

**THE PLANNED RTC STRUCTURAL AND LEGAL
ORGANISATION**

CHAPTER 5.2

ANNEX A: BUSINESS PLAN FOR THE RTC EAST

Project CFC/ICAC/33

**Commercial Standardization of
Instrument Testing of Cotton
with particular consideration of Africa**



This project is co-funded by the European Union
and the Common Fund for Commodities





BUSINESS PLAN
FOR THE REGIONAL TECHNICAL CENTRE (RTC) FOR
EAST/SOUTHERN AFRICA
JULY, 2010



Tanzania Cotton Board,
P.O.Box 9161,
Dar Es Salaam,
Tanzania.
E-mail: tcfb@tancotton.co.tz



Tanzania Bureau of Standards,
P.O.Box 9524,
Dar Es Salaam,
Tanzania.
E-mail: info@tbstz.org

EXECUTIVE SUMMARY

0. INTRODUCTION

0.1 PROJECT BACKGROUND

Cotton produced by developing countries and, in particular, African countries has not been competitive in the international market due to its poor quality and lack of quality data. Most of it is classed manually and information about the very little that is instrument-classified is not reliable because universal classification standards are not used. To correct the situation, in 2003 the International Cotton Advisory Committee (ICAC) formed a task force to undertake a project on Commercial Standardization of Instrument Testing of Cotton (CSITC) that would assist least developed countries (LDCs) to meet the emerging quality assessment demands of the global cotton market with a view to bringing their cotton to a competitive position. In order to enable these countries to supply cotton with objective and reliable instrument-based quality information, the project established two regional technical centres (RTC) of excellence for cotton in Africa. One is for Western and Central African cotton growing countries based in Mali and the other is based in Tanzania for Eastern and Southern African countries.

The RTC in Tanzania is located at the Tanzania Bureau of Standards (TBS). It was inaugurated on April 8, 2010 and is now operational. However, the project period is expected to expire by the end of November, 2011. Before the project comes to an end, it has been found desirable to evaluate its sustainability thereafter.

This is the document in which the sustainability of the RTC for Eastern and Southern African countries (RTC-ESA) has been evaluated.

0.2 ORGANIZATION STRUCTURE AND MANPOWER REQUIREMENTS

The services to be offered by this RTC-ESA are similar to, and within the core TBS functions of product testing, calibration and standards setting. However, much as this centre is specifically for the cotton sector to be able to enjoy the benefits and the rich experiences gained by the existing Testing and Calibration department, it is being proposed that a new section in this department be established.

This means that the centre will be within the TBS organization structure under the Testing and Calibration Department and will be responsible for the provision of services to the cotton industry only. The section will be responsible for the development and supporting of the objectives of instrument testing of cotton in the region. It will be headed by a Laboratory Manager and will initially have a total work force of three people.

The Centre will have a Regional Steering Committee which will be responsible for:

- Monitoring and evaluation of the centre's performance
- Advising the TBS management on the best ways of running the centre.

On the other hand, it will be the responsibility of the TBS Management to ensure that Regional Steering Committee meetings are convened yearly without failure. However, transport and subsistence allowances for the committee members attending the meetings will be borne by the delegates themselves.

0.3 MARKET POTENTIAL

The centre is expected to enjoy an almost captive market comprising five countries (Tanzania, Uganda, Zambia Mozambique and Zimbabwe) that it will be servicing by providing cotton retesting, training, certification, and provision of advisory services to regional laboratories. The centre is also expected to indirectly provide services to other countries in its neighbourhood, namely Malawi, Kenya, South Africa, Sudan and Ethiopia.

Notwithstanding the presence of this facility in the region, partner states have to date not started to utilize it for the retesting activity, save for the training and regional round trials and variability tests. The project needs to develop its presence in the market first before it is commercialized. At least a two to three-year period of project-supported operations would likely ensure this sustenance.

0.4 PROJECT INVESTMENTS AND FINANCING

A total of USD 867,636.50 has so far been spent on the project. This amount has been utilized for the procurement of equipment and training of personnel. For the project to start commercial operations, it has been estimated that a total of an extra investment of USD \$16,047 to finance operations in the form of working capital will be required. With this additional amount, total project investment is expected to be USD \$883683.50.

Financing of the project has mainly been from the Common Fund for Commodities (CFC) and the European Union (EU), who are the project's co-financiers. They have invested so far a total of USD \$747,636.50 (86.2%) in the form of grants to the project, while the project host, TBS, has also put in a total of USD \$120,000 (13.8%) in the form of equity in the project. For the centre to start commercial operations, it is being recommended that the project co-financiers extend another grant of USD \$16,047 to finance the initial working capital.

0.5 OPERATING COSTS

When the centre starts to operate on a commercial basis, it will have to meet its operating costs from own generated funds. These have been worked out on the basis of assumptions including the following two main ones. The first assumption is that all the countries will

devise a programme that aims at instituting a mechanism to have all its cotton fully instrument-tested by the end of the year 2020, and that each country will send its quota of retestable samples (that is 5% of all the samples it tests in its local laboratories) to RTC-ESA for retesting. The second one is that TCB will be motivated to subcontract RTC-ESA to test some of its samples as explained above.

On the basis of the above assumptions, the operating costs of the centre are expected to be USD \$263,003 in the first year of operation, and these are poised to grow proportionately with the cotton production growth rate during the period rising to USD \$280,559 by the end of the year 2020.

0.6 FINANCIAL ANALYSIS

Over the reviewed period of ten years, the centre's operations are poised to be profitable. Right from the first year of operation, RTC-ESA will start generating profits. A total of USD \$1.3 million will be generated by the end of the year 2020. Cash-flows are positive throughout the period and the balance sheet statement shows a healthy growth of assets, which are expected to grow over two and half folds from USD \$87,0303 to USD \$2.2 million. The Internal Rate of Return of the centre works out at 16%.

0.7 MAIN FINDINGS AND RECOMMENDATIONS

The CSITC project programme requires a three-year implementation period. The RTC-ESA was supposed to have been operating as a fully-fledged retesting centre for about 40 months from the second quarter of 2008, which ends in 2011. This period was planned to be sufficient for the maturity of the project in terms of expertise development and accumulation of the necessary operating experience. It was also expected to have created confidence in its customers, i.e. the regional cotton testing laboratories.

The decision to commercially operate the centre from November, 2011, only eighteen months since it was inaugurated, does not only sound ambitious; it truly is ambitious. It is being recommended therefore to review the project period by extending it for another eighteen more months from November, 2011.

Apart from conducting training courses and round and variability tests, up to this moment the centre has not yet started receiving samples from partner states for retesting. The RTC-ESA thinks there might be an awareness challenge with respect to the benefits these tests would bring to these states and this needs to be handled first. In view of this, there is a need to invest in awareness creation and education of the stakeholders in the region first.

INTRODUCTION

1.0 INTRODUCTION

Cotton, like any other global commodity trading on the international market, is regulated by scientific standards which take into consideration, among other things, quality parameters. The US Department of Agriculture developed an international cotton classification system which is now globally accepted as the base for an international cotton grading system. The USA, and almost all other major cotton importing and exporting countries, have already built into their national quality assessment systems an instrument testing of cotton classification. This universal classification system has proved to be very reliable and thus favourable to all cotton trading agents.

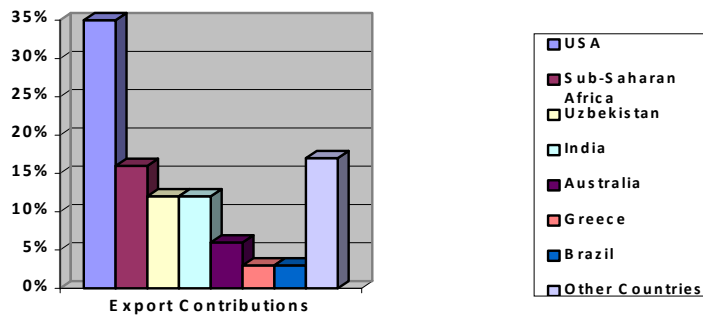
In the world cotton trade today any cotton with insufficient verification of its quality does not only result in discounted prices but also its producers face total exclusion from the market. There have thus been initiatives of all countries to move from manual systems of cotton classification to putting in place an adequate instrument cotton testing system based on Standardized Instrument for Testing of Cotton (SITC). This includes cotton producing countries in Africa if they would like to create strong access of their cotton to diverse global markets.

