African, Caribbean and Pacific Group of States

"COMESA SQAM Action Plan in 3 sectors: cotton and garments, light engineering and chemicals and chemical products"

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COTTON and GARMENTS NEEDS ASSESSMENT and IMPLEMENTATION PLAN REPORT

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Abbreviations and acronyms

ACP	AFRICA, CARIBBEAN AND PACIFIC GROUP OF COUNTRIES
ACTIF	AFRICA COTTON & TEXTILE INDUSTRIES FEDERATION
AFRAC	AFRICA ACCREDITATION COOPERATION
AGOA	AFRICAN GROWTH and OPPORTUNITY ACT
COMESA	COMMON MARKET FOR EASTERN AND SOUTHERN AFRICA
CTA	TECHNICAL CENTRE FOR AGRICULTURE
EAC	EAST AFRICAN COMMUNITY
EATIH	EAST AFRICAN TRADE AND INVESTMENT HUB
EU	EUROPEAN UNION
ISO	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
IAF	INTERNATIONAL ACCREDITATION FORUM
ILAC	INTERNATIONAL LABORATORY ACCREDITATION COOPERATION
MDAs	MINISTRIES, DEPARTMENTS AND AGENCIES
MLA	MULTILATERAL AGREEMENT
MRA	MUTUAL RECOGNITION AGREEMENTS
NAB	NATIONAL ACCREDITATION BODY
NEP	NATIONAL ENQUIRY POINT
NICA	NATIONAL INSPECTORATE AND COMPETITION AUTHORITY
NMI	NATIONAL METROLOGY INSTITUTE
NNA	NATIONAL NOTIFICATION AUTHORITY
NQI	NATIONAL QUALITY INFRASTRUCTURE
NSB	NATIONAL STANDARDIZATION BODY
NTB	NON-TARIFF BARRIERS TO TRADE
OECD	ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
PSF	PRIVATE SECTOR FEDERATION
PTS	PROFICIENCY TESTING SCHEMES
QI	QUALITY INFRASTRUCTURE
QM	QUALITY MANUAL
QMS	QUALITY MANAGEMENT SYSTEM
REC	REGIONAL ECONOMIC COMMISSIONS
SADCAS	SOUTH AFRICA DEVELOPMENT COMMUNITY ACCREDITATION SERVICE
SANAS	SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM
SIDA	SWEDISH INTERNATIONAL DEVELOPMENT AGENCY
SMEs	SMALL AND MEDIUM-SIZE ENTERPRISES
SPS	SANITARY AND PHYTO-SANITARY
SQAM	STANDARDISATION, QUALITY ASSURANCE AND METROLOGY
TBT	TECHNICAL BARRIERS TO TRADE
ToRs	TERMS of REFERENCES
UNSTAD	UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
WTO	WORLD TRADE ORGANIZATION
ZABS	ZAMBIA BUREAU OF STANDARDS
ZACCI	ZAMBIA CHAMBER OF COMMERCE AND INDUSTRY
ZAM	ZAMBIA ASSOCIATION OF MANUFACTURERS

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1 INTRODUCTION

The Common Market for Eastern and Southern Africa (COMESA) is a free trade area with 19 member states stretching from Libya to Swaziland. COMESA was formed in December 1994, replacing a Preferential Trade Area which had existed since 1981. Nine of the member states formed a free trade area in 2000 (Djibouti, Egypt, Kenya, Madagascar, Malawi, Mauritius, Sudan, Zambia and Zimbabwe), with Rwanda and Burundi joining the FTA in 2004, the Comoros and Libya in 2006, and Seychelles in 2009.

COMESA (as defined by its Treaty) was established 'as an organization of free independent sovereign states which have agreed to co-operate in developing their natural and human resources for the good of all their people'. COMESA's Vision is to "be a fully integrated, internationally competitive regional economic community with high standards of living for all its people ready to merge into an African Economic Community". Its Mission to: "Endeavour to achieve sustainable economic and social progress in all Member States through increased co-operation and integration in all fields of development particularly in trade, customs and monetary affairs, transport, communication and information, technology, industry and energy, gender, agriculture, environment and natural resources", the Secretariat was guided to develop its specific Mission Statement as follows:

"To provide excellent technical services to COMESA to facilitate the region's sustained development through economic integration".

For the field of Standardization and Quality Assurance, in COMESA's Treaty of 1994a there is a provision for cooperation in Standardization and Quality Assurance under Chapter 15 - Standardization and Quality Assurance. According to this Chapter, Member States recognised the importance of standardisation and quality assurance in the promotion of health, the enhancement of the standard of living, the rationalisation and reduction of unnecessary variety of products, the facilitation of inter-changeability of products, the promotion of trade, consumer protection, the creation of savings in government purchasing, improved productivity, the facilitation of information exchange as well as in the protection of life, property, and the environment.

The COMESA's Strategic Plan for Standardisation, Quality Assurance and Metrology (SQAM) provides a broad and comprehensive overview of COMESA possible future interventions in the area of SQAM and includes an implementation matrix where key strategic objectives and activities, their expected duration as well as responsibilities and level of priorities are outlined.

COMESA Strategic Plan for Standardisation and Quality Assurance – SQA, was drafted with the support of the TBT Programme and approved in March of 2015. The Plan provides a broad and comprehensive overview of COMESA possible future interventions in the area of SQAM (SQA and Metrology) and includes an implementation matrix where key strategic objectives and activities, their expected duration as well as responsibilities and level of priorities are outlined.

However, there is a need in a deeper assessment of SQAM strategic needs and priorities in the sector of the tripartite industry pillar and the COMESA industry policy: cotton and garments.

COMESA has drafted a policy on industrialization which will act as a tool to guide the region towards self-sustained balanced growth and improve competitiveness of the industrial sector in the 19-member bloc. The draft policy is meant to address the economic transformation of the COMESA re-

gion through an inclusive and sustainable industrialization based on value addition, local content and SMEs participation in the national, regional and global supply chain. As indicated previously, the priority sectors under the COMESA industrialization strategy include cotton and garments, chemicals and chemical products and light engineering, amongst other. A deeper assessment of SQAM strategic needs and priorities within these identified industry pillars is imperative in order to ensure that an appropriate, supportive, effective, responsive and internationally recognized and acceptable regional quality infrastructure is put in place and addresses the goals and objectives of COMESA as espoused and reinforced through the MTSP 2016-2020 and related policy documents. The revised SQAM Strategic Plan will need to be fully aligned to the MTSP 2016-2020.

1.1. Project Objective

The overall objective of the Project according to the ToR is to:

To support the implementation of COMESA activities in the area of Standardisation, Quality Assurance and Metrology

1.2. Specific Objective

The project will aim at achieving the following specific objective:

Define an implementation plan of future COMESA activities in the areas of Standardisation, Quality Assurance and Metrology in the following sectors: cotton and garments, light engineering and chemicals and chemical products.

2 NEEDS ASSESSMENT

2.1. Introduction to Cotton and Garments sector

The cotton sector is central to Africa's efforts in fighting poverty. It provides income for millions of people, especially those living in rural areas, and is an important source of foreign exchange earnings. Textiles and clothing production have allowed some African countries to diversify their exports and increase employment opportunities, including for low and semi-skilled workers, particularly women.

Nonetheless, global trends mean African countries now need to think regionally when it comes to strategies for the cotton to clothing sector. While individual countries have, difficulty establishing an entire value chain from cotton to textiles and clothing, this can be achieved at regional level. Moreover, regional economies of scale and expertise can improve the sector's performance and allow African countries to tap into international markets for clothing and fashion.

Cotton is cultivated on about 2.5% of the world's arable land across 80 countries which, after wheat, rice, maize and soybeans, makes it one of the most important global crops in terms of land area. One hundred countries are involved with cotton imports and exports. China, India, the USA and Pakistan are the major global cotton producers, followed by Brazil and Uzbekistan. Together these countries account for 80% of the world's cotton, while 28 African countries contribute about 5% to global production. **The top five producers on the African continent, between 2007 and 2011, were Burkina Faso, Egypt, Mali, Zimbabwe and Tanzania, who together accounted for 54% of Africa's total production.** Most of Africa's cotton is produced by smallholder farmers for whom the cotton sector is a vital source of employment and income.

