the enterprises expanding operations and acquisition of new plant, machinery and equipment to meet the market demand.

Table 13: Garment Sector Trends, Kenya

Indicator	2005	2006	2007	2008	2009	2010	% growth (2009 -10)
No. of Enterprises	25	25	22	18	19	16	-16%
Employment (No.)	34,234	31,813	28,506	25,766	24,359	24,114	-1%
Investment (US\$ Mn)	99.5	102.8	82.1	74.8	54.2	68.7	27%
Exports (USD million)	145.1	147.1	136.0	156.2	125.4	159.9	24%
Quantity of exports (million pieces)	50.0	46.3	59.6	67.9	58.1	70.3	21%

Exchange rate used: 1US\$=80 KES

Source: Annual Report EPZA

3.1.3.6. Support Institutes

The various institutes that support the Cotton, Textile and Apparel sector are listed below:

Table 14: CTA Sector Support Institutes in Kenya and their Functions

Institutions	Main Functions
Cotton Development Authority (CODA)	The Cotton Development Authority (CODA) is a regulatory state corporation was established in 2006. The role of the authority is to promote, coordinate, monitor, regulate and direct the cotton industry in Kenya.
National Cotton Stakeholders Forum (NCSF)	An umbrella body which provides a forum where all stakeholders can discuss issues affecting them and has membership of farmers, ginners, spinners and weavers and textiles and garment manufacturers. It was formed to spearhead the revival of the cotton industry in Kenya.
Kenya Cotton Growers Association	An umbrella body of farmers with representation all over the country and aimed at lobbying for the formulation and implementation of favorable policies and laws for the cotton sub-sector.
Kenya Association of Apparel Manufacturers (KAMEA)	Represents interests of all manufacturers in the cotton textiles industry under the Textiles Manufacturers Association and includes spinners, textiles and garment manufacturers.
Kenya Cotton Ginners Association	Consists of Ginners and its main function is to provide support and lobbying for ginners.
Kenya Association of Manufacturers (KAM)	An umbrella body of manufacturers which provides an essential link for co-operation, dialogue and understanding with the Government by promoting trade and investment, upholding standards and representing members' views and concerns to the relevant authorities
Cotton Board of Kenya-Cotton Secretariat	Provides advisory services to farmers and ginners and a secretariat to the Cotton Ginners Association
Kenya Agricultural Research Institute (KARI)	Provides research and extension services to farmers
Kenya Bureau of Standards (KEBS)	Facilitate quality control and assurance

3.1.4. Sector Competitiveness

3.1.4.1. Raw material

Cotton production in the country as well as the land under cultivation has declined over the years. Most of the cotton is imported from neighboring countries of Tanzania and Uganda. Few initiatives have been undertaken for value added cotton such as trials are being conducted for organic cotton as well as Bt. Cotton.

3.1.4.2. Manpower

There is availability of manpower but the present workforce lacks the requisite skills and training to do the required job. There is huge requirement of skilled workers especially in manufacturing areas of spinning, weaving, processing and garmenting.

3.1.4.3. Power, Water & Fuel

Power supply is consistent in Kenya, however, the costs of power is relatively higher which leads to high costs of business. Likewise, water and fuel costs are also high adding to the total manufacturing costs.

3.1.4.4. Financial support

Majority of the industry players find it very difficult to borrow funds from the banks and other financial institutions. Even if they manage to seek funds, it is possible only at very high rates of interest (~16-18%) and thus, makes it unaffordable for the industry.

3.1.4.5. Market access

Kenya made textile and apparel products can enter most of the world's richer economies free of any customs duties and with limited/no quota restrictions. Some of the trade agreements that they have signed up for preferential market access includes:

- African Growth and Opportunity Act (AGOA)
- Economic Partnership Agreement (EPA) with EU
- Common Market for Eastern and Southern Africa (COMESA)
- East African Community (EAC)

3.1.4.6. Technology

The technology currently in use is outdated particularly in the areas like ginning, spinning and weaving. Certain mills have unutilized machineries owing to lack of functionality and efficiency. Machineries in the garmenting sector are relatively new and fully functional.

3.1.4.7. Industrial zones

The no. of gazette zones as at December 2010 stood at 42, of which 40 are privately owned and operated, while 2 are public owned and operated. About 75 enterprises are operating within these

zones and have made cumulative investments of US\$ 290 million. The location details of these 42 zones are listed below:

1. Athi River/Mavoko/Mlolongo	:	03
2. Nairobi	:	09
3. Mombasa	:	20
4. Voi	:	01
5. Kilifi	:	03
6. Kerio Valley	:	01
7. Thika	:	01
8. Isinya, Kajiado	:	01
9. Ruiru	:	01
10. Malindi	:	01
11. Eldoret	:	01

3.1.4.8. Research & product development

Research initiatives currently being undertaken are limited as there are very few such institutes. One such institute is Kenya Agricultural Research Institute (KARI) which does research on farm activities and exploring the possibilities of value addition and improvement within the existing fields.

3.1.4.9. Value addition

Currently, most of the products made are very basic in designs at the textile level as well as garments (finished product) level. There is very limited focus on value addition w.r.to designs, specialized finishes, embroidery, sequins, etc.

3.1.4.10. Compliances and CSR activities

Majority of the firms contribute to charities and make donations as part of CSR activities and also provide better working conditions at the work place to the labor force. Few firms located at far-flung areas/export processing zones have created provision for various facilities for employees' like crèche, employees' children education, canteen facilities, activity zones, etc.

3.1.4.11. Logistics and Business Costs

Kenya has its own port at Mombasa while most of the textile mills are located in the capital city of Nairobi. The overall procedure for customs clearance, documentation and processing takes lot of time causing delays in the shipment. The sailing time from Nairobi to China is ~25-30 days. The costs of doing business in Kenya are relatively high owing to high costs of power and interest costs. Details on each of the cost component are given ahead:

Table 15: Logistics and Business Costs, Kenya

Power Availability	Consistent
Power cost	US cents 20 / unit
Lending rate	16%
Water cost	US\$ 2 / cu. m.
Wage/ month	~US\$ 100
Own Port	Yes
Nearest port	Mombasa
Sailing time from China	17 days
Sailing time to US	25 days
Freight cost / container (20 ft)	Export - US\$ 2100 Import - US\$ 2200

Source: Primary Research Findings

3.1.4.12. Government Initiatives

The Government is providing targeted support to the smallholder farmers in form of provision of planting seeds as a food security measure, advisory service through extension service and cotton research. The Government through the Cotton Development Authority (CODA) has initiated measures like collaborative research, establishing input supply system etc., to improve competitiveness in terms of yields, quality, costs and logistics.

3.1.4.13. Domestic market

The domestic market is characterized by all sorts of dresses – T-shirts, jeans, office wear, skirts, shorts, etc. Lots of domestic manufacturers make work-wear garments which includes uniforms for corporate, schools, army people, etc.

Domestic market is affected by huge imports of second-hand clothing at very low prices. This has led to dependence on imported clothing and domestic producers make products mainly for the export markets.

3.1.5. Foreign Trade

3.1.5.1. Overview

Kenya is a net importer in T&A sector since 2005, with net imports (T&A) amounting to US\$ 0.43 Bn in 2009. T&A exports have declined since 2005 from US\$ 0.34 Bn to US\$ 0.25 Bn. Share of T&A exports in country's total exports have declined gradually from ~11% in 2005 to ~6% in 2009.

T&A imports have witnessed increase from US\$ 0.5 Bn in 2005 to US\$ 0.7 Bn in 2009, thus registering a compounded growth of 8%. Share of T&A imports in country's total imports has declined from ~17% in 2005 to ~7% in 2006 and it is consistently at ~7% thereafter. Kenya's exports consist of Women's woven suits, jackets, knitted jerseys, pullovers whereas imports constitute worn clothing and woven fabric of synthetic filament yarn. USA is the leading market for Kenya whereas China is the leading supplier to them.

Figure 4: Kenya's Overall Trade

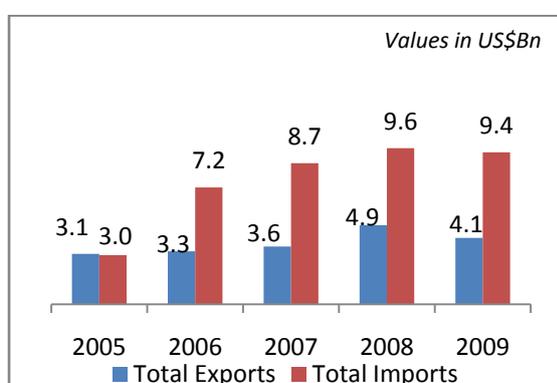
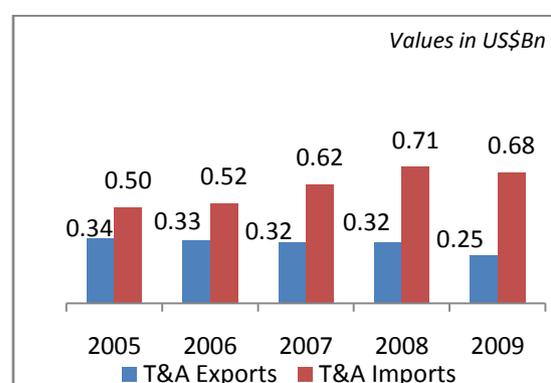


Figure 5: Kenya's CTA sector Trade



Source: UN Commodity Trade Statistics Database

Table 16: Key CTA Sector Export and Import Statistics, Kenya (2009)

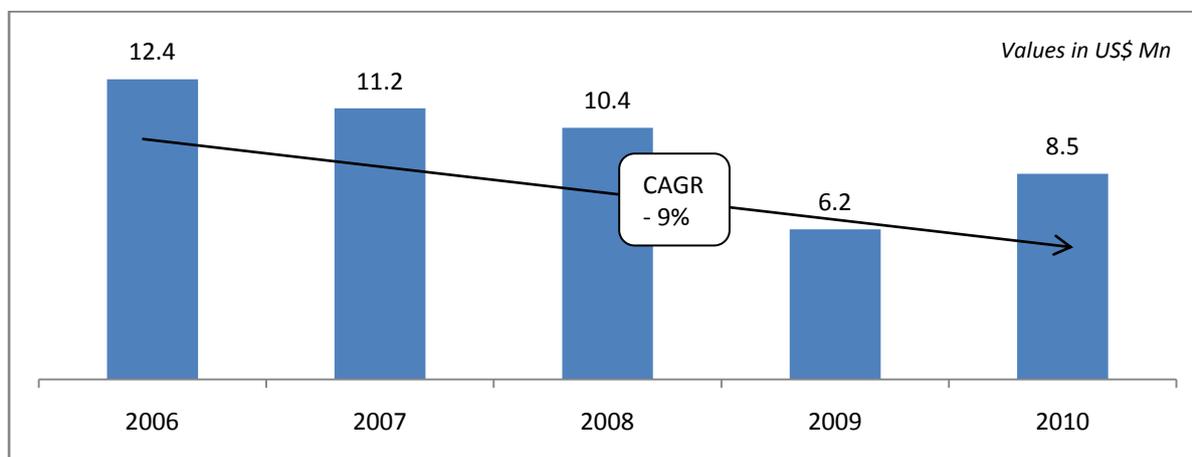
Top 4 exported commodities	65%	Top 4 imported commodities	39%
Women's woven suits, jackets etc.	27%	Worn clothing	13%
Knitted jerseys, pullovers, etc.	15%	Woven fabric of synthetic filament yarn	13%
Women's knitted suits, jackets etc.	13%	Woven fabric with more than 85% cotton, less than 200 gsm	8%
Men's suits, jackets etc.	11%	Linen	5%
Leading 4 markets	89%	Leading 4 suppliers	65%
USA	81%	China	38%
Uganda	4%	India	11%
China	2%	UAE	10%
Tanzania	2%	Hong Kong	6%

Source: UN Commodity Trade Statistics Database

3.1.5.2. Exports to EU

Kenya is a minor supplier of textile and apparel product to EU. Kenya's T&A exports to EU-27 during the year 2010 were valued at US\$ 8.5 Mn. The value of exports with EU-27 has been declining during the last 5 years.

Figure 6: Kenya's CTA Sector Exports to EU



Source: Eurostat

Table 17: Major Categories of EU imports from Kenya

	Values in US\$ Mn						
	2006	2007	2008	2009	2010	CAGR	2010 share
Other veg. fiber e.g. coconut, abaca, sisal, ramie, & their waste	5.5	5.2	6.4	3.2	3.2	-14%	38%
Sacks & bags	0.0	0.0	0.0	0.0	1.4	330%	16%
Linen	0.2	0.2	0.1	0.1	0.9	77%	11%
Cotton yarn, with >= 85% cotton	3.8	2.3	1.2	1.4	0.6	-34%	8%
Women's suits, jackets, dresses, skirts, shorts, etc.	0.0	0.1	0.1	0.2	0.5	71%	6%
Subtotal top 5 categories	9.6	7.8	7.8	5.0	6.7	-5%	79%
Others	2.8	3.4	2.6	1.2	1.8	-19%	21%
Total	12.4	11.2	10.4	6.2	8.5	-9%	100%

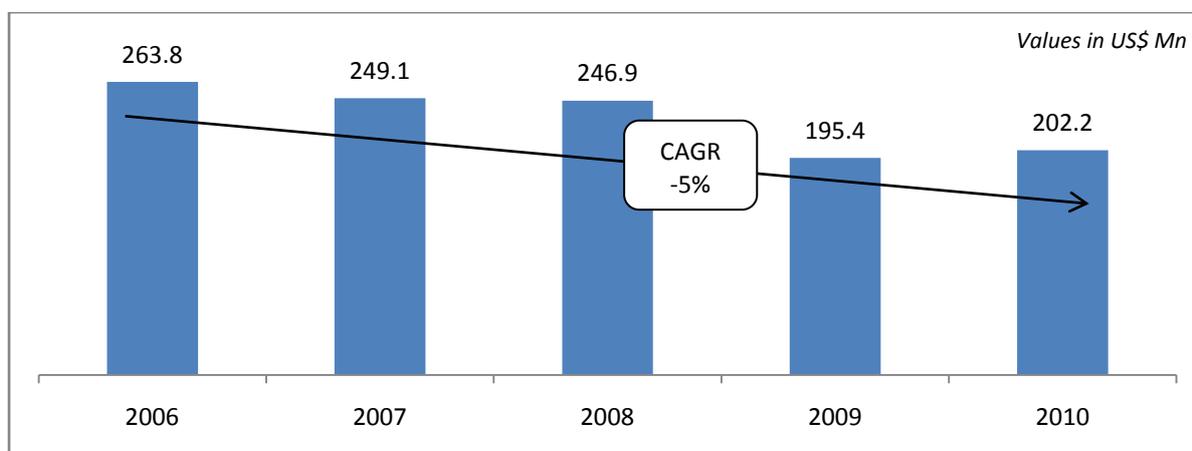
Source: Eurostat

3.1.5.3. Exports to USA

USA is the leading market for Kenya's textile and apparel exports, with exports valued at US\$ 202.2

Mn in 2010. The value of T&A exports with the US shows a declining trend over the last five years. (See the figure below)

Figure 7:Kenya's CTA Sector Exports to US



Source: Otexa

Table 18: Major Categories of the US imports from Kenya

Values in US\$ Mn

	2006	2007	2008	2009	2010	CAGR	2010 share
Women's, girls suits, jacket, dress, skirt, etc.	126.0	104.5	106.4	64.1	50.4	-17%	25%
Men's or boys suits, jackets, trousers etc.	59.1	52.4	37.4	24.5	31.6	-12%	16%
Jerseys, pullovers, cardigans, etc., knit or crochet	25.2	25.7	35.7	35.3	46.2	13%	23%
Women's, girls suit, dress, skirt, etc., knit or crochet	13.5	21.1	25.2	30.4	31.9	19%	16%
T-shirts, singlet's and other vests	7.7	3.7	7.0	4.4	3.9	-13%	2%
Men's or boys' shirts	5.1	3.6	1.4	1.5	1.6	-21%	1%
Sub Total	236.6	211.0	213.0	160.1	165.6	-7%	82%
Others	27.2	38.1	33.9	35.2	36.6	6%	18%
Total	263.8	249.1	246.9	195.4	202.2	-5%	100%

Source: Otexa

3.1.6. SWOT Analysis

Strengths:

1. **Increased focus on the sector:** Government is laying focus on the sector and is committed to revitalize the cotton sector. This will provide additional momentum to the sector and will create interests of amongst the existing industry players as well as the potential investors.
2. **Active stakeholder's forum** (National Cotton Stakeholders Forum): This forum tries to address the issues of various stakeholders and promote development of the sector.
3. **Export driven sector:** The apparel sector is largely exports driven and currently contributes to about 56% of the EPZ exports. This offers opportunities to the international textile players to set up their manufacturing capacities in Kenya.

Weaknesses:

1. **Inefficient farm practices:** Low cotton yields due to poor quality planting seeds, untimely land preparation, poor pest control as well as inadequate use of fertilizers and manure.
2. **High production costs:** All the business costs are quite high with respect to **farm inputs** (spraying, weeding, harvesting, and use of pesticides) or **manufacturing costs** (power, fuel). Thus, the domestic product loses its competitiveness and industry people prefer to import intermediate goods rather than manufacturing it locally.
3. **Outdated technology:** Current machineries / technology in use are very outdated particularly for ginning and textile sector. This further adds to the costs of manufacturing. Sector is currently facing lack of new investments for upgrading technology.
4. **High borrowing costs:** The existing costs of borrowing are so high that it almost makes it impossible for the sector to rely on these financial institutions. Even if they manage to bear the high costs, the formalities for loan approvals, requirements for collaterals and other documentation are intense.
5. **Lack of support institutions for training and skill development:** There is a huge requirement for enhancing the skills of people to increase their efficiency levels. The current infrastructure provides for very few such institutions with limited capacities and has few enrollments for the training facilities. There is a need for promoting these institutions (new and old), supporting these with the necessary infrastructure and churn out large no. of trainees each year.
6. **Lack of well-developed transport infrastructure:** The current road, rail, port infrastructure needs improvement to overcome delays in transit as well as procedural formalities. The current procedure for customs clearance, documentation and processing takes lot of time causing

unforeseen delays in the shipment.

7. **Absence of integrated supply chain:** Though the industry has presence across farm to finished products, there are certain weak links which needs to be strengthened with focused attention and investments. For e.g., there are several garmenting units with foreign investments which fail to source fabric locally. They are highly dependent on other economies for fabric imports and then process it to make garments.
8. **Absence of institutional infrastructure:** To facilitate dialogue across the entire farm-to-finished product supply chain. There is a need to integrate various value adding activities and help create demand for primary inputs as well as enhance the competitiveness of finished goods.

Opportunities:

1. **Huge demand potential:** Enduring demand for cotton fabrics and textiles due to rising population, increasing income, and changing consumer patterns in preference for cotton textiles and apparel.
2. **Increased investments in the sector:** Specific budget allocation by the government will increase investments in textiles manufacturing and enhance skills development, boost incomes and jobs, and underpin a more sustainable domestic industrialisation strategy.
3. **Scope for value addition:** There is a lot of scope for making value added products particularly for the export markets such as adding embroidery, sequins, and other style/design elements. This will bring in incremental revenue to the sector and will also lead to more employment creation and skill enhancement.

Threats:

1. **Threat from second hand articles:** There are huge imports of second hand clothes in the country which is posing a big threat to the economy. The present legal framework is not strong enough to prevent this practice.
2. **Competition from leading global textile manufacturers:** With the end of Multi-Fibre Agreement in 2005 and establishment of Customs Union on 1st January 2005, the domestic sector is facing tough competition from Chinese and Asian companies which have high productivity levels and enjoys economies of scale.
3. **Huge dependencies of select markets for exports:** Kenya's garment industry is principally dependent on AGOA and the U.S. market, making the entire industry vulnerable to fluctuations in these markets and their policies.

3.1.7. Recommendations

After conducting a comprehensive analysis of CTA sector in Kenya, we did a SWOT analysis which brings out the key issues that the sector is currently facing. These are strategic issues which need to be addressed keeping in mind the relative strength areas of Kenya and its CTA sector. Following recommendations are made for improving/strengthening the CTA sector performance:

S.no.	Objectives	Recommendations
1	Increasing cotton quality and yield	<ul style="list-style-type: none"> • Improve farm practices • Create awareness among farmers • Support R&D centers for introducing high yielding seeds • Promote contract farming • Offer more extension programmes
2	Promoting value added products in garmenting	<p>Garmenting sector is relatively big in Kenya but the focus has always been on basic products and uniforms. There is an opportunity to do value addition in garmenting by providing:</p> <ul style="list-style-type: none"> • Support schemes/fiscal incentives on value addition • Promoting clusters for doing value addition
3	Support for modernization and capacity expansion	<ul style="list-style-type: none"> • Interest subsidies shall be provided for upgrading machineries or installing new machineries • T&A sector shall be classified as Priority sector and thus, increased lending to the sector should be a prime focus • Establish JVs with international partners
4	Improving skills of people through adequate training	<p>Introduce schemes for training and skill development and create a fund for implementing the scheme which will aid:</p> <ul style="list-style-type: none"> • Establishing new training centers • Establishing new training programs • Strengthening existing training centers • Linking existing centers with the Industry

5	Promote education in the field of textiles and fashion designing	<ul style="list-style-type: none"> • Establish new colleges for textiles/fashion designing • Link existing centers with the Industry • Update course curriculum regulatory as per industry requirements • Tie-up with other international colleges for student exchange/knowledge exchange programs
6	Improve existing infrastructure and rationalize costs of doing business	<ul style="list-style-type: none"> • Adopt cluster based development approach where suitable infrastructure is provided to the units operating within those and at reasonable costs • Various clusters should be identified by doing a detailed study and then promoted as 'T&A districts' within the region
7	Initiatives to promote domestic market development	<ul style="list-style-type: none"> • Phase out supply of second-hand clothing from the market through appropriate policy interventions • Organize regional level design competition and fashion shows to create and promote domestic fashion industry
8	Promote investments in the sector	<ul style="list-style-type: none"> • Organize Mega Trade shows in the country to promote investments in the sector An event shall be held in which all the buyers, sellers, investors, industry associations and support institutions should participate. There should be an Investors summit showcasing business opportunities in Kenya's textile sector. It will also serve a platform for organizing Buyer-seller meets.

All these recommendations have been dealt in detail under Chapter 5: Benchmarking and Proposed Interventions, where we have compared the target countries with the leading CTA manufacturing countries of the world on the key parameters.

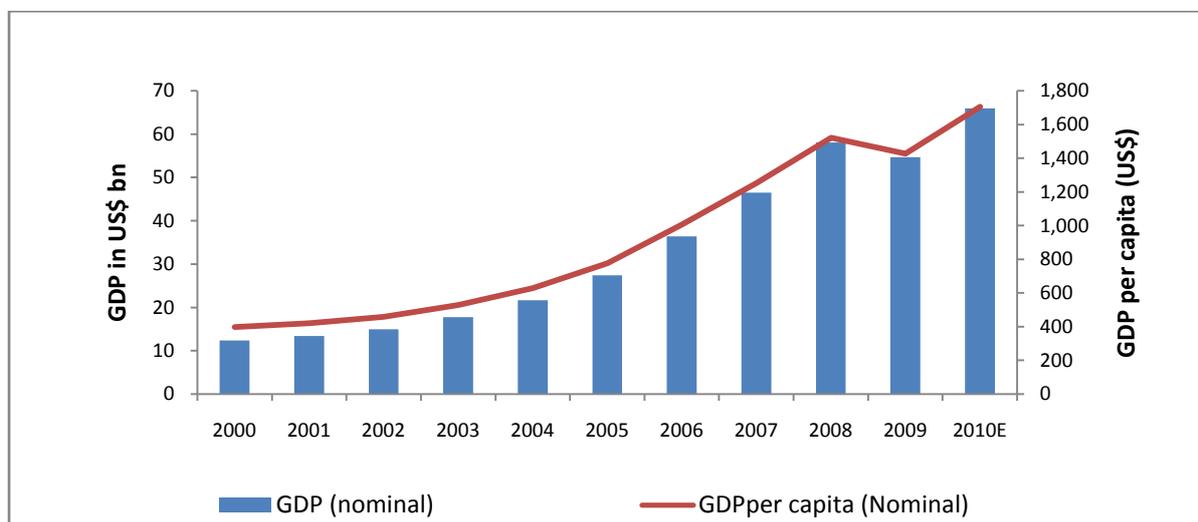
3.2. Sudan

3.2.1. Country Overview

Sudan is the largest and one of the most geographically diverse countries in Africa. It possesses rich mineral resources including petroleum, natural gas, gold, silver, chromite & asbestos. Until the second half of 2008, Sudan's economy boomed on the back of increases in oil production, high oil prices, and large inflows of foreign direct investment. GDP growth registered more than 10% per year in 2006 and 2007. From 1997 to date, Sudan has been working with the IMF to implement macroeconomic reforms.

The current size of Sudan's economy is ~ US\$ 66 Bn (2010, nominal GDP). The per capita GDP is estimated at ~ US\$ 1,705 (2010, Nominal). The service sector is the largest contributor to economic activity, contributing ~39% to the GDP; dominated largely by wholesale, retail trade, transport & communications.

Figure 8: Economic Snapshot, Sudan



Source: World Economic Outlook Database, IMF

3.2.2. Cotton, Textile and Apparel Sector Overview

The first modern textile factory was established by the private sector in Anzara (Equatoria State), in 1945. It was designed to produce 4 to 5 million yards per year, using raw cotton grown and ginned in the same local area. However, the thought of building textile industries on a large scale began with the set-up of the first national government, immediately after independence in 1956. The first textile plant, Sudan Textile Factory, was established in 1962, completely financed by the Sudanese private sector. A considerable number of factories followed soon.

The sector has been on a downtrend since last many years as it is facing several financial and technical difficulties. Most of the mills have closed down; the ones which are working are largely underutilized. Most of the cotton produced in the country is exported in fiber form. The market is

largely dominated by imported textile and apparel goods.

Since 1990s the inflation had been very high, this led to high costs of doing business which ultimately led to downfall of the sector. However, in recent years there has been a renewed interest on the part of Government to revive the sector. The Ministry of Industry in its plan for 2002 concentrated to upgrade of textile and spinning industry.

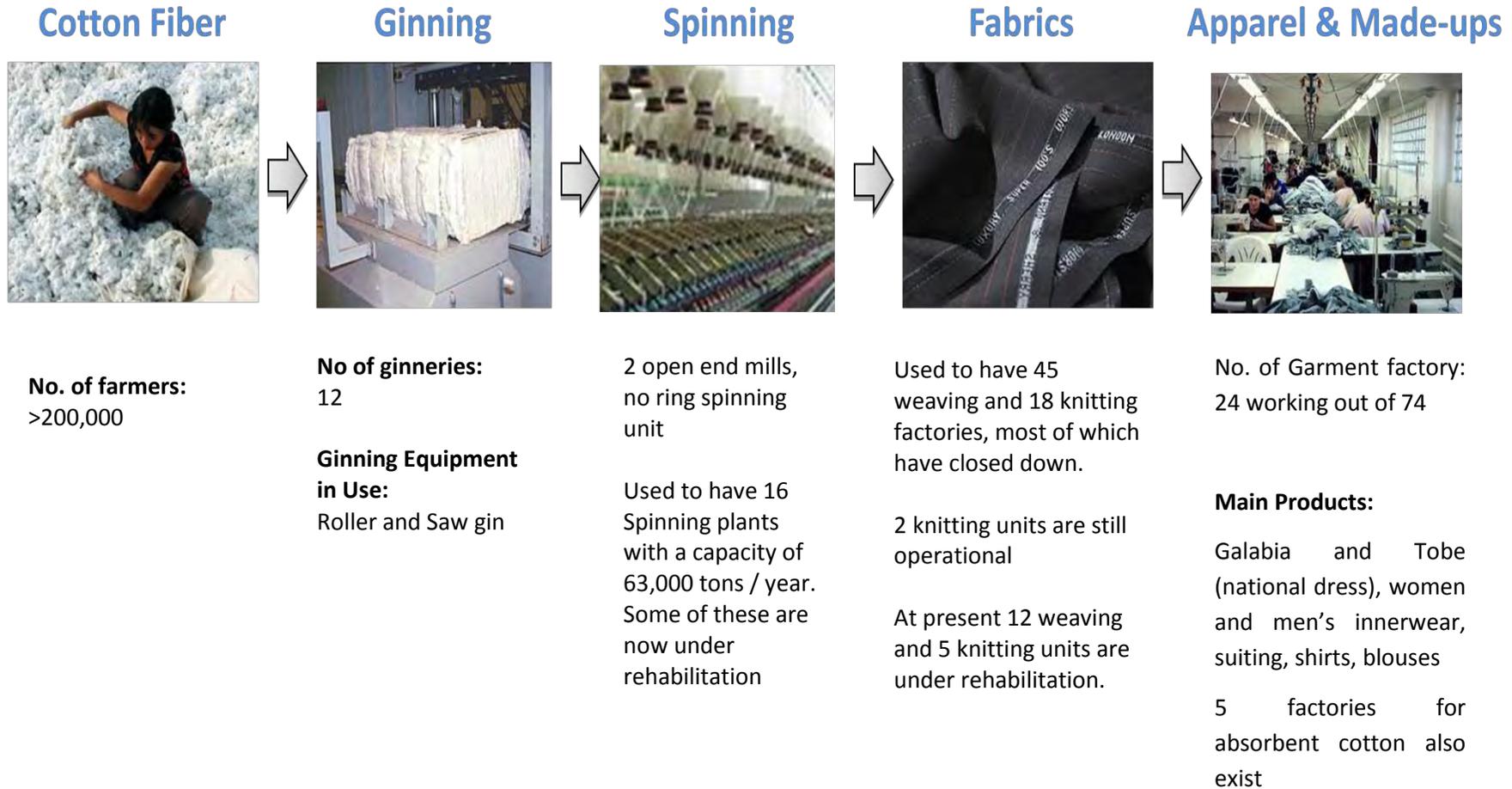
The authorities have taken the CTA sector as the priority sector and are pushing for the growth in sector. Sudanese Cotton Council is also taking various enabling initiatives like providing cotton seeds, funds and crop insurance to farmers. Some foreign companies have also expressed interest about investing in around 250,000 acres of cotton cultivation.

The Sudan Cotton Company Ltd. (SCCL), marketer of all cotton produced in Sudan, has signed contracts of importing 10 advanced cotton ginneries. The ginning units will have state-of-the-art equipment from Turkish and Brazilian technology suppliers. As per a certain economic and social plan, the rehabilitation and operation of the textile factories of Kosti, El-Duwaim, al-Haj Abdullah and Shendi are planned.