Most African countries still classify their cotton manually and are therefore placed at a disadvantage, with their cotton prices not only discounted but also prone to disputes and claims.

1.1 PROJECT BACKGROUND

Cotton is a major agro-industrial crop produced in both developing as well as developed countries. It provides over 40% of the all fibres used in clothing, household furnishings, and in industrial fabrics and products. The cotton sector is a key income-generating activity for rural areas and it has a big impact on rural poverty reduction strategies in sub-Saharan Africa (SSA). Cotton-related activities account for a large share of rural employment. It is estimated that over 15 million people in Africa are engaged in the cotton sector, with an average of 6-10 million people involved in it in West and Central Africa alone.

Africa produces about 10% of the cotton in the world and exports over 80% of it. Sub-Saharan Africa contributes 16% to the export market, competing with other producers in the world led by the USA, which provides 35%, while Uzbekistan and India supply 12% each; Australia produces 6% while Greece and Brazil each contribute 3%. Other countries supply the remaining 13% as shown below.



Cotton exports by country as % of world total exports (Source: ICAC)

China, which is the biggest importer of cotton in the world, the USA, which ranks as the number one producer of cotton in the world, Uzbekistan and Brazil together occupying third place in cotton exports, have fully implemented or are very close to fully implementing instrument classification on 100 per cent of their cotton production and can offer bale-per-bale SITC data. As mentioned above, the lack of reliable cotton quality data for each bale negatively impacts the price of cotton that is classified manually.

In efforts to improve the integrity of the worldwide cotton trade the establishment of a reliable system of instrument-based cotton classification and the need for its adoption by all cotton producing countries, especially developing countries, the International Cotton Advisory Committee (ICAC) task force on the Preparation for the Commercial Standardization of Instrument Testing of Cotton for Cotton Producing Developing Countries in Africa (CFC/ICAC/33) has completed construction and installation of a laboratory equipment at one of the two regional technical centres for Africa in Tanzania. This centre was inaugurated on April 8, 2010 and is now operational as a project performing all the functions as provided for in the project document by offering all the services to local laboratories in the region free of charge. Nevertheless, the project period is expected to come to an end by the end of November, 2011. From then the centre will be independent, operating commercially and directly supporting Eastern and Southern African countries, that is Tanzania, Zimbabwe, Zambia, Uganda, and Mozambique, and additional countries with lower cotton production such as Kenya and Malawi. It will also extend limited support to neighbouring countries including Ethiopia, Egypt, Sudan and South Africa.

1.2 CFC/ICAC/33 COTTON SUPPORT PROGRAMME

The project on Commercial Standardization of Instrument Testing of Cotton (CSITC) for Cotton Producing Developing Countries in Africa originated from the conclusions and recommendations of the International Cotton Advisory Committee's (ICAC) Task Force for the project at its meeting held in Bremen in March, 2004. This Task force was established as an expert panel in 2003 on the initiatives of ICAC and was changed into a Task force in 2005.

The overall objective of the CISTC project is to assist the cotton producing countries, especially

the developing countries and least developed countries (LDCs), to meet the emerging quality assessment demands of the global cotton market so as to strengthen, or at least maintain, their competitive position in the market. This objective was to be achieved through the establishment of regional technical centres (RTCs), one for Eastern and Southern Africa and the other for West and Central Africa.

The RTC for Eastern and Southern Africa is located in Tanzania at the Tanzania Bureau of Standards (TBS). It is planned to collaborate with the Tanzania Cotton Board (TCB) to ensure that the cotton quality assessment demands for local and international markets is achieved. The centre will also perform the following key functions:

- 1) Conduct training for laboratories and stakeholders in the region,
- 2) Provide expertise to local cotton testing laboratories in the region,
- 3) Collect and disseminate technical information among member states and associates globally,
- 4) Facilitate co-operation between cotton testing laboratories locally and globally,
- 5) Conduct regional round trials,
- 6) Conduct retests on regional laboratory samples.

1.3 PROJECT COLLABORATORS

Implementation of the RTC for Eastern and Southern African countries has been entrusted to two hosting institutions in Tanzania, namely the Tanzania Bureau of Standards (TBS) and the Tanzania Cotton Board (TCB). Both are government complimenting institutions in the development of cotton in the country. While TCB is the institution charged with the development of the cotton industry, in particular through enhancement of cotton production and setting of cotton quality standards, TBS is the institution for the promotion of quality control of products and standardization in industry and commerce. A brief description on each is as follows:

1.3.1 TANZANIA BUREAU OF STANDARDS (TBS)

TBS is a parastatal organization established under the Ministry of Industries and Trade by an Act of Parliament No. 3 of 1975 which became operational in April 1976. However, the Act was amended by Act No.1 of 1977. The Standards Act No.3 of 1975 was also further amended by Act No.2 of 2009. TBS was established as part of efforts by the government to strengthen the supporting institutional infrastructure of the industry and commercial subsectors of the economy. Specifically, TBS is mandated to undertake measures for quality control of products of all descriptions and promote standardization in industry and commerce.

TBS MISSION

The TBS mission is to promote standardization and quality assurance work in industry and commerce in short and long-term perspectives, inculcate awareness in, and promote the adoption of standardization and quality assurance by industry and commercial sectors of the economy, to enhance the availability of goods and safe products for the Tanzania public, and to complement national efforts in offering products of better quality and higher competitive edge to both the internal and external markets so as to promote and sustain economic development.

TBS CORPORATE STRATEGY

TBS, as a corporate body, aims to continue the adoption and implementation of strategies in order to increase a level of quality awareness and demand for its services. Future TBS plans are to focus on laboratory accreditation quality system.

The major mandates of TBS are the promotion of standardization in all aspects of the country's economy. The major functions of TBS are as follows:

- a) Formulation and promulgation of Tanzanian standards in all sectors of the country's economy,
- b) Implementation of promulgated standards through third-party certification,
- c) Improvement of the quality of industrial products, both for export and local consumption,
- d) Promotion of standardization and quality assurance services in industry and commerce through training,
- e) Undertaking of testing of products and samples,
- f) Undertaking calibration of industrial and commercial measuring equipment and instruments.

1.3.2 TANZANIA COTTON BOARD

The Tanzania Cotton Board was established by the Cotton Industry Act No.2 of 2001 with the responsibility to regulate and promote the development of the cotton industry in the country. The Cotton Industry Act No 2 of 2001 describes in detail the other functions and powers of the board.

TANZANIA COTTON BOARD MISSION

To improve the production, productivity and profitability of cotton by maximizing the compliance to rules and regulations that safeguard the quality of cotton sold both locally and abroad by providing effective and efficient services to cotton stakeholders by enhancing strong stakeholder relationships in order to boost self-regulation, and promoting the production, processing and consumption of cotton.

1.4 REPORT LAYOUT

This report is organized in nine chapters. The first chapter (which is herein denoted as chapter zero) is the executive summary of the report and it gives the highlights of the assignment in brief. The second chapter (which starts the serial numbering as chapter one) is the introductory part that gives the background information. It is followed by Chapter two which discusses the proposed organization structure, management and the manpower requirements for the RTC-ESA. The third chapter is the market outlook. Here the demand and supply of the cotton testing aspects have been look on and assessed. The issues regarding the investments made on the project as well as the financing aspects have been discussed and recommendations in chapter four.

In the fifth chapter, the operational costs of the centre have been highlighted before the sources of income being identified. These analysed and provided for in the sixth chapter. Chapter seven is the financial analysis which assesses the profitability of the centre. The last chapter discusses the general findings made and also gives the general recommendations before drawing the conclusions.

2.0 PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

This is a CSITC Task Force-promoted project and its organization and management is in line with the project formulation document. This document was perceived by the task force. The project is supervised by ICAC and executed by Faserinstitut Bremen as the project executing agency (PEA). PEA has been providing all technical expertise and has also provided expertise up to the level the RTC-ESA has reached. Upon expiry of the project period in November, 2011, RTC-ESA will cease receiving any financial assistance. It is thus expected to finance itself through own generated funds. In this regard a more realistic project organization and management structure has to be put in place.

The organization and management of the project should be structured in such a way that it can develop an effective management information system which will ensure that the objectives of the project are fully addressed and results realized.