For the cotton, African governments have been skeptical of genetically modified organisms (GMOs). Regional Economic Communities (RECs), such as the Common Market for Eastern and Southern Africa (COMESA) and the Economic Community for West African States (ECOWAS), are key players in readying their Member States for the commercialization of and trade in GM cotton, through harmonized biosafety policies. Together COMESA and ECOWAS incorporate 34 countries in Africa.

The COMESA Policy on Biotechnology and Biosafety was adopted in February 2014 and Member States validated the implementation plan in March 2015. An attention should be payed to avoid policies in which investor profits are higher on the priority list while safeguards for human, environmental and socio-economic wellbeing are relegated to mere afterthoughts, for the GMO policies.

Africa's textile industry is a complex one. It has lots of promise, but many factors hinder it from reaching its full potential. For the Garments and Textile industry, African countries are particularly keen to attract job-creating investors, who are even given incentives for such purpose. However, incentives differ from country to country, and are given on a case-by-case basis. According to the Nairobi-based East African Trade and Investment Hub (EATIH), textiles and apparel account for some 90 percent of exports from sub-Sahara African countries to the United States. The bulk of exports is shipped by sea, but small quantities needed for seasonal purpose or last-minute ordering are also shipped by air.

Some textile companies that are eager to take advantage of the rising demand in the U.S. for textile and apparel products and also benefit from AGOA's duty-free imports are establishing multiple textile plants. AGOA allows qualified countries to ship specified products to the United States tariff-free.

Despite the AGOA duty-free privilege, not all African countries have been able to substantially increase their textile and apparel exports. Kenya, Lesotho and Mauritius account for much of apparel exports under the program. In 2014, Kenya exported $423 million worth of apparel to the U.S., followed by Lesotho with $289 million, Mauritius $227 million and Swaziland $77 million.

Most of the textile industry in Africa is running under 50 percent capacity, or have been closed for the last fifteen to twenty years due to liberalization or due to second-hand clothing. At the production level, **Africa is only able to consume about 0.33 million metric tons, which amounts to about 23 percent of the cotton fiber produced. This means about 76 percent is exported in raw form, hence very little value addition is made.**

While demand is growing for African textiles, many of the current textile factories are not African owned. There is a mixed ownership structure of the factories across the value chain in Africa. At gin level, majority of the owners are big cotton trade companies like Cargill, Olam International, and Plexus Cotton Ltd., together with local indigenous Africans. Textile and spinning is almost balanced with Chinese, Indian and African ownership. At the apparel level, the ownership is also mixed, but with a stronger ownership of Asians—Chinese, Indians, Bangladeshis, etc.—who have mainly established their subsidiaries in Africa to take advantage of AGOA and duty-free exports into EU.

Cheap Chinese textiles and "bend downs" (the selling of used clothing, usually from America, on the streets) have severely cramped the desire for African-made garments. The consumption of finished garments by the domestic market has however been increasing. This market is catered to through a combination of local production, imported garments, second-hand clothing and illegal imports. The exact distribution is not easily available but a number of estimates point to second-hand clothing, illegal and legal imports as accounting for the largest share in that order.

Inexpensive clothing from China and Chinese penetration into the local textile market have roused the ire of African manufacturers. Counterfeits and copyright infringements are also of key concern to the African manufacturers.

International Technical Cooperation's programmes in COMESA MS encourage regional trade and cooperation for global gains, targeting specific sectors of particular interest to African countries. These efforts involve representatives from all stages of the cotton value chain drawn from across the Eastern & Southern African regions, including farmers, seed developers, ginners, domestic merchants, research institutions, textile and clothing manufacturers and public sector representatives.

Among the strategies' main objectives are to:

- Increase production of quality cotton and raise farmer incomes.
- Expand access to affordable agricultural inputs and farm credit.
- Improve production of quality lint and enhance market penetration.
- Increase competitiveness and intra-regional trade in the textile sub-sector.
- Diversify product lines and make clothing manufacturing more efficient.
- Develop a regional value chain that uses African materials and adds value to African cotton through textile processing and fully exploits duty-free market access for clothing products.

For these activities COMESA represents a chance for member countries to enhance their economic and social relations through increasing the intra-trade. In general, there is a great trade potential for COMESA countries to increase its intra-COMESA trade. The domestic producers are expected to be hampered by imports due to increase in competition, while the producers of export commodities will be better off. Hence to compete with producers of COMESA countries, the domestic producer has to be more efficient. To improve the intra-regional trade with COMESA, the competitiveness of agricultural products and especially in the **cotton and garments sector should be improved through increasing productivity, lowering cost of production, enhancing marketing services, attaining economies of scale and attracting foreign investment.**

2.2. Methodology of Needs Assessment Report

COMESA has drafted a policy on industrialization which will act as a tool to guide the region towards self-sustained balanced growth and improve competitiveness of the industrial sector in the 19-member bloc. As indicated previously, the priority sectors under the COMESA industrialization strategy include cotton and garments, light engineering and chemicals and chemical products, amongst other. A deeper assessment of SQAM strategic needs and priorities within these identified industry pillars is imperative in order to ensure that an appropriate, supportive, effective, responsive and internationally recognized and acceptable regional quality infrastructure is put in place and addresses the goals and objectives of COMESA.

The Needs Assessment approach, focuses on the elements of the Project that are common to the delivery of all activities. The key features of our approach were:

a) Initiate participation, interaction and dialogue with the Project Partners in order to enlarge perception and analysis of concerns and interconnected issues;

b) The target groups are Quality Infrastructure Institutions (National Standards Bodies, National Metrology Institutes, National Accreditation Bodies, and Conformity Assessment Bodies), Government Ministries and Departments, public and private laboratories, Quality Control Laboratories, Stakeholders and Private Sector.

For the purposes of the needs assessment report we used:

- interviews with the stakeholders;
- Questionnaires;
- Review of COMESA's documents;
- Online databases from COMESA and International sources;
- Visit of recommended websites;
- International Literature in the field of Cotton and Garments;

2.3. The Objective of needs assessment

The objective of the needs assessment report was to bring out the following:

- The needs in standardisation, Metrology, and Accreditation for the Cotton and Garments sector;
- Data Collection for National, Regional and International Standards for the sector;
- To find out the needs and gaps of the sector such as the possibility to set up mutual recognition arrangements between trade partners laboratories through proficiency testing/ inter-laboratory comparisons schemes;
- Opportunity to set up regional and multi-economy accreditation schemes;
- Creation of regional centres of excellence in terms of Laboratories and testing facilities in the region;

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3 GAP ANALYSIS FOR COTTON AND GARMENTS AND CENTRES OF EXCELLENCE

The cotton textile and apparel value chain is given in the figure 1:

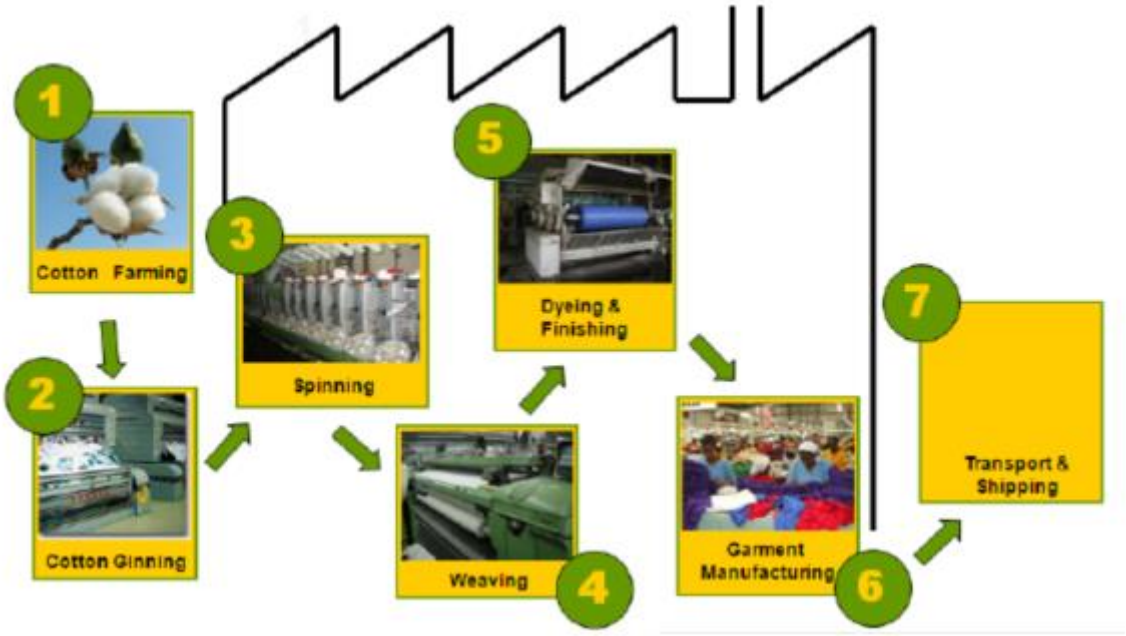

Figure 1: Cotton Textile and Apparel Value Chain

Table 1: Cotton Trade World vs Africa

	2010/11 Million tons	2011/12 Million tons (projected)	2012/13 Million tons (projected)
World Production	25.10	27.08	24.74
Africa's Share	1.03	1.47	1.38
World Consumption	24.51	22.72	23.17
Africa's Share	0.34	0.32	0.33
World Imports	7.72	9.33	7.50
Africa's Share	0.20	0.13	0.21
World Exports	7.62	9.34	7.50
Africa's Share	0.89	1.01	1.30

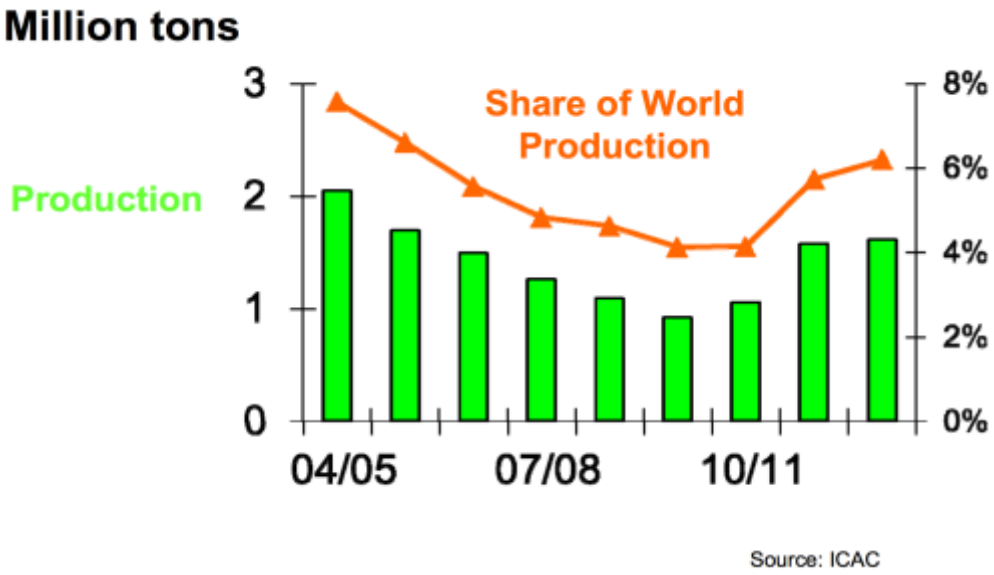

Figure 2: African Cotton Production

Table 2: Supply & use of Cotton Status in Africa				
REGION	**2012 / 2013**			
	Prod	Imports	Cons	Exports
North Africa	155	139	170	119
Francophone Africa	770	n/a	17	669
Southern Africa	455	66	143	437
World	26,079	7,751	23,498	7,751

Africa's textile and apparel exports to the United States are increasing, thanks mainly to the African Growth and Opportunity Act (AGOA), the cornerstone of the U.S. government's trade and development engagement with Sub-Saharan Africa. Exports to the European Union also are increasing under the EU's Economic Partnership Agreements with African countries. The United States is now the main destination of Sub-Sahara African garments. The region exports approximately US$1 billion in apparel to U.S. markets under AGOA. AGOA allows qualified countries to ship specified products to the United States tariff-free.

Egypt, a non-AGOA country, is also major textile exporter to the United States, thanks to a bilateral market access arrangement under Qualified Industrial Zones. Egypt alone accounts for close to $1 billion worth of textile and apparel exports.

Total imports of textile & apparel products by USA stood at US$ 101Bn (Source: OTEXA, 2012). Sub Sahara Africa enjoys Duty Free Quota free access into US for Garment exports under AGOA. Total U.S. Apparel imports from Africa under AGOA US$ 864, Million (0.8%) (Source: ACT, 2012)

From the other side the **Economic Partnership Agreement** (EPA) allows Africa to enjoy duty free Quota free access into EU for Textile products.

Total imports of textile & apparel products by EU stood at US$ 234Bn. (2012) and total EU textile and apparel imports from Africa stood at US$ 9.3 Bn (4%)

3.1. Current Scenario

1) Huge gap in the intermediate sectors of the cotton value chain
2) High operating costs due to obsolete technology & equipment among others
3) High competition from dumping pricing from Asia
4) Political insecurity and instability
5) Poor infrastructure and poor connectivity
6) Reliance on expatriate workforce for technical support
7) High costs of doing business

Lack of a harmonized regional strategy for CTA value chain development

- Lack of political commitment for sustainable policies
- Porous borders leading to dumping and smuggling
- Second hand clothing
- Cheap imports with no anti-dumping policies

3.2. Centers of Excellence

To promote the technical garments and textiles industry, setting up of Centers of Excellence to start with, for potential items is necessary on the lines of such centers in COMESA member States, by entrusting such centers a separate product / product groups.

Such centers can be set up to provide infrastructure support at one place for the convenience of the manufacturers of garments and technical textiles.

The center of excellence should have the following facilities:

1) Facilities for testing and evaluation of technical textiles with national and international accreditation;
2) Development of resource center, equipped with technical literature, reference material, books, a sample bank, standards, testing procedures etc.;
3) Facilities for training of core personnel;
4) Facilities for training of personnel from industry.
5) Facilities for product development / pilot plant (depending upon products).

Proposed Regional Center of Excellence for East Africa

At the moment, ACTIF has taken a lead to mobilize key stakeholders / partners locally, regionally and internationally towards the establishment of a regional center of Excellence in Kenya for the Textile and Apparel sectors.

Key achievements recorded so far include:

- The Government of Kenya has committed to host this regional center of excellence at the Export Processing Zones Authority (EPZA) where it already hosts a number of garment factories.
- A working committee has already been established to spear head the development of the project with representatives from public and private sector including local universities.

4 STANDARDS AND STANDARDISATION NEEDS IN COTTON AND GARMENTS

4.1. Introduction

According to the available statistics and contrary to popular belief, agricultural production in Africa has increased steadily: its value is almost tripled (over 160%) - it is almost identical to that of South America and below, but still comparable to growth in Asia. African continent has enormous potential, not only to feed itself and ensure food security and eliminate hunger, but also to be a major player in global food markets. African countries are giving greater priority to agricultural development.

Agriculture forms a dominating portion of the economies of all African countries – as a sector it can contribute towards continental priorities, such as eradication of poverty and hunger, promotion of intra-African trade and investments, diversification of production, sustainable resource and environmental management, creation of new jobs, human security and shared prosperity.

A standard is defined by the WTO TBT Agreement as a:

> *Document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method*

The nature of standards is voluntary, and therefore it is essential to ensure support from the farmers and industry for the use of them.

Standards to be drafted by parties of interest, engaging the experts in the areas concerned (farmers, producers, users, consumers, traders, laboratories, inspectorates, etc.). If there are divergent views on the contents of the standard a consensus should be reached with balanced and effective approach, not undermining the objectives of the introduction of a new standard. An important step in developing standard is in relation to validation, which includes consultation at national and international level to ensure that the draft standard conforms to the general interest, judging comments and finalizing the text. As defined by the TBT Agreement, only recognised body can approve standards, so approval of the text for publication as a standard is another step, however, not final in the life cycle of a standard development, as it must be reviewed periodically to detect if there is a need for adaptation to any new developments. Following a review, a standard may be confirmed without a change, be revised or withdrawn.