3.2.3. Value Chain Analysis

3.2.3.1. Overview

Figure 9: Sudan CTA Value Chain Overview



3.2.3.2. Cotton Fiber

Sudan's cotton industry has assumed a key role since the mid 1920's in its national economic development both on economic and social grounds.

Cotton used to be the principal foreign exchange earner for the country till early 1990s. Later on, the share of cotton in Sudan's foreign export earnings declined whereas share of products like oil, sesame and livestock have increased.

Cotton provides an important livelihood for an estimated 200,000 growers and their families, in addition to employing seasonal labor during harvest time. Cotton is grown in Sudan under both irrigated and rain-fed modes of production. The majority of Sudan's extra-long staple cotton is grown in the Gezira Irrigation Scheme. While the scheme is government managed, tenant farmers decide which areas and varieties to plant. In recent years, more than half of Sudan's cotton exports have been Barakat, which requires a longer growing season but earns more at export.

Production Statistics

The area under cotton cultivation has been under a continuous decline from 2005. The main reason for decline in harvested area under cotton is shift towards food crops. This has led to significant lowering of cotton production.

Most of the cotton produced in Sudan is exported. Major importers of Sudan's cotton are Egypt in Africa; Germany & Italy in Europe; and China, India, Thailand & Bangladesh in Asia. The exports have reduced drastically in last 5 years or so. Over the years the mill use has also slumped.

Table 19: Cotton Balance Sheet (1990-2010), Sudan

Values in '000 (480-pound) bales
Year from Aug 1 to Jul 31

Year	Opening Stocks	Production	Imports	Total Supply	Mill Use	Exports	Ending Stocks	Harvested Area (000) Acres	Yield Pounds/Acre
2010	62	100	0	162	8	100	54	104	462
2009	160	50	0	210	8	140	62	67	358
2008	193	135	0	328	8	160	160	210	309
2007	293	105	0	398	8	197	193	128	394
2006	292	270	0	562	8	261	293	395	328
2005	310	330	0	640	8	340	292	420	377
2004	78	525	0	603	9	284	310	519	486
2003	194	310	0	504	14	412	78	442	337
2002	215	375	0	590	19	377	194	383	470
2001	191	330	0	521	17	289	215	371	427
2000	38	340	0	378	28	159	191	420	389
1999	23	240	0	263	40	185	38	408	282
1998	101	210	0	311	41	247	23	297	339
1997	97	400	0	497	52	344	101	445	431
1996	37	485	0	522	63	362	97	445	523
1995	30	490	0	520	58	425	37	544	432
1994	32	400	0	432	52	350	30	430	447
1993	75	216	0	291	59	200	32	272	381
1992	69	276	0	345	70	200	75	376	352
1991	143	386	0	529	60	400	69	474	391
1990	223	380	0	603	60	400	143	484	377

Source: National Cotton council of America

Planting Seasons

The cotton planting starts in July and ends in August. Picking takes place from December to March and ginning starts in December and ends in June.

Cotton Characteristics

The main three types of cultivated cotton, the long and the extra-long staple (*Gossypium barbadense*), the medium and short staple cotton (*G. hirsutum*) are grown under irrigation and rain-fed. A major cotton variety is Extra Long Staple, which has superior strength and fineness, and is grown mainly in Gezira State.

Cotton Grades

The grades of Sudan Barakat Cotton GIB, XG2B and G2B are extra-long staple variety. It has early maturing and high yielding. This variety is superior in fineness and strength. Barakat is mostly grown in Gezira. The whole crop is handpicked and the ginning is carried out by roller. Acala is medium staple cotton which is both roller and saw ginned.

Table 20: Historical Prices of Sudanese Cotton

<i>Value in USD cents/lb</i>					
Grade	2006-07	2007-08	2008-09	2009-10	2010-11
Barakat Cotton					
G1B	91.00	90.16	88.00	121.75	234.00
XG2B	89.00	88.34	86.00	119.75	232.00
G2B	87.00	86.52	84.00	117.75	230.00
Acala Cotton (R.G)					
1G	59.00	70.95	-	-	-
Acala Cotton (S.G)					
1SG	57.00	90.16	57.00	78.77	162.00
2SG	56.00	88.34	56.00	77.77	161.00

Source: SCCL (The Sudan Cotton Co. Ltd)

Cotton Types

Sudan's Barakat cotton is 100% handpicked, which maintains fibre length, and gently ginned on roller gins. The strength of this extra-long staple (ELS) cotton allows the spinning of finer, longer yarns, yielding a lighter, more supple and durable fabric with thread counts three to four times higher than commodity cotton. Nour is a non-traditional high count Acala which is highly resistant to Jassid and bacterial blight. It is longer and stronger compared to traditional Acala. Acala is medium staple cotton both roller and saw ginned. It has a good micronaire value and bright colour.

Table 21: Main Fibre Properties of Major Sudanese Cotton Varieties

Variety	Length 2.5% SL (mm)	Fineness Micronaire	Strength (g/tex)	HVI
BARAKAT	33 - 36	3.5 - 4.2	26 - 30	34 - 41
NOUR:				
Roller-Gin	29 - 31	4.4 - 4.7	21 - 23	29 - 34
Saw- Gin	28 - 30	4.4 - 4.6	20 - 22	28 - 33
ACALA:				
Roller-Gin	27 - 28	3.8 - 4.3	19 - 22	25 - 32
Saw- Gin	25 - 28	3.7 - 4.4	18 - 22	24 - 31

Source: SCCL (The Sudan Cotton Co. Ltd)

Sudan has recently released nine varieties of cotton which are listed below.

Table 22: Main Fibre Properties of Newly Released Varieties, Sudan

Varieties	Length: 2.5% Span Length (mm)	Fineness Micronaire	Strength (g/tex) HVI
Hadi	32.6	3.7	35.0
Siddig	32.8	3.6	37.0
Kheiralla	29.2	4.2	31.5
Hamid	27.9	4.9	30.1
Knight	29.3	4.5	31.1
Abdin	31.8	4.4	34.0
Wager	28.9	4.5	30.4
Burhan	29.4	5.2	30.3
Khalifa	27.3	4.1	28.0

Source: SCCL (The Sudan Cotton Co. Ltd)

Key Initiatives

Release of Extra fine count cotton

Sudan has recently released a top class, extra-fine count cotton, a cultivar combining traditional Sakel with high-yielding Lambert varieties. This type of cotton has a high resistance to disease, is the longest variety and has the finest fibre. Others varieties introduced include Nuba and Acrain, both of which are rain-fed.

National Agricultural Schemes

Under the framework of privatization policy adopted by the government, a lot of schemes were transferred into agricultural companies.

Gezira Scheme:

It is the oldest agricultural scheme adopted by the government in 1925 as the biggest irrigated farm in the world in an area of 2.1 million feddans. The scheme extends through Gezira and Sennar states and irrigated by flowing irrigation. The scheme contributes by 65% of the country's cotton production. The Scheme provides great opportunities for investment in agricultural industries and weaving and spinning industry.

Rahad Agricultural Scheme:

This Scheme was established in the 2nd half of the seventies and extends through Gadaref and Gezira States. The area of the Scheme is estimated at 800,000 feddans, and 30,000 feddans of the area were cultivated. Other preparations are underway for the remaining area. The system adopted in the Scheme is the intensive rotation system whereby all the area of the Scheme are cultivated in quarterly rotation to produce cotton (medium staple), groundnuts, sorghum and wheat.

Suki Agricultural Scheme:

The Scheme is located in Sennar State and is considered as the smallest federal scheme in an area of 85,000 feddans. The cost of the irrigation in the Scheme is the highest when compared with other irrigated schemes because of the pump irrigation system. The quarterly rotation system is designed to grow cotton (medium staple), ground nuts sorghum, wheat and sunflower.

3.2.3.3. Ginning and Oil Pressing

There are 18 ginneries in Sudan which are dispersed in different parts of the country and especially in cotton producing schemes which are scattered all across the country.

3.2.3.4. Textiles

The textile industry originally started as a traditional industry in the southern province of Equatoria in 1945 and gradually developed in 1960 by the establishment of Sudan's textile factory in Khartoum North which is considered as a biggest factory in Africa at that time. In 1970-75 all existing plans were set up in both private as well as in public sector. Since 1990 the textile industry began to collapse mainly due to the liberalization prices policy, high cost of electricity, outdated technology, etc. Problems of low capacity utilization persist until today, but the Government keeps the sector on the priority list of the Ministry of Industry.

At present, there are 16 spinning and textile factories in Sudan out of which only four are working now. The efficiency and the production capacity of these factories is low as compared to their designated capacity.

3.2.3.5. Apparel

There are 75 garment factories in Sudan out of which only 13 are in operation. The manufacturing of apparel and clothing in Sudan is mainly for domestic consumption. The exports of apparel and apparel made ups are almost negligible.

The most common products manufactured are Galabia and Tobe (the national dress), innerwear, suiting (trousers and shirts), shirts, blouses, grey loom state cloth (pure cotton) count 16/1, bleached count Ne 16/1, bed sheets, blankets, etc.

3.2.3.6. Support Institutes

The Sudan Cotton company Ltd

The Sudan Cotton company Ltd was established in 1990 to undertake the marketing of all cotton produced in Sudan.

Industrial Research and Consultancy Centre

The Industrial Research and Consultancy Centre (IRCC) is the Research Institute in Sudan that focuses on Industrial Research and Consultancy to the Sudanese Industry. IRCC conducts several research, technological and consultancy directions, such as Industrial Information, Product Design, Technology and Production Line Design, Quality Assurance, Economic and Feasibility Studies and Industrial Process Modeling. The Activities of IRCC address all directions of Sudanese Industry and cover the entire spectrum of its consultancy needs, contributing to sustainable development.

Sudanese Businessmen & Employers Federation

Sudanese Businessmen and Employers Federation encourage economic, scientific and practical studies in different aspects and supports industrial, commercial and agricultural research. It also holds marketing fairs inside and outside the Sudan to show and circulate the national products.

Sudanese Chambers of Industries Association

Sudanese Chambers of Industries Association is a representative of the Sudanese Industrial Sector inside and outside Sudan. It contributes in setting up of the rules of the Industrial policy. SCIA also participates in the trade agreements and the workers legislations.

Sudanese Standards & Metrology Organization

Sudanese Standards & Metrology Organization was established in the year 1992 with the objective of protection & awareness of consumers, strengthening national economy, improving quantity & quality of national produce & services, adoption of philosophy of quality assurance and enforces implementation, standardization of commodities and monitoring quality of imports & exports.

Farmers Commercial Bank

Farmers Commercial Bank major roles are to finance the agricultural, industrial, and commercial as well as export sectors, facilitate the availability of production input for agricultural sector, adopt integrated rural development projects that help with the development of rural areas in Sudan, provide healthy investment opportunities for farmers and also provide comprehensive banking services.

3.2.4. Sector Competitiveness

3.2.4.1. Raw material

Sudan is one of the larger producers of cotton in the world; however the production has been significantly lower in recent years on account of farmers shifting to other more profitable crops. The reasons behind this were low domestic demand and low prices of cotton in export markets which prevailed few years back. The cotton productivity in Sudan is better than the other target countries, even India but low plantation of crop has resulted in dismal performance of the sector.

3.2.4.2. Manpower

Most of the textile and apparel manufacturing units were forced out of business; those who are operating are few and operate much below their actual capacities. As such the demand of manpower has also shrunk. There are 2 universities in Sudan offering Diploma, Graduate and Masters program in Textiles, but the student strength has not been too encouraging recently as they face issues of employment in the industry. There are some training programs for the operator level workforce, which is being run in association with UNIDO. Several companies employ ex-pats in their units as staff and officers at various levels

3.2.4.3. Power, Water & Fuel

The power cost is in the range of US\$ cents 12 / unit which is quite high. Moreover the supply is quite erratic. There is no major issue related to other utilities as far as the supply is concerned.

3.2.4.4. Financial support

Sudanese banks do not offer long term credit to businesses. Only short term finance is available at an interest rate of 9 to 12%. Some finances are also available from Arab countries, but not too significant contribution has been made in CTA sector till date

3.2.4.5. Market access

Sudanese textile and apparel products can enter EU and some other economies free of any customs duties and with limited/no quota restrictions. Some of the trade agreements that they have signed up for preferential market access includes:

- Economic Partnership Agreement (EPA) with EU
- Common Market for Eastern and Southern Africa (COMESA)
- Arab Trade Organization

3.2.4.6. Technology

Most of the technology employed is outdated, but the rehabilitation program is being envisioned with latest technology e.g. 10 new gins which are planned have latest machinery from Brazil (5 saw gins) and Turkey (5 roller gins) which have very high productivity level. Similarly, 3 weaving factories are being planned with rapier looms.

3.2.4.7. Industrial zones

Till date there are no CTA sector unit is operational in any industrial zones, but the government envisages establishment of several such zones, which may benefit the business in future.

3.2.4.8. Research & product development

There is a severe lack of R&D activity at product level. However, at fiber level research work is continuously going on and recently 9 high yielding seed varieties were launched

3.2.4.9. Value addition

There is absolute dearth of value addition in the Sudanese CTA sector. Most of the cotton is exported out of the country in raw form.

3.2.4.10. Compliances and CSR activities

No significant contribution. Some of the garment factories provide for the basic requirement of their staff members, which is more of employee welfare than CSR activity.

3.2.4.11. Logistics and Business Costs

Sudan has its own port – Port Sudan from where exports and imports are done. There are no major issues related to delays etc. at port. The sailing time form China to Port Sudan is ~ 20 days, whereas the sailing time to US is ~18 days.

Table 23: Logistics and Business Costs, Sudan

Power Availability	Erratic
Power cost	US\$ 12 cents / unit
Lending rate	No long term financing
Water cost	Minimal
Wage/ month	US\$160-300 / month
Own Port	Yes
Nearest port	Port Sudan
Sailing time from China	20
Sailing time to US	18
Freight cost / container (20 ft)	Export - US\$ 2000 Import - US\$ 2100

Source: Primary Research Findings

3.2.4.12. Government Initiatives

The government of Sudan has made several initiatives to revive the industry including revival of several factories. However, the power scenario and other macro factors remain unfavorable which has hampered the anticipated development.

3.2.4.13. Domestic market

The domestic market is largely dominated by imports of clothing from China, India, Turkey, etc. most of the local manufacturers are engaged in supplies to institutional buyer and local dresses.

3.2.5. Foreign Trade

3.2.5.1. Overview

Sudan was net importer till 2006 but in 2007 exports surpassed imports and the same trend was seen till 2009. The exports saw a compounded growth rate of ~11% whereas imports increased with compounded annual growth rate of 3% from 2005 to 2009.

T&A exports have decreased since 2005 from US\$ 0.08 Bn to US\$ 0.03 Bn in 2009. Share of T&A exports in country's total exports have declined gradually from 1.5% in 2005 to 0.4% in 2009.

T&A imports have witnessed increase from US\$ 0.27 Bn in 2005 to US\$ 0.42 Bn in 2009, thus registering a compounded growth of 12%. Share of T&A imports in country's total imports has increased from 4.4% in 2005 to 6.1% in 2009.

Cotton fiber accounts for almost 98% of Sudan's exports whereas imports constitute Mens woven suits, jackets, women knitted suits, dresses, etc.

Figure 10: Sudan's Overall Trade

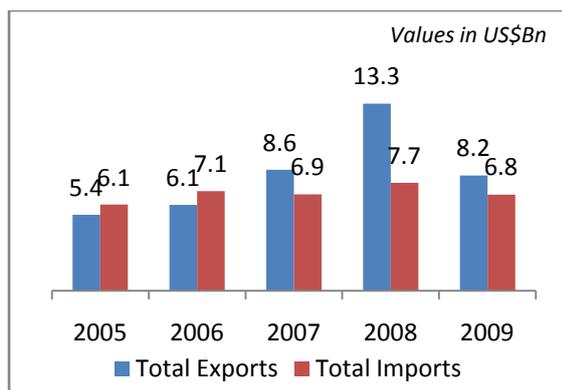
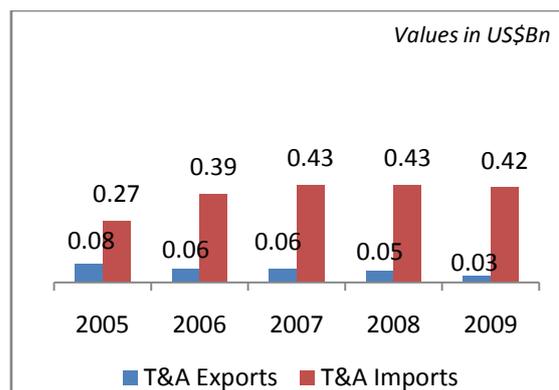


Figure 11: Sudan's CTA Sector Trade



Source: UN Commodity Trade Statistics Database

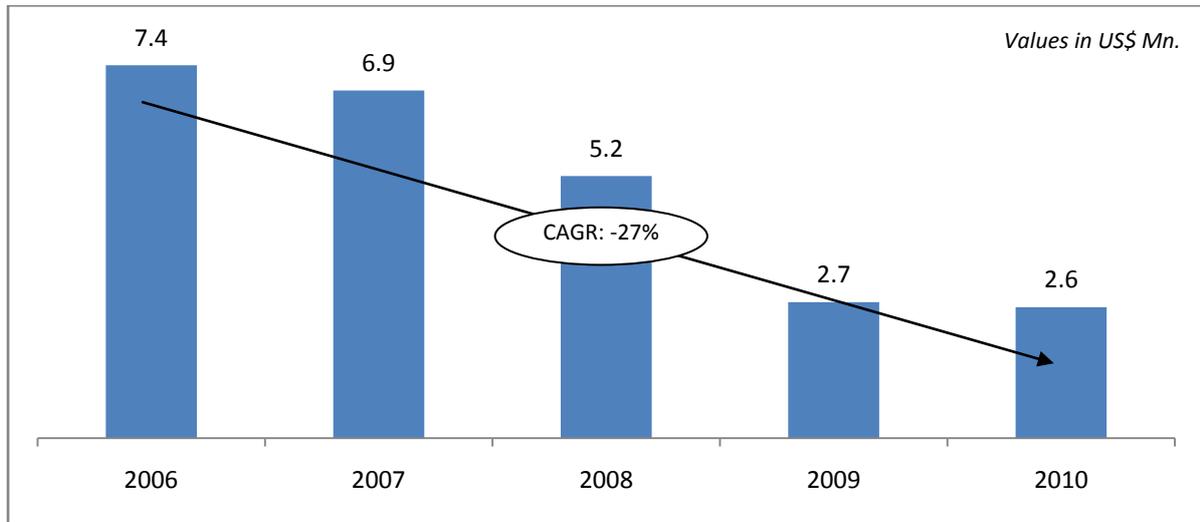
Table 24: Key CTA Sector Export and Import Statistics, Sudan (2009)

Top 4 exported commodities	99.7%	Top 4 imported commodities	27%
Cotton fibre	97.7%	Mens woven suits, jacket etc.	9%
Shawl, scarves etc.	1.6%	Women Knitted suits, dresses etc.	7%
Synthetic staple fibre	0.2%	Men's woven shirts	6%
Worn clothing	0.2%	Woven fabric of synthetic filament yarn	5%
Leading 4 markets	93%	Leading 4 suppliers	81%
Egypt	70%	China	52%
China	11%	India	13%
Germany	7%	Egypt	10%
India	5%	Indonesia	6%

Source: UN Commodity Trade Statistics Database

3.2.5.2. Exports to EU

Figure 12: Sudan's CTA Sector Exports to EU



Source: Eurostat

Table 25: Major categories of EU Imports from Sudan

(in '000 US\$)	2006	2007	2008	2009	2010	CAGR	2010 share
Raw cotton	7,239	6887	5218	2682	2596	-28%	99%
Knitted garments for professional, sporting uses	0	0	10	4	24	371%	1%
Subtotal top 2 categories	7,239	6887	5228	2685	2620	-27%	100%
Others	130	2	9	10	4	23%	0%
Total	7,369	6889	5237	2696	2624	-27%	100%

Source: Eurostat

3.2.6. SWOT Analysis

Strengths

1. **Good quality cotton:** Sudan is one of the leading producers of long staple cotton varieties, which are suitable for fine quality products and carry a premium on price. In Sudan, the cotton picking is done manually. This makes the Sudanese cotton free of any blemishes or knots

Weaknesses:

1. **Low utilization of manufacturing capacity:** Current utilization level of manufacturing is very low, with several units closed down. Technology is another key area of concern which needs upgrading to enhance the competitiveness of the overall textile industry.
2. **Export of unprocessed cotton:** More than 90% of the cotton produced in Uganda is exported without any value addition.
3. **Reduction of cotton output:** Farmer's shifted from cotton to other crops in last few years as a result of existing low prices and less demand at that time. This resulted in significant decrease in area under cotton cultivation and hence the cotton production.

Opportunities:

1. **Government focus:** Government has started focusing on development of the CTA sector in the country in a significant manner. Several steps have been planned to revive the sector in near future
2. **Huge domestic/regional/international market demand:** The current sector output is not able to meet the country's demand. A lot of untapped demand exists.
3. **Market Access:** Free trade agreement exists with key markets of textile and apparel products.

Threats:

1. **Competition from leading global textile manufacturers:** With the end of Multi-Fiber Agreement in 2005 and establishment of Customs Union on 1st January 2005, the domestic sector is facing tough competition from Chinese and Asian companies which have high productivity levels and enjoys economies of scale.
2. **Focus on other crops:** Cotton is continuously being displaced by more profitable food crops by farmers.

3.2.7. Recommendations

After conducting a comprehensive analysis of CTA sector in Sudan, we did a SWOT analysis which brings out the key issues that the sector is currently facing. These are strategic issues which need to be addressed keeping in mind the relative strength areas of Sudan and its cotton, textile and apparel sector. Following recommendations are made for improving/strengthening the CTA sector performance:

S.no.	Objectives	Recommendations
1	Increasing cotton quality and yield	<ul style="list-style-type: none"> • Improve farm practices • Create awareness among farmers • Support R&D centers for introducing high yielding seeds • Promote contract farming on a larger scale • Offer more extension programmes • Exercise stringent quality controls at the ginning level
2	Promoting value addition in the sector	<p>Sudan has abundant cotton supply but the downstream industries i.e. textile and apparel manufacturing are limited. Value addition in the sector should be promoted by providing:</p> <ul style="list-style-type: none"> • Support schemes/fiscal incentives on value addition • Promoting clusters for doing value addition
3	Support for modernization and capacity expansion	<ul style="list-style-type: none"> • Interest subsidies shall be provided for upgrading machineries or installing new machineries • Textile & Apparel sector shall be classified as Priority sector and thus, increased lending to the sector should be a prime focus • Establish JVs with international partners
4	Improving skills of people through adequate training	<p>Introduce schemes for training and skill development and create a fund for implementing the scheme which will aid:</p> <ul style="list-style-type: none"> • Establishing new training centers • Establishing new training programs • Strengthening existing training centers • Linking existing centers with the Industry
5	Promote education in the field of textiles	<ul style="list-style-type: none"> • Establish new colleges for textiles • Link existing centers with the Industry • Update course curriculum regulatory as per industry requirements • Tie-up with other international colleges for student exchange/knowledge exchange programs
6	Improve existing infrastructure and rationalize costs of doing business	<ul style="list-style-type: none"> • Adopt cluster based development approach where suitable infrastructure is provided to the units operating within those and at reasonable costs • Various clusters should be identified by doing a detailed study and then promoted as 'Textile & Apparel districts' within the region

7	Initiatives to promote domestic market development	<ul style="list-style-type: none"> • Phase out supply of second-hand clothing from the market through appropriate policy interventions • Develop a mechanism to regulate flow of cotton to domestic market
8	Investment promotion activities	<ul style="list-style-type: none"> • Organize Annual Investor Summit showcasing business opportunities in Sudan's cotton and textile sector

All these recommendations have been dealt in detail under Chapter 5: Benchmarking and Proposed Interventions, where we have compared the target countries with the leading CTA manufacturing countries of the world on the key parameters.

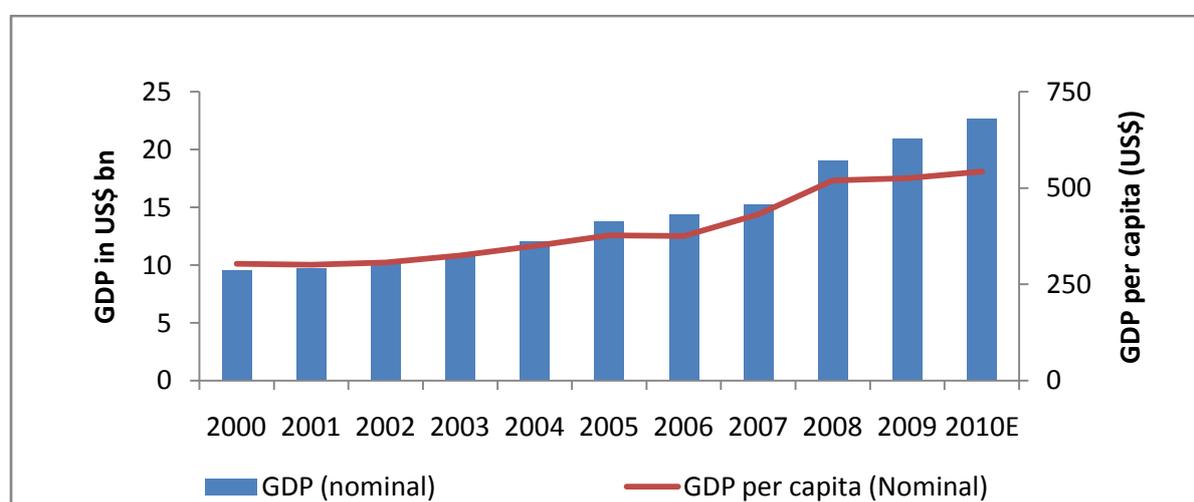
3.3. Tanzania

3.3.1. Country Overview

Tanzania witnessed a high GDP growth of ~9% between 2000 and 2010. The country's growth is supported by continued donor assistance and supporting macroeconomic policies. The current size of Tanzania's economy is US\$ 22.4 Bn (2010, nominal GDP) and per capita GDP is estimated at ~ US\$ 543 (2010, Nominal).

The agriculture sector is the largest contributor to economic activity, contributing ~42% to the GDP, dominated largely by coffee, sisal, tea and cotton production. The sector employs ~80% of the work force. The country is rich in natural resources like gold, natural gas, iron ore, coal, diamonds, etc. The country has several beautiful National parks and other places of tourist interests and tourism has become a vital part of the economy.

Figure 13: Economic Snapshot, Tanzania



Source: World Economic Outlook Database, IMF

3.3.2. Cotton, Textile and Apparel Sector Overview

Cotton was introduced in Tanzania more than 120 years ago. Cotton is the second largest export product in Tanzania with over 80% of cotton produced in Tanzania is exported. Cotton is a major source of employment and livelihood to about 40% of the population, i.e. about 16 million. It is one of the major cash crops grown in Tanzania. Over the last five year, among the traditional crops, Cotton has generated maximum revenue for the country amounting to US\$ 92 Mn per annum.

In Tanzania, cotton is grown mainly on small scale farms by 350,000 to 500,000 farmers who own between 0.5 to 10 acres and grow mostly in the rain fed areas. Major production areas are the Western Cotton Growing Area (WCGA) and the Eastern Cotton Growing Area (ECGA). WCGA accounts for over 98% percent of production comprising sub-regions like Shinyanga, Mwanza, Tabora, Mara, Singida, Kagera and Kigoma.

Tanzania is the fourth largest producer of organic cotton in the world after India, Turkey and Syria. Organic cotton farming is practiced in certain areas of WCGA especially in Meatu District and fetches relatively higher price.

Though, the cotton sector was liberalised in the 1990's but the cotton sub sector is still regulated by the Tanzania Cotton Board who determines the floor price of the seed cotton and issues permit to the seed cotton buyers and traders.

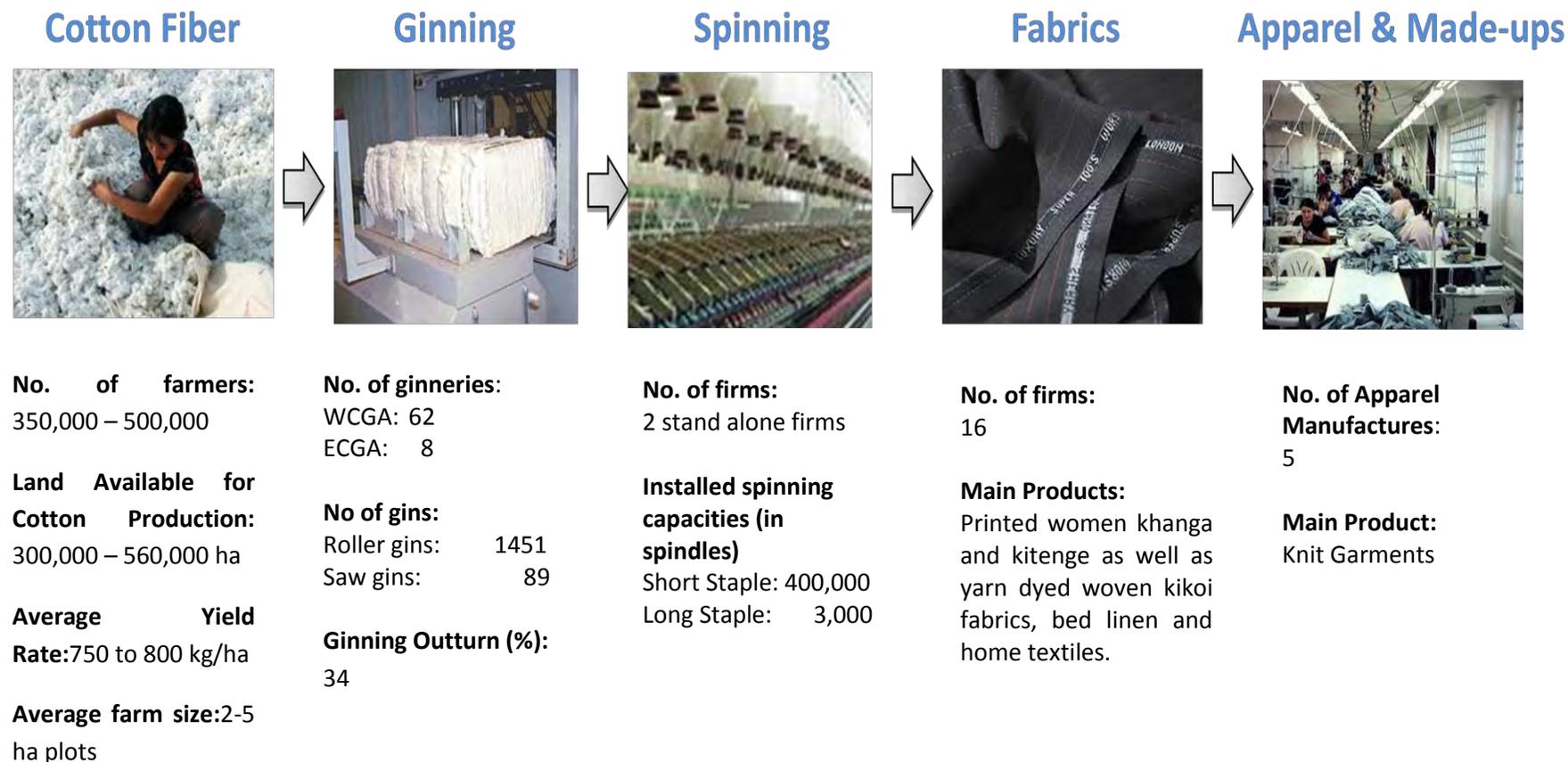
The textile industry of Tanzania grew rapidly between 1966 and 1985 with supportive government policy to industrialize the country. The policy aimed at producing consumer goods locally and adding value to primary products, including cotton.