As the project is structured to involve different cotton producing countries in Eastern and Southern Africa, there should be an organization structure that depicts this regionalism. That puts together all the partner countries and giving them a strong line through which their ideas and programmes can not only be judiciously incorporated in the operations of the centre, but can also be put into use for the betterment of cotton production and trade in general. It is on this understanding that it is being proposed that RTC-ESA should have a steering committee which will be responsible for:

- Monitoring and evaluation of the Centre's performance,
- Advising the TBS management on the best ways to run the Centre.

The steering committee will be composed of the TBS chief executive officer and all the chief executive officers from the individual national cotton organizations of the partner countries.

The steering committee, to initially be chaired by the TBS CEO, will not only be the main advisory organ for the Centre but also the bridge between PEA and TBS as the hosting institution. It will conduct meetings annually.

On the other hand, it will be the responsibility of the TBS management to ensure that the steering committee's meetings are convened yearly without failure. However, the transport and subsistence allowances for the committee members attending these meetings will be on the delegates' account payable by their respective institutions being represented..

MANAGEMENT STRUCTURE

The services to be offered by this RTC-ESA are similar and within the core TBS functions of product testing, calibration and standards setting. However, much as this centre is specifically for the cotton sector to be able to enjoy the benefits and the rich experiences gained by existing Testing and Calibration Department, it is being proposed that a new section under the Testing and Calibration Department should be introduced. This new section will handle the RTC-ESA activities. This means that RTC-ESA will be

within the TBS organization structure under the Testing and Calibration Department and will be responsible for the provision of services to the cotton industry only. It will be responsible for the development and support of the objectives of instrument testing of cotton in the region. It will be headed by a Laboratory Manager and will initially have a total work force of three people: a supervisor, an operator and a technician.

3. MARKET ANALYSIS

3.1 DESCRIPTION OF SERVICES TO BE PROVIDED

Under the Commercial Standardization of Instrument Testing of Cotton for the Cotton Producing Developing Countries in Africa programme, the regional technical centre for Eastern and Southern African countries has been constructed and commissioned at TBS. The centre, in cooperation with TCB, is aimed at providing mainly retesting of cotton samples from cotton testing laboratories in the region. In the event there is spare capacity, the centre can be, under special contractual arrangements with TCB, used for testing samples that TCB, for lack of in-house capacity, can not test.

The centre is also, by its location at TBS, exposed to training facilities that it can use for offering training courses in the field of cotton classification and testing. It can also use TBS' s calibration facilities to provide such services to its customers in its catchment area.

3.2 APPROACH AND COVERAGE

This chapter assesses the commercial viability of the centre when the project under which it is now operated comes to an end in November, 2011. The centre is expected to be self-financing and sustaining. In carrying out the market analysis, the approach used has been through interviews with relevant authorities in the local cotton industry, a review of various documents available locally and those which could be accessed through the internet.

The assignment compiled and analyzed the available data/information related to current status on cotton classification and testing facilities as well as the cotton production trend in the countries that will directly be served by the centre, which are Tanzania, Mozambique, Zambia, Zimbabwe and Uganda.

The centre is expected to indirectly serve other cotton testing laboratories with Standardized Instrument for Testing of Cotton (SITC) equipment operating in the other countries, namely Sudan, Ethiopia, Malawi, Kenya and South Africa; hence some less detailed data on cotton production in these countries have also been provided to highlight possible needs for CSITC cotton testing which the RTC-ESA can extend to.

The following section reviews current and future availability/production of cotton, which forms the basis for establishing the level of demand for instrument testing in cotton testing laboratories in the region.

3.3 AVAILABILITY OF COTTON BALES FOR TESTING

The availability of cotton bales for testing by regional laboratories is based on the local ginning capacities and the actual bales produced. Of course, bales production by itself is not enough to avail bales for (SITC) testing. There must be the will, the capacity, and commitments by the ginners and traders to SITC-test the cotton they produce. In working out the availability of bales from which samples for testing, and eventually for retesting, by the facility at RTC-ESA the main assumptions applied are that the national cotton organizations have the legal powers and capacity to test the cotton produced in their countries, and that they will make sure that the

currently available SITC testing capacity is gradually developed such that all the cotton will be fully SITC-tested by the year 2020.

3.3.1 Current and Past Production

Annex 3A shows the trend of cotton production from the year 2001/02 through 2007/08 in the targeted market segment for TBS testing services. These countries, which are located in the eastern and southern parts of Africa, include Tanzania, Mozambique, Zambia, Zimbabwe and Uganda. **Table 3.1** shows current and recent data on the production of cotton from the year 2006 to 2009 reproduced from **Annex 3A**, indicating also respective growth rates.

Table 3.1: Production of Cotton in Selected Countries in Eastern and Southern Africa in Bales

Country	Year of Last Data	Actual Production	Growth Rate (2002-08) %
Tanzania	2010	481,481	20
Mozambique	2006	212,707	15
Zambia	2008	397	8
Zimbabwe	2006	214,641	8
Uganda	2008	53,660	8
Total	-	975,857	-

Recent cotton production figures in the north-eastern part of Africa are as follows:

Country	Year of Last Data	Production (Bales)	Growth Rate %
Sudan	2008	137,858	3
Ethiopia	2006	280,967	35
Malawi	2007	174,033	15
Kenya	2003	89,779	5

3.3.2 Future Production Trend

In Tanzania agriculture, including the cotton industry, falls under priority sectors that have direct impact on broader economic growth and reduction of poverty, and hence are allocated bigger portions of funds in the annual budget. Further to that, Tanzania is implementing the Green Revolution (Kilimo Kwanza) initiative with a view to revitalizing the agricultural sector. TCB, as the regulatory authority responsible for the development of the cotton industry, has put in place a strategic plan that ensures that cotton production reaches 1.5 million bales by the year 2015. This includes the introduction of contract farming and an improved supply of inputs to the farmers. It has

also vowed to make sure that cotton samples from each bale produced in the country is instrument-tested.

It is assumed that other countries are also implementing similar programmes aimed at increasing production of agricultural products, including cotton, which is a foreign exchange generating crop arising from exports.

In view of the above we expect current cotton production figures to rise at a minimum growth rate of between 8% and 20%. **Annex 3B** shows the projected trend of production of cotton in the respective countries for the next ten (10) years, and is summarized in **Table 3.2** as follows.

Table 3.2: Projected Production of Cotton in Bales for Countries within the RTC-ESA Catchment Area

Country			Estimated Minimum Future Growth(%) Rate	Current Production 2010 Estimates		Projection 2020
				2011	2015	
Tanzania	24	20	494,452	481,481	1,500,000	1,500,000
Mozambique	20	15	372,350	428,202	748,928	748928
Zambia	13	8	250,357	270,386	367,857	367857
Zimbabwe	13	8	684,003	738,723	1,005,024	1005024
Uganda	13	8	62,589	67,596	91,964	92964
Total Bales In Directly Supported ESA countries			1,862,751	1,986,388	3,713,773	3713773
Sudan	7	3	26,683	304,385	532,371	532371
Ethiopia	37	35	126,328	132,644	161,230	161230
Malawi	18	15	316,231	325,718	366,598	366598
Kenya	10	5	153,022	169,855	257,852	257852
Total Indirectly Supported ESA Countries			860,264	932,602	1,318,051	1318051

Source: Developed from Annex 3B and 3C respectively

3.4 SUPPLY OF INSTRUMENT TESTING FACILITIES

There are four companies offering SITC cotton testing services in Tanzania, namely RTC-ESA, 21st Century Tex, TCB and Wakefield Inspection Services (WIS). RTC-ESA and TCB are institutional facilities while 21st Century Textiles facilities are owned and operated by the company for testing cotton specifically for its mill. It does not cater for any outside work. WIS facilities are privately owned and operate for private cotton testing in the country. In Eastern and Southern African countries there are a total of 21 SITC testing equipment of different makes, ownership, capacities and age. A complete list of such equipment is given in **Annex 3C**.

Ownership of the available regional testing facilities can be grouped into three distinct classes: national cotton organizations, research institutions and private. The CISTC project is more focused on laboratories owned or operated by national cotton organizations because it is presupposed that the national organizations are not only facilitators of cotton testing in their respective countries but are also regulators of the cotton industry.