According to the TBT Agreement the definition of the “Technical Regulations” is:

> *Document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.*

A precise estimate of the impact of standards and technical regulations on international trade, it is difficult to establish. What we could conclude with certainty is that compliance with different foreign technical requirements involves extra costs for producers and exporters. In general, the costs are

associated with translation and understanding of the requirements and necessary adjustments of production facilities to comply with them, as well as to proof of such compliance.

As far as it concerns the agricultural standards and technical regulations, they set out specific characteristics of products – such as size, safety, nutritional value, design, functions, performance, the way it must be labelled or packaged before it is put on sale. In fact, the way an agricultural or food product is produced affects those characteristics, so, it is more appropriate to draft technical regulations and standards in terms of a product's process and production methods rather than its characteristics *per ce*.

The COMESA secretariat is implementing a number of programs to achieve the so much desired regional integration and among its many programs to achieve the COMESA objective is the harmonization of standards which is undertaken by the COMESA Committee on Standardization and Quality Assurance (SQA) which was established in 2002. The SQA Committee has since established Guidelines for development of COMESA harmonized standards. The Guidelines lay down the basic principles, procedures and mechanisms by which the COMESA member States are to develop Harmonised Standards. The guidelines emphasise the principle of consensus in the development of COMESA harmonized standards.

4.2. Cotton and Garments Sector situational analysis

4.2.1. SWOT Analysis

In July 2011 in Nairobi, Kenya was held the COMESA workshop on cotton. The motivation for the Nairobi meeting was to revive the cotton industry in the COMESA region. The participants stressed the need to invest in appropriate science and technology which are seen as the keys to the long-term development of the cotton and clothing value chains as emphasized in the current COMESA development theme which is "Harnessing Science and Technology for Development". The ensuing discussions underscored the benefits of drafting regional strategies to improve the effectiveness of national cotton strategies, but also underlined the considerable gains to be made by creating synergies, complementarities and coherence among these initiatives at a Pan African level. Participants agreed that national and regional cotton sectors in Africa face similar challenges such as, declining yields, lint contamination, lack of funds, outdated ginning machinery and so on.

There is the need to have a road map for the Cotton and Garments sector but UNCTAD made it clear that it does not have funding to implement the Road Map. Rather its aim is to establish a Pan African consensus on priorities and **create synergies between existing initiatives** with the hope that other development partners might be interested in funding it.

Strengths:

- Strong and diverse raw material base
  - Almost 500 codes of Cotton and Garments products are registered in the COMESA's database
  - Standards Information was readily available at COMESA secretariat.
  - More than 45% for Africa's share on cotton trade belong to COMESA Members State (See Table1.)
- Relatively Flexible production system
- COMESA's Harmonised Standards are based on International Standards

Weaknesses:

- Some national cotton grading systems are below international standards. That causes technical problems in the ginneries, and affects cotton-seed separation and processing, ultimately resulting in low quality lint sold at discounted prices.
- serious constrains in Textile Industry of availability of financial resources to develop better cotton-seed development systems,
- No funds to implement road maps for cotton industry,
- serious constrains to develop plantations and farming practices, ginneries, and a garment industry that will enable the industry take full advantage
- Highly fragmented and technology backward textile processing sector
- declining yields,
- lint contamination,
- lack of funds,
- lack of information on standards available in the cotton and garments sector
- Regional Standards doesn't cover all needs in the sector
- Need for a harmonised and standardised for methods for sampling and testing at regional level
- inadequate testing Laboratories for the sector.

Opportunities:

- Creation of synergies between existing initiatives in the sector with the hope that other development partners might be interested in funding it
- Strengthen national and regional coordination systems, research and extension networks to mobilize programs and instruments of national, and regional policy.
- Reinforce capacities of professional and inter-professional organizations to work with cotton research, governments and Regional Economic Commissions (RECs) - COMESA on challenges on Productivity.
- Facilitate the coherence of regional cotton strategies and national, regional and Pan-African commercial policies;
- To establish a Pan African consensus on priorities on the cotton and garments sector
- Reinforce coordination between professional and inter-professional organizations and cotton companies pour mobilize commercial policy instruments and programmes at national, regional and Pan-African levels.
- Strengthen capacities of professional and inter-professional organizations and cotton companies to work with governments and Regional Economic Commissions (RECs) develop market partnerships, improve quality and implement risk management tools.
- Enhance the innovative ways of regulations and oversight, including a national and regional system for co-regulation.
- Encourage Testing laboratories to participate in quality assurance programs such as proficiency testing (PT) or accreditation schemes for tests that covers the needs in the sector.

Threats:

- No funds for the synergies between existing initiatives in the sector.
- Possibility of a global recession.
- A low number of testing labs in the sector.
- Lack of Accreditation in Testing Laboratories for the sector
- Low implementation of the standards in the sector
- Conflicting Standards in the Sector with other Regional Economic communities

4.3. Assessments of Laboratories and Accreditation Centers

Considering the importance of assisting the industry in improving its capacity in meeting the emerging requirements related to quality and standards, the following approach will be good to be adopted by COMESA for the Sector:

(i) to make available testing services at the doorstep of the industry, which will help improve the quality of products, and

(ii) to assist the industry in obtaining internationally accredited quality, environmental and social standard certifications Accreditation / Certification support

An independent and third party accreditation / certification of product, process and systems is emerging to be key requirement for global competitiveness of garments and cotton industry in COMESA MS.

These requirements are also related to environmental standards, quality standards and social compliance.

The objective is to assist the small and medium enterprises in obtaining such internationally accredited certification, and establishing systems, which will enable them to meet environmental and social standards more effectively.

The analysis of the current situation in the use of standards and the challenges identified in the context of the activity shows that there are few accredited Laboratories in COMESA MS (see Annex 1, - scope of Accreditation of the Accredited Laboratories). The Zambia Bureau of Standards has a non-accredited Textile Testing Laboratory. Six (6) accredited Laboratories are based in Egypt and three (3) in Mauritius.

From these Laboratories, only those from Egypt covered from the Mutual Recognition Arrangement (MRA). EGAC – the Egyptian Accreditation Council together with the Tunisian Accreditation Council – TUNAC are the only accreditation bodies in Africa, with Recognition and Relationship with ILAC, IAF, and of course with the regional Africa Accreditation Cooperation – AFRAC.

This situation for the Cotton and Garments sector, shows the need for a formal national system for licensing and registration of testing laboratories.

COMESA could help the national standardization bodies of MS to extend not only the number of accredited laboratories but also the scope of accreditation and to improve the situation in the sector.

In addition, COMESA could help by informing other MS for close collaboration with the above mentioned accredited Laboratories.

COMESA could seek the possibility to set up mutual recognition arrangements between trade partners accredited laboratories.

The accredited laboratories could be the fundament for the creation of regional centres of excellence in terms of Laboratories and testing facilities for cotton and Garments in the region.

4.4. Cotton and Garments Sector Standards Analysis

As we wrote in the introduction, the activities on Standardization and Quality Assurance (SQA) were started in 2003 with the set-up of the Standardization and Quality Assurance Unit in line with the Treaty of 1994. COMESA Strategic Plan for Standardisation and Quality Assurance – SQA, was drafted with the support of the TBT Programme and approved in March of 2015. The Plan provides a broad and comprehensive overview of COMESA possible future interventions in the area of SQAM (SQA and Metrology) and includes an implementation matrix where key strategic objectives and activities, their expected duration as well as responsibilities and level of priorities are outlined. To rich this goal Harmonization of Standards and Conformity Assessment Procedures needs to be accelerated in order to increase intra COMESA trade.

The situation in the cotton and Garments sector regarding the COMESA Standards is:

1) For the COMESA agriculture sector a new standard will be developed for cotton yarns
2) 32 CHS (COMESA Harmonised standards) out of a total 385 CHS are in the cotton and textile industry standards. See TABLE No. 3.
3) For comparison, a list of an ISO standards for cotton and Garments is given in Table 4.