Cotton spinners, weavers and textile millers comprise of ~ 25 mills - both old and new. All these mills are privately owned, and produce exclusive fabrics – kanga, kitenge, dyed drill, linen and bed sheets. These mills utilize only about 20% of domestic lint; rest is imported due to unfavourable prices and unacceptable quality levels of local fibres. These mills operate at 40-50% of installed capacity and employ around 20,000 workers.

3.3.3. Value Chain Analysis

3.3.3.1. Overview

Figure 14: Tanzania CTA Value Chain Overview



3.3.3.2. Cotton Fiber

Cotton is one of the most important cash crops of the economy and has contributed significantly to the agricultural growth and earnings of the country. Cotton is a source of employment and livelihood to about 40% of the population, i.e. about 16 million people. Over the last five years from 2005-2009, among the traditional cash crops, cotton has generated the highest foreign exchange earnings, averaging US\$ 92.0Mn per annum, compared with US\$ 89.7 Mn (tobacco) and US\$ 88.6Mn (coffee).

In Tanzania, cotton is grown in 42 districts and 13 regions out of 127 districts and 21 regions of Mainland Tanzania. Cotton is grown mainly on small scale farms, in the 2 cotton growing areas - the Western Cotton Growing Area (WCGA) and the Eastern Cotton Growing Area (ECGA).

Table 26: Cotton Sector Profile, Tanzania

No. of farmers	350,000-500,000
Seed cotton price paid to farmers	
Price in Currency	Tanzania shillings (TZS) 500/kg cotton seed
Euro Equivalent	0.22Euro/kg
Average Yield	
Current	200 kg/ha
Potential	2,500kg/ha
Seed Planting Rate	25kg/hectare
Variety of Cotton	Gossypium Hirsutum (American upland cotton)
Land Available for Cotton Production	300,000 – 560,000 ha
Average farm size	2-5 ha plots

Source: Primary Research Findings

Production Statistics

The regional cotton production trend during the period 2001-02 to 2008-09 shows that WCGA accounted for 99 percent of total cotton production per year on an average and only 1 percent was produced in ECGA.

The main cotton growing sub-regions in WCGA includes Shinyanga, Mwanza, Mara, Tabora, Singida, Kagera and Kigoma. Shinyanga and Mwanza together account for ~80% of the cotton production. The sub-regions in ECGA include Morogoro, Manyara, Coast, Tanga, Iringa, and Kilimanjaro.

Table 27: Regional Cotton Production Trends, Tanzania

Values in MT

Zones	Regions	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Western	Shinyanga	80,030	119,107	88,352	204,626	233,721	82,740	128,285	220,808
	Mwanza	46,685	43,681	31,296	90,974	90,868	29,087	41,814	74,744
	Mara	13,091	11,361	11,296	24,128	28,281	4,734	13,081	53,282
	Kagera	3,117	1,613	3,476	7,091	4,639	1,992	4,257	2,559
	Tabora	4,613	11,409	4,332	10,560	14,197	9,997	11,698	13,451
	Kigoma	18	28	62	542	484	208	238	412
	Singida	21	8	39	481	697	507	581	1,641
	Total Western		147,575	187,147	138,904	338,402	372,885	129,265	199,954
	Percentag	99.6	99.6	99.3	98.1	99.5	99	99.9	99.5
Eastern	Manyara	130	120	224	829	781	404	540	898
	Morogoro	242	347	523	1,948	875	845	98	299
	Mbeya	0	0	0	0				
	Kilimanjar	21	20	29	26	6	11	23	84
	Pwani	9	86	83	190	45	19	48	83
	Tanga	15	61	49	140	58	42		307
	Iringa	150	102	17	54	7		1	23
	Total Eastern		567	736	929	3,187	1,772	1,325	710
	Percent	0.4	0.4	0.7	1.9	0.5	1	0.1	0.5
Grand Total		148,142	187,883	139,829	341,789	374,657	130,585	200,664	368,697

Source: Tanzania Cotton Board

Cotton Production and Yields Statistics (1990-2011)

In the recent years, the production of cotton has declined as farmers have turned to other cash crops such as tobacco. The various challenges in cotton cultivation include low productivity, poor cotton quality and a low level of mechanization level.

Cotton production in Tanzania is largely meant for exports. Major importers of Tanzania's cotton are China, Indonesia, Thailand, Kenya, Portugal, Bangladesh, Vietnam and Pakistan. There has been a drastic dip in exports in the year 2006. However, since then the quantum of cotton exports has increased.

Table 28: Cotton Balance Sheet (1990-2010), Tanzania

Values in '000 (480-pound) bales
Year from Aug 1 to Jul 31

Year	Opening Stocks	Production	Imports	Total Supply	Mill Use	Exports	Ending Stocks	Harvested Area (000) Acres	Yield Pounds/Acre
2010	435	275	0	710	150	225	335	741	178
2009	440	410	0	850	140	275	435	902	218
2008	285	570	0	855	165	250	440	998	274
2007	295	310	0	605	170	150	285	1,112	134
2006	302	200	0	502	110	97	295	741	130
2005	248	575	0	823	120	401	302	1,260	219
2004	152	525	0	677	70	359	248	1,236	204
2003	142	235	0	377	70	155	152	956	118
2002	137	280	0	417	60	215	142	956	141
2001	116	230	0	346	55	154	137	1,038	106
2000	124	188	0	312	50	146	116	450	201
1999	160	161	0	321	55	142	124	618	125
1998	170	165	0	335	51	124	160	445	178
1997	207	285	0	492	41	280	170	865	158
1996	183	400	0	583	64	312	207	699	275
1995	132	377	0	509	69	257	183	850	213
1994	170	184	0	354	60	161	132	425	208
1993	221	207	0	428	51	207	170	850	117
1992	111	441	0	552	64	266	221	1,063	199
1991	83	390	0	473	73	289	111	1,112	168
1990	106	220	0	326	64	179	83	791	134

Source: National Cotton Council of America

Planting Seasons

The planting and the harvesting season varies in the Western and the Eastern growing areas in the region. In WCGA, cotton is planted between mid-November to mid-December, late planting continues till end January; harvesting and marketing begins in July of following year. In ECGA, cotton is planted between February and March; and harvesting and marketing is done between July and August of the same year.

Cotton Characteristics

The cultivated cotton in Tanzania is mainly of the American Upland type (*Gossypium hirsutum L.*). Tanzania cotton is sold on the basis of Grade, together with the corresponding staple length known as Type. There are seven grades of cotton out of which five are physical and two are descriptive. The basic selling grade is **Gany**, as adopted by the International Cotton Association (ICA).

Cotton Grades

Table 29: Cotton Grades, Tanzania

Grade	Universal grades	% of total crop	Remarks
Tang	Good middling	1.40	Physical
Gany	Strict middling	41.63	Physical
Gany	Middling	39.73	Physical
Gany	Strict low middling	13.81	Descriptive
Gany	Low middling	1.80	Physical
Gany	Strict Good Ordinary	0.40	Descriptive
Yika	Good ordinary	0.32	Physical
Under grade (UG)	Below grade (BG)	0.91	No grade

Source: Tanzania Cotton Board

Cotton Types

Table 30: Cotton Types, Tanzania

Type	Millimeter	Code	% of the total
Type 1 – staple length $1\frac{1}{18}$ "	28.2 - 28.7	36	36.17
Type 2 – staple length $1\frac{3}{32}$ "	27.4 - 27.9	35	50.56
Type 3 – staple length $1\frac{1}{16}$ "	26.7 - 27.2	34	13.27

Source: Tanzania Cotton Board

Over 82% of the cotton grading is middling and above. The staple length of cotton in Tanzania varies from $1\frac{1}{16}$ " to $1\frac{1}{18}$ ". More than 85% of cotton produced is medium to long staple length.

Key Initiatives

Contract Farming

In order to protect and promote the industry, the cotton stakeholders in Tanzania have decided to opt for contract farming. For two consecutive years, contract farming pilot studies have been conducted in Serengeti, Bunda and Musoma districts, and in 2011 the scheme has been extended to four wards in Bariadi and Kibondo districts in Shinyanga and Kigoma regions. It will now be extended to many other regions.

The contract farming model entails formation of farmer-business groups (FBGs) comprising between 50 and 90 smallholders. In this model, ginneries will be required to work with farmers from ploughing to pricing, hence enhancing quality and quantity. Earlier the cultivators and the ginneries used to enter in an agreement only at the time of cultivation, which resulted in inferior and low produce of cotton. Contract farming will keep the agents away from the cotton trade and provide assurance to both ginneries as well as farmers.

Several issues in cotton production like inferior quality of cotton, less productivity and low level of mechanization have remained important concerns in Tanzania which has discouraged the cotton cultivators and induced them to switch to cultivation of other cash crops like tobacco. Contract farming is seen to reverse the trend as it provides the farmers with an assurance for inputs, marketing support and also a steady price and income.

The programme is sponsored by Tanzania Gatsby Trust, under Cotton and Textile Development Programme (CTDP) and implemented by Tanzania Cotton Board (TCB), which is committed to overseeing the implementation of the new system in order to safeguard interests of farmers and ginners.

Organic Cotton Production

Initiatives have been taken by various organizations to improve the working condition of the small holder farmers and promote the organic cotton production in different regions of Tanzania.

Organic cotton fetches better prices at the international market than the traditional one in the market for seed cotton.

Table 31: Organic Cotton Production in Tanzania

Production in Tons	2005-06	2006-07	2007-08	2008-09
TZ organic lint	649	1 662	2 852	4 181
Total African organic lint	2,377	4,359	7,285	9,168
Total global organic lint	37,799	57,731	145,865	175,113

Source: Tanzania Cotton Board

The various organizations that support organic cotton production are listed below:

Remei/BioRe	Bio Re Tanzania Ltd coordinates the growing and processing of organic cotton in Tanzania's Meatu region
Biosustain	Biosustain was established in the year 2006 with an aim to revive cotton production using organic farming and to provide markets for organic certified products with an emphasis on quality. It co-ordinates the growing of organic cotton in Tanzania's Singida region.
Rural Livelihoods Development Company (RLDC)	RLDC is working with the private enterprise and cotton farmers to facilitate the sustainable growth of organic cotton farming. It is involved in the co-ordination of organic cotton in the Maswa district in Tanzania's Shinyanga region

3.3.3.2. Ginning and Oil Pressing

Presence of a large number of buyers of the Tanzanian cotton is one of the key features of the sector. Most of these buyers also own ginneries, who compete to purchase seed cotton. During the year 1994-95, 22 private companies started trading cotton, and 8 new private ginneries were added. Initially, many of the private buyers who did not own ginneries entered into toll ginning contracts with the cooperative unions that own ginnery. However, these cooperative unions got support from the government and they were reluctant to enter into toll ginning contracts with the private buyers. The cooperative unions were not even considering selling ginning facilities to these private buyers. This encouraged the expansion of the private ginning capacities, despite the existence of under-utilized capacity at ginneries owned by cooperative unions.

Another factor that has contributed to the expansion of the private ginning capacity is that the ginning equipments held by the cooperative unions were old or poorly maintained. The oldest are

Ukerewe (1923) and Nassa (1924); and the newest are Chato and Ngasamo (1966) and Kahama (1967). Most of the private ginneries, with the exception of Manonga (1958), were constructed after 1995; and 17 of them were constructed after 2000. With old equipment in place, it was difficult to achieve good quality lint and fragmentation of seed coat was another major problem.

Post liberalization, the sector has experienced multiple entry and exit of firms from year to year. While some of this is completely new entry or final exit, some ginneries are left underutilized simply for a season or two, either because the company concerned has financial difficulties or because it feels that buying prices are too high to make buying worthwhile.

Table 32: Ginning Sector Profile in the WCGA, Tanzania

No. of ginneries	62
Cooperatives	21
Private Investors	41
Number of gins	1,368
Roller Gins	1,279
Saw Gins	89
Installed Ginning Capacity (estimated)	1.2 m bales of 200 kg each
Ginning equipment	Mainly roller gins, but also have some saw gins
Average Ginning Outturn(GOT)	36%
Price for cotton seed FOB/FOT ginnery	Tanzania shillings (TZS) 500/kg cotton seed

Source: Tanzania Cotton Board

In WCGA there are a total of 62 ginneries equipped with 1,279 roller gins, and 89 saw gins. 21 of these ginneries are owned and operated by cooperatives. The remaining 41 are owned by private companies. In ECGA there are 8 ginneries; 7 out of which are old and 1 is new.

Most of the ginneries have oil mills as an important component of their cotton business operations. At present 32 ginneries have oil mills too, which processes about 16,121MT p.a. of cotton oil. However, this represents only 14% of the installed capacity which stands at 115,150 MT. These oil mills also produce around 52,000 MT of cotton cake annually.

3.3.3.3. Textiles

The textile grew rapidly between 1966 and 1985 with supportive government policy to industrialize the country. The policy aimed at producing consumer goods locally and adding value to primary products, including cotton. The growth was triggered by high demand for cloth- kikoi, khanga, kitenge, bed sheets, blankets and other dressing materials. However, after the privatization programme of the late 1990s many of these mills closed altogether.

Currently, the spinning, weaving and textile mills industry comprises of 25 firms employing about 20,000 workers. It is estimated that about 30,000 tons of Tanzania’s cotton crop is locally processed into textiles every year.

Tanzania is the world’s 2nd largest sisal producer. Tanzania has a number of sisal processors which spin/weave sisal and make products such as sacks, ropes, twines, mats, etc.

Table 33: Textile Manufacturing Industry Profile, Tanzania

Segment	No. of firms	Description
Cotton Spinning	2 standalone firms	Yarn output partly sold locally and partly exported Installed Spinning Capacity: (Spindles) Short Staple: 400,000 Long Staple: 3,000
Traditional Fabrics	10 firms	Concentrate in making woven printed women kanga and kitenge; as well as yarn dyed woven kikoï fabrics, bed linen and home textiles. Most of these traditional fabrics are sold in Tanzania; a few exported in the surrounding land-locked countries; and limited amounts into some of the island states off the east African coast.
Specialist Textile	6 firms	1 firm manufactures heavier weight woven canvas textiles which are mainly exported; 3 firms make mosquito bed-nets sold locally and to other African states; 2 firms make limited volumes of blankets sold locally
Sisal textiles and products		A number of firms present to process domestic sisal crop into textiles and made-up items such as yarn, fabrics, ropes, sacks, carpets and mats

Source: Primary Research, International Textile Machinery Shipment Statistics Vol 32, 2009

Table 34: Market Access and Sales, Tanzania

Local	Majority of locally produced textiles are sold in Tanzania in the form of kanga & kitenge – these are woven cotton printed cloth wraps mainly worn by women
Regional	Large volumes of Tanzania made kanga & kitenge, and mosquito nets are sold into regional East African markets (e.g. Mozambique, Zambia, Malawi)
Export	Limited volumes of textiles & apparel are currently sold into the US and EU. In recent times, volumes of Tanzania garments are now being sold duty free into South Africa

Source: Primary Research

3.3.3.5. Apparel

In Tanzania, there are five large apparel producers mainly making knitted garments. These firms include Mazava Fabrics & Production, Sunflag, Kibotrade, Ellen Knitweave Mills, and A to Z Textiles. They use both local and imported fabric; and produce largely for export market within East Africa, South Africa, the European Union and limited sales to the US.

3.3.3.6. Support Institutes

The cotton sector of Tanzania is supported by various institutes listed below:

Tanzania Cotton Board

Tanzania Cotton Board (TCB) was established on July 1, 2004. TCB major roles are regulation, promotion, monitoring, advisory, facilitation, coordination, development and representation in the cotton sector.

Cotton Research Institutes

Currently, there are two institutes which directly deal with cotton research - the Lake Zone Agricultural Research Development Institute (LZARDI); and the Ilonga Agricultural Research Institute (IARI). Both are government owned. LZARDI is in WCGA; while IARI is in ECGA.

Tanzania Cotton Association

Tanzania Cotton Association was formed in 1997 as an apex organization of cotton stakeholders to promote the interest of the sector in a unified approach. Currently TCA has 50 members which include ginners, traders, exporters and Tanzania Cotton Growers Association. TCA has played an important role in promoting self-regulation amongst its members as well as in increased cotton output volumes and yields through timely availing farmers with inputs and tractor hire services.

Government Institutions

A number of government owned entities in the agricultural sector play a critical public role in various sectors, including the cotton sub sector. These include the Tanzania Official Seed Certification Institute (TOSCI), Tropical Pesticides Research Institute (TPRI) and others like the National Environment Management Council (NEMC) and Tanzania Bureau of Standards (TBS).

Development Partners

The development partners which include multilateral and bilateral organizations and agencies support Government and community in the agricultural sector, in general, and cotton sub-sector, in particular, through grants and soft loans. They also provide technical support in the implementation of agreed programmes. Most financial and technical assistance is now provided through basket funding, a framework for coordinating and managing external resources and for forging closer partnership between the Government and Development Partners.

3.3.4. Sector Competitiveness

3.3.4.1. Raw material

Tanzania is one of the key cotton growing countries in East African sub-continent. Of the overall production, about 80% is exported and only rest is utilized in the domestic market. Over 82% of the cotton is middling and above. Cotton production is 100% rain fed and thus, the production varies with the climatic conditions. Tanzania has inherent strengths in cotton production but is lately been effected by increasing issues of contamination. With new farm initiatives such as contract farming, this issue is expected to resolve to a large extent.

3.3.4.2. Manpower

There is availability of manpower but the present workforce lacks the requisite skills and training to do the required job. There is requirement of skilled workers especially in areas like efficient farm practices, weaving and textile manufacturing.

3.3.4.3. Power, Water & Fuel

Availability of power is highly erratic and a big constraint for the sector. The costs are reasonable but there are too many disruptions in the power supply and voltage due to which machines fail to operate continuously. Water supply is also irregular as it is dependent on power. All these factors increase the cost of power, water & fuel and thereby, increased production costs.

3.3.4.4. Financial support

There are large no. of local and international banks and financial institutions present in the country such as Bank of Africa, Tanzania Investment Bank, Commercial Bank of Africa, Barclays Bank, Standard Chartered, Citi Bank, etc. These Institutions lend funds to the textile industry but at very high costs of ~15%. So, it becomes highly unaffordable for the manufacturers to borrow from these banks.

3.3.4.5. Market access

Tanzania made textile and apparel products can enter most of the world's richer economies free of any customs duties and with limited quota restrictions. Some of the trade agreements that they have signed up for preferential market access includes:

- African Growth and Opportunity Act (AGOA)
- Southern African Development Community (SADC)
- Economic Partnership Agreement (EPA) with EU
- Least Developed Country (LDC)
- East African Community (EAC)

3.3.4.6. Technology

The technology currently in use is highly outdated in all areas like ginning, spinning and weaving. Many mills have lot of dysfunctional machineries which is just lying with them for many years. There is huge requirement of modern technology and training people to operate these machineries, to improve productivity in the sector.

3.3.4.7. Industrial zones

EPZ Authority has identified major areas of the EPZ / SEZ in the 17 regions in Tanzanian Mainland. Currently 3 of these EPZ have already been established, which are:

- Benjamin William Mkapa Special Economic Zones
- EPZ Msamvu, Morogoro
- Kamal Industrial Estate EPZ – Bagamoyo, Pwani

With continued efforts by the Ministry, many investors have continued to show interest in building industrial and business investment through the free investment areas of EPZ and Special Economic Zones (SEZ).

3.3.4.8. Research & product development

Few research initiatives have been undertaken by Research Association like Lake Zone Agricultural Research Development Institute, in the Eastern Zone and the Western Zone. These initiatives have led to the introduction of new varieties of seeds resulting in higher yields, good fibre content and better resistance. These initiatives have been funded partly by government and partly by Cotton Trust Fund and NGOs.

However, the research initiatives are currently not taking place in big way due to lack of sufficient researchers. The funding support for research and development is also limited as there is no private sector participation in the area.

3.3.4.9. Value addition

Tanzania has limited value added services and 80% of the cotton produced in the country is exported without any value addition. Country offers huge scope for introduction of value-added services but requires additional manufacturing facility for the same.

3.3.4.10. Compliances and CSR activities

Majority of the firms contribute to charities and make donations as part of CSR activities and support villagers needs of building schools, hospitals, etc. Few firms which are located at far-flung areas create provision for various facilities for employees like training, employees' children education, canteen facilities, activity zone, etc.

3.3.4.11. Logistics and Business Cost

Tanzania has advantage in terms of presence of port at Dar-es-Salaam. It takes about 10 days for document shipment & processing, customs clearance and then ~3 weeks to reach the destination. Sometimes there is a delay in shipment or clearance but not a major concern for the industry. The costs of doing business in Tanzania are one of the most competitive as compared to other target countries. Costs in terms of wages, power, water and logistics are reasonable. But the interruptions in supply lead to increased costs for the manufacturers. The borrowing costs for the sector are relatively high at ~15%.

Table 35: Logistics and Business Costs, Tanzania

Power Availability	Inadequate
Power cost	US cents 14/ units
Lending rate	~15%
Water cost	US\$ 0.5/ cu. m
Wage/ month	US\$ 80-100
Own Port	Yes
Nearest port	Dar-Es-Salaam
Sailing time from China	18 days
Sailing time to US	25 days
Freight cost / container (20 ft)	Export - US\$ 1,300 Import - US\$ 1,500

Source: Primary Research Findings

3.3.4.12. Government Initiatives

Cotton is one of the priority sectors of the Government and is supporting the sector through formation of various boards and relevant organizations to oversee the development of the sector. It has created Export Processing Zones (EPZ) along with EPZ Authority (EPZA) which offers various fiscal and non-fiscal incentives to the investors and the units. Government also provides support to the farmers by giving subsidies for procuring inputs like seeds, fertilizers, etc. Government through Tanzania Cotton Board and cotton authorities funds 60-70% of the cost while the rest is contributed by the farmers.

3.3.4.13. Domestic market

The domestic market is characterized by local fabric - Kanga and Kitenge. Kanga is used as a garment by local residents, as skirts, wraparounds, head gear, etc. These printed fabrics are available in varied designs and patterns. There is not much demand for domestically manufactured textile garments such as women dress wear, shirts and trousers for men.

There are also other forms of grey dyed printed cotton fabrics like sheeting canvas, twill, bed sheets, pillow covers, table cloth and others like mosquito nets.

Domestic market is saturated by huge imports of second-hand clothing at very low prices. This has led to dependence on imported clothing and domestic producers have also losing interest in local garment manufacturing.

3.3.5. Foreign Trade

3.3.5.1. Overview

Tanzania is a net importer in T&A sector, with net imports amounting to US\$ 0.23 Bn. T&A exports have slightly increased since 2005 from US\$ 0.16 Bn to US\$ 0.17 Bn. However, share of T&A exports in country's total exports have declined gradually from 11% in 2005 to 8% in 2009.

T&A imports have witnessed increase from US\$ 0.25 Bn in 2005 to US\$ 0.40 Bn in 2009, thus registering a compounded growth of 12%. Share of T&A imports have been ~7-8% in the last 5 years. Though the share has gone up to 13% in 2008 but it again dipped down to 7% in 2009.

Tanzania mainly exports cotton fiber and home furnishing whereas imports constitute worn clothing and woven fabric of synthetic filament yarn. China and India are the major suppliers of textile and apparel and Kenya & India are the major markets for Tanzania.

Figure 15: Tanzania's Overall Trade

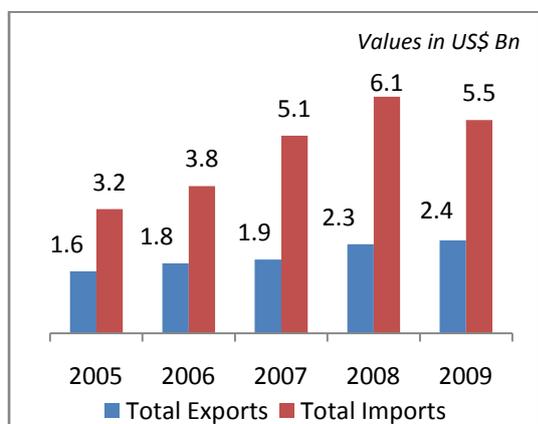
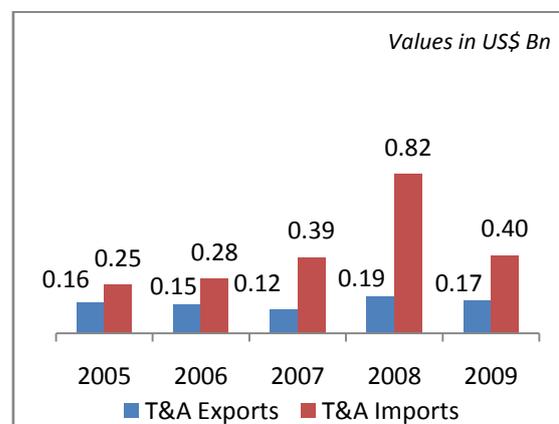


Figure 16: Tanzania's CTA Sector Trade



Source: UN Commodity Trade Statistics Database

Table 36: Key CTA Sector Export and Import Statistics, Tanzania (2009)

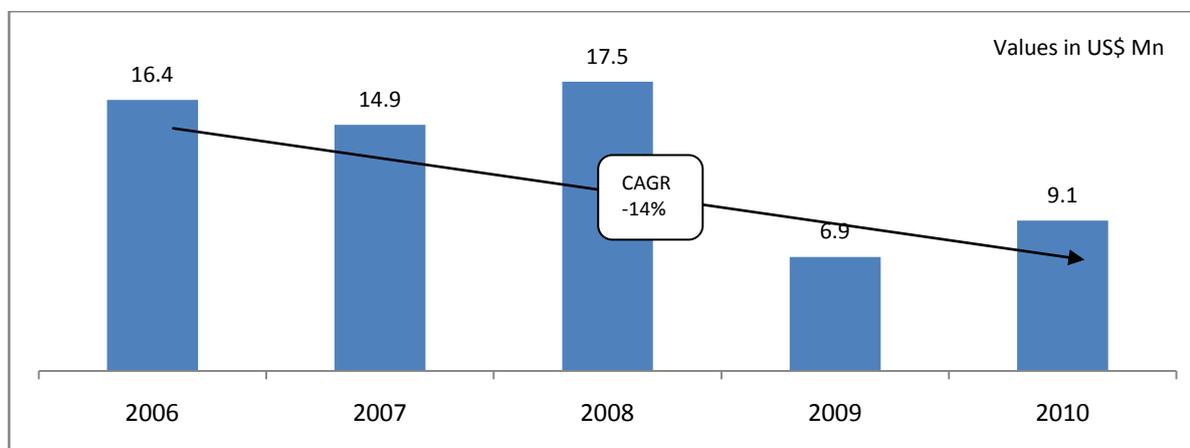
Top 4 exported commodities	85%	Top 4 imported commodities	46%
Cotton fiber	58%	Worn Clothing	14%
Home furn. excl. blanket& linen	17%	Woven fb of synthetic filament yarn	14%
Otherveg. fib. (coconut, abaca, etc.)	6%	Woven fb> 85% ctn, < 200 gsm	13%
Woven fb of synthetic filament yarn	4%	Women woven suit, jacket etc.	5%
Leading 4 markets	56%	Leading 4 suppliers	74%
Kenya	19%	China	36%
India	19%	India	25%
Viet Nam	10%	United Arab Emirates	9%
Indonesia	8%	USA	4%

Source: UN Commodity Trade Statistics Database

3.3.5.2. Exports to EU

Tanzania is a minor supplier of textiles and apparels products to the EU market. Tanzania’s supply to the EU-27 countries in 2010 was ~US\$ 9.1 Mn. Further, the overall value of trade with EU 27 is also on a declining trend over last 5 years.

Figure 17: Tanzania’s CTA Sector Exports to EU



Source: Eurostat

Table 37: Major Categories of Imports by EU from Tanzania

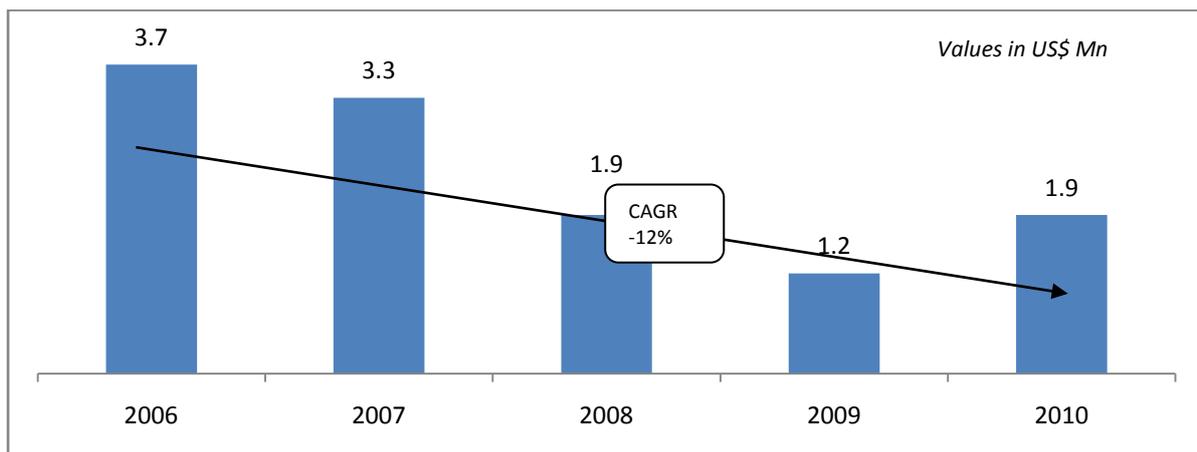
Values in US\$ '000	2006	2007	2008	2009	2010	CAGR	2010 share
Raw Cotton	5505	3438	7253	2658	2732	-16%	30%
Cotton yarn, with >= 85% cotton	3864	3426	1857	815	1300	-24%	14%
Other veg. fiber e.g. coconut, abaca, sisal, ramie, etc. and their waste	2287	2709	3565	913	1166	-15%	13%
Yarn of vegetable textile fibers like flax, jute, other bast fibers	260	717	509	482	1163	45%	13%
Knitted T-Shirts, singlets and other vests	3088	2069	1563	972	1610	-15%	18%
Carded or combed cotton	711	1662	1811	773	710	0%	8%
Subtotal top 6 categories	15716	14019	16558	6614	8681	-14%	95%
Others	717	867	968	308	453	-11%	5%
Total	16433	14885	17526	6922	9134	-14%	100%

Source: Eurostat

3.3.5.3. Exports to USA

Limited volumes of Tanzania’s textiles and apparels products are exported to the US market. Tanzania’s supply to the US in 2010 was ~US\$ 1.9 Mn. Further, the overall value export to the US has declined over the years.