3.4.1 INSTITUTIONAL COTTON TESTING FACILITIES IN TANZANIA

TANZANIA COTTON BOARD (TCB)

TCB is a regulatory body for the cotton subsector charged with the task of improving and developing the cotton industry by promoting, facilitating and monitoring the functioning of the entire production, marketing, processing and export chain of the cotton business. It is by law responsible for testing and classifying all the cotton produced in the country. However, for lack of classifying capacity, TCB uses the visual method for about 90% of the cotton produced and only 10% is classified using an Uster, HVI Spectrum II which was installed in 2002. This equipment has a theoretical capacity of 500 samples per shift. However, its attested and sustainable capacity is only 3000 samples per day, equivalent to 90,000 samples per annum for 300 working days in a year.

Having noted this and also on the basis of the cotton development strategies, TCB has put in place a strategy that ensures that national cotton production reaches 1,5 million bales by the year 2015 and that implementation of instrument testing is fully accomplished by the same year. TCB is expecting to expand its testing capabilities in tandem with this production program. TCB is expected to expand its capacity by putting in extra SITC equipment with an effective capacity of 400 samples per shift in 2012 and its facilities will start working on two shifts daily from 2013. In the following year, that is in 2014, the facilities will be operated on three shifts daily. In 2015 TCB is expected to double its capacity so that its total capacity operating on three shifts per day will be 1,260,000 samples per annum.

As part of TCB's development strategies, it has already started encouraging private-public partnership by inviting the private sector to actively participate in cotton instrument testing activities through subcontracts. Already one private operator is being offered such subcontracts.

TANZANIA BUREAU OF STANDARDS (TBS)

TBS is Tanzania's sole standards body, which was established in 1975 and operates as a parastatal organization under the Ministry of Industry, Trade and Marketing. It has many laboratories which include a chemical laboratory, a building and construction laboratory, a mechanical engineering laboratory, an electrical engineering laboratory, a food laboratory and a textile and leather laboratory.

With all those laboratories, and on the strength of judiciously operating them, the CSITC Task Force chose TBS, in collaboration with TCB, as the institution that will foresee the operations of the SITCS project for the Eastern and Southern African countries. The facility, an Uster, HVI 1000M700, was purchased and installed in 2009, and was commissioned in April, 2010. It has an installed capacity of 700 samples per shift. However, its attested capacity so far is 400 samples per shift. This is equivalent to 120,000 samples per annum working on a one shift basis.

The facility is expected to retest 5% of all the cotton tested by regional cotton testing laboratories in its catchment area. The RTC-ESA laboratory has enough capacity to retest all the samples from the regional laboratories during the first ten years of its operations and yet remain with extra capacity. As part of efforts to make use of the excess capacity, the centre is expected to be subcontracted by TCB to test its samples. For example, in the first two years of operation that is in 2012 and 2013 the RTC-ESA will be able to test about 155,608 samples from TCB.

3.4.2 INSTITUTIONAL COTTON TESTING FACILITIES IN MOZAMBIQUE

In 1987, following the re-privatization of the cotton industry, the government of Mozambique, through the Mozambique Cotton Institute (Instituto de Algodão de Moçambique - IAM) resolved to lead the cotton subsector under the new market-oriented economic reality. IAM is in charge of the general promotion of cotton development through policies, strategies, legislation and practical interventions. The institute exercises monitoring, arbitration of production and trade conflicts, classification of cotton lint and technical assistance activities. The institute has procured SITC equipment whose delivery is in the final processes ready for installation and commissioning in Delgado.

3.4.3 INSTITUTIONAL COTTON TESTING FACILITIES IN ZIMBABWE

The Cotton Company of Zimbabwe Limited, popularly known as COTTCO, is the successor to the Cotton Marketing Board (CMB) formed in 1969. It was privatized in 1994. As a private company, COTTCO now operates as a cotton procuring, processing, and marketing company. COTTCO has four SITC equipped cotton classification and testing laboratories in Harare. Every lint bale produced is automatically sampled. Initial sampling is carried out at COTTCO ginneries while final classification and SITC testing is conducted at COTTCO's classification rooms in Harare to ensure the efficient allocation of lint to contracts. COTTCO handles 70% of the cotton produced in Zimbabwe.

3.4.4 INSTITUTIONAL COTTON TESTING FACILITIES IN ZAMBIA

The Cotton Board of Zambia (CBZ) was established through an Act of Parliament in 2005 with the main purpose of regulating the cotton industry in the country. CBZ started operations in 2008. It has however yet to acquire any SITC facilities.

The cotton industry is still in the hands of private operators. Cotton classification activities, in particular testing, are undertaken by four private companies, namely Zambia Dunavant, Cargill SA and Swarp Spinning. All these facilities are located within ginnery premises and handle tests for own ginnery samples, while the facility at Swarp Spinning does for the spinning mill.

3.4.5 INSTITUTIONAL COTTON TESTING FACILITIES IN UGANDA

Cotton Development Organization (CDO) is the statutory body in Uganda, which was established in 1994 to regulate and promote the cotton industry in the country. It is also responsible for the classification of the crop and prepares classification statistics which are of internationally recognized standards.

The organization is mandated to carry out SITC tests for all the cotton grown in the country. However, at the moment it has one Uster HVI 900 which it acquired in 1998. With this

equipment the organization tests 4% of the total production, which is then SITC-tested at a daily testing rate of between 50-80 samples per day, which is equivalent to 15,000-24,000 bales per annum.

3.5 COMPETITIVE FACILITIES TO RTC-ESA

- **Competition from the Local Facilities**

The RTC-ESA does not have any competitor locally. This is due to the fact that the nature of its function is not to compete but to facilitate accuracy in cotton classification and testing and provide gap filling capacity whenever needed. However, on the other hand, competition may come from some exporters who use illegal channels by routing their sales directly to buyers who are not sensitive to cotton quality attributes.

- **External Competition**

Globally, there are many reliable cotton sample retesting centres from where customers can get services. Cotton testing laboratories, especially those in countries which RTC-ESA does not directly support, can use any of those facilities at liberty as they are not bound to use RTC-ESA facilities for SITC cotton sample retesting. RTC-ESA will need to deliver good quality services to attract and retain these potential customers.

- **RTC-ESA Competitive Edge**

The RTC-ESA is the only internationally accredited centre that will be providing quality control, certification and accreditation services to regional laboratories in Eastern and Southern African countries. It hence stands to have a captive market segment in those countries, as each of the laboratories is expected to use it for quality controls and accreditation if they want to have their test results recognized and approved internationally.

3.6 DEMAND FOR SITC COTTON RE/TESTING FACILITIES AT RTC-ESA

In order for cotton to be accepted in the export market, the trend is for the product to be instrument-tested as per the International Standardization of Instrument Testing Cotton – Standards. In Africa, instrument cotton testing situation is in its infant stage and a very small percentage of the produced bales is tested. Even the little that is being tested the results have been very unreliable for lack of accredited facilities for the provision of quality controls and certification services to the regional cotton testing laboratories. With the certification of these laboratories, their test results will be acceptable and recognized internationally. With this centre in place, therefore, cotton instrument-testing will be encouraged and hence be poised for faster development.

Market Characteristics

Industry demand for objective and reliable cotton fibre test results is increasing rapidly, and major cotton importing countries are integrating instrument-based data in trade. Cotton with insufficient verification for its quality will result in price discounts for the producers or exclusion from the world market. Only a worldwide harmonized control and testing system can favour a frictionless business environment for all the players in the whole cotton commercial chain. This

trend in the cotton market characteristics is certainly bound to push up the demand for instrument-testing in cotton testing laboratories in the cotton producing countries, including those in Eastern and Southern parts of Africa – the core market segment for RTC-ESA at TBS. In view of the above, **Annex 3C** gives an estimated minimum number of cotton bales that can be tested by the respective national cotton organizations, where such bodies are in place, and by other institutions or private companies in those countries where the cotton industry is in private hands. **Table 3.3** is a summary of the above projections.