TABLE No. 3,	List of Harmonised standards for cotton and textile products
CHS 251: 2006	ISO 1833:1980.- Textiles - Binary fibre mixtures - Quantitative Chemical analysis
CHS 252: 2006	ISO 2076:1999- Textiles — Man-made fibres —Generic names
CHS 253: 2006	ISO 2646:1974- Wool - Measurement of the length of fibres processed on the worsted System, using a fibre diagram machine
CHS 254: 2006	ISO 2648:1974- Wool – Determination of fibre length distribution parameters – Electronic method
CHS 256: 2006	ISO 920:1976- Wool - Determination of fibre length (barbe and hauteur) using a comb sorter
CHS 258: 2006	ISO 4913:1981- Textiles - Cotton fibres – Determination of length (span length) and uniformity index.
CHS 258: 2006	ISO 4913:1981- Textiles - Cotton fibres – Determination of length (span length) and uniformity index.
CHS 259: 2006	ISO 5088:1976- Textiles - Ternary fibre mixtures - Quantitative analysis.
CHS 260-1: 2006	ISO 6741-1:1989- Textiles - Fibres and yarns - Determination of commercial mass of consignments Part 1: Mass determination and calculations
CHS 260-2: 2006	ISO 6741-2:1987- Textiles - Fibres and yarns -Determination of commercial mass of consignments - Part 2 : Methods for obtaining laboratory samples.
CHS 260-3: 2006	ISO 6741-3:1987- Textiles - Fibres and yarns -Determination of commercial mass of consignments - Part 3: Specimen cleaning procedures
CHS 260: 2006 TR	ISO/TR 6741-4:1987- Textiles - Fibres and yarns -Determination of commercial

TABLE No. 3,	List of Harmonised standards for cotton and textile products
	mass of consignments – Part 4: Values used for the commercial allowances and the commercial moisture regains - TECHNICAL REPORT
CHS261: 2006	ISO 6938:1984- Textiles - Natural fibres – Generic names and definitions
CHS262: 2006	ISO 8115:1986- Cotton bales - Dimensions and density
CHS262-2: 2006	ISO 8115-2:1994- Bales - Part 2: Bales of man-made staple fibres – Dimensions
CHS262-3: 2006	ISO 8115-3:1995- Bales - Part 3: Bales of cotton -Packaging and labeling
CHS263: 2006	ISO 8159:1987- Textiles -Morphology of fibres and yarns – Vocabulary
CHS264: 2006	ISO 10306:1993- Textiles - Cotton fibres - Evaluation of maturity by the air flow method
CHS265-1: 2006	ISO 12952-1:1998- Textiles — Burning behaviour of bedding items —Part 1:General test methods for the ignitability by a smouldering cigarette
CHS265-2: 2006	ISO 12952-2:1998- Textiles — Burning behaviour of bedding items —Part 2:Specific test methods for the ignitability by a smouldering cigarette
CHS265-3: 2006	ISO 12952-3:1998- Textiles — Burning behaviour of bedding items —Part 3:General test methods for the ignitability by a small open flame
CHS265-4: 2006	ISO 12952-4:1998- Textiles — Burning behaviour of bedding items —Part 4:Specific test methods for the ignitability by a small open flame
CHS266: 2006	ISO1130:1975- Textile fibres - Some methods of sampling for testing
CHS267: 2006 TR	ISO-TR 5090:1977- Textiles - Methods for the removal of non-fibrous matter prior to quantitative analysis of fibre mixtures
CHS268: 2006	ISO1973:1995- Textile fibres - Determination of linear density - Gravimetric method and vibroscope method
CHS269: 2006	ISO 2370:1980- Textiles - Determination of fineness of flax fibres - Permeametric methods
CHS270: 2006	ISO 2647:1973- Wool - Determination of percentage of medullatedfibres by the projection microscope
CHS271: 2006	ISO 3060:1974- Cotton fibres - Determination of breaking tenacity of flat bundles
CHS272: 2006	ISO 4912:1981- Textiles - Cotton fibres - Evaluation of maturity - Microscopic method.
CHS273: 2006	ISO 5079:1995- Textile fibres - Determination of breaking force and elongation at break of individual fibres
CHS274: 2006	ISO 6989:1981- Textile fibres - Determination of length and length distribution of staple fibres (by measurement of Single fibres)

TABLE No. 4	ISO Standards for Cotton and Garments
ISO 8115:1986	Cotton bales -- Dimensions and density
ISO 8115-3:1995	Bales -- Part 3: Bales of cotton -- Packaging and labelling
ISO 3060:1974	Textiles -- Cotton fibres -- Determination of breaking tenacity of flat bundles
ISO 4912:1981	Textiles -- Cotton fibres -- Evaluation of maturity -- Microscopic method
ISO 4913:1981	Textiles -- Cotton fibres -- Determination of length (span length) and uniformity index
ISO 6836:1983	Surface active agents -- Mercerizing agents -- Evaluation of the activity of wetting products for mercerization by determination of the shrinkage rate of cotton
ISO 10290:1993	Textiles -- Cotton yarns -- Specifications
ISO 16875:2004	Textile machinery -- Ring spinning machines for cotton spinning -- Vocabulary
ISO 4254-7:2008	Agricultural machinery -- Safety -- Part 7: Combine harvesters, forage harvesters and cotton harvesters
ISO 20725:2004	Textile machinery -- Condensers for cotton spinning -- Vocabulary and principles of construction
ISO 20727:2004	Textile machinery -- Mixing bale openers for cotton spinning -- Vocabulary and principles of construction
ISO 20726:2004	Textile machinery -- Hopper feeders for cotton spinning -- Vocabulary and principles of construction
ISO 1833-3:2006	Textiles -- Quantitative chemical analysis -- Part 3: Mixtures of acetate and certain other fibres (method using acetone)
ISO 1833-4:2006	Textiles -- Quantitative chemical analysis -- Part 4: Mixtures of certain protein and certain other fibres (method using hypochlorite)
ISO 1833-5:2006	Textiles -- Quantitative chemical analysis -- Part 5: Mixtures of viscose, cupro or modal and cotton fibres (method using sodium zincate)
ISO 1833-6:2007	Textiles -- Quantitative chemical analysis -- Part 6: Mixtures of viscose or certain types of cupro or modal or lyocell and cotton fibres (method using formic acid and zinc chloride)
ISO 1833-7:2006	Textiles -- Quantitative chemical analysis -- Part 7: Mixtures of polyamide and certain other fibres (method using formic acid)
ISO 1833-10:2006	Textiles -- Quantitative chemical analysis -- Part 10: Mixtures of triacetate or polylactide and certain other fibres (method using dichloromethane)
ISO 1833-12:2006	Textiles -- Quantitative chemical analysis -- Part 12: Mixtures of acrylic, certain modacrylics, certain chlorofibres, certain elastanes and certain other fibres (method using dimethylformamide)
ISO 1833-13:2006	Textiles -- Quantitative chemical analysis -- Part 13: Mixtures of certain chlorofibres and certain other fibres (method using carbon disulfide/acetone)
ISO 1833-16:2006	Textiles -- Quantitative chemical analysis -- Part 16: Mixtures of polypropylene fibres and certain other fibres (method using xylene)
ISO 1833-17:2006	Textiles -- Quantitative chemical analysis -- Part 17: Mixtures of chlorofibres (homopolymers of vinyl chloride) and certain other fibres (method using sulfuric acid)
ISO 1833-19:2006	Textiles -- Quantitative chemical analysis -- Part 19: Mixtures of cellulose fibres and asbestos (method by heating)
ISO 1833-20:2009	Textiles -- Quantitative chemical analysis -- Part 20: Mixtures of elastane and certain other fibres (method using dimethylacetamide)
ISO 1833-21:2006	Textiles -- Quantitative chemical analysis -- Part 21: Mixtures of chlorofibres,