Figure 18: Tanzania’s CTA Sector Exports to US



Source: Otxea

Table 38: Major Categories of Imports by US from Tanzania

Values in US\$ '000s

	2006	2007	2008	2009	2010	CAGR	2010 share
Mens, boys suits, jackets, trousers etc knit or crochet	-	-	-	-	785	-	41%
Clothing accessories or parts, knit or crochet	-	0	-	-	517	-	27%
T-shirts, singlets and other vests, knit or crochet	710	518	846	814	298	-16%	15%
Jerseys, pullovers, cardigans, etc, knit or crochet	276	529	76	-	250	-2%	13%
Women's, girls suit, dress, skirt, etc.	24	17	3	-	41	12%	2%
Garments, knit or crochet	1	-	-	2	20	78%	1%
Sub Total Top 6 categories	1,011	1,064	924	815	1,912	14%	99%
Others	2,707	2,217	948	389	11	-67%	1%
Total	3,718	3,281	1,872	1,204	1,923	-12%	100%

Source: Otexa

3.3.6. SWOT Analysis

Strengths

- Mainstay of economy:** The cotton industry has been a socio-economic mainstay in the country as significant population has been dependant on the sector for more than a century. The primary producers are dedicated to cotton.
- Favourable climatic conditions:** Existence of large tracts of fertile soils; numerous and large permanent water bodies are suitable for increased acreage and irrigation cotton farming.
- Large cotton production:** Tanzania is one of the key growers of cotton in Africa and supplies cotton to many countries including Kenya, China, Indonesia, Thailand, Bangladesh, Vietnam, Pakistan, etc. Thus, it is one of the principal crop generating export revenues.

Weaknesses:

- Poor farm practices:** The sector is dominated by smallholder producers with limited knowledge on crop and farm management practices, price and market trends, input procurement and supply trends.
- Weak linkages across the value chain:** The stakeholders in spinning, weaving and textile manufacturing are disorganised with little or no cooperation, and other support institutions and

local governments not playing effective role in supervising operations of agriculture, including cotton.

3. **Lack of value addition in the sector:** Though Tanzania has abundant cotton production; about 80% of the cotton is exported. There is limited value addition happening in terms of manufacturing of finished goods/garments.
4. **Interruptions in power supply:** The power supply in Tanzania is highly erratic and a big constraint for the sector. There are too many disruptions in the power supply and voltage due to which machines fail to operate continuously. Many mills can operate only 3 days a week due to power shortage.
5. **Outdated technology:** Current machineries / technology in use are very outdated particularly for ginning and textile sector. This further adds to the costs of manufacturing. Sector is currently facing lack of new investments for upgrading technology.
6. **Lack of support institutions for training and skill development:** The skill level of people working in a mill or at farm is very low. They need to be constantly trained and monitored to ensure smooth functioning of work. There is lack of training and skill development institutions which can enhance their job skills to a certain level and thereby, increases productivity.
7. **Under developed domestic market:** The domestic market is completely under-developed and is largely dependent on local fabric - Kanga and Kitenge or second hand garments. There is little availability as well as little demand for domestically manufactured textile garments such as women dress wear, shirts and trousers for men.

Opportunities:

1. **Huge demand potential:** Enduring demand for cotton fabrics and textiles due to rising population, increasing income, and changing consumer patterns in preference for cotton textiles and apparel.
2. **Use of better practices:** There is an inclination towards adopting new improved practices in cotton production and processing; e.g. contract and irrigation cotton farming, and systematic breeding of better quality hybrid seeds for higher crop yields and output volumes.
3. **Increased investments in the sector:** Rising investments in textiles manufacturing will enhance skills development, boost incomes and jobs, and underpin a more sustainable domestic industrialisation strategy.

Threats:

1. **Deteriorating cotton quality:** The contamination levels in the cotton are increasing and this may pose a threat to the country's cotton sector. This will negatively impact the earnings as well as competitiveness of Tanzania's cotton if suitable measures are not taken in time.

2. **Increased focus towards other profitable cash crops:** Emergence of alternative cash crops, especially green gram, which are cheaper to grow but fetch higher returns than cotton in the major cotton growing areas of WCGA, is a threat for the sector.
3. **Competition from leading global textile manufacturers:** Expanding acreage, increasing yields and falling production costs in major producing and consuming countries pose threat to Tanzania cotton sector leading to reduced prices and markets for Tanzania cotton.
4. **Threat from second hand articles:** There are huge imports of second hand clothes in the country which is posing a big threat to the economy. The present legal framework is not strong enough to prevent this practice.

3.3.7. Recommendations

After conducting a comprehensive analysis of CTA sector in Tanzania, we did a SWOT analysis which brings out the key issues that the sector is currently facing. These are strategic issues which need to be addressed keeping in mind the relative strength areas of Tanzania and its cotton, textile and apparel sector. Following recommendations are made for improving/strengthening the CTA sector performance:

S.no.	Objectives	Recommendations
1	Increasing cotton quality and yield	<ul style="list-style-type: none"> • Improve farm practices • Create awareness among farmers • Support R&D centers for introducing high yielding seeds • Promote contract farming on a larger scale • Offer more extension programmes • Exercise stringent quality controls at the ginning level
2	Promoting value addition in the sector	<p>Tanzania has abundant cotton supply but the downstream industries i.e. textile and apparel manufacturing are limited.</p> <p>Value addition in the sector should be promoted by providing:</p> <ul style="list-style-type: none"> • Support schemes/fiscal incentives on value addition • Promoting clusters for doing value addition
3	Support for modernization and capacity expansion	<ul style="list-style-type: none"> • Interest subsidies shall be provided for upgrading machineries or installing new machineries • Textile & Apparel sector shall be classified as Priority sector and thus, increased lending to the sector should be a prime focus • Establish JVs with international partners
4	Improving skills of people through adequate training	<p>Introduce schemes for training and skill development and create a fund for implementing the scheme which will aid:</p> <ul style="list-style-type: none"> • Establishing new training centers • Establishing new training programs • Strengthening existing training centers • Linking existing centers with the Industry

5	Promote education in the field of textiles	<ul style="list-style-type: none"> • Establish new colleges for textiles • Link existing centers with the Industry • Update course curriculum regulatory as per industry requirements • Tie-up with other international colleges for student exchange/knowledge exchange programs
6	Improve existing infrastructure and rationalize costs of doing business	<ul style="list-style-type: none"> • Adopt cluster based development approach where suitable infrastructure is provided to the units operating within those and at reasonable costs • Various clusters should be identified by doing a detailed study and then promoted as 'Textile & Apparel districts' within the region
7	Initiatives to promote domestic market development	<ul style="list-style-type: none"> • Phase out supply of second-hand clothing from the market through appropriate policy interventions • Develop a mechanism to regulate flow of cotton to domestic market
8	Investment promotion activities	<ul style="list-style-type: none"> • Organize Annual Investor Summit showcasing business opportunities in Tanzania's cotton and textile sector

All these recommendations have been dealt in detail under Chapter 5: Benchmarking and Proposed Interventions, where we have compared the target countries with the leading CTA manufacturing countries of the world on the key parameters.

3.4. Uganda

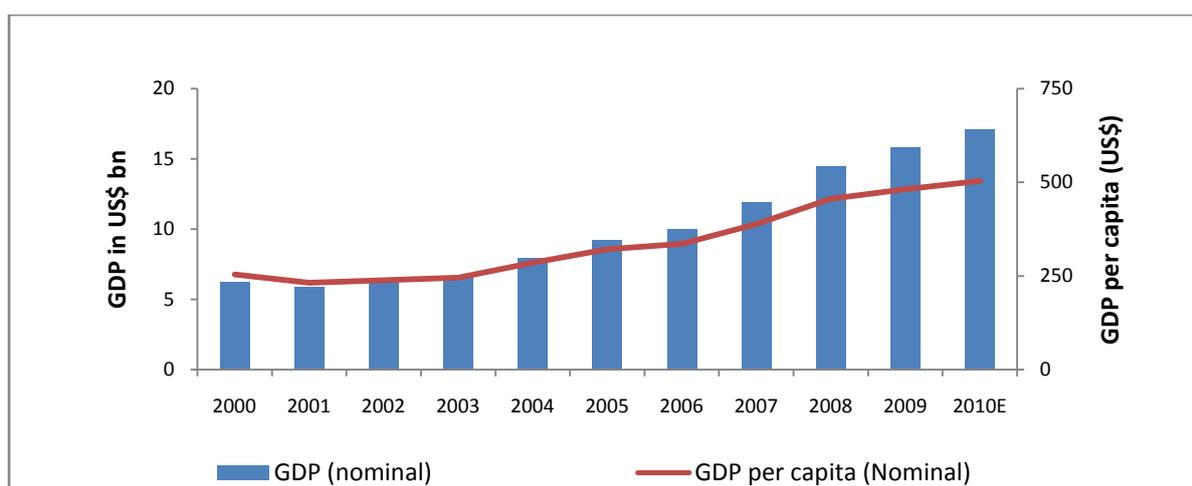
3.4.1. Country Overview

Uganda, known as the “Pearl of Africa” is a landlocked country in East Africa. It possesses substantial natural resources, including fertile soils, regular rainfall, and sizable mineral deposits of copper, cobalt, gold, and recently discovered oil.

For decades, Uganda's economy suffered from devastating economic policies and instability, leaving Uganda as one of the world's poorest countries in the world. However, the country has commenced economic reforms and since then growth has been robust. In 2008, Uganda recorded 7% growth despite the global downturn and regional instability

The current size of Ugandan economy is US\$ ~17 Bn (2010, nominal GDP). The per capita GDP in is estimated at ~US\$ 504 (2010, Nominal). The services sector is the largest contributor to economic activity, contributing ~52% to the GDP; dominated largely by wholesale & retail trade, real estate activities, education and transport & communications.

Figure 19: Economic Snapshot, Uganda



Source: World Economic Outlook Database, IMF

3.4.2. Cotton, Textile and Apparel Sector Overview

Cotton farming began in the year 1903 and is one of the major Uganda's traditional crops. Cotton can be produced in most parts of Uganda, but over 50 percent of the crop is today produced in the areas north and east of River Nile. Cotton is normally grown on small plots of less than half an acre and is often inter-cropped with other cash and food crops. Farmers use traditional farming practices and tools for cultivation and all crops are rain-fed. During the 1960s, Uganda was Sub-Saharan Africa's largest cotton producer. It represented 40% of foreign earnings. However, political instability and poor policy choices of the 1970s caused a serious decline in the sector.

In 1994, Uganda's cotton sub-sector was liberalized by the government with the hope to address the decline. In particular, the government hoped to solve the problem of crop financing in order to

increase production and productivity and to remove inefficient institutions. By 2004, the production of cotton increased but after that there was decline in the production largely due to reduction in area under cotton cultivation.

Today, although many ginneries operate at less than 40 percent of their estimated capacity, cotton is estimated to contribute to the incomes of 10 percent of Uganda's population in rural areas in the North, East, and West.

The Ugandan textile sub sector was founded in the 1950s and 60s spearheaded by the Uganda Development Corporation (UDC). A National Textile Board was established in the late 1960s to guide textile industry activity in Uganda that focused at import substitution. The textile and apparel section of the cotton value chain typically consists of three types of firms. These are textile mills that primarily carry out spinning and weaving, finishing mills that do bleaching, dyeing, printing, and garment cutters and household manufacturers. Most of the larger firms are vertically integrated, carrying out spinning, weaving, finishing, converting, and in some cases, tailoring.

The spinning and weaving capacities are low and the existing mills cannot process more than 10 percent of the cotton lint currently being produced in Uganda. The annual output aggregates to about 25 million meters.

Government of Uganda and the private sector have plans and budgets to further improve production and value addition in the chain and to make the sector more competitive. In order to make the sector more efficient and spur investments into the sector, the government has drafted National Textile Policy for the country.

In December 2009, Ugandan government launched National Textile Policy, with a vision to create a strong and vibrant textile and clothing industry with sustainable capacity utilisation and enhanced investment through the textile value chain.

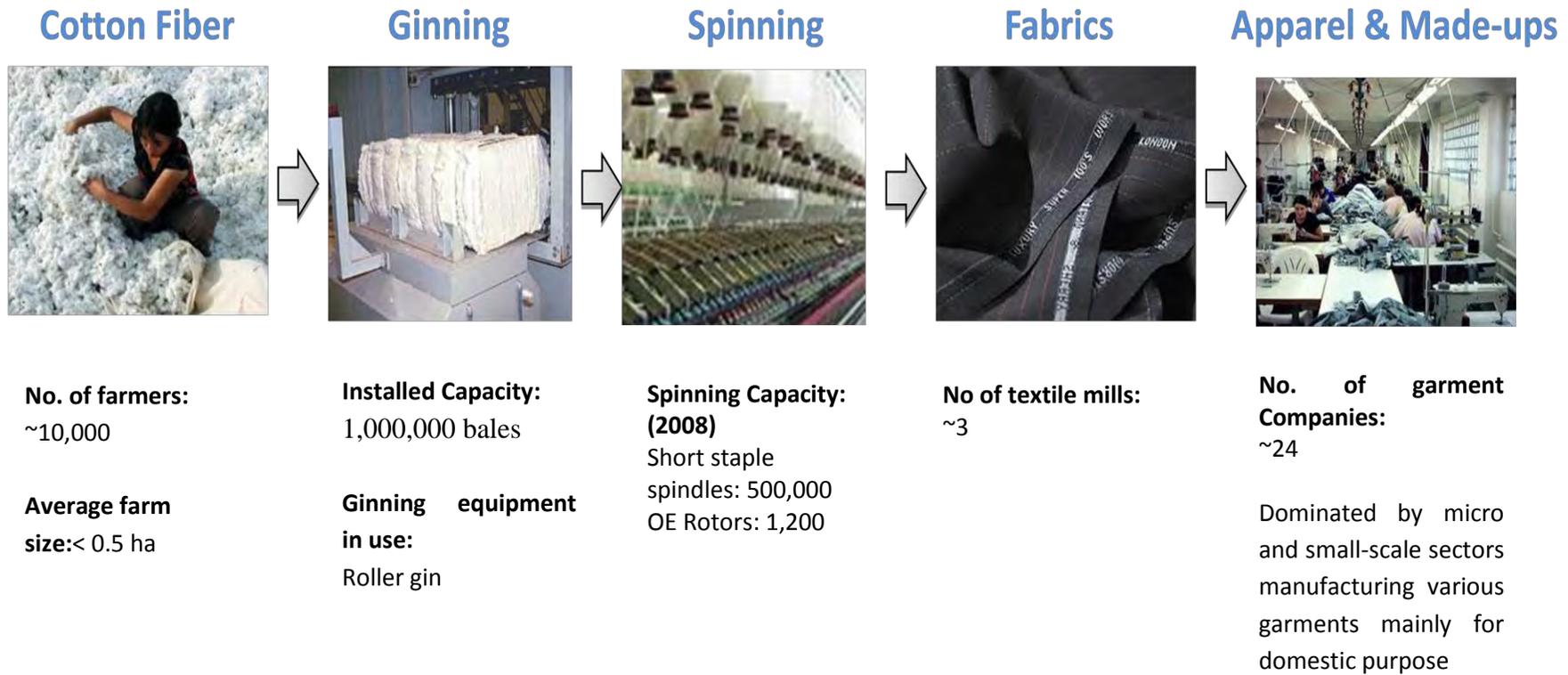
The specific objectives of the policy include a three-step development process:

- Improvement period (1-2 years) with a focus on improving the capacities of existing textile companies, reducing costs of doing business in Uganda, controlling counterfeits.
- Expansion period (3-5 years) with a focus on capacity addition, quality improvements, development of industrial textile parks, etc.
- Period of steady and sound development (within 5 years and beyond) with a focus on increasing downstream linkages within the sector for ancillary products like thread making, garment accessories, food oils extraction, animal feeds making , etc. and seeking active cooperation and partnership of industrial bodies.

3.4.3. Value Chain Analysis

3.4.3.1. Overview

Figure 20: Uganda CTA Value Chain Overview



3.4.3.2. Cotton Fiber

During the 1960s, Uganda was Sub-Saharan Africa's largest cotton producer. It accounted for over 40% of foreign earnings. However, political instability and poor policy choices of the 1970s led to the sector's decline. Though the attempts to revive the sector with lending operations during the 1980s failed, policy reforms combined with a lending operation and high cotton prices revitalized the sector in the 1990s. Nevertheless, there remains the sense that the sector lags behind its full potential.

In Uganda, cotton is grown in nearly every part of county and is entirely rain fed. It is grown on a regular basis by over 10,000 farmers. Over 90% of cotton is exported raw out of Uganda onto the global market where prices continue to fluctuate from time to time based on levels of production globally. Cotton faces constraints like pests, weeds, diseases, declined soil fertility, changing climate, poor agronomic practices and marketing system.

Production Statistics

There has been a remarkable increase in the cotton lint production over the years

Table 39: Cotton Production Statistics, Uganda

Period	Cotton Lint Production (Bales @ 185 Kg)	Earnings from lint		Earning by farmers		Sale of Seeds by ginners		
		Ave. FOB price (\$/Kg of lint)	Value (\$ millions)	Ave. Farm gate price (UGX/Kg of seed cotton)	Value (Sh. Billion)	Total quantity of seed produced (MT)	Ave. price per MT (UGX)	Total value of seed (UGXBn)
2006-07	134,000	1.10	27.27	470	32.50	46,500	180,000	8.37
2007-08	66,500	1.60	19.68	750	25.74	17,350	340,000	5.90
2008-09	125,310	1.06	24.57	650	48.49	42,731	350,000	14.96
2009-10	70,300	1.59	20.68	900	27.94	23,972	400,000	9.59
2010-11	146,500	3.06	82.93	1,600	58.23	49,957	700,000	34.97
TOTAL	542,610		175.14		134.67	130,553		73.78

Source: Cotton Development Organisation

There has been a tremendous improvement in cotton yields in recent years, which has almost tripled during 2005 to 2010. However, the production continued to decline largely due to reduction in area under cotton cultivation. Most of the cotton produced in Uganda is exported. Major importers of Uganda's cotton are Indonesia, Portugal, Pakistan, Kenya and India. The exports of cotton however vary a lot depending on international cotton prices, political instability in major growing areas as well as a heavy dependence on weather. The internal demand of cotton for mill use in Uganda has remained stagnant since 2003.

Table 40: Cotton Balance Sheet (1990-2010), Uganda

*Values in '000 (480-pound) bales
Year from Aug 1 to Jul 31*

Year	Opening Stocks	Production	Imports	Total Supply	Mill Use	Exports	Ending Stocks	Harvested Area (000) Acres	Yield Pounds/Acre
2010	50	125	0	175	20	90	65	247	243
2009	65	60	0	125	20	55	50	173	166
2008	60	100	0	160	20	75	65	247	194
2007	85	60	0	145	20	65	60	247	117
2006	90	95	0	185	20	80	85	395	115
2005	135	90	0	225	20	115	90	667	65
2004	80	200	0	280	20	110	135	988	97
2003	80	125	0	205	20	105	80	618	97
2002	68	95	0	163	15	68	80	618	74
2001	42	90	0	132	7	57	68	618	70
2000	22	85	0	107	7	58	42	618	66
1999	19	100	0	119	7	90	22	618	78
1998	19	70	0	89	5	65	19	618	54
1997	19	50	0	69	5	45	19	124	194
1996	14	80	0	94	5	70	19	247	155
1995	14	45	0	59	5	40	14	371	58
1994	7	37	0	44	5	25	14	319	56
1993	19	18	0	37	5	25	7	175	49
1992	3	51	0	54	10	25	19	430	57
1991	9	32	0	41	10	28	3	331	46
1990	3	41	0	44	9	26	9	220	89

Source: National Cotton Council of America

Planting Seasons

In the northern areas, with one rainy season, cotton planting start at the beginning of April- June rains and in the South, with two rainy seasons, planting occurs later in the June – July period.

Cotton Characteristics

Uganda's Cotton is among the most commonly produced and traded cotton variety in the world and belongs to the species *Gossypium birsidum*, accounting for 75% of world trade. American Upland variety of cotton is most suitable for the Uganda's climatic and soil condition. Two upland varieties Allen and sunflower have been developed through selections and breeding to the current Bukalasa Pedigree Albar (BPA) and Serere Albar Type Uganda (SATU) types grown in Uganda.

Cotton Grades

The Uganda Cotton grade are classified into two sets i.e. roller and saw gin set. The roller grade includes UCON, UCOB, UCOP, UCOA and UCOM. The two Ugandan standards for saw ginned cotton are UCOSA I and UCOSA II. These grades are determined by micronaire and staple length. All

exporters are required to market Ugandan cotton on the basis of these grades. Over 98% of the crop is roller ginned annually.

Table 41: Main Fiber Properties and Grades of Ugandan Cotton

Grade Standard	Length (mm)	Strength(g/tex)	Micronaire	Value Differences (Points/ US cts/lb)	Universal Grades
Roller Ginned					
UCON	29 & above	30-33	3.7-4.3	150 points (+1.5 cts)	Good Middling
UCOB	28-29	30-33	3.7-4.3	75 pts (+0.75 cts)	Strict Middling
UCOP	28-29	28-32	4.0-4.2	Base Grade	Middling
UCOA	26-27	28-30	4.0-4.2	-100 points (-1.0 cts)	Strict Low Middling
UCOM	26 & below	27-30	4.2-4.4	-225 points (-225 cts)	Low Middling
Saw Ginned					
UCOSA I	27 & above	28-30	4.0-4.2	100 points (-1.0 cts)	Strict Middling
UCOSA II	27 & below	27-30	4.0-4.2	Base Grade	Middling

Source: Cotton Development Organisation

Cotton Types

Uganda cotton belongs to the *G. Hirsutum* species whose origins trace back to the American upland varieties (Allen and Sunflower). These two varieties underwent selections and breeding to produce the Uganda Bukalasa Pedigree Albar (BPA) and Serne Albar Type Uganda (SATU) types. Uganda only cultivates the BPA type.

Cotton variety in Uganda

- i. East and North Short staple
- ii. South & west Long staple

Key Initiatives

Organic Cotton

Organic Cotton was introduced in Uganda in 1998. The organic garments export pioneered by Phenix has brought incredible hope for the sector as it improved the yield. During the year 2006-07 the interest in organic cotton production increased tremendously and particularly in Northern and West Nile regions and hence there was a lot of production of organic cotton in these areas.

Mass production of organic cotton had a negative impact on the production and the productivity. As the required technology is missing and farmers are not well trained, yields are lower than 70 to 90% of normal ones. So the Government has stopped promoting Organic Cotton.

Table 42: Historic Organic Cotton Production in Uganda

Period	Organic production (bales)	Lint	National production (bales @ 185kg)	Percentage of Organic to National production
1994-95		115	33,000	0.3
1995-96		392	56,416	0.7
1996-97		1,533	110,700	1.4
1997-98		2,393	32,000	7.5
1998-99		1,285	82,000	1.6
1999-00		983	117,000	0.8
2000-01		1,383	100,000	1.4
2001-02		1,391	120,000	1.2
2002-03		1,300	110,000	1.2
2003-04		3,808	160,000	2.4
2004-05		5,809	254,000	2.3
2005-06		2,763	102,000	2.7
2006-07		12,775	134,000	9.5
2007-08		11,274	65,000	17.3

Source: Cotton Development Organisation

Bt Cotton

Cotton has been planted in Uganda for more than a century, despite its low productivity. In an effort to improve productivity, the Ugandan government is considering genetically modified (GM) varieties such as insect resistant (IR) and herbicide tolerant (HT) cotton. The research that is being carried out by Ugandan scientists at the National Agricultural Crop Resources Research Institute (NaCRRI), in Namulonge, and National Semi-Arid Resources Research Institute (NaSARRI), in two sites, one being in Serere in Soroti and the other at Mubuku in Kasese genetically modified (GM) cotton is showing promising signs.

Currently, the team is in the second phase of conducting the trial. The first phase was done from September 2009 to March 2010. The first trial had encouraging results and the funders decided that the researchers conduct a second phase of the trial for further evaluation.

The team is conducting the research on herbicide-tolerant cotton as well as boll worm infection. With herbicide-tolerant cotton, the plant is left to grow without weeding and herbicide is applied to eliminate the weed without affecting the plant. The boll worm trial is where both the Bt cotton species and the local varieties are planted in the same field. Once the boll worm lands on the cotton plant, it is killed immediately which is not the same case with the local variety.

Uganda National Council of Science that authorizes trials of GM crops in Uganda has given the team a go-ahead to remove the lint of the cotton and sell it but its seeds should be burnt immediately. This is to avoid farmers from obtaining seeds for planting before the biosafety law is put in place.

The objective of the trial is to assess the ability of Monsanto's GM cotton varieties to tolerate applications of roundup herbicide, as a weed control method under Uganda's conditions. GM cotton once adopted for commercialization will lead to increased yields leading to increased income in the farming community since it will not be affected by the boll worm.

3.4.3.3. *Ginning and Oil Pressing*

Since cotton in Uganda is a smallholder, rather than estate crop, traditionally there have been little or no organized backward linkages between ginners and farmers since no ginnery produces its own cotton. However, ginners are now being supported through the efforts of CDO and USAID-funded SPEED Project, to provide extension services to the farmers, including supervising demonstration plots.

Uganda has adequate ginning capacity. There has been a remarkable increase in the ginning capacity from 100,000 bales to 1,000,000 bales in to 1,000,000 bales in Uganda. Moreover, the Cotton Development Organization is striving to re-discover the pre-1972 annual production levels of over 500,000 bales per annum.

3.4.3.4. *Textiles*

Uganda's textile milling capacity was founded in the 1950 & 60s. The Uganda Development Corporation (UDC) spearheaded establishment of mills, working hand in hand with CALICO Printers of the UK, YAMATO International & other Asian Family initiatives.

Like any other sector, the textile mills were affected by the chaos that Uganda went through which resulted into mismanagement and closures. By the divestiture of some mills owned by Government, machinery was obsolete and the state of repair was generally poor.

In Uganda, textile firms are mostly small or medium-sized, and low-capacity use is common. These mills produce both clothing and cloth for sale on the local market. Most Ugandan textile mills do not

produce large volume fabric orders, but rather concentrate on producing small runs of a variety of fabrics. Some firms utilize state of the art electric spinning machines and weaving and knitting looms, while other firms produce fabric on manually operated machinery. Three mills [Phenix, Sigma Knitting Industries & Southern Range Nyanza] are now functional, having invested in excess of US\$ 30 Million in modernization and equipment up-gradation. Idle capacity exists in terms of non-functioning mills like Lira Spinning Mill, Mulco& ATM while Rayon Textiles was scrapped.

Fabrics are sourced about evenly from local textile operations and Asian imports. Roadways are the dominant method of export for Ugandan apparel manufacturers

The production of fabrics has gradually improved in quality and quantity to enable millers offer a broader variety of products for the local regional and international market. The organic garments export niche breakthrough pioneered by Phenix has brought incredible hope for the sector.

The sector supplies about 10% of the UGX 350 Billion textile market annually. The mills have potential to produce 25-30% of the market demand. The 3 functional mills directly support the livelihood of more than 3000 Ugandans whose aggregate annual income is in excess of UGX2.5Billion.

Through TEMAU, the mills have managed to establish human resources management best practices in the sector, enabling unionization of workforce to eliminate industrial unrests that characterized the sector earlier.

Table 43: Key Yarn Characteristics made from Ugandan Cotton

Staple length	30mm (11/5")
Fibre Strength	> 20 g/tex
Fineness (micronaire)	3.5 - 4.0
Yarn strength	>2200 LCCSP
Yarn appearance	white, free from Neps

Source: Cotton Development Organisation

Apparel

The manufacturing of apparel and clothing in Uganda is limited and is dominated by micro and small scale tailors of various garments, mainly for domestic consumption. The production of clothing in Uganda is very minimal due to the low purchasing power of consumers, competition from second-hand clothing markets and cheap imports. Most apparel investors in Uganda are local entrepreneurs that manufacture clothing and uniforms for the local and regional East African markets. Many have considered or tried to take advantage of AGOA, but have not found it to be profitable, unlike the markets they already serve.

Support Institutes

The key support institutes involved in the Ugandan Cotton Industry are:

Table 44: CTA Sector Support Institute in Uganda and their Functions

Institutions	Main Functions
Cotton Development Organization (CDO)	Established in 1994, its objective is to regulate the industry as well as collect and disseminate statistics. It is financed by a levy imposed on all cotton ex-ports. Its Board of directors consists of the Chairman (appointed by the Minister), representatives from MFPED, MAAIF, and NARO, and six private sector representatives from cotton-related industries. The Managing Director is appointed by the Board.
Uganda Ginners & Cotton Exporters Association (UGCEA)	Formed in 1997 with compulsory membership for all cotton ginners, its objective is to coordinate activities such as input financing, operating demonstration plots, and providing a forum for discussing issues affecting ginners and exporters.
Cotton Research Institute	All cotton research activities take place at the Cotton Research Station, located in Serere (Soroti district). Its main responsibilities consist of studying and controlling cotton diseases, seed multiplication, and introduction of new varieties.
National Agricultural Advisory Services (NAADS)	NAADS was established by the National Agricultural Advisory Services Act of 2001 as a statutory corporation, its mandate is to promote market-oriented agriculture through provision of extension services.
Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	It is responsible for supporting and guiding the agricultural sector. Most of its cotton-related activities are performed through the Cotton Research Institute.
Ministry of Finance, Planning and Economic Development (MFPED)	It oversees the planning of strategic development initiatives in order to facilitate growth, efficiency, stability, and poverty eradication. It also mobilizes resources for public expenditure programs
Ministry of Tourism, Trade, and Industry (MTTI)	Three departments within the Ministry (Trade, Cooperatives, and Industry) deal with cotton-policy issues such as value addition, enhancement of competitiveness, and extension services.
Uganda Manufacturers Association (UMA)	UMA was established in 1960's to promote, protect and coordinate the interests of industrialists in Uganda. UMA initiates discussions and exchange of information amongst members on industrial issues. It also advises Government on key policies affecting industry.
Uganda Investment Authority	The Uganda Investment Authority (UIA) is a semi-autonomous investment promotion and facilitation organization in Uganda, owned by the Government of Uganda. The mission of the UIA is to promote and facilitate investment projects, provide serviced land, and advocate for a competitive business environment.