Table 3.3 Current and Estimated Number of Cotton Bales to be Retested and Tested (under Sub-Contract Arrangements with TCB) by RTC-ESA

ITEMS	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Samples for Retesting from Directly ESA-supported Countries	16610	35541	67177	86069	87217	87217	87217	87217	87217
Samples from Indirectly Supported Countries for Retesting by RTC-ESA	5067	5518	6024	6590	6590	6590	6590	6590	6590
Total Samples for Retesting from Direct and Indirectly Supported Countries	21676	41059	73200	92659	93807	93807	93807	93807	93807
Total Samples to be Subcontracted by TCB for Testing	76667	78941	46800	27341	26193	146194	146194	146194	146194
Total Volume of Work for RTC—ESA	98343	120000	120000	120000	120000	240000	240000	240000	240000

Source: Developed from Annex 3A

3.7 PROJECTED BUSINESS PERFORMANCE

The performance of the RTC-ESA is dependent on the general performance of the cotton industry in each of the cotton growing countries within the catchment area of the centre, particularly a positive attitude of the national cotton organizations towards implementation of CSITC project goals of having cotton instrument-tested are reached as fast as possible. In designing its production programme RTC-ESA has set a goal that makes sure that all partner countries are made to have all their cotton SITC-tested by the end of 2020. Technical surveys in many of the countries show that this will be achieved and in some special cases it can even be reached much faster. For example, TCB has put in place mechanisms that ensure that by 2015 all the local cotton will be 100% SITC-tested.

While carrying out the projections in cotton production, the assumptions as given in **Annex 3A** have been used. To be more realistic, the projections have been made for only five years up to 2015. Much as the cotton development trend is on the increase, for the purpose of planning, the industry's production performance has been assumed to remain at the 2015 level through to 2020.

The SITC facility can handle up to 400 cotton samples per day working for one shift. This is equivalent to 120,000 samples per annum if the facility works for 300 days in a year. This indicates (looking at **Table 3.3** above, where the maximum number of samples is expected to be 93,807) that the RTC-ESA facility will have enough capacity to handle all the samples to be sent to it for retesting from the regional laboratories up to 2020.

However, due to its ample capacity (of 120,000 samples per annum on a single shift and 240,000 samples per annum on two shifts) RTC-ESA may be able to utilize it by offering capacity gap bridging services to TCB whereby it may be testing on contract the TCB samples. In view of this, the facility is planned to offer such services right from the first year of operations up to the tenth year. In the sixth year, the facility is planned to introduce a second shift in order to take up the increased available samples from TCB for testing. However, it should be noted that, for the facility to take up the testing services for TCB samples, the centre will have to expand some of its facilities and, in particular, the sample handling and storage areas. This expansion has been planned for implementation in the year 2015. The expansion will involve the construction of an extra room for the storage of the retested samples as well as the storage of TCB samples that will be coming for testing. These samples will be stored there on arrival from TCB before and after being tested before they are sent back to TCB.

3.8 MARKETING STRATEGIES

3.8.1 MAKING SITC TESTING FACILITIES KNOWN TO POTENTIAL USERS

First and foremost, TBS facilities should be known to the targeted users in the Eastern and Southern parts of Africa. This can be affected through visits in the respective countries where meetings with representatives of laboratories, crop boards/authorities and government ministries can be arranged. It is through these meetings that TBS officials can get the opportunity to provide details about their testing facilities, experience and why customers should use them instead of others.

3.8.2 PROMPT SERVICE DELIVERY

It would be futile to advertise RTC-ESA facilities without having put in place a planned and orderly way of providing prompt services. At all times the project should make sure that it has the proper facilities and staff strength to provide prompt services.

3.8.3 GOOD QUALITY WORK

TBS will strive to provide good quality work in providing SITC testing of cotton commensurate with the proposed commercial service charges of USD \$2.0 per sample.

4. INVESTMENT COSTS

4.1 CAPITAL INVESTMENT

The CFC/ICAC/33 four-year (2007-2011) project on Commercial Standardization of Instrument Testing of Cotton (CSITC) completed the setting up of a regional technical centre for Eastern and Southern African countries with the laboratory situated in TBS premises. All the necessary equipment is fully installed, tested and commissioned.

According to the project documents, for the RTC to operate smoothly, a number of machines were to be put in place. These machines are already in place and they are estimated to cost a total of USD 407,355.66. This amount comprises investments towards construction of the laboratory building, the cost of laboratory plant and equipment and the project vehicles. The breakdown of the total investment so far made towards the project is as summarized hereunder:

ASSETS INVESTED		INVESTMENT COSTS IN USD			
S/N		QTY	FOREIGN COSTS	LOCAL COSTS	TOTAL COSTS
1.	Laboratory Building	1	-	120,000.00	120,000.00
2.	Uster HVI1000M700	1	230,000.00	-	230,000.00
3.	Ambient Air Management System	2	100,000.00	-	100,000.00
4.	4WD Vehicles	1	25,900.00	-	25,900.00
5.	Computer Overhead Projector, Scanner and Photocopier	1Set	5,682.00	-	5,682.00
6.	Furniture and Fittings	1Set	6,508.10	-	6,508.10
7.	Compressor	1Set	7,755.56	-	7,755.56
8.	Homogenization Plant.	1 Set	26,750.00	-	26,750.00
9.	Data Loggers	1 Set	4,760.00	-	4,760.00
10.	Air Tickets, Per Diems, WTR for Project Staff		340,280.84	-	340,280.00
	TOTAL INVESTMENT COSTS		747,636.50	-	867,636.50

4.1 LABORATORY BUILDING

The laboratory building, whose designs were approved by the CSITC project, were proposed by TBS. The building comprises four rooms, one of which is for receiving cotton samples from regional laboratories. Another room is for conditioning the samples before they are tested, the third room is for cotton retesting while an adjacent room to the cotton retesting room is a store where retested cotton is stored. Adjoining the cotton conditioning room is a small office for the laboratory. At the far end of the building there are wash rooms. TBS, as its institutional contribution to the CSITC project, financed the

construction of the building at a total cost USD 120,000. In view of the expected increased production, it is foreseeable to make reinvestment in building, either in the form of expansion or total construction of a new building that would both be for storage of retested samples as well as for samples brought for either testing or retesting. It should also be enough to accommodate additional machinery should it become necessary to expand the testing equipment. In this regard a reinvestment cost of USD \$120,000 has been provided for in the year 2015.

4.2 PLANT AND EQUIPMENT

The plant and equipment for the project comprising one Uster HVI1000M700 and Ambient air management system (AAMS) plants were fully installed, tested and commissioned and are now operational. The total cost of this plant and equipment stands at USD \$369,265 and was fully financed by the project financiers.

4.3 OFFICE EQUIPMENT

The project office is equipped with various furniture and fittings which include a computer overhead projector, a scanner and a photocopier. All these are estimated to cost USD\$12190. However, to be able to cope with improvement in information technological hardware, there will be a need for reinvestment in a computer and printer after every two years. An amount of USD \$5,682 has been provided for in the year 2015.

4.4 STAND-BY ELECTRICITY POWER GENERATING SET

The tests to be carried out in this laboratory require very strict operating conditions in terms of temperature and humidity. To have these parameters reliably maintained, a stand-by generator of the capacity befitting the laboratory installed load of 15kW is provided for in case of power supply from the utility company fails. The total cost of the same is estimated at USD \$6300. It is however expected to be procured in 2010.

4.5 WORKING CAPITAL REQUIREMENTS

Upon completion of the CSITC project funding, which is expected to stop by the end of November, 2011, it is anticipated that the centre will thereon continue operations on a self-financing basis. In order to kick-start these commercial operations, it is necessary to provide for working capital. The working capital requirement has been worked out on the basis of a list of assumptions. These assumptions are provided in **Annex 4A**. On the basis of these assumptions the initial working capital has been worked out at USD \$14,684 in the first year of operation and will grow proportionately with the annual increase in commercial activities to USD \$23,107 by the tenth year.

4.6 FINANCING PLANS

4.6.1 CURRENT SOURCES OF PROJECT FINANCING

The project's initial capital investment phase has been completed. The financing sources for these investments are two: equity contribution by TBS and a grant co-financed by CFC and the European Union. TBS has so far contributed an accounted total of USD \$120,000 towards the construction of the laboratory building. TBS has all along been incurring expenses (such as the electricity bill, wages and salaries for the project personnel, running the project vehicles, administrative costs including provision of security services to the project) on the project the amount of which could not be established during the preparation of this business plan. On the other hand, the grant totalling USD \$747,636.50 has mainly been utilized for the acquisition of the plant and equipment including training of personnel.