TABLE No. 4	ISO Standards for Cotton and Garments
	certain modacrylics, certain elastanes, acetates, triacetates and certain other fibres (method using cyclohexanone)
ISO 1833-26:2013	Textiles -- Quantitative chemical analysis -- Part 26: Mixtures of melamine and cotton or aramide fibres (method using hot formic acid)
ISO 105-F02:2009	Textiles -- Tests for colour fastness -- Part F02: Specification for cotton and viscose adjacent fabrics
ISO 105-F09:2009	Textiles -- Tests for colour fastness -- Part F09: Specification for cotton rubbing cloth
ISO 2403:2014	Textiles -- Cotton fibres -- Determination of micronaire value
ISO 10306:2014	Textiles -- Cotton fibres -- Evaluation of maturity by the air flow method
ISO 21485:2013	Textile machinery -- Draw frame for cotton spinning -- Vocabulary and principles of construction
ISO 18068:2014	Cotton fibres -- Test method for sugar content -- Spectrophotometry
ISO 2267:1986	Surface active agents -- Evaluation of certain effects of laundering -- Methods of preparation and use of unsoiled cotton control cloth
ISO 4312:1989	Surface active agents -- Evaluation of certain effects of laundering -- Methods of analysis and test for unsoiled cotton control cloth
ISO 12027:2012	Textiles -- Cotton-fibre stickiness -- Detection of sugar by colour reaction
ISO 729:1988	Oilseeds -- Determination of acidity of oils
ISO 1130:1975	Textile fibres -- Some methods of sampling for testing
ISO 2187:1990	Spinning preparatory machinery, spinning and doubling (twisting) machinery -- List of equivalent terms
ISO 8022:1990	Surface active agents -- Determination of wetting power by immersion
ISO 105-X04:1994	Textiles -- Tests for colour fastness -- Part X04: Colour fastness to mercerizing
ISO 105-X11:1994	Textiles -- Tests for colour fastness -- Part X11: Colour fastness to hot pressing
ISO 15797:2002	Textiles -- Industrial washing and finishing procedures for testing of workwear
ISO 5263-1:2004	Pulps -- Laboratory wet disintegration -- Part 1: Disintegration of chemical pulps
ISO 5269-1:2005	Pulps -- Preparation of laboratory sheets for physical testing -- Part 1: Conventional sheet-former method
ISO 5269-2:2004	Pulps -- Preparation of laboratory sheets for physical testing -- Part 2: Rapid-Köthen method
ISO 5269-3:2008	Pulps -- Preparation of laboratory sheets for physical testing -- Part 3: Conventional and Rapid-Köthen sheet formers using a closed water system
ISO 26243:2007	Cards for staple fibres spinning -- Vocabulary and principles of construction
ISO 28239:2008	Textile machinery -- Opener and cleaner for staple fibres preparation -- Vocabulary and principles of construction
ISO 24362-3:2014	Textiles -- Methods for determination of certain aromatic amines derived from azo colorants -- Part 3: Detection of the use of certain azo colorants, which may release 4-aminoazobenzene
ISO 3636:1977	Size designation of clothes -- Men's and boys' outerwear garments
ISO 3637:1977	Size designation of clothes -- Women's and girls' outerwear garments
ISO 3638:1977	Size designation of clothes -- Infants' garments
ISO 4416:1981	Size designation of clothes -- Women's and girls' underwear, nightwear, foundation garments and shirts
ISO 3175-3:2003	Textiles -- Professional care, drycleaning and wetcleaning of fabrics and garments -- Part 3: Procedure for testing performance when cleaning and finishing using hydrocarbon solvents

TABLE No. 4	ISO Standards for Cotton and Garments
ISO 3175-4:2003	Textiles -- Professional care, drycleaning and wetcleaning of fabrics and garments -- Part 4: Procedure for testing performance when cleaning and finishing using simulated wetcleaning
ISO 16322-1:2005	Textiles -- Determination of spirality after laundering -- Part 1: Percentage of wale spirality change in knitted garments
ISO 16322-3:2005	Textiles -- Determination of spirality after laundering -- Part 3: Woven and knitted garments
ISO 3759:2011	Textiles -- Preparation, marking and measuring of fabric specimens and garments in tests for determination of dimensional change
ISO 18831:2016	Clothing -- Digital fittings -- Attributes of virtual garments
ISO 8194:1987	Radiation protection -- Clothing for protection against radioactive contamination -- Design, selection, testing and use
ISO/TR 9240:1992	Textiles -- Design of apparel for reduced fire hazard
ISO 13998:2003	Protective clothing -- Aprons, trousers and vests protecting against cuts and stabs by hand knives
ISO 12127-2:2007	Clothing for protection against heat and flame -- Determination of contact heat transmission through protective clothing or constituent materials -- Part 2: Test method using contact heat produced by dropping small cylinders
ISO 18696:2006	Textiles -- Determination of resistance to water absorption -- Tumble-jar absorption test
ISO 13994:2005	Clothing for protection against liquid chemicals -- Determination of the resistance of protective clothing materials to penetration by liquids under pressure
ISO 9920:2007	Ergonomics of the thermal environment -- Estimation of thermal insulation and water vapour resistance of a clothing ensemble
ISO 13982-1:2004	Protective clothing for use against solid particulates -- Part 1: Performance requirements for chemical protective clothing providing protection to the full body against airborne solid particulates (type 5 clothing)
ISO 23231:2008	Textiles -- Determination of dimensional change of fabrics -- Accelerated machine method
ISO 5077:2007	Textiles -- Determination of dimensional change in washing and drying
ISO 11643:2009 (IULTCS/IUF 434)	Leather -- Tests for colour fastness -- Colour fastness of small samples to solvents
ISO 30023:2010	Textiles -- Qualification symbols for labelling workwear to be industrially laundered
ISO/TR 12116:2008	Textiles -- Methods of simulating colour change during actual wear by means of laboratory colour-fastness tests
ISO 15487:2009	Textiles -- Method for assessing appearance of apparel and other textile end products after domestic washing and drying
ISO 27065:2011	Protective clothing -- Performance requirements for protective clothing worn by operators applying liquid pesticides
ISO 3175-1:2010	Textiles -- Professional care, drycleaning and wetcleaning of fabrics and garments -- Part 1: Assessment of performance after cleaning and finishing
ISO 14116:2015	Protective clothing -- Protection against flame -- Limited flame spread materials, material assemblies and clothing
ISO 18080-1:2015	Textiles -- Test methods for evaluating the electrostatic propensity of fabrics --

TABLE No. 4	ISO Standards for Cotton and Garments
	Part 1: Test method using corona charging
ISO 18080-2:2015	Textiles -- Test methods for evaluating the electrostatic propensity of fabrics -- Part 2: Test method using rotary mechanical friction
ISO 18080-3:2015	Textiles -- Test methods for evaluating the electrostatic propensity of fabrics -- Part 3: Test method using manual friction
ISO 18080-4:2015	Textiles -- Test methods for evaluating the electrostatic propensity of fabrics -- Part 4: Test method using horizontal mechanical friction
ISO 11111-1:2016	Textile machinery -- Safety requirements -- Part 1: Common requirements

4.5. Implementation Plan - Cotton and Garments Sector

Areas	Activity	Actors	Key responsibilities	Time	Objective Verifiable Indicators (OVI)	Priority
Standardization	Identify standards available in the cotton and garments sector. Write Regional Standards which cover all needs in the sector Harmonization and standardization for methods for sampling and testing at regional level Disseminate and Publish harmonized standards catalogue Conduct awareness workshop on harmonized standards Strengthen COMESA Standards harmonization system to facilitate trade	COMESA Member states NSBs COMESA SQA Subcommittee on Standards Harmonization Private sector associations	Identify gaps in standards for traded goods Identify international standards in cotton and garments sector for harmonization. Develop COMESA harmonized standards catalogue Conduct awareness workshop on CHS standards	2 year	List of harmonized standards List of stakeholders that participated in workshop	1
Testing & Metrology	Organization of testing Laboratories for the Cotton and Garments sector. Enhance the innovative ways of regulations and oversight, including a national and regional system for co-regulation. Encourage Testing laboratories to participate in quality	COMESA SQA Subcommittees NQIs COMESA Member states Private Sector, Public and Private	Identify existing laboratories Identify necessary equipment needed for the Sector Capacity building of personnel on ISO 17025	1 Year	List of Laboratories for the sector per country List of Laboratories for the sector per Calibration and Test Methods List of trained personnel List of PT Schemes	1 1 2 2