Private Sector Foundation Uganda	PSFU is Uganda's apex body for private sector. It has been Government's implementation partner for several projects and programmes aimed at strengthening the private sector as an engine of economic growth. Such programmes include; the implementation of the Business Uganda Development Scheme (BUDS), the BUDS-Energy for Rural Transformation (ERT) programme and advising government on positive policy reforms.
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Source: Primary Research Findings

3.4.4. Sector Competitiveness

3.4.4.1. Raw material

In Uganda, cotton is grown in nearly every part of county and is entirely rain fed. It is grown on a regular basis by over 10,000 farmers. Over 90% of cotton is exported raw out of Uganda onto the global market where prices continue to fluctuate from time to time based on levels of production globally. Uganda has an advantage in production like availability of cheap labor, low pest pressure and favorable weather. All these factors Uganda to grow the crop through better agronomy for increase production and productivity.

3.4.4.2. Manpower

There is availability of abundant cheap manpower but the present workforce lacks the requisite skills and training to do the required job. There is requirement of skilled workers especially in areas like efficient farm practices, weaving and textile manufacturing.

3.4.4.3. Power, Water & Fuel

Availability of power is highly erratic and a big constraint to this sector. The costs are high and highly fluctuating.

3.4.4.4. Financial support

Credit availability is very less. Long term loans are available at an interest rate of 18 to 20% with a repayment period of 3 years. Foreign currency loans may be available to businesses with at least 20% of earnings in foreign currency, at an interest rate of 7 to 12%. However, the availability is very less.

3.4.4.5. Market access

Uganda made textile and apparel products can enter most of the world's richer economies free of any customs duties and with limited quota restrictions. Some of the trade agreements that they have signed up for preferential market access includes:

- African Growth and Opportunity Act (AGOA)
- Economic Partnership Agreement (EPA) with EU

- Least Developed Country (LDC)
- Common Market for Eastern and Southern Africa (COMESA)
- East African Community (EAC)

3.4.4.6. Technology

The technology currently in use is highly outdated in all areas like ginning, spinning and weaving. Many mills have a lot of dysfunctional machineries which are just lying with them for many years. There is a huge requirement of modern technology and training people to operate these machineries, to improve productivity in the sector.

3.4.4.7. Industrial zones

Uganda has four functional industrial parks at Nalukolongo, Luzira, Bweyogerere and Namanve.

3.4.4.8. Research & product development

Research initiatives currently being undertaken by Cotton Research Institute. Its main responsibilities consist of studying and controlling cotton diseases, seed multiplication, and introduction of new varieties.

3.4.4.9. Value addition

Uganda has abundant cotton supply but the downstream industries i.e. textile and apparel manufacturing are limited. Currently, most of the products made are very basic in designs at the textile level as well as garments (finished product) level. There is very limited focus on value addition w.r.to designs, specialized finishes, embroidery, sequins, etc.

3.4.4.10. Compliances and CSR activities

Southern Range Nyanza Ltd has been a sponsor of a medical camp where a total of 1200 patients' access free world class medication annually. They have also sponsored National Badminton championship and many other supporting activities to nurture talent in Uganda. Donate clothes to underprivileged.

3.4.4.11. Logistics and Business Costs

Uganda is a landlocked country and utilizes Kenyan port of Mombasa for exports. The intercity connectivity from port to manufacturing locations is satisfactory with a lot of highway development happening all across. The issue sometimes is of paperwork and hassles at border post (from Uganda to Kenya) and delays for clearances at the port itself.

Table 45: Logistics and Business Costs, Uganda

Power Availability	Erratic
Power cost	US cents 12/unit
Lending rate	18-20%
Wage/ month	US\$ 90-100
Own Port	No
Nearest port	Mombasa
Sailing time from China	17 days
Sailing time to US	25 days
Freight cost / container (20 ft)	Exports US\$2100 Imports US\$ 2200

Source: Primary Research Findings

3.4.4.12. Government Initiatives

The government is providing support by funding the seed for planting and related activities.

3.4.4.13. Domestic market

The domestic markets Uganda is dominated by imports of yarn, fabrics, finished goods. Domestic market is affected by huge imports of second-hand clothing at very low prices. This has led to dependence on imported clothing and domestic producers make products mainly for the export markets.

3.4.5. Foreign Trade

3.4.5.1. Overview

Uganda is a net importer in T&A sector, with net imports amounting to US\$ 0.09 Bn. T&A exports have declined since 2005 from US\$ 0.06 Bn to US\$ 0.03 Bn. Share of T&A exports in country's total exports have declined gradually from 8% in 2005 to 2% in 2009.

T&A imports have witnessed increase from US\$ 0.07 Bn in 2005 to US\$ 0.12 Bn in 2009, thus registering a compounded growth of 15%. Share of T&A imports in country's total imports has consistently been at 5%.

Cotton Fiber accounts for 81% of Uganda exports whereas it imports mainly worn clothing and twines, cords. China is the biggest supplier to Uganda whereas the biggest export market is Indonesia.

Figure 21: Uganda's Overall Trade

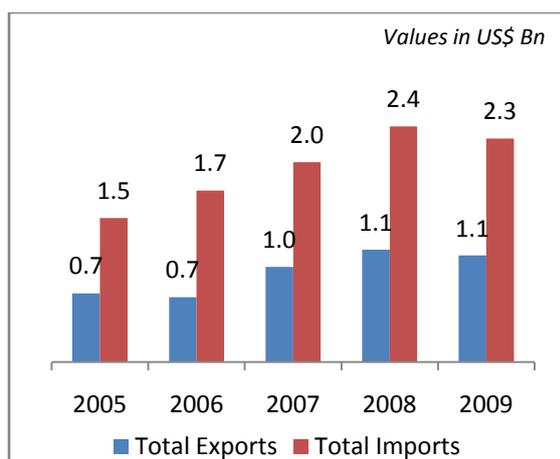
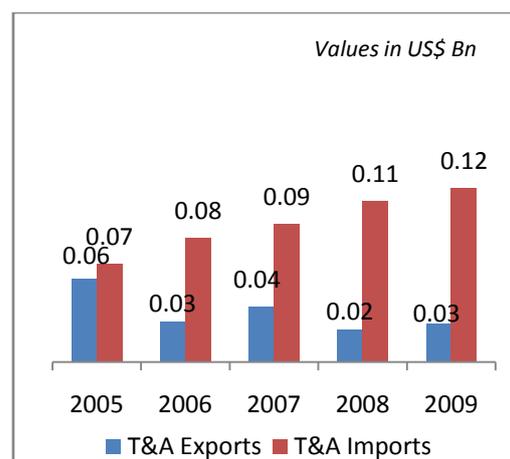


Figure 22: Uganda's CTA Sector Trade



Source: UN Commodity Trade Statistics Database

Table 46: Key CTA Sector Export and Import Statistics, Uganda (2009)

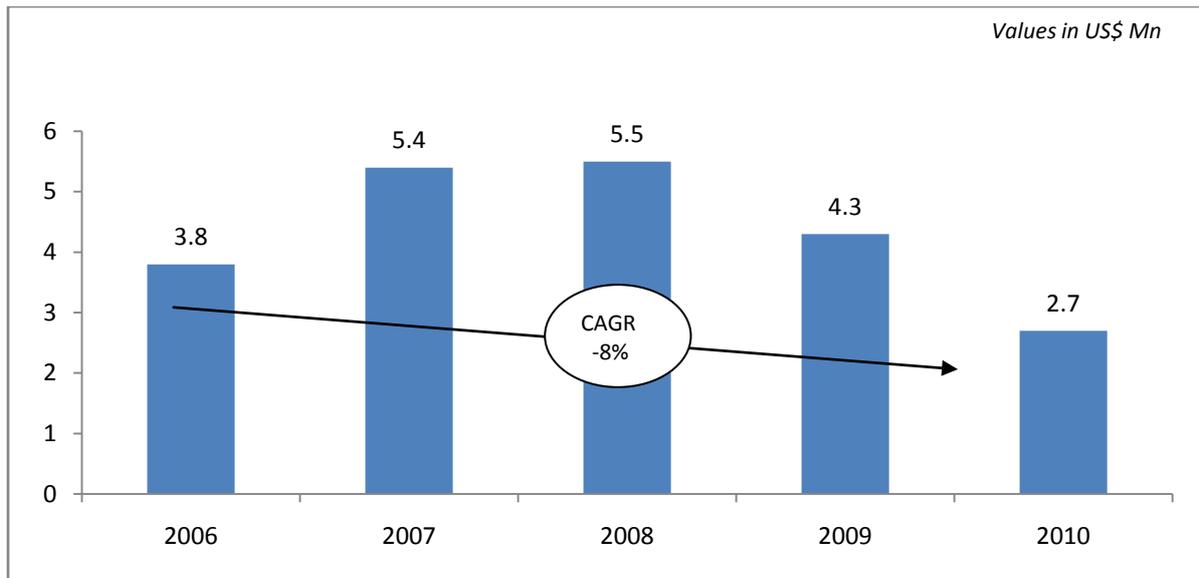
Top 4 exported commodities	88%	Top 4 imported commodities	54%
Cotton Fiber	81%	Worn clothing	20%
Woven fabric with more than 85% cotton, less than 200 gsm	3%	Twine, cordage etc.	17%
Sacks and bags	2%	Men's shirts.	9%
Knitted t-shirt	2%	Men's woven suit, shirt etc.	8%
Leading 4 markets	53%	Leading 4 suppliers	70%
Indonesia	17%	China	26%
Portugal	14%	India	22%
Pakistan	14%	United Arab Emirates	12%
Burundi	8%	Kenya	10%

Source: UN Commodity Trade Statistics Database

3.4.5.2. Exports to EU

Uganda is a minor supplier of textiles and apparels products to the EU market. Uganda's supply to the EU-27 countries in 2010 was ~US\$ 2.7 Mn. Further, the value of trade with EU 27 is also on a declining trend over last 5 years with a CAGR of -8%.

Figure 23: Uganda's CTA Sector Exports to EU



Source: Eurostat

Table 47: Major Categories of Imports by EU from Uganda

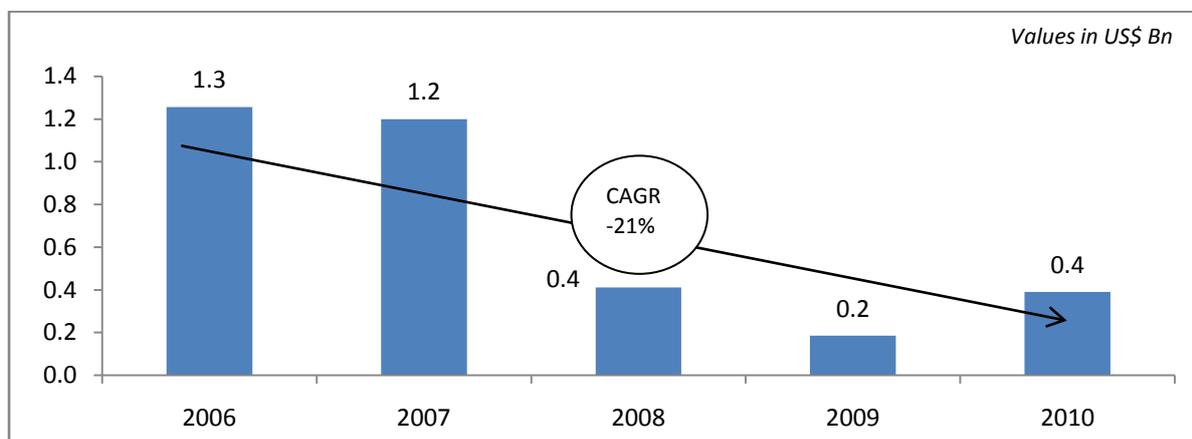
Values in US\$ '000	2006	2007	2008	2009	2010	CAGR	2010 share
Raw Cotton	3746	5273	5467	4173	2584	-9%	95%
Knitted T-Shirts, singlets and other vests	Na	80	14	68	49	-15%	2%
Women's suits, jackets, dresses, skirts, shorts, etc.	4	2	0	11	20	45%	1%
Subtotal top 3 categories	3751	5356	5481	4252	2653	-8%	98%
Others	32	3	42	40	61	18%	2%
Total	3782	5359	5523	4292	2714	-8%	100%

Source: Eurostat

3.4.5.3. Exports to USA

Uganda's export of textiles and apparel products to the US has been very low. Uganda's export to the US in the year 2010 was ~ US\$ 0.4 Mn. Further, the value of trade to US has declined over the years.

Figure 24: Uganda's CTA Sector Exports to USA



Source: Otexa

Table 48: Major Categories of Imports by US from Uganda

	2006	2007	2008	2009	2010	CAGR	2010 share
Women's suits, jackets, dresses, skirts, dress, shorts, etc, woven	25,506	20,369	Na	Na	264,436	60%	68%
Knitted T-Shirts, singlet and other vests	40,695	953,937	402,725	144,223	44,956	2%	12%
Women's suits, jackets, dresses, skirts, dresses etc, Knitted or crochet	Na	Na	Na	Na	34,080	Na	9%
Jerseys, pullover, Cardigans	Na	5,853	Na	Na	12,872	Na	3%
Women's blouses and shirts	1,881	Na	Na	Na	8,643	49%	2%
Subtotal top 5 categories	67,382	980,159	402,725	144,223	364,987	40%	93%
Others	1,190,195	225,289	9,537	41,623	25,564	-54%	7%
Total	1,257,577	1,205,448	412,262	185,846	390,551	-21%	100%

Source: Otexa

3.4.6. SWOT Analysis

Strengths

1. **Availability of abundant good quality cotton:** Uganda's cotton is of medium to long staple lengths. In the last five years, the highest annual cotton production registered was 200,000 bales (185 kg each).
2. **Conducive business environment:** The free market economic reforms introduced in the 1990's have over the years created macroeconomic stability in Uganda. In addition, partnership with the private sector, as an engine of growth, is the core of the Government policy.

Weaknesses:

1. **Low spinning and weaving capacity:** Current spinning and weaving capacities are very low (~25 Mn meters) despite the presence of an abundant raw material base. Technology is another key area of concern which needs upgrading to enhance the competitiveness of the overall textile industry.
2. **Export of unprocessed cotton:** Most of the cotton produced in Uganda is exported without any value addition.
3. **High production & finance cost:** Currently Ugandan energy rates are the highest in the region, while reliability of electricity service is also an issue. Also since the region is land locked, firms have to incur high internal and external transport costs. Textile sector manages to borrow funds at a very high finance rate ranging between 18-24%.
4. **Weak linkages across the value chain:** There is very little to no cooperation among the various stakeholders within the value chain. Human resources training and supporting services like international sourcing and buying houses are lacking.

Opportunities:

1. **Huge domestic/regional/international market demand:** The current sector output is not able to meet the country's demand. A lot of untapped demand exists.
2. **Idle capacity in the private sector:** Uganda has only two functional vertically integrated textile mills and several garmenting factories which are all operating below capacity. Mills like Mulco, African Textile Mills, Rayon Textiles as well as Lira Spinning Mill are closed.
3. **Exploration of the organic cotton niche:** The world organic lint demand is increasing and ~33% of the global output is produced in East Africa. In value terms, organic cotton fetches up to 40% above conventional cotton prices while yarns and fabric derived from organic cotton fetches up to ten times. Therefore, it is opportunity for the sector to attract investment in organic cotton.

Threats:

1. **Threat from Counterfeits and second hand articles:** All major local brands have had their brands copied by unscrupulous business people. The present legal framework is not strong enough to prevent this practice. There are huge imports of second hand clothes in the country which is also a threat.
2. **Competition from leading global textile manufacturers:** With the end of Multi Fiber Agreement in 2005 and establishment of Customs Union on 1st January 2005, the domestic sector is facing tough competition from Chinese and Asian companies which have high productivity levels and enjoys economies of scale.

3.4.7. Recommendations

After conducting a comprehensive analysis of CTA sector in Uganda, we did a SWOT analysis which brings out the key issues that the sector is currently facing. These are strategic issues which need to be addressed keeping in mind the relative strength areas of Uganda and its cotton, textile and apparel sector. Following recommendations are made for improving/strengthening the CTA sector performance:

S.no.	Objectives	Recommendations
1	Increasing cotton quality and yield	<ul style="list-style-type: none"> • Improve farm practices • Create awareness among farmers • Support R&D centers for introducing high yielding seeds • Promote contract farming on a larger scale • Offer more extension programmes • Exercise stringent quality controls at the ginning level
2	Promoting value addition in the sector	<p>Uganda has abundant cotton supply but the downstream industries i.e. textile and apparel manufacturing are limited. Value addition in the sector should be promoted by providing:</p> <ul style="list-style-type: none"> • Support schemes/fiscal incentives on value addition • Promoting clusters for doing value addition
3	Support for modernization and capacity expansion	<ul style="list-style-type: none"> • Interest subsidies shall be provided for upgrading machineries or installing new machineries • Textile & Apparel sector shall be classified as Priority sector and thus, increased lending to the sector should be a prime focus • Establish JVs with international partners
4	Improving skills of people through adequate training	<p>Introduce schemes for training and skill development and create a fund for implementing the scheme which will aid:</p> <ul style="list-style-type: none"> • Establishing new training centers • Establishing new training programs • Strengthening existing training centers • Linking existing centers with the Industry
5	Promote education in the field of textiles	<ul style="list-style-type: none"> • Establish new colleges for textiles • Link existing centers with the Industry • Update course curriculum regulatory as per industry requirements

		<ul style="list-style-type: none"> • Tie-up with other international colleges for student exchange/knowledge exchange programs
6	Improve existing infrastructure and rationalize costs of doing business	<ul style="list-style-type: none"> • Adopt cluster based development approach where suitable infrastructure is provided to the units operating within those and at reasonable costs • Various clusters should be identified by doing a detailed study and then promoted as 'Textile & Apparel districts' within the region
7	Initiatives to promote domestic market development	<ul style="list-style-type: none"> • Phase out supply of second-hand clothing from the market through appropriate policy interventions • Develop a mechanism to regulate flow of cotton to domestic market
8	Investment promotion activities	<ul style="list-style-type: none"> • Organize Annual Investor Summit showcasing business opportunities in Uganda's cotton and textile sector

All these recommendations have been dealt in detail under Chapter 5: Benchmarking and Proposed Interventions, where we have compared the target countries with the leading CTA manufacturing countries of the world on the key parameters.

4. Regional Level Analysis

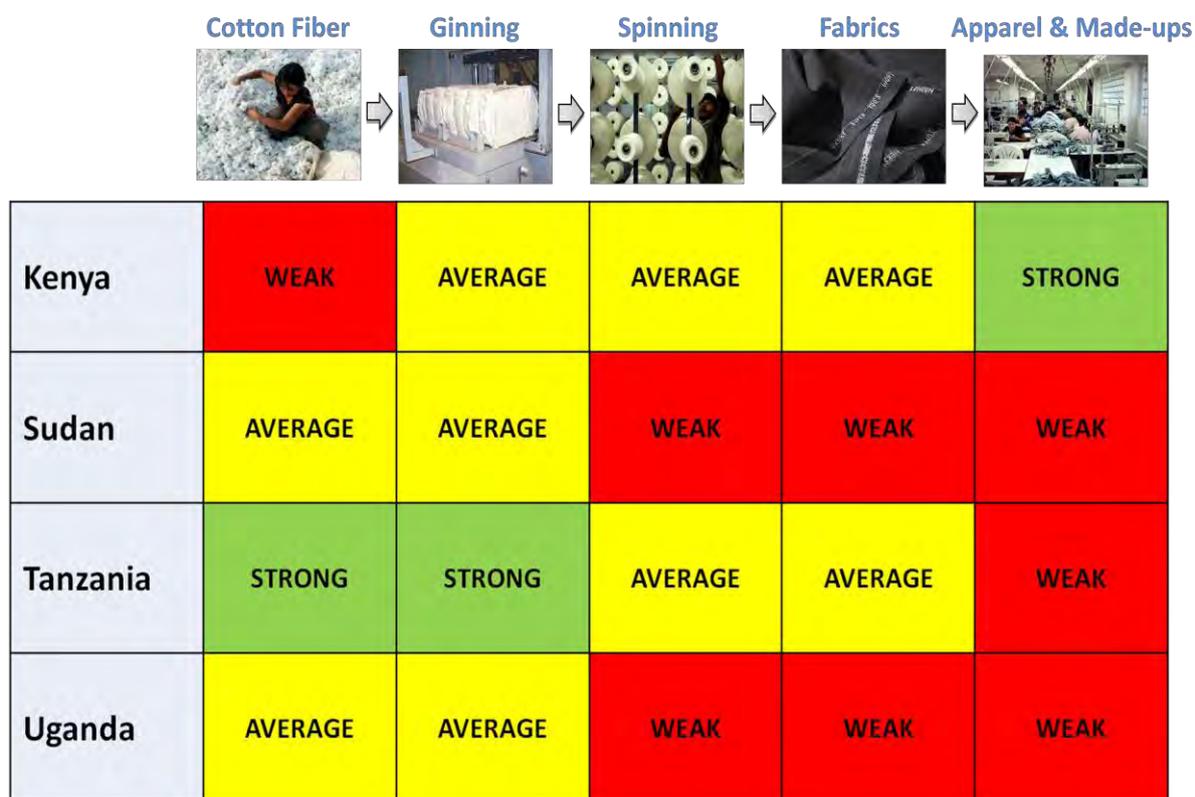
4.1. Snapshot

Table 49: Inter-country Comparison - Key Statistics

	Kenya	Sudan	Tanzania	Uganda
Overview				
Area ('000 sq km)	580.3	2,506	947	241
Climate	Tropical	Tropical in south; arid desert in north	Tropical	Tropical
Natural resources	Limestone, soda ash, salt, gemstones, fluorspar, zinc, diatomite	Petroleum; small reserves of iron ore, copper, zinc, etc.	Hydropower, tin, phosphates, iron ore, coal, diamonds, gemstones	Copper, Cobalt, Hydro-power, Limestone, Salt, Gold
Major agricultural products	Tea, coffee, corn, wheat, sugarcane, fruit, vegetables	Cotton, groundnuts, sorghum, millet, wheat, gum	Coffee, sisal, tea, cotton, pyrethrum	Coffee, Tea, Cotton, Tobacco, Cassava
Major industries	Small-scale consumer goods, agricultural products	Oil, cotton ginning, textiles	Agricultural processing, diamond, gold and iron mining, salt	Sugar, Brewing, Cement, Tobacco, Cotton textiles, Steel production
Economy				
GDP (Nominal, 2010 est)	US\$ 32 Bn	US\$ 65.9 Bn	US\$ 22.4 Bn	US\$ 17.1 Bn
GDP (Real, 2010 est)	US\$ 18 Bn	US\$11.7Bn	US\$ 11.2 Bn	US\$ 8.8 Bn
GDP growth rate (Real, 2010 est.)	4%	5.2%	6.4%	5.8%
GDP per capita (Nominal, 2010 est.)	US\$ 888	US\$ 1705	US\$ 543	US\$ 504
GDP composition				
Agriculture	22%	32.1%	41.6%	23.6%
Industry	16%	29.0%	18.1%	24.5%
Services	62%	38.9%	38.4%	51.9%
Labour force (2010 est.)	17.94 Mn	12 Mn	21.87Mn	15.5 Mn
Inflation	4.2%	11.8%	7.2%	9.4%
Exports	US\$ 5.14 Bn	US\$ 9.8 Bn	US\$3.8 Bn	US\$ 2.9 Bn
Imports	US\$ 10.4 Bn	US\$ 8.5 Bn	US\$6.3 Bn	US\$ 4.5 Bn
External debt	US\$ 7.9 Bn	US\$ 38 Bn	US\$7.6 Bn	US\$ 2.9 Bn
Currency rate	1US\$=80 KES	1 US\$ =2.7 SDG	1US\$=1500 TZS	1 US\$ = 2400 UGX

	Kenya	Sudan	Tanzania	Uganda
Demographics				
Population	41 Mn	40 Mn	41.3 Mn	35 Mn
Age structure				
0-14 years	42.20%	42.1%	42%	49.9%
15-64 years	55.10%	55.2%	55.1%	48.1%
65 years +	2.70%	2.7%	29%	2.1%
Median Age	18.9 years	18.5 years	18.5 years	15.1 years
Population growth rate (2011 est.)	2.5%	2.48%	2.0%	3.6%
Urban population	22%	40%	26%	13%
Literacy rate	85%	61.1%	69.4%	66.8%
Infrastructure				
Land line users	664,100	370,400	173,552	233,500
Mobile users (Mn)	19.4	15.3	18	9.4
Internet users (Mn)	4.0	4.2	0.68	3.2
Airports	191(17 paved)	140 (19 paved)	124(9 paved)	46 (5 paved)
Railways (Km)	2,778	5,978	3,68	1244
Roadways (Km)	160,886	11,900	78,892	70,746
Cotton fiber statistics (2010)				
Cotton production (000 bales,)	49	100	275	125
Area under cotton cultivation (000 acres)	104	104	741	247
Cotton yield (lb / acre)	226	462	178	243
Mill Use (000 bales)	50	8	150	20
Exports (000 bales)	0	100	225	90
T&A trade statistics (2009)				
Exports	US\$ 252 Bn	US\$ 33 Bn	US\$ 174 Bn	US\$ 26 Bn
Imports	US\$ 681 Bn	US\$ 418 Bn	US\$ 400 Bn	US\$ 118 Bn
Major exported products	<ul style="list-style-type: none"> Suits, jackets, etc. Jerseys, pullovers, etc. 	<ul style="list-style-type: none"> Cotton fiber 	<ul style="list-style-type: none"> Cotton fiber Home furn. excl. blanket & linen 	<ul style="list-style-type: none"> Cotton fiber
Major imported products	<ul style="list-style-type: none"> Worn Clothing Woven fiber of syn. filament yarn 	<ul style="list-style-type: none"> Suits, jackets, etc. Men's woven Shirts 	<ul style="list-style-type: none"> Worn Clothing Woven fb of syn. filament Cotton woven fb < 200 gsm 	<ul style="list-style-type: none"> Worn Clothing Twine, Cordage, etc.
Major markets	<ul style="list-style-type: none"> USA 	<ul style="list-style-type: none"> Egypt China 	<ul style="list-style-type: none"> Kenya India Vietnam 	<ul style="list-style-type: none"> Indonesia Portugal Pakistan
Major suppliers	<ul style="list-style-type: none"> China India UAE 	<ul style="list-style-type: none"> China India Egypt 	<ul style="list-style-type: none"> China India 	<ul style="list-style-type: none"> China India UAE

4.2. Value Chain Analysis: Summary*



* Reflects the current, relative status

4.3. Cost Comparison

Table 50: Inter-country Comparison - Costs

Parameter	Kenya	Sudan	Tanzania	Uganda
Power cost	US cents 20 / unit	US cents 12/ unit	US cents 14/ units	US 12 cents / unit
Lending rate	16-18%	9-12% (short term only)	14-16%	18-20%
Wage/month	~US\$ 100	US\$ 160-300	US\$ 80-100	US\$ 90-100
Freight cost / container (20 ft)	Export - US\$ 2100 Import- US\$ 2200	Export - US\$ 2000 Import -US\$ 2100	Export - US\$ 1300 Import - US\$ 1500	Export - US\$ 2100 Import -US\$ 2200
Corporate Tax	30%	10%	30%	30%

Source: Primary Research Findings

4.4. SWOT Analysis

Strengths

1. **Availability of cotton:** Kenya, Sudan, Tanzania and Uganda together accounts for significant amount of cotton production. This is sufficient to not only meet the domestic requirements but also export significant quantities. The cotton industry has been one of the key areas in these countries and significant population has been dependant on the sector for more than a century.
2. **Increasing focus on the sector:** Government is laying focus on the sector and is committed to revitalize the cotton sector. This will provide additional momentum to the sector and will create interests of amongst the existing industry players as well as the potential investors.

Weaknesses

1. **Outdated technology:** The target countries lack state-of-the-art machinery for textile manufacturing. Most of the ginning units in all the countries had quite old machinery, which has been refurbished to keep functioning. Similarly at textile level (yarn, fabrics and processing) very few units exist with new technology machines. This further adds to the costs of manufacturing. The reason behind non-upgradation of machines is lack of major new investment in the sector.
2. **Lack of Skills/ training:** There is a huge requirement for enhancing the skills of people to increase their efficiency levels. The current infrastructure provides for very few such institutions with limited capacities and has few enrollments for the training facilities. There is a need for promoting these institutions (new and old), support these with the necessary infrastructure and churn out large no. of trainees each year.
3. **Absence of integrated chain:** Kenya has a strong garment manufacturing capacity but limited backward linkages within the country to support it. Uganda and Sudan produces cotton, but lacks further downstream processes. Tanzania has some capacities from cotton to fabrics, but lacks value addition in terms of fabric type as well as garment conversion. For countries where substantial benefits for exports are available, it becomes important to have a complete supply chain as buyers prefer integrated supply bases.
4. **Limited value addition:** Most of the cotton produced in the Tanzania, Sudan and Uganda is exported out of the country in raw form. A major reason behind this is the limited value addition happening in terms of manufacturing of finished goods/garments. In Kenya, cotton exports are nil, but the cotton production volume there is also low.
5. **High cost of manufacturing:** The existing costs of borrowing are so high that it almost makes it impossible for the sector to rely on these financial institutions. The high cost of capital, when available, not only deters new investment in the production of yarn, fabric, and other inputs, but it also increases the costs of existing production. There are difficulties in

obtaining loan at competitive rates for purchasing equipment and raw materials, as well as for financing trade. Even if they manage to bear the high costs, the formalities for loan approvals, requirements for collaterals and other documentation are intense.

6. **Poor farm practices:** The sector is dominated by smallholder producers with limited knowledge on crop and farm management practices, price and market trends, input procurement and supply trends which results in low cotton yield.
7. **Under developed domestic market:** Domestic garment industry is underdeveloped and is not promoted in the target countries. It is highly impacted by second-hand clothing imports. There is a need to phase out supply of second-hand clothing from the market through appropriate policy interventions.
8. **Cotton quality issues:** The cotton from Sudan and Tanzania is found to have more contamination than the world average. Cotton suffers from contamination from polypropylene fibers that are introduced into the cotton during the picking and baling process. The quality of cotton is also compromised by stickiness resulting from insects, which can cause irregularities in the yarn production, including yarn breakages. Contamination and stickiness limit the downstream potential for textile products.