4.6.2 POSSIBLE SOURCES OF WORKING CAPITAL FOR COMMERCIAL OPERATIONS

With investment on fixed assets and pre-operational costs already made, in order for the centre to operate working capital of USD \$16,047 would be necessary. In preparing this business plan two alternative financing plans for the same have been looked upon. The first alternative has been financing through equity contributions from national cotton organizations of the participating five main countries, and the second alternative is financing through an operating grant from the co-financiers.

- **EQUITY FINANCING FROM NATIONAL COTTON ORGANIZATIONS**

The project plan is to work closely with national cotton organizations which are presupposed to be government institutions with legal powers to oversee the development of the cotton industry in their respective countries. Utilizing these institutions the project would be able to easily make use of the existing network created by these national institutions it would also help to easily sensitize local stakeholders. The findings made by RTC-ESA are that, only Zimbabwe does not have a national cotton organization and the cotton industry is fully in private hands and not regulated by a government institution.

While Tanzania, Uganda and Mozambique have national cotton institutions which have been effectively operational, Zambia has just established one. It is yet to be fully operational but it is gaining grip of the industry, though it is yet to acquire own SITC equipment. On the other hand, too, Mozambique is just establishing its national cotton SITC testing facility, and this too is yet to start operations.

The four partner countries, in view of their long-standing good relations they have with Tanzania and the good investment climate available in Tanzania, will not hesitate investing in Tanzania and, particularly, if that investment is for the good of their cotton industries. However, much as investing in Tanzania has been liberalized and quite easy,

there are some regulations that guide such investment. One of such regulations is the minimum requirement for investment by a foreigner, which is put at \$300,000 to qualify for a certificate of approval by the Tanzania Investment Centre (TIC). As the required amount is much below the investment threshold, it would not be possible for the partner states to participate in such a small financing venture.

- **GRANT FROM PROJECT CO-FINANCIERS**

The co-financing institutions are CFC and the EU, who have so far invested a total of USD \$747,636.50 in the project with the purpose of seeing to it that it succeeds. However, the success of the project is measurable through the assessment of actual operations. According to the CSITC Task Force project document, the actual retesting of samples was to start in the second quarter of 2008 through to the fourth quarter of 2010. This means that it should have operated as a retesting centre for the region for at least three years as a project before being handed over to operate on a commercial basis. The accruable advantages from operating for three years were:

- a) To build the SITC testing capacity to a sustainable level
- b) Gain experience of SITC testing and hence be able to carry out the tests independently
- c) The countries, and particularly local cotton exporters, to have ample time to enjoy the advantages of SITC testing by physically seeing the monetary returns from the project.

The actual situation is that, apart from conducting basic training for some of the personnel (mainly the project personnel) and carrying out variability tests, the RTC-ESA as a project has to date not started working as a fully-fledged retesting centre for the region. Since the project has not fully fulfilled the above tasks, which are pertinent for its smooth and sustainable operations, it would not be logical to expose it to commercial operations without fully financing it, especially its kick-start financial requirements.

4.6.3 PROPOSED FINANCING PATTERN FOR PROJECT COMMERCIALIZATION

On the basis of the preceding paragraph above, the derived possible source of financing for the project's initial commercial operations is through a grant from the project co-financiers. This means that the co-financiers are expected to finance the project through grants totalling USD \$867,636, out of which USD \$747,636.50 has already been utilized for financing the initial capital investment and pre-operational costs on equipment and personnel training. The balance of USD \$16,047 will be for financing the initial working capital. As these funds are in the form of grants to the project, they are subject to amortization. These have been amortized over a period of four years.

5. OPERATING COSTS FOR THE RTC-ESA

The operations of the Regional Technical Centre for Eastern and Southern African countries (RTC-ESA), like any service providing entity, are expected to incur some costs. The costs for this centre have been worked out utilizing various experiences. This includes those of existing testing laboratories in the country, particularly the TCB laboratory at Kurasini. Furthermore, information gathered from equipment manufacturers and the local experiences of the cotton industry, has been extensively used. While working out these costs, guidance was also made on the basis of the following basic assumptions:

- a) The centre, being part of or within the structures of the Tanzania Bureau of Standards, will not be responsible for payment of taxes
- b) Administrative services which are common in nature, such as security, cleanliness, etc, will not be charged to the centre
- c) To avoid lengthy TANESCO procedures and exorbitant initial installation costs charged by the power utility company on in-house arrangement, the centre will install its own electricity power meter which will be recording the centre's actual power consumption. The centre's costs of electricity will be reimbursed to TBS on a monthly basis at the TANESCO rate
- d) The currency exchange rate adopted is USD \$1.00 = Tshs 1,250
- e) The operating sustainable capacity for the RTC-ESA SITC equipment is 400 samples per shift
- e) The centre will be operating for 300 days in a year
- f) Each of the countries in ESA will annually be retesting 5% of all their tested samples at RTC-ESA without failure.

The costs of operation are as shown in **Annex: 7A** and they are to total USD \$263,003 in the first year. However, with an increase in production, the costs are also expected to steadily grow to USD \$280,559 by the tenth year. Details of these costs are summarized hereunder.

5.1 STAFF COSTS

The current staff running the project were hired by TBS at TBS salary scales, and their terms and conditions of service are as per TBS staff terms. As they are TBS staff, it is recommended to retain them on the same terms and conditions and therefore they will continue drawing their salaries and other benefits from TBS. Nevertheless, special consideration, without creating notable social disparity among their colleagues, should apply to them in terms of special allowances as an incentive. Much as they will be paid by TBS, TBS may be reimbursed accordingly by the project to make it self-sustaining. In this regard, as part of the project cost, salaries and special allowances for the three recommended staff have been worked out at USD \$45,600 per annum in the first year of operations. These salaries are estimated to rise annually at TBS's average salary increment rate of 5%. However, the wage bill is expected to be double in the year 2017 following the introduction of a second shift which has to require additional staff.

Following the additional staff the wage bill is poised to increase to USD \$101,021 from that year and continue growing at the same incremental rate.

5.2 CONTRACT SERVICES

The centre is expected to be one of the laboratories within the TBS structure, hence will be managed by TBS. However, on specific technical issues which are outside the expertise of TBS, these will be sought from external sources at a fee. This fee is fixed at USD 5,000 per annum.

5.3 RAW MATERIALS

The main raw materials for the centre will be cotton samples for retesting from the regional cotton testing laboratories. In appreciation of the existence of private cotton testing laboratories in the region, efforts will be made by the centre to invite them to carry out regular test checks at the centre with the aim of maintaining instrument accuracy. The samples for retesting from regional laboratories will be free of cost and the delivery charges to the RTC-ESA will be borne by the respective regional laboratories.

The other raw material will be calibration cotton in universal standard boxes. A total of 9 boxes are estimated to be enough per annum. The cost of each box is estimated at USD \$300. As they will be ordered once every year to save on delivery charges, the total cost is worked out at USD \$3,600 inclusive of freight to the centre, which is estimated at USD \$900.

5.4 REPAIRS AND MAINTENANCE

To maintain instrument accuracy, reliability and availability, the centre will be required to strictly adhere to service and maintenance schedules as recommended by the equipment manufacturers, in this case SITC equipment and BRANCA Ambient Air Management System. It is highly recommended that the centre maintains a service contract with USTER and BRANCA or manufacturer-approved service companies. The cost of these contracts has been estimated at USD \$15,000 per annum.

In consultation with the manufacturers of the equipment and experience of the TCB cotton laboratory, an annual requirement for spare parts has been worked out. In the first five years of operation the equipment is expected to work on one shift alone. The cost of spares has been estimated at a fixed amount USD \$25,000 per annum. This figure may double from the sixth year as and when the second shift is introduced.

5.5 COST OF PARTICIPATION IN ROUND TEST

The centre will be active and will fully participate in CSITC-organized round tests. The centre will be participating four times yearly and submitting five samples per test. It will also supervise and coordinate regional round tests. The costs for these tests include

communications, handling and freight of sending the samples to CSITC global round tests, supervision and coordination of deliveries to regional laboratories, etc. These costs have been estimated at an annual amount of USD \$2,480.

5.6 TRAINING COSTS AND CONSULTANCY COSTS

The centre will conduct training for regional laboratories by utilizing its in-house expertise. However, for the expertise not available in-house, the centre will engage resource persons outside the centre on a consultancy fee basis. The training costs will include training materials, lunches and tea break snacks. The total material costs have been estimated at USD \$4,200 per annum, excluding their air tickets and subsistence allowances.