Areas	Activity	Actors	Key responsibilities	Time	Objective Verifiable Indicators (OVI)	Priority
	assurance programs such as proficiency testing (PT) or accreditation schemes for tests that covers the needs in the sector.	Calibration and Testing Laboratories				
Accreditation	Need for a formal national system for licensing and registration of testing laboratories. COMESA shall help to extend the number of accredited laboratories but also the scope of accreditation and to improve the situation in the sector, for the Laboratories. COMESA could help by informing Market Surveillance Organizations for close collaboration with the accredited Laboratories. COMESA shall set up mutual recognition arrangements - MRAs between trade partners accredited laboratories.	COMESA SQA Subcommittees NQIs COMESA Member states Private Sector, Public and Private Calibration and Testing Laboratories Market Surveillance Organizations COMESA Member states MINISTRIES OF TRADE & COMMERCE	Engage a consultant to guide development of Mutual Recognition Mechanisms (MRMs) Convene stakeholders meeting on MRM Presentation of draft MRM to Council of Ministers for approval	2 years	Easy and even free movement of goods Draft MRM Outcomes form stakeholders meeting Approved MRA/MRM	1 1 2 1

Areas	Activity	Actors	Key responsibilities	Time	Objective Verifiable Indicators (OVI)	Priority
Quality Assurance	Establishment of supportive quality infrastructure in cotton and garments sector	COMESA SQA Subcommittees COMESA Member states MINISTRIES OF TRADE & COMMERCE Accredited laboratories in sector	Engage a consultant Develop TORs Conduct peer assessment in member countries Training on peer assessment reviews	1 year 2 1	Number of trained personnel Number of countries assessed Number of trained personnel	1 1 1

5 LITERATURE

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- http://www.africastrictlybusiness.com/news-analysis/africa-seeks-control-its-textile-industry
- Mr. Rajeev Arora, Executive Director, *Africa - Developing International Competitiveness of the Cotton Value Chain*,
- Ms. Irina Kireeva, Expert on Technical Barriers to Trade of the ACP TBT Programme, *The Role of Standards in Promoting Sustainable Agriculture and Food Security in Africa*, ARSO General Assembly, Addis Abba, 11-14 August 2015.
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- http://www.zabs.org.zm
- http://www.kebs.org
- http://kenas.go.ke
- *COMESA Strategic Plan for Standardisation and Quality Assurance,* NEEDS ASSESSMENT & SWOT ANALYSIS

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Schedule No.: 20517B 1st accreditation date : September 29, 2005 Issue No. (3): August 14, 2014 Revision No. (1): Oct. 11,2015 Valid to : December 23, 2017

Materials / Products Tested	Types of Tests / PropertiesMeasured / Range of Measurements		Standard Specifications / Techniques Used	
All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	Determination of pH	0-14	EN 1413:1998 ISO 3071:2005 AATCC 81:2012	**pH Meter** Manufacturer Mettler Toledo Model Seven compact S.N B2209485-46 Manufacturer Crison Model Basic 20+/ GLP 21 S.N 9153537-503078 Analytical balance Mod:HR200-Japan S.N:12323703
	Determination of formaldehyde	≥ 16 mg/Kg	BS EN ISO 14184-1,2 :2011 AATCC 112:2008 CPSD-AN-00018-MTHD Version No. 11 :2015 CPSD-AN-00019-MTHD Version No. 27 :2014	**Spectrophotometer** Manufacturer Jasco, Japan Model TUDC 12B S.N B05686051 **Spectrophotometer** Model: EVO 600PC S.N EVON 106001 Drying Oven Manufacturer Raypa,UK Model:DOD-150 S.N 52638 Shacker water bath : S.N:04001408/566635

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All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	Determination of heavy metals		CPSD-AN-00063-MTHD Version No.7 :2010 EN 71-3:2002	**Inductively Coupled Argon Plasma** 6000 Series ICP-OES Model Thermo 6300 S.No.ICP-2008303
	Extractable Heavy Metals 100 mg/kg			
	Antimony	2 mg/Kg		
	Arsenic	0.75 mg/Kg		
	Cadmium	0.75 mg/Kg		
	Chromium (Total)	1.5 mg/Kg		
	Chromium (VI)	0.5 mg/Kg		
	Cobalt	2 mg/Kg		
	Copper	2 mg/Kg		
	Lead	0.75 mg/Kg		
	Mercury	1.5 mg/Kg		
	Nickel	2 mg/Kg		

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All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	**Determination of azodyes** ≥10 mg/Kg **Cleavable Arylamines** • 4-Aminobiphenyl benzidine • 4- Chloro-o-toluidine • 2-Naphthylamine • o-Aminoazotoleune • 2-Amino-4-nitrotoluene • p- Chloroaniline • 2,4–Diaminoanisole • 4,4'-Diaminobiphenylmethane • 3,3' -Dichlorobenzidine • O -Toluidine • 3, 3'-Dimethylbenzidine • 3,3'-Dimethoxybenzidine • 3,3'-Diamino-4,4'-diaminobiphenylmethane	German Law 35 LMBG 82.02-2,3,4 EN 14362-1.3:2012 CPSD-AN00192 MTHD Version No.7 :2014 **Gas Chromatography / Mass Spectroscopy** Manufacturer Agilent, USA Model 5975c-7890A S.N us12291014

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All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	**Determination of azodyes** ≥ 10 mg/Kg **Cleavable Arylamines** • p-Cresidine • 4,4'-Methylene-bis-2-chloroaniline • o- Anisidine • 2- Amino-4-nitrotoluene • 4,4'-Oxydianiline • 4,4'-Thiodianiline • 2,4-Tolulendiamine • 2,4,5-Trimethylaniline • 2,4 Xylidine • 2,6 Xylidine	German Law 35 LMBG 82.02-2,3,4 EN 14362-1.3:2012 CPSD-AN00192 MTHD Version No.7 :2014	**Gas Chromatography / Mass Spectroscopy** Manufacturer Agilent, USA Model 5975c-7890A S.N us12291014 **Gas Chromatography / Mass Spectroscopy** Manufacturer Agilent, USA Model 5973c-6890A S.N us00039336

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Materials/ Products Tested	Types of Testes/ Properties Measured/ Range of Measurments	Standard Specifications/Techniques Used
All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	**Detrmination of Phathlates** ≥5 mg/Kg **PVC Plasticizers (Phathlates)** • Di-iso- nonyl phthalate (DINP) • Di-n-octyl phthalate (DNOP) • Di-(2-ethylhexyl)-phathalate (DEHP) • Di-iso-decylphthalate (DIDP) • Butyl benzylphthalate (BBP) • Dibutylphthalate (DBP)	EN 15777:2009 CPSD-AN00095 Version No.37:2014 **Gas Chromatography / Mass Spectroscopy** Manufacturer Agilent, USA Model 5975c-7890A S.N us 12291014 **Gas Chromatography / Mass Spectroscopy** Manufacturer Agilent, USA Model 5973c-6890A S.N us0003933

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Materials/ Products Tested	Types of Testes/ Properties Measured/ Range of Measurments	Standard Specifications/Techniques Used	
All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	**Determination of Phenols** • 2,3,5,6- Tetrachlorophenol (TCP) 2.5 mg/Kg • Pentachlorophenol (PCP) 2.5 mg/Kg • o-Phenylphenol (OPP) 2.5 mg/Kg	ISO 17070:2006	**Gas Chromatography / Mass Spectroscopy** Manufacturer Agilent, USA Model 5975c-7890A S.N us 12291014 **Gas Chromatography / Mass** Spectroscopy Manufacturer Agilent, USA Model 5973c-6890A S.N us00039336