Opportunities

1. **Huge demand potential:** There is huge demand for cotton fabrics and textiles in the target countries due to rising population, increasing income, and changing consumer patterns in preference for cotton textiles and apparel.
2. **Preferential trade access:** These regions have preferential market access and their products can enter most of the world's richer economies free of any customs duties and with limited quota restrictions. Some of the trade agreements these countries have signed up for preferential market access includes:
 - a. African Growth and Opportunity Act (AGOA)
 - b. Southern African Development Community (SADC)
 - c. Economic Partnership Agreement (EPA) with EU
 - d. Least Developed Country (LDC)
 - e. East African Community (EAC)
3. **Scope for value addition:** There is a lot of scope for making value added products particularly for the export markets such as adding embroidery, sequins, and other style/design elements. This will bring in incremental revenue to the sector and will also lead to more employment creation and skill enhancement.

Threats

- 1. Threat from second hand articles:** There are huge imports of second hand clothes in Kenya, Tanzania and Uganda which is posing a big threat to the economy. The present legal framework is not strong enough to prevent this practice. In Sudan, the import of second hand clothing is already banned and thus, free from its repercussions.
- 2. Lack of sector specific incentive/ policy framework:** There is lack of specific incentives by the government to promote Textile & Apparel sector in the target countries. Absence of sector specific policies in most of these countries limits investments in the sector as foreign investors are not confident enough to invest in this sector till they are sure of the continuity of benefits.
- 3. Limited focus on textile education:** There are few institutes/universities offering education in textile programmes. Moreover, students' interest is very low in comparison to other courses. The no. of students passing out each year with degree in Textiles is very low. Other courses like IT, graphic designs, etc. are gaining popularity as students get better salary packages from these courses.
- 4. Shift to other cash crops:** Emergence of alternative cash crops, which are cheaper to grow but fetch higher returns than cotton in the major cotton growing areas, are a threat for the sector.
- 5. Competition from global textile manufacturers:** Expanding acreage, increasing yields and falling production costs in major producing and consuming countries pose a great threat to the target countries.

4.5. Key Issues and Recommendations

Table 51: Inter-country Comparison - Key Issues and Recommendations

S. No.	Head	Parameter	Kenya	Sudan	Tanzania	Uganda	Recommendation
1	Cotton Productivity	Lint (in Kg/ha)	Cotton productivity: 253 kg/ha	Cotton productivity: 518 kg/ha	Cotton productivity: 200 kg/ha	Cotton productivity: 272 kg/ha	<ul style="list-style-type: none"> * Introduction of Bt Cotton * Improved farm practices * Support to R&D centers for introducing high yielding seeds * Promotion of contract farming
2	Fiber contamination level	On a scale of Low to high	Low to Medium	Low to Medium	High	Low to Medium	<ul style="list-style-type: none"> * Improved farm practices * Extension programs * Stringent quality control at ginning level
3	Value Addition	Fiber level	Trials for Organic cotton production is going on for last 2 years	Limited focus on organic cotton	World's 4th largest producer of organic cotton in 2010	Organic cotton production has gone down drastically	<ul style="list-style-type: none"> * Promotion of fair trade cotton * Promotion of organic cotton
		Textile level	Mostly basic product manufacturing				* Focus on value added products in line with the available infrastructure
		Finished product level	Mostly basic product manufacturing				* Focus on value added products
4	Technology level	Fiber level	Mostly outdated technology				<ul style="list-style-type: none"> * Modernization / technology upgradation needs to be focused on <ul style="list-style-type: none"> • Establishing JVs with international partners
		Textile level	Mostly outdated technology				
		Finished product level	Technology is mostly updated and well-functioning				
5	Supply chain linkages	Existing Capacities and utilization	Industry is not well integrated from farm-to-field and has certain weak linkages across the value chain. Ginning capacity is surplus in comparison to current cotton production, and hence it is largely underutilized. Capacities in textiles (Spinning, weaving, knitting and processing) are low In comparison to downstream local demand. However, existing capacities also remain underutilized. Local demand is primarily catered by imports of yarn and fabric.				<ul style="list-style-type: none"> * Focus on cluster based development approach • Identify key bottlenecks and encourage investments to promote those areas

S. No.	Head	Parameter	Kenya	Sudan	Tanzania	Uganda	Recommendation
6	Training	Operator level	Lack of skilled workforce				<ul style="list-style-type: none"> * Establishing new training centers * Establishing new training programs * Strengthening existing training centers * Linking existing centers with the Industry
		Supervisor & Middle management level	Lack of training programmes. Hence, mainly ex-pats are employed				<ul style="list-style-type: none"> * Establishing new training centers * Establishing new training programs * Strengthening existing training centers * Linking existing centers with the Industry
7	Education	Technical courses	Selected programs are being run. Student interest is low				<ul style="list-style-type: none"> * Establishing new colleges * Establishing new diploma and degree programs * Strengthening existing colleges / universities * Linking existing centers with the Industry * Updating course curriculum * Tie-up with other international colleges for student exchange / knowledge exchange programs
		Fashion design courses	Selected programs are being run. Student interest is low				<ul style="list-style-type: none"> * Establishing new fashion design institutes * Strengthening existing institutes * Linking existing institutes with the Industry * Updating course curriculum * Tie-up with other international institutes for student exchange / knowledge exchange programs * increase student interest by holding regional level annual design contest

S. No.	Head	Parameter	Kenya	Sudan	Tanzania	Uganda	Recommendation
8	Logistics	Nearest Port	Mombasa	Port Sudan	Dar-Es-Salaam	Mombasa	* Adopt cluster based sector development and provide good infrastructure facilities within the cluster
		Sailing time from China	17 days	20 days	18 days	17 days	
		Sailing time to US	25 days	18 days	25 days	25 days	
		Freight Cost/ container (20 ft) – Exports	US\$ 2100	US\$ 2000	US\$ 1300	US\$ 2100	
		Freight Cost/ container (20 ft) – Imports	US\$ 2200	US\$ 2100	US\$ 1500	US\$ 2200	
9	Power	Availability	Consistent supply	Erratic	Erratic	Erratic	
		Cost	High: US cents 20/units	Medium: US cents 12/units	Medium: US cents 14/units	Medium: US cents 12/units	
10	Business financing	Availability	Low	Long term financing is unavailable.	Low	Low	*Work towards improvement of credit availability and reduction in cost of borrowing
		Cost	16-18%	9-12% (short term)	14-16%	18-20%	

S. No.	Head	Parameter	Kenya	Sudan	Tanzania	Uganda	Recommendation
11	Market development & Investment promotion	Investor interest creation	Limited promotional activities				<p>*Organized Mega Trade Shows to facilitate buyer-seller meet, investor conference, etc.</p> <p>*Create a separate cell for textiles for policy support, implementation and handling investor queries</p> <p>*Create an incentive package for industry promotion</p> <ul style="list-style-type: none"> Organize leading trade & industrial delegation to key countries of investments
		Local market development/ Domestic consumption	Domestic garment industry is not promoted, highly impacted by second-hand clothing imports	Domestic garment industry is not promoted, highly impacted by imports	Domestic garment industry is not promoted, highly impacted by second-hand clothing imports. Majority of the Raw material (cotton) is exported	Domestic garment industry is not promoted, highly impacted by second-hand clothing imports	<p>*Phase out supply of second-hand clothing from the market through appropriate policy interventions</p> <p>*Scheme/mechanism to regulate the flow of cotton to domestic markets</p>

5. Benchmarking and Recommendations

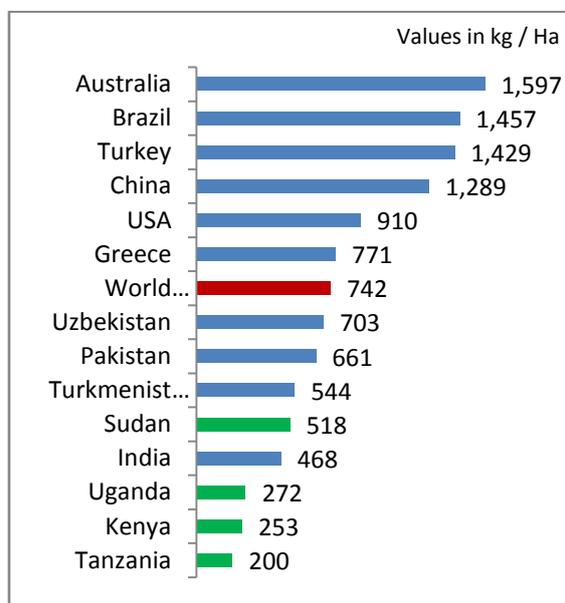
5.1. Cotton Productivity

Kenya, Tanzania, Sudan and Uganda all have cotton productivity far less than the world average. Most of the large cotton producers globally have better productivity levels than these 4 countries.

Though, the climate and soil quality of these nations provide ample scope for increasing cotton yields to a much higher level, but the growth has hampered by lack of awareness of better farm practices, standard operating procedures, low mechanization of farm activities, lack of irrigation network, etc.

Several steps have been taken by the concerned authorities in each of the countries to improve cotton productivity and their result can be seen in the cotton productivity data for last 10-years, which largely shows an upward trend.

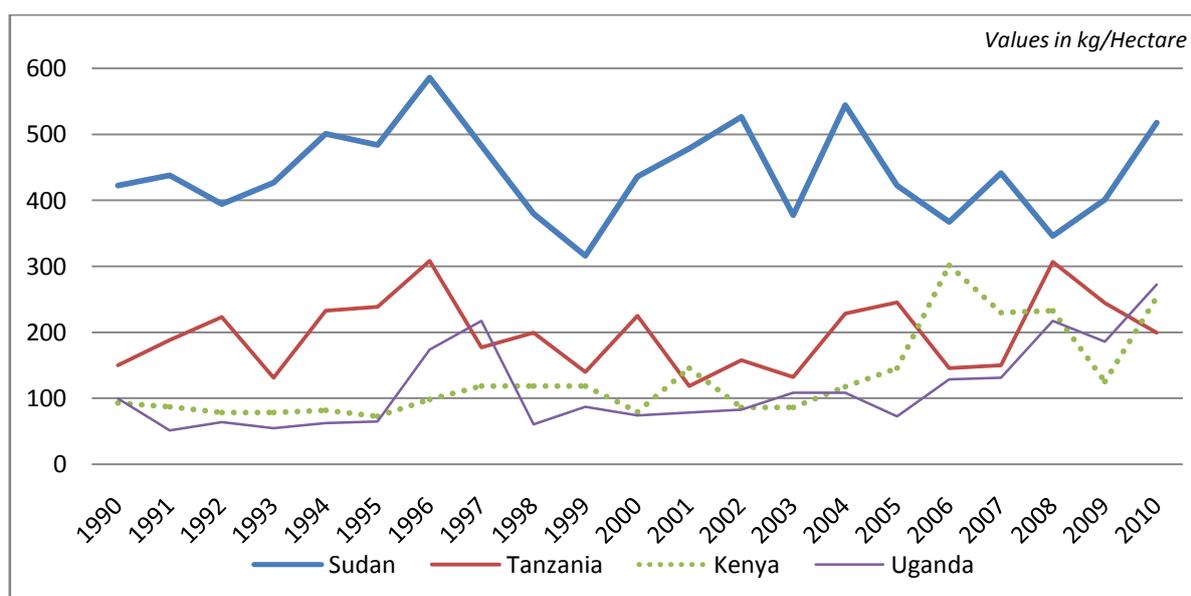
Figure 25: Cotton Yield in Selected Countries (2010)



Source: USDA and National Cotton Council of America

The chart below depicts the cotton yields in the target countries from 1991 to 2010. As we can see in last five years or so, mostly the yields have started growing after a long period of stagnancy. Among these four nations, the productivity increase is more prominent in Uganda and Kenya.

Figure 26: Cotton Yield in Target Countries (1991 – 2010)

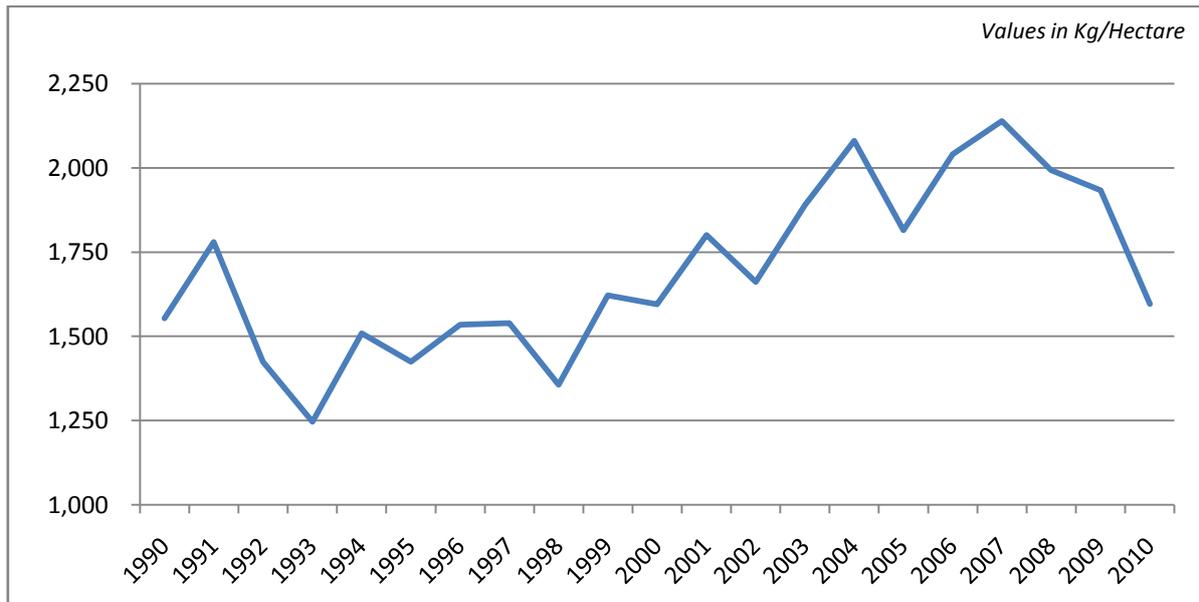


Source: National Cotton Council of America

Australia is the country which has highest cotton yield in the world: more than twice the world average, more than thrice the Sudan's yield values and almost 8 times that of Tanzania. Before last three years the yields were above 2000 kg/ ha level.

About 85% of cotton area in Australia is irrigated, which partly explains why the average cotton yield is high. However, the Australian cotton yield remains much higher than in other irrigated countries also. Apart from fertile soil and a favorable climate, the high yields are a result of the national cotton breeding program and improved farm management practices.

Figure 27: Australian Cotton Yield



Source: National Cotton Council of America

Reasons for high cotton productivity in Australia:

- A. Local Advantages:** The soil in most cotton areas of Australia is relatively fertile and rarely needs applications of phosphorus and potassium. Only nitrogen applications are needed. However, the soil is sodic, and cotton varieties developed in Australia are adapted to sodic soils. Soil in most cotton areas is heavy clay, which helps to retain water. In addition, Australia benefits from a long growing season of 180 days, which contributes to increased yields.

- B. Cotton breeding program:** Cotton Seed Distributors (CSD), an Australian company created in 1962, initially sold Delta Pine varieties that had been developed in the United States. The Australian cotton breeding program started in 1972 in Narrabri, at the CSIRO Cotton Research Unit, and it released its first variety in 1984. Since 1995, locally developed varieties have represented 90% to 95% of cotton area in Australia, and CSD now sells only CSIRO seeds. Australian cotton breeding is achieved through a partnership between industry and public research. About 95% of cotton area in Australia is planted to biotech varieties and the remaining 5% is planted to conventional varieties. The strengths of the Australian breeding program include locally adapted varieties with improved yields, pest and disease resistance, water-use efficiency and fiber quality.

C. Farm management practices: Optimal uses of farm management practices that are employed in the rest of the world have enabled Australian farmers to achieve better productivity levels. The limited number of cotton producers (around 600 in 2009/10) and the concentration of cotton production in two states (New South Wales and Queensland) makes it relatively easy and fast for the lessons drawn from cotton research to be communicated and implemented on farms. Extension services are managed through the Cotton CRC in partnership with state governments. Extension resources are available online and free of charge. Australian farmers are very well educated regarding cotton production. The large size of cotton farms (400 hectares on average but with a large range of 200 to 10,000 hectares) allows for economies of scale. In addition, cotton producers often help each other. The limited water resources have pushed farmers to optimize the efficiency of water use on the irrigated farms. The absence of government subsidies forces farmers to be very rational: they do not grow cotton if it does not make economic sense, and if they do grow it they are careful about optimizing their yields while minimizing their production costs. Small cotton farmers usually rent their pickers from large farmers or independent contractors.

Table 52: Land under Bt Cotton plantation in selected countries (2009)

Several countries have also achieved better productivities and economies by use of genetically modified cotton varieties, including India. Bt-cotton has so far been commercialized in 9 countries – the USA (first introduced in 1996), Mexico (1996), Australia (1996), China (1997), Argentina (1998), South Africa (1998), Colombia (2002), India (2002) and Brazil (2005). In 2010, Pakistan also planted the Bt cotton for first time. In 2007, Bt cotton cultivation occupied globally 15 m ha which comprised 43% of the total cotton area of 35 m ha. Bt cotton coverage in 2010 increased by 126% to reach 260,000 hectares (65% adoption) farmed by 80,000 farmers, compared with 115,000 hectares in 2009.

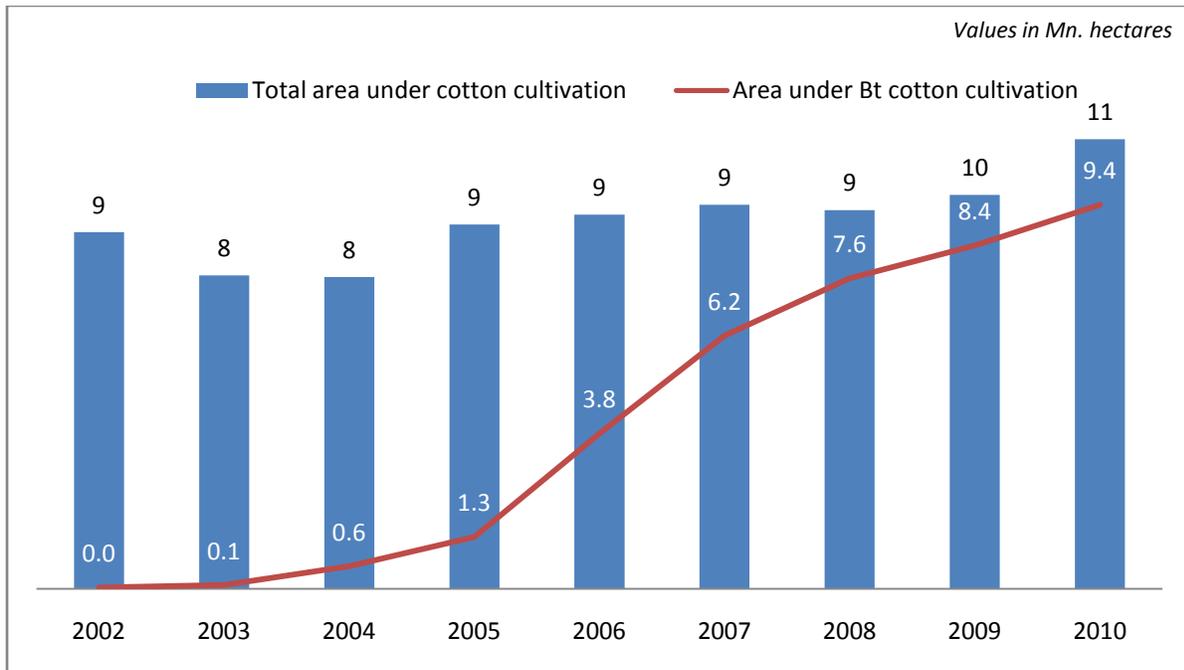
Country	Bt cotton plantations (2009)
India	8.4 mn. hectare
China	3.7 mn. hectare
USA	2.2 mn. hectare
Argentina	0.25 mn. hectare
Australia	0.19 mn. hectare
Brazil	0.12 mn. hectare
Mexico	0.06 mn. hectare
Colombia	0.03 mn. hectare
South Africa	0.01 mn. hectare

Source: Q&A on Bt cotton in India, Dr. Manjunath

In India, 6.3 million cotton farmers planted 9.4 million hectares of Bt cotton, equivalent to 86% adoption rate. Today India has the largest land under Bt cotton cultivation. Bt Cotton was approved for plantation by Indian authorities in 2002. Since then it has gained widespread popularity among farmers.

The Indian cotton yield at present is approximately 468 kg / Ha, which is about 37% lower than the world average. Main losses in cotton production in India are due to its susceptibility to about 160+ species of insect pests and a number of diseases. Introduction of Bt cotton in India has led to higher yields (at least 50% of increase is attributed to Bt technology), reduction in use of pesticides and more employment (because of higher farm production).

Figure 28: Adoption of Bt cotton in India



Source: Q&A on Bt cotton in India, Dr. Manjunath and ISAAA

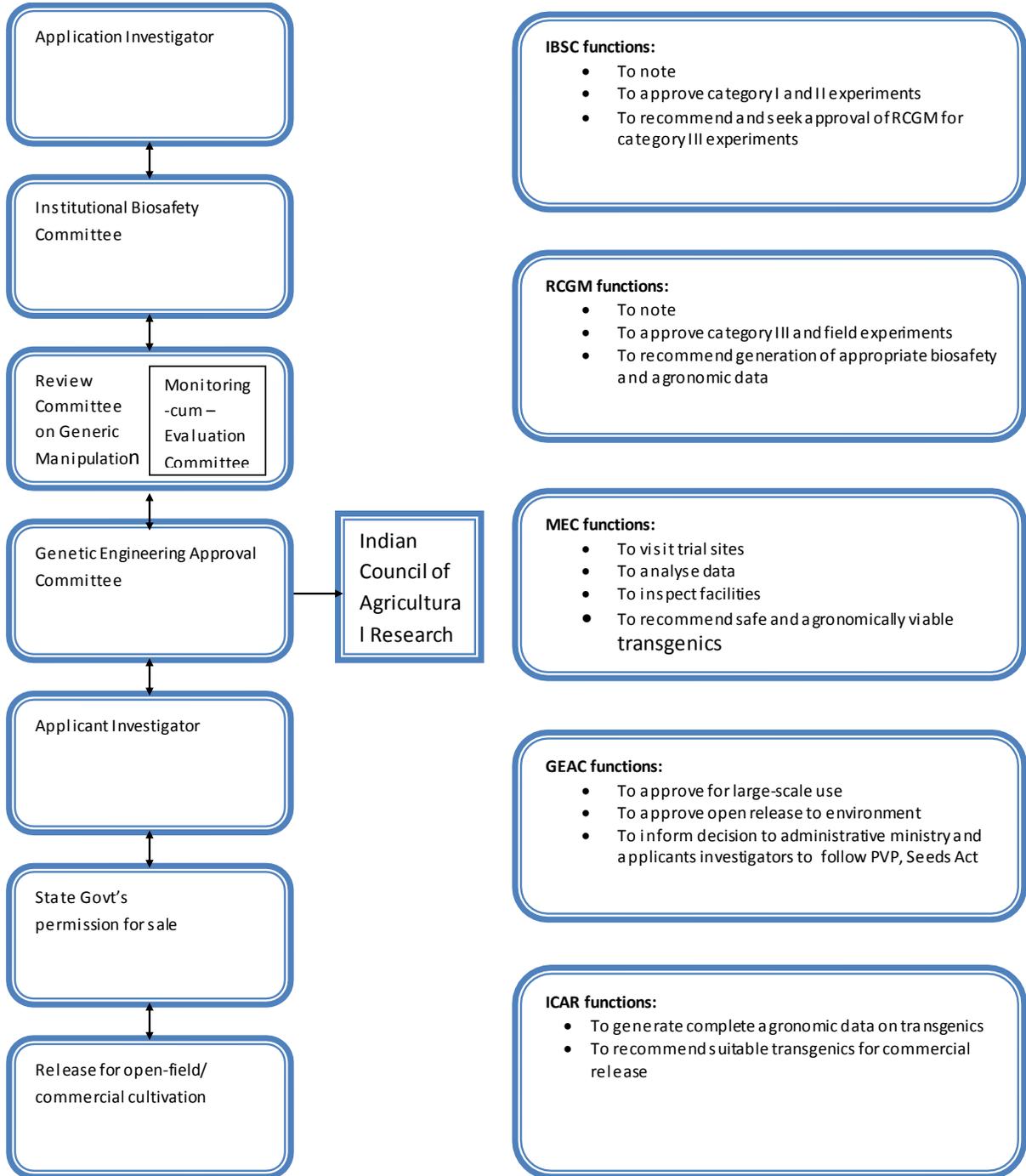
However, it is important to mention here that though Genetically Modified (GM) crops are expected to play an important role in improving agricultural production and economic betterment of farmers, it may entail unintended risks and hazards. Each country needs to adopt a policy of careful assessment of the associated benefits and risks at various stages of development and field release of Bt cotton to ensure biosafety. It took almost 7 years of research and trial work in India, before the first Bt cotton got commercialized.

In India, the rules governing the handling of genetically modified crops and products thereof were notified in 1989, which are implemented by two nodal agencies – Ministry of Environment and Forests (MoEF) and Department of Biotechnology (DBT). Further there are 6 bodies entrusted with non-overlapping roles to handle various related issues, they are:

- a. Recombinant DNA Advisory Committee (RDAC)
- b. Institutional biosafety Committee (IBSC)
- c. Review Committee on Genetic Manipulation (RCGM)
- d. Genetic Engineering Approval Committee (GEAC)
- e. State Biotechnology Coordination Committee (SBCC)
- f. District Level Committee (DLC)

The overall mechanism and functional linkages among various committees and departments concerned with the approval of GM crops for commercial release are illustrated below:

Figure 29: Approval Mechanism of GM crops in India



Source: Govt. of India

In addition to this, for improving the quality of cotton, increase per hectare productivity, increase the income of cotton growers by reducing the cost of cultivation, to improve the processing facilities etc., the Government of India launched Technology Mission on Cotton (TMC) in February 2000. The broad objectives of the four Mini Missions are as under:

Mini Mission I

With the Indian Council of Agricultural Research (ICAR) as the Nodal Agency, this Mini Mission has the following objectives:

- Development of short duration, high yielding, disease and pest resistant varieties/hybrids with appropriate fibre parameters to meet the need of the textile industry.
- Development of integrated water and nutrient management practices for cotton and cotton based cropping system.
- Development and validation of Integrated Pest Management Technology for different cotton growing areas of India to improve yield and reduce the cost of cultivation to ensure better net return to the cotton growers.

Mini Mission I is being implemented under the overall supervision of Secretary, Department of Agriculture and Director General, ICAR, Ministry of Agriculture, Government of India by The Central Institute for Cotton Research (CICR), Nagpur, Central Institute for Research on Cotton Technology (CIRCOT), Mumbai, National Bureau of Soil Survey and Land Use Planning, Nagpur and other ICAR Research Institutes, as well as research centres of State Agricultural Universities under All India Coordinated Cotton Improvement Project (AICCIP).

Mini Mission II

With the Ministry of Agriculture and Co-operation as the Nodal Agency, this Mini Mission has the following objectives:

- Technology Transfer through demonstration and training.
- Supply of delinted certified seed by setting up of delinting units.
- Accelerating Integrated Pest Management activities.
- Providing adequate and timely information input to the farmers periodically.

This is being implemented by the Department of Agriculture & Cooperation, Ministry of Agriculture through State Agriculture Department of cotton growing States in the country under Intensive Cotton Development Programme (ICDP) under the overall supervision of Secretary, Department of Agriculture & Cooperation.

Mini Mission III

The Ministry of Textiles is the Nodal Agency for this Mini Mission. It aims at improvement of marketing infrastructure through setting up new market yards and activation/improvement of existing market yards.

Mini Mission IV

The Ministry of Textiles is also the Nodal Agency for this Mini Mission. This Mini mission aims for modernization and technological upgradation of existing ginning and pressing factories so as to improve the processing of cotton.

Mini Mission III and IV are implemented by the Ministry of Textiles, Government of India through the Cotton Corporation of India Ltd. and the help of other field agencies shall also be taken whenever required. The Secretary, Government of India, Ministry of Textiles will be overall incharge of these two Mini Missions.

Recommendations

In order to improve the cotton productivity in the region, it is recommended that an intervention be planned for individual countries wherein

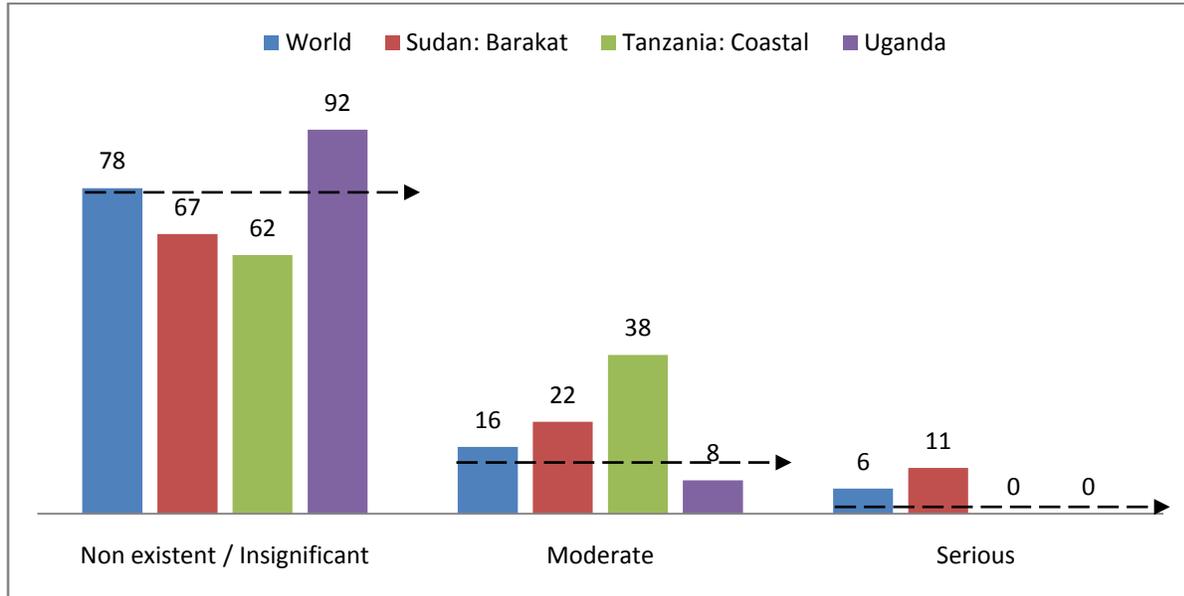
- a. Farmer training programs on a larger scale may be undertaken under guidance of international subject matter experts. The aim of such programs will be create awareness among farming community about international best practices and adopt those methods as per the suitability in the region.
- b. Farmers should be provided with or incentivized to buy productivity improvement machinery and tools.
- c. The area under irrigation should be improved in a phase wise manner, to support cotton production, and other crops as well.
- d. Support should be provided to seed research institutes for developing high yielding varieties, in liaison with international bodies, if required
- e. The Bt cotton trials and approvals should be put on a fast track. The time taken for field trials etc. cannot and should not be bargained with. However, before the final outcome it is important to have clear cut guidelines for governing the handling of genetically modified cotton crop. The mechanism to approve GM varieties need to be in place which means formation of relevant authorities and delineating their authority in line with the requirements.