5.7 ELECTRICITY BILL

The installed equipment comprises a total power load of 16.5 kW, broken down as follows:

Humidifier	
Heating power	5.1 kW
Refrigeration power	5.6 kW
Humidification power	4.0 kW
Ventilator	0.33kW
Uster HVI	1.5 kW
Total	16.53 kW

In working out the energy required to run the centre, two assumptions have been made. One, that the humidification plant will remain operational for 24 hours, taking into consideration the fact that deliveries of samples can be daily; and, two, given the tropical conditions at the centre, heating power will not be required. On the basis of the above and an estimated load factor of only 60%, the total energy required per day will be USD \$5000 per annum. This bill is poised to remain constant at that level for the first five years of operation. However, in view of two operational shifts from the sixth year, this bill is expected to increase to USD \$7500 annually.

5.8 ADMINISTRATIVE COSTS

Administrative costs such as mail, fax, telephone, project vehicle operating costs, stationery including the cost of maintenance and repair of the centre's laboratory building, mainly being painting and minor repairs to it. The other maintenance and repairs will be those for fixtures and furniture. Together they have been estimated at USD \$30,000 per annum in the first year of operation and gradually grow to USD \$36,000 by the tenth year.

5.9 MARKETING AND SALES PROMOTION COSTS

This centre being new, with its product also being new and covering a big area in terms of the number of countries, it is important to as much as possible create awareness on its existence including the type services it will be offering. Marketing activities and promotion will have to be carried out both through international and local newspapers and other communications media. Advertisements and promotional expenses have been estimated at USD \$8,000 per annum in the first year and gradually grow at an annual rate of 20%.

5.10 DEPRECIATION COSTS

Depreciation costs have been worked out on the basis of the TBS policy, which uses the straight line depreciation method. These costs have been calculated and are given in **Annex 5A**. The centre is expected to register a total of USD **\$129,033** annually in the first four years before settling at an annual amount of USD \$43,952 from there onwards.

5.11 REGIONAL TRAVEL COSTS

The centre is expected to generate revenue from consultancy activities. In order to carry out these activities, the centre will be called upon to send its experts to the partner states to attend to consultancy assignments. The cost of these travels have been estimated at USD \$7,500 in the first year of operations, and are poised to grow annually at 15% to USD \$22,950 by the year 2020.

6.0 INCOME FROM THE CENTRE

The centre is aimed to be a profit centre and self-sustaining. Its income should be generated from the activities it will be conducting. The main income-generating activity will be retesting of samples from national cotton organizations' testing laboratories. It can also, in view of its having extra capacity, be subcontracted by TCB to test on its behalf samples that TCB cannot test in view of lack of enough capacity. The current testing/classification capacity of most of the laboratories owned by cotton organizations is limited to only ten per cent. The CSITC project requires that after sometime all African cotton is fully HVI-tested. In this regard, the centre expects this requirement to have been fulfilled by the year 2020. To match with this, a schedule of the testing capacity rate has been planned and is as provided for in **Annex 6A**.

6.1 RETESTING OF COTTON SAMPLES

The samples for retesting will be drawn as per details described in **Annex 6A** and will be delivered to the centre. Retesting of samples from countries directly supported by the project will earn the centre a total of USD \$33,219 an income which is expected to grow to USD \$163,531 by the end of the year 2020. On the other hand, income to be generated from retesting samples from countries which are indirectly supported by the project will earn the project a total of USD \$10,133 in the first year of operations, and the same will rise to USD \$13,180 by the year 2020. In view of this, retesting activities are expected to earn the centre a total of USD\$43,452 in the first year of operations, growing to USD \$176,711 by the year 2020.

6.2 TESTING OF COTTON SAMPLES FROM TCB

As stated above, due to TCB's lack of sufficient testing capacity, the RTC-ESA will provide testing services to TCB as a way to reduce the demand/supply gap for testing services. Such need will arise right from the first year of commercial operations. A total of USD \$153,333 shall be generated the first and tenth years of operation. The same shall grow to USD \$292,387 by the end of the tenth year.

6.3 TRAINING COURSES

There will be three courses conducted at RTC-ESA. Each of these courses will be carried out twice yearly and the minimum number of participants per session is assumed to be 10. Each session shall be 5 days long. Although the frequency and number of participants can be higher, for the purposes of calculating accruable revenue from training activities, the numbers have been limited to the two per annum. The courses to be carried out are:

- a) Training of trainers course
- b) Training of technicians course on fundamentals of operations and maintenance of laboratory equipment
- c) Training of supervisors on the management of cotton laboratories

This means that the centre will carry out two sessions per annum. In consideration of the proposed fees (inclusive of training materials, lunch, and tea at breaks) of USD \$1000 per participant, the centre is expected to generate a constant annual income of USD \$60,000 up to 2020.

6.4 CONSULTANCY SERVICES

The centre will be extending consultancy services to other laboratories in the region. It has been estimated that, at least twice, the centre will be called upon to attend to solving technical issues to each of the laboratories in the region. The region has a total of 25 SITC equipment as detailed in the list of equipment attached in **Annex 3E**. It is estimated that the centre will concentrate its consultancy services on the regional cotton institutional laboratories before extending to cover privately-owned ones. For each laboratory the centre is expected to spend two man-days. Under this assumption, at a fee of USD \$500 chargeable per man-day, the centre is expected to earn a total of USD \$10,000 through consultancy services annually throughout the project period up to 2020.

6.5 INSTRUMENT MAINTENANCE AND CALIBRATION SERVICES

The centre will be coordinating the provision of instrument calibration services to regional laboratories. It is assumed that at least every year staff from TBS, on behalf of RTC-ESA, will carry out calibration services to each of the equipment in the laboratories. Provision of calibration services shall be possible only if the SITC instrument manufacturers license the centre to offer such services to the regional testing laboratories. This is expected to earn the centre a total of USD \$8,500 per annum.

6.6 OTHER INCOME

Other income is expected to be derived from membership subscriptions and annual subscriptions for regional round tests. These have been estimated to be USD \$4,250.

7.0 **FINANCIAL ANALYSIS**

In carrying out the financial analysis of the centre, various considerations have been made, the main of which is that the prices of both inputs and final products and services are to remain constant over the life span of the project. However, in case of any changes in the prices of inputs, the prices of the final products or services will be adjusted in such a way that the profits are maintained.

7.1 **CENTRE PROFITABILITY**

The centre's income and expenditure given in **Annex 7A** indicate that the RTC-ESA is profitable right from the first year of its commercial operations. It will generate a gross profit of USD \$7,933 right in the first year. Due to increased supply of samples for testing from TCB, the centre is expected to generate a gross profit totalling USD \$264,969 by the end of the year 2020.

7.2 **INTERNAL RATE OF RETURN**

The internal rate of return of the centre has been calculated at 16% over the ten years of operations. This indicates that the centre is financially viable, as the IRR is much higher than the prevailing bank interest rates on savings and on fixed deposit accounts.

7.3 **PROJECTED BALANCE SHEET**

The balance sheet of the project shown in **Annex 7B** indicates a healthy trend. The total fixed assets are declining from USD \$870,303 in the first year of commercial operations to USD \$ 301,767 by the tenth year. The decline is an attribute of two reasons: high depreciation rates that TBS policy adopts and the high value of the deployed project equipment. However, the total assets of the project are expected to grow more than twice from the initial USD \$870,303 to USD \$2.2 million after ten years of investment.

7.4 **CENTRE CASH FLOW STATEMENT**

A detailed projected cash flows statement is given in **Annex 7C**. The centre is expected to generate cash income (profit before depreciation) in the first year of its independent operations. Cash income of USD 136,956 will be generated in the first year. It will also start accumulating cash in the first year to meet all its financial obligations. The cash flows are very good throughout the ten years of operations. Accumulated cash totalling USD \$136,956 is envisaged to be registered at the end of the first year of operations. This accumulation will continue such that a total of USD \$1.9 million will have been accumulated by the end of the tenth year.

7.5 **SENSITIVITY ANALYSIS**

This centre is a regional cotton retesting and training centre for the Eastern and Southern African countries. Its viability must be based on financial performance from its core business line of cotton retesting and training. It is in view of this that the sensitivity analysis of the centre has been tested on the basis of two parameters: on reduction of retest samples (only cotton samples from directly serviced countries) by 5% and an increase in operating costs by the same margin. In both cases, the revenue from cotton tests for TCB samples is disregarded.