The productivity may also improve as an indirect impact of promotion of cotton farming with international partners. The international partners will bring their own expertise in the field and will train the cotton growers accordingly. Assurance of market will also prompt farmers to put more focus towards the cotton crop, ultimately improving the productivity as well as the quality.

5.2. Fiber Contamination

ITMF's cotton contamination survey 2009 shows that among the target countries, contamination is a major issue with Sudanese cotton whereas Ugandan cotton is the better one.

Figure 30: Degree of Cotton Contamination in Target Countries, 2009



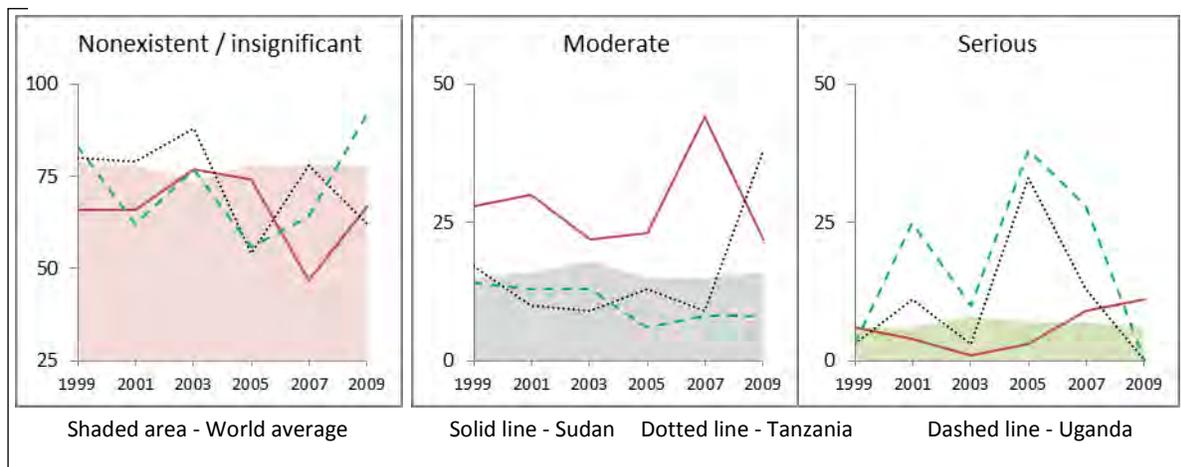
Source: Cotton Contamination Surveys, ITMF

Note: Kenya is not covered in the survey, being a minor producing nation

The above chart indicates that globally 72% of the respondents found non-existent / insignificant contamination; whereas 92% of the respondent users of Ugandan cotton found it to be free of contamination. The cotton from other two countries is found to have more contamination than the world average. 16% of the all respondents found that the cotton used by them had moderate contamination, whereas 38% and 22% users of Tanzanian and Sudanese cotton respectively found it to have moderate contamination. 11% of the users of Sudanese cotton found it to be seriously contaminated, whereas the world level is 6%.

However, it is also important to note that the biannual surveys have reported a wide variation in the contamination levels, as depicted in charts below. Tanzanian and Ugandan cotton were continuously reported to have serious contamination in surveys from 2001 to 2007; only in 1999 and 2009, were they reported better than world average. Sudanese cotton on the other hand is reported to be moderately contaminated by maximum respondents in all the surveys.

Figure 31: Historical changes in Degree of Cotton Contamination in Target Countries



Source: Cotton Contamination Surveys, ITMF

Note: Kenya is not covered in the survey, being a minor producing nation

Degree of Contamination varies a lot with growing area and farm practices. In general, cotton from India, Pakistan, Syria and some African countries are known to have higher contamination level than the world average, whereas cotton varieties of Australia, Brazil, China, Mexico and USA possess minimum contamination.

Contamination of cotton can take place at every step i.e. from the farm-picking to the ginning stage. Manual picking of cotton is one of the biggest causes of cotton contamination. In addition polypropylene bags used by pickers, brackish and decayed seed cotton, leaves, flowers, sticks and weeds, immature balls, trash and dust, plastic bags are the other sources of contamination. Similarly, cotton packaging in the jute or propylene bags sewed with jute twine and mixing of two varieties or two grades of the same variety to get economy of transportation can cause contamination.

The major reasons for contamination are:

- Lack of awareness of the importance of reducing contamination
- Absence of QC procedures
- Manual picking
- Dirty storage environment
- Use of PP and jute bags or wrappings
- Poor supervision
- Improper ginning process

Contamination in raw cotton causes down-time in processing, wastage of dye stuff, extra manpower requirement for cleaning inflating the cost, customer rejection of the raw or finished product, costly claims and penalties, lower prices and, inevitably, the loss of customers or end-market buyers.

Recommendations

In order to reduce the cotton contamination and supply a consistent quality, it is recommended that:

- a. A large scale extension program may be planned making farmers aware about:
 - losses because of cotton contamination
 - major reasons of cotton contamination
 - methods / practices to prevent cotton contamination
- b. The QC must be ensured at the ginning level also, if required by engaging inspectors from cotton development authorities. The authorities may provide their own certification to ginneries on basis of their inspection, which can be used by the ginners as a marketing tool for cotton exports.

The contamination may also be reduced as an indirect impact of promotion of cotton farming with international partners. The international partners will bring their own expertise in the field and will train the cotton growers accordingly. Assurance of market will also prompt farmers to put more focus towards the cotton crop, ultimately improving the productivity as well as the quality.

5.3. Value Addition

Most of the cotton produced in the Tanzania, Sudan and Uganda is exported out of the country in raw form. A major reason behind this is the absence of sufficient manufacturing capacities in the countries to consume cotton. In Kenya, the exports are nil, but the cotton production volume there is also low.

Most of the large cotton producing countries have established capacities to consume maximum cotton within their own countries. Exceptions to this are US and Australia where the textile manufacturing is not viable because of high manpower costs and they have as a policy decided to export the cotton produced.

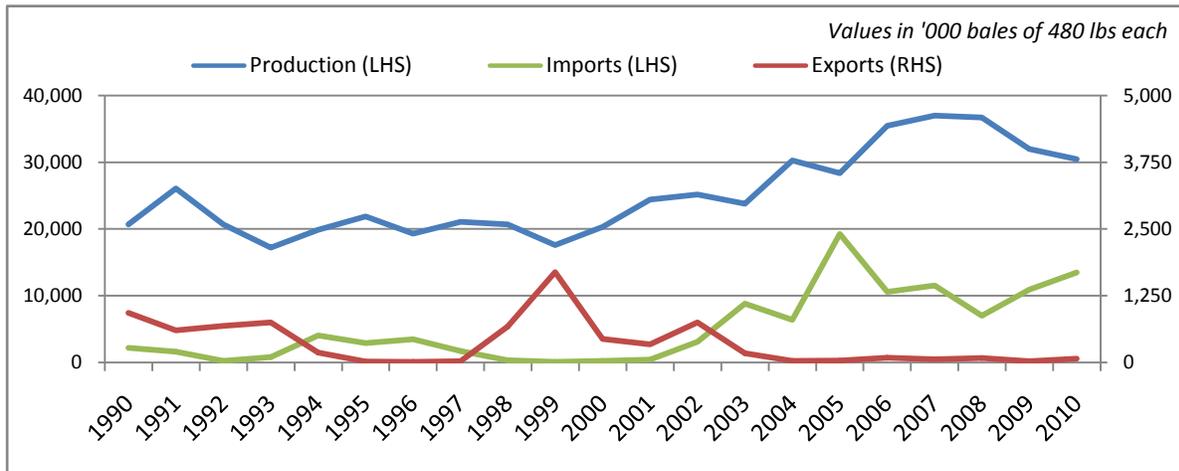
Table 53: Level of Cotton Exports in the Target Countries

Country	Level of cotton exports
Kenya	Negligible
Sudan	Most of the production is exported
Tanzania	Apart from own consumption of 150,000 bales / annum; rest crop is exported. In 2010, exports was 225,000 bales which has remained at this level for last few years
Uganda	Most of the production is exported

Source: Primary Research findings

If we analyze the cotton demand-supply scenario of China for last 20 years, we can see how the cotton consumption within the country has grown with increasing production & imports and reducing exports. Since the turn of last decade, China's exports have been miniscule whereas it became the largest importer of cotton in the world.

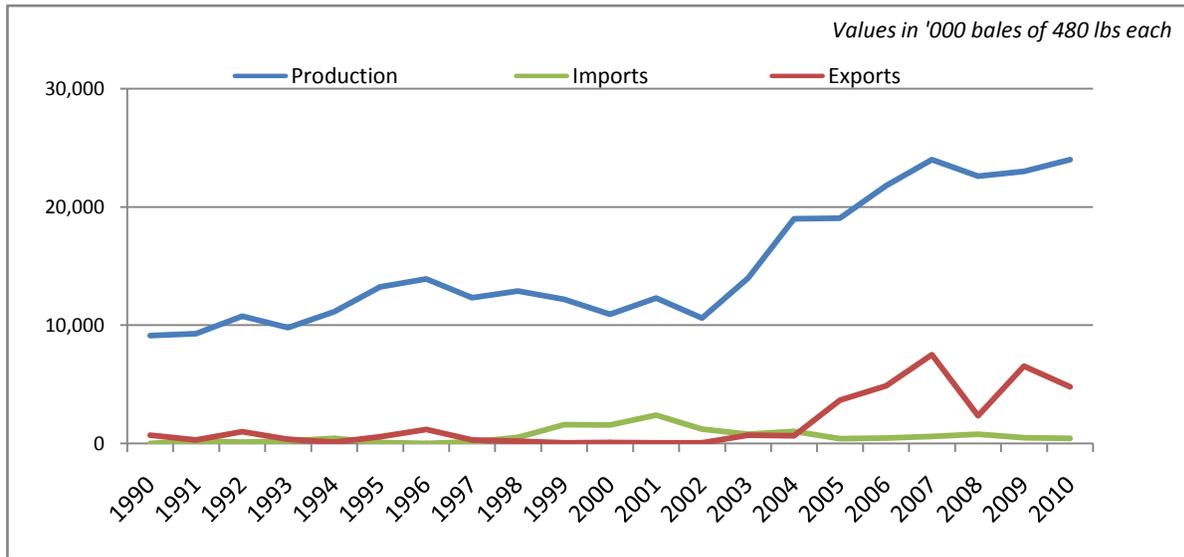
Figure 32: China's Cotton Scenario



Source: National Cotton Council of America

Another large producer of cotton, India also consumes most of the cotton produced in the country. In recent years, the cotton exports have increased but that is supported by an equivalent increase in production volume.

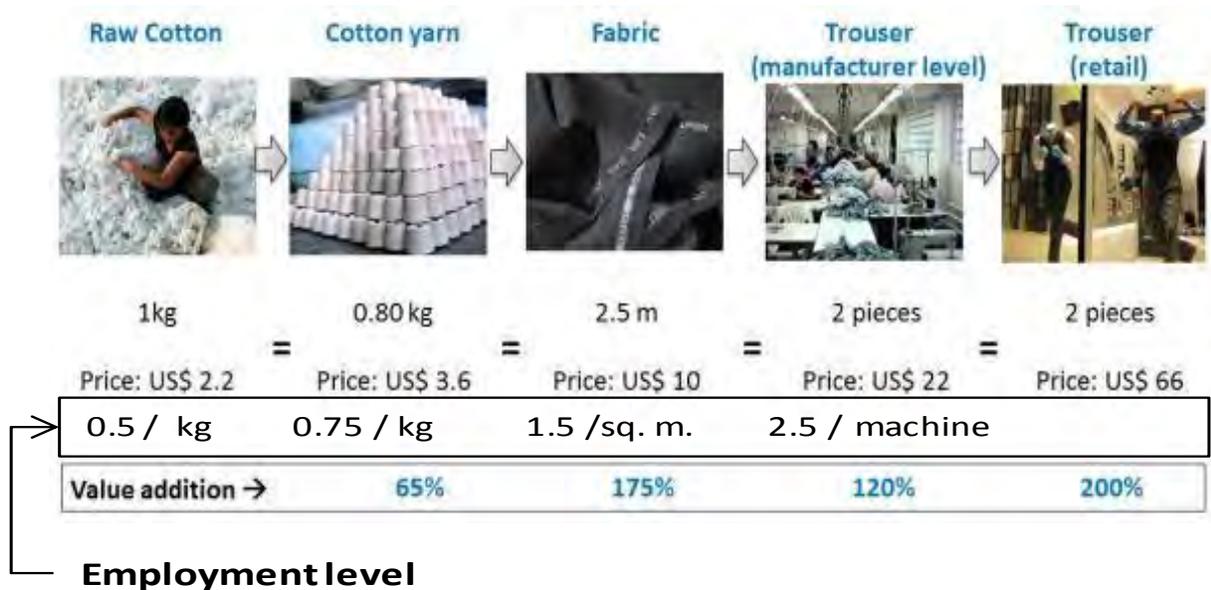
Figure 33: India's Cotton Scenario



Source: National Cotton Council of America

Increase in cotton consumption within the country will serve two purposes: first is creation of extra jobs across the value chain – spinning, weaving or knitting, dyeing & processing and garmenting. Secondly it also enables the country to move up the value chain. Value addition opportunity is lost by exports of raw cotton. Companies looking to sustain in long run need to integrate their operations by moving up the value chain.

Figure 34: Value Addition across the Value Chain



As a next step, within the finished goods also, it is important to spot the value added products. Countries like Germany, Italy, USA, Japan, etc. where the cost of manufacturing is high and most of the textile and apparel manufacturing industry has shifted elsewhere, still feature among the largest exporters of textile and apparel, because of their focus on value added items like: lingerie, suits, sportswear, specialty fibers, technical textiles, etc. These countries have carved a niche for themselves in the market by focusing on these products which have a high value realization. The manufacturing and marketing of value added products provides better margins and being a niche category is quite resistant to downward changes in demand and price.

Table 54: Global Trade of Few Value Added Textile & Apparel Products

Commodity	Global trade value (2009, in US\$ Mn.)	Leading supplier (share in global trade)
Woven fabric of combed wool or fine animal hair	2,352	Italy (35%)
Artificial filament tow	2,232	USA (40%)
Synthetic staple fiber	4,344	S. Korea (17%)
Nonwovens textiles except felt	9,602	Germany (17%)
Fabric impregnated, coated or covered with plastic	8,720	China (32%)
Special textile products for technical purposes	3,687	Germany (17%)
Knitted Panty hose, tights, hosiery, etc.	10,278	China (37%)
Track suits, ski suits and swimwear	7,870	China (34%)
Men's suits, woolen	2,375	China (26%)

Source: Wazir Analysis, UN comtrade

Recommendations

To encourage manufacturers to opt for value addition, they need to be encouraged by the authorities by:

- Providing subsidies to purchase plant and machinery for manufacturing such products
- Providing credit support in form of guarantees or subsidized rate of interests
- Providing drawback on exports of such products
- Other fiscal incentives like allowance of higher machinery depreciation, duty exemptions, etc. may also be considered

The authorities may also think of adopting a cluster based approach for promotion of value addition in the country. Appropriate locations within the country may be adopted for establishing the complete value chain infrastructure for such products: ginning, spinning, weaving, knitting, processing, garmenting, trade center, design center, testing labs, training center, warehouses, customs offices, etc.

The government can create the infrastructure at such places in partnership with private operators which will include: power stations, water reservoirs, roads, ETP, etc. and then invite investments by the private players in the zone. Special incentives may also be thought of for the businesses operating in the zone to attract large scale investment.

Within the zone, government may also form an own JV company with some international partner, in order to establish either a model unit and /or major capacity to cater to or buy from other businesses.

5.4. Technology Level

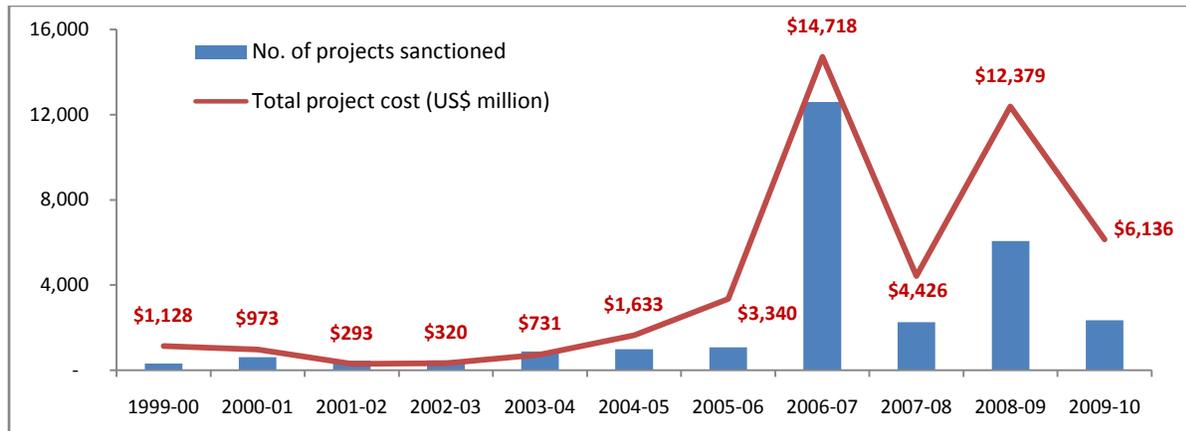
The primary survey conducted for this assignment in all the four countries revealed a general lack of state-of-the-art machinery for textile manufacturing. Most of the ginning units in all the countries had quite old machinery, which has been reconditioned to keep functioning. Similarly at textile level (yarn, fabrics and processing) very few units existed with new technology machines. In apparel, however, the technology employed by most of the units can be classified as latest. The reason behind non-upgradation of machines is lack of major new investment in the sector. Whatever new expansions or green-field units being planned by the organized sector now are being conceived with the new technology like, high capacity rotor knife roller ginning machines and shuttleless looms from Turkey and Europe being sourced by Sudanese authorities for textile mill revival plans; expansion of a couple of spinners in Kenya and Uganda with technology from Switzerland and Germany; and forward integration plans of a Tanzanian composite textile mill in to garment manufacturing. However, some plans are on drawing boards at the moment and even collectively not enough to upgrade the technology level of entire region.

There are a number of technological developments that have happened across the textile manufacturing value chain, which have caught the attention of manufacturers across the globe like: high capacity ginning machines, extensive use of electronics for automation, quality control and better precision at yarn preparatory stage, compact spinning, electronic control and yarn clearers at winding stage, higher speed and more precise fabric preparatory machines, electronic data monitoring & control, higher speeds and automation at weaving stage with shuttleless looms, machines and processes for application of specialized finishes and washes, automation at garment manufacturing stage etc.

Two factors which leads to deployment of improved technology machines by businesses are: capacity to pay for that (which unfortunately is a major issue in all of the target countries) and secondly the techno-commercial suitability of technology for the target products.

In many of the countries, the first factor is addressed to by reducing the effective cost of investment thus encouraging the entrepreneurs to invest in the sector. For example in India, the flagship scheme of Ministry of Textiles, known as Technological Upgradation Fund Scheme (TUFS) provide an interest subsidy of 5 percentage points on the bank credit for modernization of ginning, textile and apparel companies. It also provides a capital subsidy of 10% or 25% on selected machinery for processing and technical textiles. The scheme clearly identifies the machinery on which the benefits will be available; so as to ensure that only modern machinery with improved technology is promoted

Figure 35: Progress made under Technology Up gradation Fund Scheme (TUFS), India



Source: Ministry of Textiles, Government of India

Similarly, in April 2009, State Council of China announced a 3 year plan (2009-2011) to upgrade the textile and apparel industries. The main feature was to improve the R&D for development of new fibers and applications, increase automation, reduce energy and water use, development of domestic market and lower dependence on textile machinery imports. Vat application has been reformed from production to consumption based to encourage companies to improve their technology.

Recommendations

In order to promote the modernization, authorities need to incentivize businesses, fiscally or otherwise, to do so. There could be various ways to do so like:

- Providing capital and /or interest subsidies for adoption of such technology
- Facilitating credit flow to purchase such technology
- Encouraging businesses to participate in international machinery exhibition like ITME, by taking an industry delegation there
- Liaison with machinery suppliers and technical consultants to prepare country specific and product specific project reports, encompassing the latest, suitable technology which can be adopted by the industry. The products may be identified in line with government's aim to promote value addition also. Such projects can then be presented to investors- domestic as well as international.
- Here also, a cluster based approach, as described in previous section, can be dovetailed.

Government can also establish a JV unit with an international partner, with the state-of-the-art technology. Successful functioning of such unit will prove the techno-commercial viability of technology, thus working as a model unit which others can follow. The unit will be more beneficial to the industry if it is modeled as a common facility center for the use of industry stakeholders e.g. a processing house where a weaving house or a garment unit can get its fabric processed on job work basis.

5.5. Logistics

In today's price and time sensitive markets, logistics holds the key to make or break an exporter's position in its target market. Lack of logistical infrastructure can make economies unable to take advantage of resources with which they have been endowed.

Out of the target countries, Uganda is a land locked country and utilizes Kenyan port of Mombasa for exports. The intercity connectivity from port to manufacturing locations is satisfactory with lot of highway development happening all across. The issue sometimes is of paperwork and hassles at border post (from Uganda to Kenya) and delays for clearances at the port itself. However, from the feedback received during primary research, it came out that there are very few such instances at Port Sudan, Sudan and Dar-es-Salaam, Tanzania; whereas in Mombasa port, which handles much larger volumes than the other two, a lot remains desirable in terms of efficiency. In all the ports, because of smaller size, berth availability and vessel schedules are sometimes a deterrent to timely deliveries.

Table 55: Transit Time for Imports and Exports by Target Countries

Values In days

INBOUND			
From \ To	Mombasa, Kenya	Port Sudan, Sudan	Dar es Salaam, Tanzania
Shenzhen, China	17	20	18
Mumbai, India	08	10	08
OUTBOUND			
From \ To	New York, USA	Los Angeles, USA	London, UK
Mombasa, Kenya	25	36	19
Port Sudan, Sudan	18	30	19
Dar es Salaam, Tanzania	25	36	20
Mumbai, India	25	31	19
Shenzhen, China	34	20	30

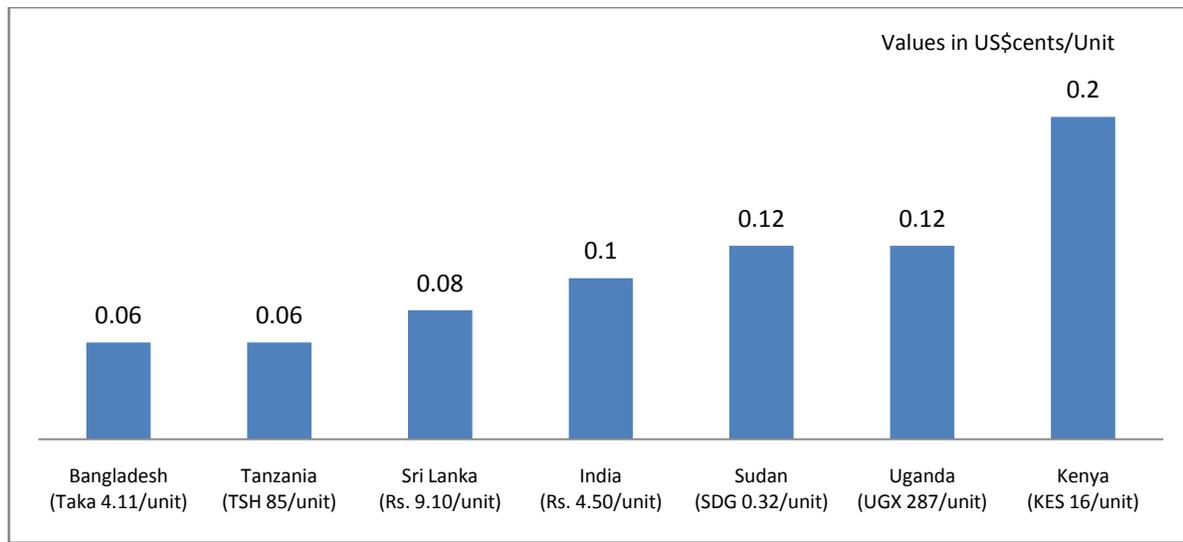
Source: Sea rates

Improvement in logistics is a broader issue that affects the country beyond the CTA sector. Improvement in infrastructure for logistics is a key area of focus for all the countries around the world. The availability of international funding to do this may also be explored by governments of individual countries in view of their policy and larger vision for the nation's development. The cluster based approach, as mentioned above, can also address this issue albeit in a limited manner, being constrained to the zone's physical expanse.

5.6. Power Scenario

There are two aspects related to power scenario of a country – cost of power and quality of power. In terms of cost of power, a comparative analysis of target countries with some of the large textile and apparel producing nations show that the power cost in Tanzania is quite competitive whereas that in Kenya is highest

Figure 36: Power Costs in Selected Countries



Source: Primary Research and Industry Reports

Among the four country analyzed, the quality of power was reported satisfactory only in Kenya; whereas in other countries the availability was erratic and fluctuation was common.

The model followed by some of the countries to promote captive power generation to improve the power scenario is allowing manufacturers to produce, say hydro-based, power at one place in the country, sell it to the main grid and purchase at its manufacturing location at same cost. Similarly some countries promote alternative power sources like windmills by providing appropriate incentives e.g. subsidies, accelerated depreciation, tax exemption, etc.

Recommendations

In order to improve the power scenario, first thing a government can do is to invest in large power projects, either alone or in partnership with an investor. Another way to address this issue is to encourage businesses to set-up their own power generation stations by providing fiscal and non-fiscal incentives like:

- Capital and interest subsidy for procurement of equipment

- Facilitate partnership process with any international player
- Policies supporting generation and consumption at different places

In addition, policy to establish CTA clusters can take into account the power requirement for the proposed cluster and establish a power station exclusive for the cluster

5.7. Business Financing

High cost coupled with low availability of business financing is one of the major issues in the region that has resulted in low investment in CTA sector.

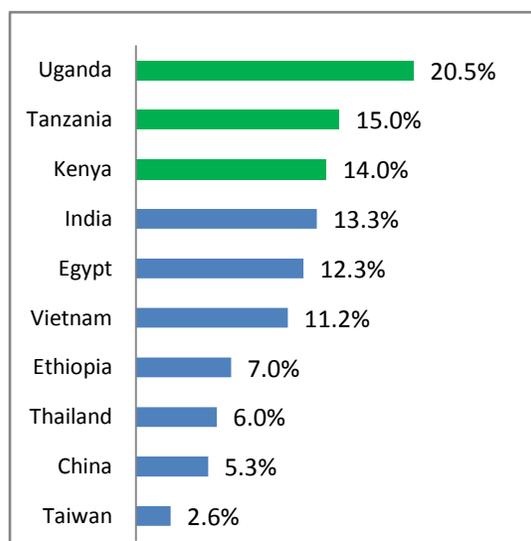
Table 56: Business Financing Status in Target Countries

Country	Status
Kenya	Bank lending rate is in range of 16 to 18%, plus other charges to an extent of 5% (bank charges, negotiation charges, commitment fee, ledger fee, a/c maintenance fee, etc. Credit availability, specifically to textile businesses, is low.
Sudan	Long term loans are not made available by banks. Certain donor loans from Arab countries are available, which are very few. Loans are available only for working capital for up to 3 months at an interest rate of 9 to 12% p.a.
Tanzania	Bank interest rates are in range of 14 to 16%. Ginners have a comparative easier access to credit lines, whereas the textile businesses face issues in the same.
Uganda	Credit availability is very less. Long term loans are available at an interest rate of 18 to 20% with a repayment period of 3 years. Foreign currency loans may be available to businesses with at least 20% of earnings in foreign currency, at an interest rate of 7 to 12%. However, the availability is very less.

Source: Primary Research findings

Figure 37: Comparison of PLR of Selected Countries

The lending rates in countries are quite high in comparison to other nations which have got significant investments in the CTA sector, as shown in adjoining figures comparing PLR (Prime Lending rate) of target countries with some of the bigger textile and apparel producing nations and a neighboring country, Ethiopia which is making significant inroads to attract investment in different segments in the country. PLR is the annual interest rate that commercial banks charge on new loans, denominated in the national currency, to their most credit-worthy customers. Without reduction in lending rates and improvement of credit flow, large scale investments are bound not to happen.



Source: CIA world fact book

The rate of interest charged by banks is more related to the macroeconomic environment of the country and policies. The effective rates to any sector may however be reduced by the Government by identifying it as a priority segment and providing interest subsidies on loans offered by banks to

businesses in that sector. On one hand where investors will have a reduction in their interest burden, lenders will be more comfortable with government backing to the loan. This will also improve the credit availability. However, a proper policy with strict guidelines regarding the nature of business to be financed needs to be formulated beforehand.

In India, for example, the scheme of Technological Upgradation Fund Scheme (TUFS), as mentioned in previous section on Technology Level, provides interest reimbursement of 5 percentage points to eligible projects on selected plant and machinery. Before a commitment of support by the government, a complete due diligence of the project is done either by the financial institute or a third party empanelled consultant in order to ensure the project viability.

Recommendations

The CTA business financing scenario can improve in a country in two ways. First is on automatic mode, when the businesses start performing consistently and cater their financial commitments on time. The second is when the sector itself is recognized as priority sector by government and financial institutes get some commitment by government on behalf of borrowers as well. Hence, an intervention to improve the credit flow should start with government backing up CTA sector business and instructing financial institutes to operate special schemes for it. These schemes may be phased out in due course of time, when the businesses start performing above a certain financial benchmark level.

5.8. Supply Chain Linkages

An analysis of operational capacities in each of the target country reveals an unbalanced supply chain:

Table 57: Operational CTA Capacities of the Target Countries

	Kenya	Sudan	Tanzania	Uganda
Cotton	2010 Production: 49,000 bales Smallest producer among four; possibility of improvement in area under cotton cultivation and productivity exists	2010 Production: 100,000 bales Large scope of increase; current production is 80% lower than peak production level of 525,000 bales (2004)	2010 production: 275,000 bales Largest production among four; still half of the peak production level of 575,000 bales (2005)	2010 Production: 125,000 bales 38% below the peak production level of 200,000 bales (2004)
Ginning	Largely underutilized	Largely underutilized	Largely underutilized	Largely underutilized
Yarn manufacturing	2010 Mill use of cotton: 50,000 bales Capacity is more than of cotton production, some imports are also there. But yarn production is insufficient to cater to fabric producers.	2010 Mill use of cotton: 8,000 bales Negligible capacity	2010 Mill use of cotton: 150,000 bales Mill use has improved in last few years, but still is way below the own cotton production capacity	2010 Mill use of cotton: 20,000 bales Very less capacity
Fabric manufacturing and processing	Very less capacity. Most of the fabrics used by apparel manufacturers are imported.	Negligible capacity	Limited capacities, major focus is on traditional fabrics like kitenge and kanga	Very less capacity. Only two manufacturing units exist
Garmenting	Largest capacity in the region	Negligible capacity	Negligible capacity	Very less capacity. Only two manufacturing units exist

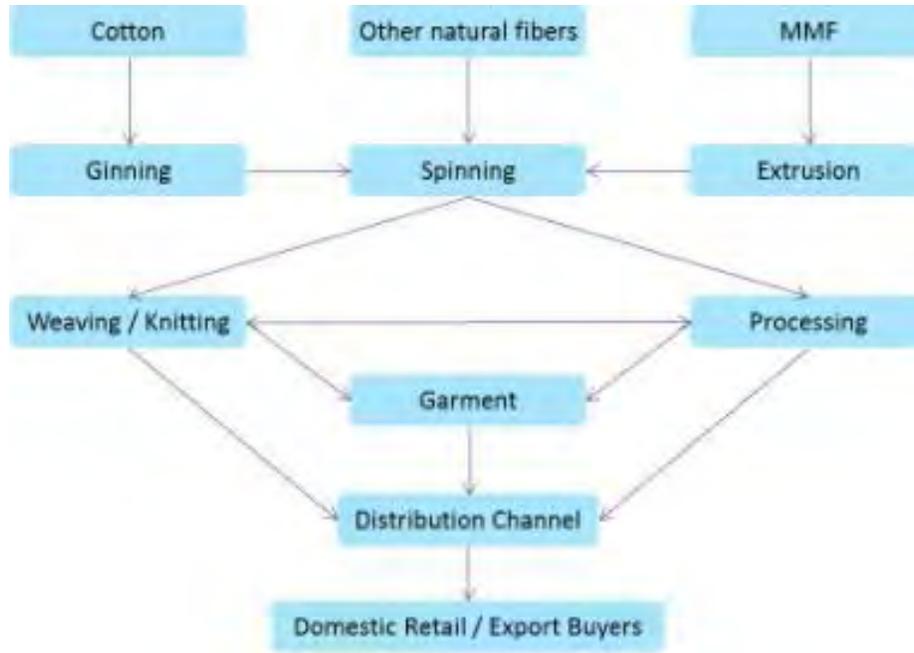
Source: Primary Research Findings

Kenya has a strong garment manufacturing capacity but no backward linkages within the country to support it. Uganda and Sudan produces cotton, but lacks further downstream processes. Tanzania has

some capacities from cotton to fabrics, but lacks value addition in terms of fabric type as well as garment conversion.

For countries where substantial benefits for exports are available, it becomes important to have a complete supply chain as buyers prefer integrated supply bases. Importing yarn or fabric leads to higher costs, higher lead time and loss of employment opportunity.

Figure 38: Textile and Apparel Supply Chain



The countries which have emerged as the leading manufacturer – exporter of textile and apparel products like China and India, feature a complete supply chain, from fiber to finished goods.

Table 58: Supply Chain Analysis of China and India

	China	India
Fiber	Largest producer of Cotton 2 nd largest producer of wool Largest producer of polyester filament yarn and staple fiber 3 rd largest producer of polypropylene Largest producer of acrylic Largest producer of nylon	2 nd largest producer of Cotton 2 nd largest producer of Silk 3 rd largest producer of Cellulosic fibre/yarn 5 th largest producer of Synthetic fibers/yarn Home to Largest Producer of Polyester Largest producer of Jute

Yarn	110 million ring spindles 2.2 million rotors Fiber consumption: 38 Mn. MT	42 million short staple spindles 0.7 million rotors Fiber consumption: 7 Mn. MT
Weaving	522,000 shuttle less looms 690,700 shuttle looms	18,000 shuttle less looms 53,000 shuttle looms
Garments	Largest manufacturers and exporter in the world. Apparel exports: US\$ 120 Bn.	Apparel Exports: US\$ 10 Bn

Source: ITMF, UN Comtrade, Oerlikon Fiber Year Report 2009 and various country reports

Recommendations

Improvement in supply chain linkages is a broader concept which will encompass a lot of other interventions like identifying key value chain bottlenecks and encouraging investments in it; promote capacity expansion and technology upgradation, improving HR skills for the sector, improving the overall infrastructure level in the country, attracting Foreign Direct Investments, etc. Here also, a cluster based development approach can prove useful. The main idea should be recognizing CTA sector as a priority segment and taking various steps to ensure that existing businesses are profitable and they re-invest in businesses, in addition new investments also happen from domestic as well as international investors.

5.9. Training and Education

Cotton, Textile and Apparel sector is one largest employment providers in developing nations. The sector has potential to employ manpower in significant quantum specifically at the start of value chain (farming and ginning) and towards the end (apparel manufacturing).

In order to support the increase in production base of the sector, it essential to focus on training and educating the human resources so that they may take up positions at different levels of machine operators, supervisors, technical staff, managerial staff, designers, etc.

Countries like India have paid special attention to this aspect and have built up a strong education infrastructure, and also have launched several capacity building programs. The educational institutes in India provide 3 year diploma, 4 year degrees (B. Tech or B.E.), 2 year post graduate degrees (M.Tech.) and doctorate (Ph. D.) level programs. There are about 20 major textile engineering colleges by government with a capacity of providing 1500+ graduate and post graduate engineers to the industry every year. Some of the better known colleges include Technological Institute of Textile and Sciences, New Delhi branch of Indian Institute of Technology, DKTE Society's Textile & Engineering Institute, etc. In addition there are several other institutes for other programs.

For education in fashion designing, Ministry of Textiles in India has established National Institute of Fashion Technology, which has completed 25 years this year with 15 institutes across India. Every year over 1500 graduates and some 500 post graduates pass from college and join the industry. NIFT has set academic standards and excellence in thought leadership by providing a pool of creative genius designers who have achieved global success like Ritu Beri, Rohit Bal, Manish Arora, Ritu Kumar, etc. Apart from NIFT there are other well-known institutes like National Institute of Design, Pearl Academy of Fashion, Lady Irwin College, etc.

To promote vocational training in the sector, Apparel Export Promotion Council (AEPC) conceptualized the Apparel Training & Design centers (ATDC) to meet the industry's growing requirement for a steady supply to trained workforce and professionals with domain expertise especially in apparel manufacturing technology. From an initial strength of a mere 195 student trained in 1996, number of students passing out every year has risen to over 5000. Overall more than 50,000 students have been trained in different centres of the ATDC since its inception. The students trained at various centres of ATDCs are suitably employed in the garment industry units and clusters.

There are a host of schemes launched by various Government arms for development of skills required in the textile sector, like:

- Ministry of Textile's Integrated Skill Development Program, which aims to train and employ additional 12 million people in textile sector. This will be done in partnership with private firms, consulting agencies and social workers.

- Ministry of Textile's Mega Cluster Scheme for Powerloom, Handlooms and Handicrafts, wherein government supports establishment of world-class infrastructure for various manufacturing and support activities, including training.
- Ministry of Labour & employment's dress making and fashion technology scheme which is specifically run for female workforce and managed by Women training Directorate
- Ministry of Rural Development's
- Ministry of Agriculture's extension program to support cotton production in India by "Promotion and Strengthening of Agricultural Mechanization through Training, Testing & Demonstration" that basically covers:
 - Need based skill oriented training in agricultural machinery and farm mechanization to farmers, trainers, rural youth, technicians, etc.
 - Testing of machines with a view to ascertaining their performance characteristics and suggesting improvement thereon for their quality upgradation.
 - Demonstration of equipment with a view to increase productivity, production and profitability of farmers by the way of induction of new technology in the agricultural production system.

In addition to this, industry has also been supportive to the various colleges and institutes and support government programs in different ways like accepting trainees for a short span of time, providing infrastructure to conduct training programs, etc.

In each of the target countries there exist educational institutes but the focus on training is largely missing. Considering the need of productivity improvement and providing employment, importance of having a structured training program cannot be over emphasized. The education infrastructure also needs up gradation in terms of syllabus, equipment's, labs, industry collaboration, etc.

Recommendations

For improvement of education institutes, it is recommended that they tie up with three types of stakeholders:

- Industry – for getting students trained at the factories while they are studying and getting them placed when their courses are complete.
- Technology suppliers – for getting sponsorships, maybe in form of factory equipment like carding machine, air-jet weaving technology, etc. on which students can be trained so that they are readily absorbed by companies on completion of courses
- International institutes – for knowledge exchange as well as student exchange program. The former will help institutes to improve their course curriculums and own body of knowledge, whereas the latter will provide international exposure to the students.

The existing institutes may not be able to do the above activities on their own, government department or an international development body may empanel a consultant for these activities on a deliverable basis. Government should also think of financially supporting the textile and design institutes on a per student basis, which will effectively be sponsoring students to take up courses in such institutes.

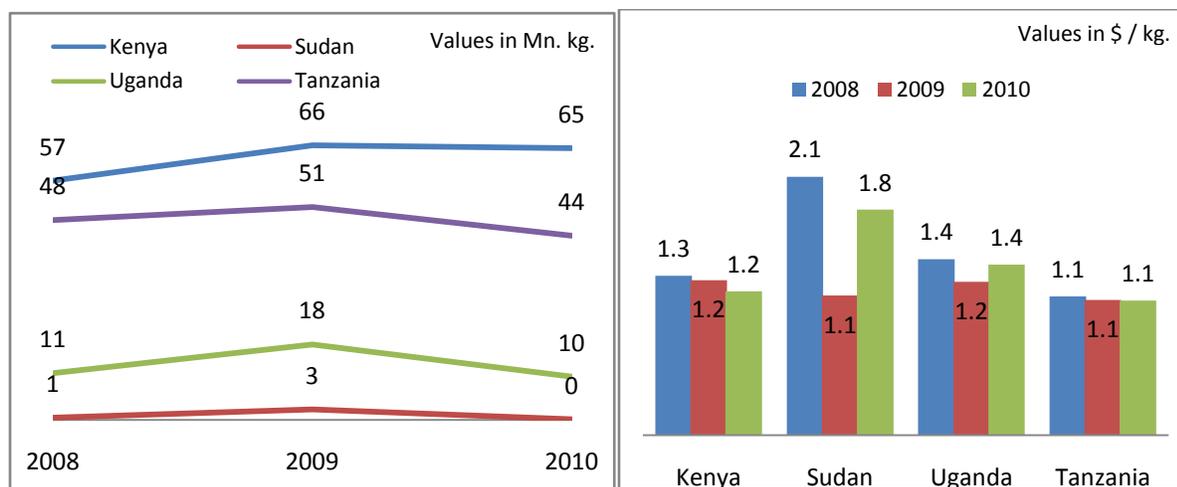
On the training issue, the implementing agency (government or international development agency) need to establish an umbrella scheme for training manpower at various levels - operators, supervisors and middle level. To impart the training, national and international consultants should be empanelled and should be engaged on a per trainee basis. In line with the requirements, establishment of training institutes may also be required. The industry also needs to support training programs by providing their infrastructure for the same.

Organizing an annual design competition for students in the region will help improve the sector's visibility and encourage students to take up a career in this segment.

5.10. Market Development

The domestic markets of all the target nations are dominated by imports of yarn, fabrics, finished goods and second hand clothing (except in Sudan). An analysis of imports of individual country is given earlier in this report in the foreign trade overview section of each country. The data basically indicates heavy dependence on imports at all levels. An analysis of imports of second hand clothes is given ahead.

Figure 39: Imports of Second Hand Clothing in Target Countries



Source: UN Comtrade

Among the four nations, Kenya imports most of the second hand clothing, to the tune of 65 million kg. It is also important to note that the unit price is US\$ 1 / kg, which implies that for US\$ 1 one can import a pair of trousers and a shirt. Such low cost imports may benefit those who are unable to afford new clothing; but the actual situation in all countries is that many other consumers also buy second hand clothes because of various reasons, including their better design and styles. As a result there is a perpetual downfall in region's apparel manufacturing segment. Banning imports of these clothes (or any other commodity) is neither advisable nor feasible on account of various factors; the answer lies in developing own competencies to substitute / phase out imports progressively.

For development of exports market, it is important to showcase the product range, manufacturing capacities, etc. to buyers who have not yet made inroads in the region. Such buyer-seller meets / programs are run all over the world by trade and government bodies. For example, in India there are 10 export promotion councils in CTA sector, entrusted with export market development of specific products:

- Apparel Export Promotion Council
- Carpet Export Promotion Council
- Cotton Textile Export Promotion Council

- Export Promotion Council For Handicrafts
- Powerloom Development and Export Promotion Council
- Handloom Export Promotion Council
- The Indian Silk Export Promotion Council
- Wool Industry Export Promotion Council
- Synthetic & Rayon Textile Export Promotion Council
- Wool & Woolens Export Promotion Council

They carry out a number of functions like:

- Arranging visit of foreign delegation in the country
- Arranging Buyer-Seller Meets in India and abroad
- Maintaining close liaison with relevant international bodies
- Arranging trade fairs and exhibitions in order to project the quality and variety of Indian products
- Research foreign markets and arranging delegation/study tour abroad
- Advocacy related to improve the production base of the Industry
- Maintain and sharing supplier databases with overseas buyers and vice a versa.
- Resolving shipping & transport problems
- Publicity in India & abroad

Recommendations

A detailed study is required to assess the impact of second hand clothing on the consumers, economy, trade and local manufacturing industry. Such a study should be aimed to bring out the mechanism to control second hand clothing (if at all) so that the local industry's growth is not hampered.

For development of export markets, a separate export promotion council can be formed to carry out activities in line with those mentioned above.

One of the most important steps that can be taken for market development is organizing an annual mega trade show / buyer seller in the region inviting all the prospective regional and international buyers.

5.11. Investment Promotion

In each of the target countries special cells exists for investment promotion, albeit not exclusively for CTA sectors:

- Kenya: Kenya Investment Authority
- Sudan: Ministry of Investment
- Tanzania: Tanzania Investment center
- Uganda: Uganda Investment Authority

The key benefits provided by each country for investment is as below:

Kenya

- Investment Protection Guarantee -The constitution of Kenya guarantees protection of life and private property. The Foreign Investment Protection Act guarantees against expropriation of private property by government.
- Expropriation- Kenyan law provides protection against the expropriation of private property except where due process is followed and adequate and prompt compensation is provided.
- Further protection is also guaranteed by the various bilateral agreements with other countries.
- Regional or zonal restrictions do not exist. Investors are free to invest in any part of the country subject to the observation of environmental laws
- The key policy initiatives include:
 - Liberalizing the exchange controls
 - Removing price controls
 - Freeing the shilling exchange rate to be market driven
 - Abolishing import licensing except for cases that impact directly on national security, health, and environment.
 - Opening up of the capital markets to foreign participation
 - Generous Investment and capital allowance
 - Remission of duty and Value Added Tax (VAT)
 - Manufacture under Bond status
 - Export processing zones status.
 - Double taxation agreements
 - Signatory of a range of tax treaties , Investment Protection Agreements and bilateral investment treaties

Sudan

The Ministry of Investment provides services to investors among which the following are the most important:

- Complete exemption from customs fees for capital projects
- Freedom of capital transfer

- Simplify procedures through a single outlet “One Stop Shop”
- Grant exemptions from profit taxes of 5 to 10 years for investment projects
- Grant customs exemptions for strategic projects and non-strategic capital goods
- Strategic projects are given the necessary land free-of-charge
- Non-strategic projects are given land at an encouragement price
- The investor has the right to operate without a Sudanese partner

The investment law has provided the following fundamental guarantees:

- No confiscation of property will occur except through the legal system and after payment of a reasonable compensation
- the investor has the right to re-transfer the capital in case the project isn’t executed or is liquidated
- Transfer of profits and costs of finance will be executed in the currency of import and on the date due (after payment of the legal duties)
- The project is automatically included in the registry of importers and exporters.

Tanzania

- Investments in Tanzania are guaranteed against nationalization and expropriation.
- Tanzania is a signatory of several multilateral and bilateral agreements on protection and promotion of foreign investment.
- Tanzania is a member of Multilateral Investment Guarantee Agency (MIGA) and International Centre for Settlement of Investment Disputes (ICSID).
- Fiscal incentives:
 - Import duty and VAT exemption on project/capital goods.
 - Import Duty Draw Back Scheme
 - Refund of duty charged on imported inputs used for producing goods for export and goods sold to foreign institutions like UN and its agencies operating in Tanzania.
- Non-fiscal incentives
 - Immigration quota of up to 5 people
 - Guaranteed transfer of:-
 - Net profits or dividends of the investment
 - Payment in respect of foreign loans
 - Remittance of proceeds net of all taxes and other obligations
 - Royalties fees and other charges
 - Payment of emolument and other benefits to foreign personnel
- Strategic Investor Status: For a big project of over US\$ 20 million offering specific/great impact to the society or economy, Investors can request for special incentives from the Government.
- Import Duty Draw Back Scheme: Refund of duty charged on imported inputs used for producing goods for export and goods sold to foreign institutions like UN and its agencies operating in Tanzania.

- Export Processing Zone Act, 2002: Under this act, all inputs like raw materials and machinery which are imported and used to process or manufacture goods in the designated areas as EPZ are exempted from import duty and other taxes.
- Special Economic Zone(SEZ) Act, 2005: Economic activities under SEZ are not subjected to customs duty; value added tax and any other tax payable in respect of goods purchased for use as raw materials, equipment, machinery including all goods and services used in undertaking the licensed businesses.

Uganda

- Investment Capital Allowances

Initial capital allowance on plant and machinery	50-75%
Start-up cost spread over 4 years	25% p.a.
Scientific research expenditure	100%
Training expenditure	100%
Mineral exploration expenditure	100%
Initial Allowance on hotel, hospitals and Industrial buildings	20%
Deductible annual Allowances (depreciable assets) Depreciation rates of assets range	20-40%
Depreciation rate for Hotels, Industrial Buildings and Hospitals	5%

- Investors who register as investment traders are entitled to VAT refund on building materials for industrial/commercial buildings.
- Duty and Tax free import of Plant & Machinery.
- First Arrival Privileges in the form of duty exemptions for personal effects and motor vehicle (previously owned for at least 12 months) to all investors and expatriates coming to Uganda.
- Export Promotion Incentives and Facilities
 - Manufacturing Under Bond.
 - Duty exemption on plant and machinery and other inputs
 - Stamp duty exemption
 - Duty draw back – a refund of all or part of any duty paid on materials, inputs imported to produce for export
 - Withholding tax exemptions on plant & machinery, scholastic materials, human & animal drugs and raw materials.
 - Ten year tax holiday
 - Duty remission scheme for exporters involved in value addition.

Recommendations

The incentives provided by large textile and apparel manufacturing nations of China, India, Bangladesh and Turkey are mentioned in the annexure to this report. In line with learning from these nations, a larger intervention to attract FDI in CTA sector which can cover:

- Organize annual investor summit showcasing business opportunity in the country
- Leading trade and industry delegation to key countries from where investment can happen
- Creating awareness about the country's CTA sector, the advantages it offers and existing opportunities through international media and forums.

5.12. Government Support

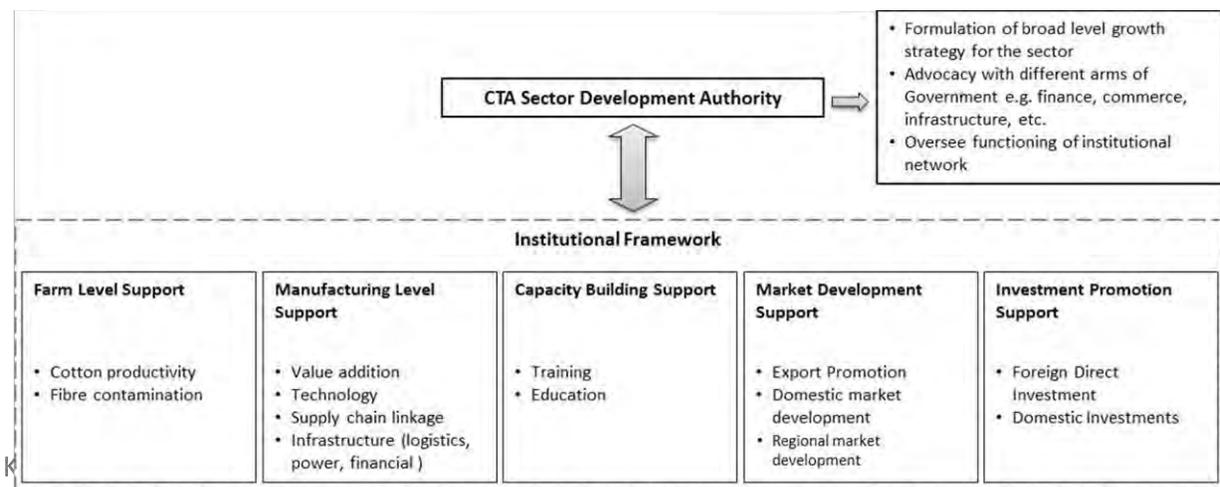
Growth of any sector, anywhere in the world may be catalyzed by Governments through a range of fiscal and non-fiscal promotion policies. Governments may act as facilitator to promote sectors, which will eventually bring significant returns to the nation in terms of increased employment, foreign exchange earnings, growth of allied sectors, less dependence on imports, increased tax collection, etc. Across the globe, different states have focused on different sectors and formulated policies to aid the sector growth, like Singapore-Financial sector, Middle East nations-Oil, China-manufacturing, India-Services, Malaysia- Tourism, etc.

Many times, it has happened that the well-defined policy initiatives were drafted for upliftment of the sector but were left mid-way in absence of any implementing cum monitoring agency. Likewise, there are certain initiatives which needs to be undertaken on regular basis like maintaining supplier database, export performance statistics, etc.

Any of the initiatives described in previous sections, would first of all require an institution for its implementation and for monitoring the ongoing performance and measure the deviations of the results achieved versus the planned outputs. In absence of a strong institute, none of the interventions can bring results.

In an ideal scenario, following should be the institutional framework for implementing various initiatives:

Figure 40: Institutional framework for CTA Sector Development



In cotton, textile and apparel sector an entire gamut of sector promotion methods are employed by different countries like:

1. Providing suitable infrastructure for doing businesses e.g. connectivity to ports, good quality power at subsidized rates
2. Incentives for investments like land availability at subsidized cost, capital subsidy, interest subsidy, tax free period, etc.
3. Making the entire investment process – faster, easier and better by establishing single window clearance authorities, easier land acquisition, supporting credit flow to industry, etc.
4. Incentives for exports like duty free imports of inputs, fiscal benefits related to foreign exchange earned, etc.
5. Promoting Public Private Partnership (PPP) model to encourage large scale investments
6. Special support to handhold the business for few initial years
7. Virtual integration of supply chain by adopting a cluster based approach e.g. textile parks
8. Trade agreements with major suppliers and markets
9. Marketing support by establishment of Trade promotion bodies, arranging buyer seller meets, supporting industries to showcase their products overseas, branding a countries products, etc.
10. Supporting research and product development activities by establishing such centres and providing benefits to businesses that do this.

Specific support provided by governments in China, India, Bangladesh and Turkey are mentioned in the annexure to this report.

For nations like Kenya, Uganda, Sudan and Tanzania; CTA sector is an apt choice for being selected as the priority sector by governments because of various reasons. First of all the basic raw material, cotton is available in the region and the prospects to increase the productivity and land under cultivation exists. It makes natural sense to focus on promotion of a sector whose raw material is available locally (or regionally). Secondly, all these countries have preferential market access for textile and apparel goods to USA, EU and other major markets under various agreements. Thirdly, CTA sector holds the key for providing big employment opportunities, which is important considering the high unemployment rates in all four nations: Kenya~40%, Sudan~19%, Tanzania~12% and Uganda~3.5% (urban unemployment~12%).

Recommendations

Most of the interventions mentioned in the different preceding subsections talk about government support. In order to implement them successfully, the utmost importance is of establishing strong institutions in the country.

Considering the necessity and benefits of development of CTA sector to the country, government can take up various developmental plans to be implemented in short term, medium term and long term, and then phased out successively after achievement of the desired results.

6. Proposed Interventions

6.1. Cluster Development

6.1.1. Objective

Establishment of industrial zones in the country attracting investments by providing special incentives for the same.

6.1.2. Broad contours of the intervention

Units inside the cluster will be provided -

- Interest and capital subsidy on selected plant and machinery
- Fiscal incentives for exports
- Exemption from customs duty, VAT, corporate tax, etc. for a period of 10 years
- Providing readymade infrastructure to the businesses e.g. roads, ETP, power station, training center, display halls, residential complex etc.
- Single window clearances for investments

6.1.3. Implementation framework

- Engagement of a Cluster Development Support Agency (CDSA) for:
 - Identification of location within the country to establish the cluster
 - Developing the vision and broad concept for the cluster
 - Identification of infrastructure requirements
 - Identification of key investors (domestic and abroad) and sensitize them for investment in the cluster
- Development of required infrastructure
- Inviting potential investors and showcasing the infrastructure

6.1.4. Impact

Large scale investment in the sector addressing issues of supply chain linkages, technology upgradation, capacity addition, value addition, credit availability, cost of finance, infrastructure, etc.

6.1.5. Cost Estimate

US\$ 10-15 million per cluster for infrastructure development plus relinquishing of certain sources of revenue to government.

6.2. Training Program

6.2.1. Objective

Imparting large scale vocational training and employment assistance at operator and supervisor level for textile and garment manufacturing processes

6.2.2. Implementation framework

- Government to create certain training institutes in coordination with the industry
- Engagement of Training Agency who will have the following role:
 - Identification of skill gap
 - Development of course curriculum
 - Identification and mobilization of employable youth
 - Selection and training (classroom, shop-floor and soft skills)
 - Placement assistance in manufacturing units
 - Follow-up exercise of all recruited people

6.2.3. Impact

- Large scale availability of skilled manpower to the CTA sector
- Increase in employment and earnings

6.2.4. Cost Estimate

US\$ 300-400 per trainee

6.3. Upgradation of Education Institutes

6.3.1. Objective

Improvement in delivery mechanism of fashion and technical institutes by improvement in course curriculum and international partnerships.

6.3.2. Broad contours of the intervention

- Revision of course curriculum in line with industry requirement
- Partnerships with international institutes for student exchange, knowledge exchange and visiting faculty program
- Liaison with machinery and equipment manufacturers
- Association with industry to sponsor students, accepting students for industrial training, sponsor research work at universities and employ the locally educated students

6.3.3. Implementation framework

- Formation of a consortium of technical, fashion, educational and industry experts drawn from across the world to identify the industry need and revise the existing curriculum accordingly.
- Engagement of an external agency to
 - Develop various partnership models with probable partners
 - Identify probable partner
 - Institutes
 - Industry
 - Machinery and equipment, manufactures
- Facilitate partnership process with identified organizations

6.3.4. Impact

Revitalization of the entire textile and fashion education infrastructure

6.3.5. Cost Estimate

US\$ 1 to 2 million per country

6.4. Creating various Networking Platforms

6.4.1. Objective

Providing opportunities to various stakeholders of the industry to interact with global and regional stakeholders others like buyers, investors, subject matter experts, etc.

6.4.2. Broad contours of the intervention

A fund may be created for organizing events targeted to provide interactive platform to 3 types of stakeholders

a) International buyers	b) International investors	c) Regional / international “thought leaders” or subject matter experts
<ul style="list-style-type: none">• Aim: To bring awareness among international buyers about the capabilities of the region’s CTA sector and also to generate understanding among regional manufacturers about the buyer’s requirements• Event type: Mega Trade Show, Buyer Seller Meets and Buyer Trips	<ul style="list-style-type: none">• Aim: To showcase investment opportunities to global investors who are looking to diversify in other geographies• Event type: Investor Summit and In-bound delegation visits, International road shows	<ul style="list-style-type: none">• Aim: To allow deliberations of regional issues among stakeholders in order to formulate action plans to address them effectively• Event type: Theme based conferences

6.4.3. Implementation framework

- The fund may be made available to selected, eligible organizations called Implementing Agency (IA) which will be responsible for entire conception and execution of the interventions.
- IA will then appoint external agencies like Knowledge Partner, Event Management Companies, PR agencies, etc. to successfully conduct the event

6.4.4. Impact

- Increase in trade and investment
- Establishment of long term business linkages
- Awareness among entrepreneurs about benefits of investment in CTA sector
- Increase in buyer awareness
- Development of coordination among different sector stakeholders

6.4.5. Cost Estimate

US\$ 100,000 to US\$ 200,000 per event depending on scope of the initiative.

6.5. Investment Support Scheme

6.5.1. Objective

Encouragement of investments in CTA sector by private players, both local and international by providing various benefits for the same

6.5.2. Broad contours of the intervention

- A scheme can be envisaged that provides fiscal incentives for investments e.g. -
 - Interest subsidy on selected plant and machinery
 - Capital subsidy on selected plant and machinery
 - Duty free import of modern machinery
 - Provision of land at notional value to projects generating a minimum employment level
 - Other incentives e.g. subsidized power cost, allowing accelerated depreciation of machinery, duty drawback or exemptions, tax exemptions, etc.

6.5.3. Implementation framework

- The Government Bodies need to draft these schemes by benchmarking against global best practices and taking opinion of local businesses as well.
- For this, a third party agency may be engaged who can coordinate directly with the local industry and authorities to formulate the scheme. The agency will arrange various workshops involving industry, government authorities, experts, etc. to arrive at best fit model for sustainable industry growth.

6.5.4. Impact

Increased focus of investors in the regional CTA sector adding capacities which will generate employment, foreign exchange earnings, etc.

6.5.5. Cost Estimate

To start with, a fund of US\$ 25 million per country may be earmarked for such intervention, which can be increased as investor interest grows. It will also encompass relinquishing of certain sources of revenue to government.