By reducing retest samples by 5% the centre makes losses for the first six years. However, in the first year of operations these losses will go up by 1.5%. On the other hand, if the centre's costs are increased by 5% the centre will make losses for the first five years, but total losses will go up by 12%. This indicates that the centre is more sensitive to cost than to sample retest changes. The management should be vigilant enough to see that centre costs are controlled.

8.0 OBSERVATIONS AND RECOMMENDATIONS

8.1 OBSERVATIONS

8.1.1 The CSITC centre's main goal is to build capacity for the least developed countries in instrument testing of the cotton they produce. The centre was designed to work with national cotton organizations which are government-owned and are responsible for the development, control and support of the cotton industry. The purpose of involving these institutions was simply, among others, to enable an easy sensitization of the stakeholders and pave a smooth way to reaching out for government support of the project while at the same time exercising impartiality and neutrality.

However, among the five partner countries (Tanzania, Uganda, Mozambique, Zambia and Zimbabwe) only one, namely Zimbabwe that does not have a national cotton organization. Out of the five partners, only three have own cotton instrument-testing laboratories. These are Tanzania, Mozambique and Uganda. In Zambia and Zimbabwe the cotton industry is fully private and most of the classing laboratories are privately owned and are either for own in-house use or serve specific clientele. They may, for reasons of trade secrecy, be reluctant to comply with the project requirements.

In the indirectly served countries (Ethiopia and Sudan) cotton laboratories are owned and operated by government-owned research institutions. It is very unlikely that they can be comfortable with the project configuration, particularly on the requirement for paying for retesting of the samples. This is simply because they operate on government subsidies which are highly erratic and, in most cases, below their budgets.

On the other hand, ginneries in South Africa classify their cotton through Cotton South Africa "free" of charge. Cotton SA is a non-profit organization financed by the farming community through a service and research levy of 7cts/kg. It has been testing cotton for many years with no complaints from its customers regarding the test results they provide. It is claimed that the test results from the Cotton SA laboratory are satisfactory and reliable. In view of this the centres are sceptical if Cotton SA would be willing to pay a fee for retesting of their samples at RTC-ESA given the fact that they already have satisfied customers.

8.1.2 According to the CSITC project document, the actual retesting of samples by the centre was to have started in the second quarter of 2008 through to the fourth quarter of 2010. This means that it should have operated as a testing centre for the region for at least three years as a project before it started operating on a commercial basis.

As the centre has to-date not started working as a fully-fledged retesting centre for the region, handing it over for commercial operations by the end of 2011 would be too early for the project to go solo. It needs time to accumulate the necessary three years' experience which was deemed important for the project to be independent and ready for commercial operations.

8.1.3 Some cotton dealers in Tanzania are not aware of the CSITC project and its benefits. Most of them are not even aware of the price discounts which emanate from lack of reliable test results data and they seem not to have any problem with the existing classing system.

- 8.1.4 The centre is financially viable and it can sustain itself over a period of ten years. It has an Internal Rate of Return of 16%, which is much higher than the prevailing bank rates which stand at a maximum 12% per annum.
- 8.1.5 The operating capacity of the RTC-ESA SITC equipment is designed to test 700 samples per shift while the capacity for the TCB equipment is designed to do 500 tests per shift. The attested sustainable capacity for TCB's equipment is only 300 samples per shift and that for TBS is 400 samples. There are two reasons for reduced production capacities of the two equipments. The first one is attributed to poor drawing of samples from bales. The second one may be attributed to inexperience of the SITC equipment operators, and lastly, but not least, is the improper layout of the equipment, particularly the lack of conveyor belts for transporting samples to the equipment.
- 8.1.6 RTC-ESA is being run as a centre. This centre has yet to be registered as an independent legal entity, both under international law as well as the laws of the land. It is therefore not a legal entity because it has yet to attain any legal status. It can not therefore be able to sue or be sued as an entity.
- 8.1.7 Tanzania Bureau of Standards was established by an Act of Parliament. This Act provides for only one policy-making organ for TBS, and this is the Board of Directors which is directly answerable to the Minister under which the Bureau operates. With this restriction, it is not possible to establish any other organ within the structure of the TBS without amendments being made to its establishing Act.

8.2 RECOMMENDATIONS

- 8.2.1 All the national cotton organizations should immediately start working on the development of new regulations which will emphasize the gradual change in the number of samples to be SITC-tested. These regulations should indicate that all cotton bales produced in their respective countries are to undergo SITC-testing by the year 2020. The aim is to enable the stakeholders to incorporate this gradual move into their systems.
- 8.2.2 The centre should devise a programme aimed at sensitizing member countries which are not directly supported by the centre on the importance of the CSITC project so that, by the time the project tenure comes to an end in November 2011, they should be highly enlightened and ready to send their cotton to the centre for retesting.
- 8.2.3 The centre's operations should not be guided by MOUs between RTC-ESA and the regional laboratories. They should rather be guided by legally binding contract agreements with punitive clauses in the event of defaults. For the sake of reliable testing results, the agreements should categorically state that it is mandatory for each laboratory to send their samples for retesting to RTC-ESA and participation in round trials.
- 8.2.4 As the project has had no time to put into practice the assumptions made by the CSITC Task Force at the onset of the project, it is important that the centre should have run on a trial basis for at least three years before being handed over to the centre. RTC-ESA would like the project period to be extended beyond 2011 to 2013. The first two years, that is from 2011-2012, should be the period in which the actual testing and retesting activities at the centre should be fully conducted on a free-of-charge basis. The last year, that is 2013, should be the year when all the services are paid for and the centre should now start operating commercially for one year. It is only at the end of this period that the project can be handed over to operate on its own using own

funds. If the project was realistically and properly conceived, the last year should be able to generate enough funds to pay off some of the costs that the project would have incurred on itself.

- 8.2.5 The CSITC project programme requires a three-year implementation period. The RTC-ESA was supposed to have been operating as a fully-fledged retesting centre for about 40 months from the second quarter of 2008 up to the end of 2011. This period was assumed to be sufficient for the maturity of the project in terms expertise development and accumulation of the necessary operating experiences and physical enjoyment of monetary returns from the undiscounted prices which are assured following implementation of the CSITC project. It was expected to have also created confidence in its stakeholders including regional cotton testing laboratories.

Up to this moment, apart from conducting basic training, variability and a bit of round trials, the centre has not yet started to receive samples from regional cotton testing laboratories for retesting. The centre thinks there might be an awareness challenge with respect to the benefits the re-tests would bring. In view of this, there is a need to invest in awareness creation and education of the stakeholders in the region first.

The decision to commercially operate the centre from November, 2011, only eighteen months since its inauguration, sounds very ambitious. RTC-ESA thinks that, for it to operate smoothly after the end of the project period, the following is recommended:

- a) The project period be extended by eighteen months from November 2011.
- b) For the first six months during the extended period, which is after November 2011, the project should continue providing services free of charge while consolidating itself, gaining experience and creating confidence in its customers.
- c) In the second six months, the project should introduce a cost-sharing system. It is proposed that the service fee should initially cover 50% of the total testing fee. The other 50% should be financed through project funding. The third six months, that is the last six months, the fee may be adjusted to cover 75% or 80% of the costs. It is most likely that after the extended period the project will now be ready for full-fledged commercial operations.

9.0 CONCLUSION

The CSITC Task Force project is a very important venture in the harmonization of cotton standards and hence reduction of trade disputes and eradication of discounted prices due to failure to record appropriate and reliable test results. With the implementation of this project the cotton growing countries are expected to make at least \$11 per every bale produced, an amount that may be used for other national development programmes, particularly poverty reduction initiatives. For example, if the project is implemented Tanzania will be able to realize a minimum of USD \$16.5million from the year 2015 if 1.5 million bales will be produced.

The implementation of the project will be a success if, and only if, its programme is maintained and uninterrupted. This is because the stakeholders need sensitization, a process which requires time and more so because it is result- oriented. If the stakeholders can start seeing the accruable returns starting to flow in, it will easily be supported and promoted. Without the support of the stakeholders and, particularly, the regional cotton testing laboratories, the RTC-ESA cannot be viable.