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All Types of Textile Materials & Product Classes :- **Class I** – for Babies **Class II** – for Direct Contact with Skin. **Class III** – for Indirect Contact with Skin. **Class IV**- for Decoration Materials	Determination of Color Fassteness to Water(Staining)	1-5 grey scale	ISO 105-E01:2013	**Perspirometers** Manufacturer Atlas,USA Model M231 S.N 918C0265 A1-A2 **pH Meter** Manuf: Crison Model:GLP 21 S.N: 503078
	Determination of Color Fassteness to Acidic Perspiration & Alkaline Perspiration (Staining)	1-5 grey scale	ISO 105- E04:2013	
	Determination of Color Fassteness to Saliva & Perspiration (Staining)	1-5 grey scale	German Law 35 LMBG 82.10-1	
	Determination of Color Fassteness to Saliva (Staining)	1-5 grey scale	CPSD-SL-48210-(64LFGBB82-10-1) Version No.3 :2011 DIN 53160/35 LMBG 82.10	
	Determination of Color Fassteness to Dry Rubbing (Staining)	1-5 grey scale	ISO 105 - X12:2002	**Crockmeter** Manufacturer Atlas,USA Model Atlas CMS S.N 16739 **Conditioning Cabinet** Manufacturer Mytran- Germany Model KPK 35 S.N 051/03

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Materials/ Products Tested	Types of Testes/ Properties Measured/ Range of Measurments	Standard Specifications/Techniques Used	
Paints and other similar surface-coating materials	Determination of total Lead Content 1mg/Kg	CPSD-AN-00001-MTHD Version No.27 :2012	**Inductively Coupled Argon Plasma 6000 Series** Manufacturer ICP-OES, England Model Thermo 6300 S.N ICP-2008303
Metalic Textile Accessories	Detection of Nickel (Qualitative Testing)	CPSD-AN-00013-MTHD Version No.5 :2010	**Wet Chemistry Drying Oven** Manufacturer :Raypa, Uk Model DOD-150 S.N 52638
	Determination of Nickel releasesed from products intended to come into direct and prolonged contact with the skin	CPSD-AN-00014-MTHD Version No.14 :2011	**Inductively Coupled Argon Plasma 6000 Series** Manufacturer ICP-OES , England Model Thermo 6300 S.N ICP-2008303

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Schedule No.: 20663B **1st accreditation date : October 3, 2007** **Issue No. (3): October 24, 2016** **Valid to June 13, 2020**

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
All kinds of textile materials	Detemination of colour fastness to domestic and commerical laundering	ISO 105-C06: 2010 AATCC Test Method 61:2013	**Launder-ometer** Manufacturer ATLAS,USA Model LHT , S.N LO-2983 **Gyrowash** Manufacturer England Model 81520N ,S.N 815/20/08/1010 **Balance** Manufacturer METLER, Swiss Model AG245,S.N 1118500780 **Conditioning Cabinet** Manufacturer: MMM-Group Model CLC222 ,S.N 082602
	Detemination of Colour fastness to rubbing (wet & dry)	ISO 105-X12:2016 AATCC Test Method 8:2013	**Crockmeter** Manufacturer ATLAS, USA Model CM-5 M238BB , S.N 718D0006 **Conditioning Cabinet** Manufacturer MMM-Group Model CLC222 , S.N 082602

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
All kinds of textile materials	Detemination of colour fastness to perspiration (acidic & alkaline)	ISO 105 - E04: 2013 AATCC Test Method 15:2013	**Perspirometer** Manufacturer SDL ATLAS Model M231 S.Ns 918D0432A1,A2/918CO257A1, A2 918DO433 A1,A2 **Conditioning Cabinet** Manufacturer MMM-Group Model CLC222 ,S.N 082602 **Incubator** Model STF-N120LT,S.N R282066 **Balance** Model HR200 ,S.N 12321824 **PH meter** Model Martini Mi 180,SN:736306
	Determination of colour fastness to light	ISO 105 B02:2014 AATCC Test Method 16:2012	**Light Fastness Equipment** Model CI3000+Atlas ,S.N 20386 **Xenon Arc Lamp** Manufacturer Heraeus, Germany Model 150 S ,S.N 7101D5-05

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
All kinds of textile materials	Determination of colour fastness to water	ISO 105 E01:2013 AATCC Test Method 107:2013	**Perspirometer** Manufacturer SDL ATLAS Model M231 S.Ns 918D0432A1,A2/ 918CO257A1, A2 918DO433 A1,A2 **Incubator** Model STF-N120LT ,S.N R282066 **Balance** Model HR200 ,S.N 12321824 **Conditioning Cabinet** Manufacturer MMM-Group Model CLC222 ,S.N 082602
	Determination of Colour fastness to dry cleaning	ISO 105 D01: 2010 AATCC Test Method 132:2013	**Launder-ometer** Model LHT , S.N LO-2983
any textile fabric	Determination of water resistance . Rain test	AATCC Test Method 35:2013	**Rain Resistance Tester** Model M230D ,S.N P510375 **Conditioning Cabinet** Model CLC222 ,S.N 082602 **Balance** Model HR200 ,S.N 12321824

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)

Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B 1st accreditation date : October 3, 2007 Issue No. (3): October 24, 2016 Valid to June 13, 2020

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
All kinds of textile materials	Fibers analysis • Qualitative (flame, microscope) • Quantitative (chemical analysis)	AATCC 20A:2014	**Balance** Manufacturer METLER, Swiss Model AG245 ,S.N 1118500780 **Drying Oven (Binder)** Model ED115 ,S.N 08-43196 **Thermometer** Code TSS-DF-34/1 & TSS-DF-34/2 **Orbital Shaker** Manufacturer Spain (Bunsen) Model AO-400 , S.N 27824 **Hot Plate** Manufacturer Spain (Bunsen) Model 1541-e ,S.N 27807 **Digital Micrscope** Model:video analyser – Italy SN:2169
	Quantitative analysis of binary textile fibre mixtures	EN 96/73/EC:1996 EN 73/44/EEC:1973	

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)
Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B 1st accreditation date : October 3, 2007 Issue No. (3): October 24, 2016 Valid to June 13, 2020

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
All kinds of textile materials	Determination of Color fastness to domestic and commercial laundering.	ISO 105 C08:2010 ISO 105 C09:2003	**Launder-ometer** Model LHT , S.N LO-2983 **Gyrowash** Model 81520N, S.N 815/20/08/1010 **Balance** Model AG245 ,S.N 1118500780
	Determination of Color fastness to sea water	ISO 105 E02:2013 AATCC 106:2013	**Perspirometer** Model M231 S.Ns 918D0432A1,A2 - 918CO257A1,A2 - 918DO433 A1,A2 **Drying Oven** Model STF-N120LT ,S.N R282066 **Balance** Model HR200, S.N 12321824
All kinds of textile materials	Determination of Color fastness to chlorinated water	BS EN ISO 105 E03:2010 AATCC 162 :2011	**Launder-ometer** Model LHT ,S.N LO-2983 **Gyrowash** Model 81520N S.N 815/20/08/1010 **Balance** Model AG245 S.N 1118500780
	Determination of Color fastness to hot pressing	ISO 105 X11:1996 AATCC 133:2013	**Scorch Tester** Model 312A ,S.N 2436 **Conditioning cabinet** Model CLC222 ,S.N 082602

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)
Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B 1st accreditation date : October 3, 2007 Issue No. (3): October 24, 2016 Valid to June 13, 2020

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
All kinds of textile materials	Determination of Color fastness to rubbing (small areas)	ISO 105- X16:2016 AATCC 116:2013	**Rotary Crockmeter** Model M238E ,S.N 728C0048 **Conditioning Cabinet** Model CLC222 ,S.N 082602
	Determination of Color fastness to phenolic yellowing	ISO 105- X18:2007	**Perspirometer** Model M231, S.Ns 918D0432A1,A2 - 918CO257A1,A2 -918DO433 A1,A2 **Drying Oven** Model U40 ,S.N 480871
	Determination of resistance to surface wetting (spray test)	ISO 4920:2012 AATCC 22:2014	**Spray Tester** Manufacturer JAMES H.HEAL ,UK Model 513 ,S.N 513/08/4115
All kinds of textile materials	Determination of flammability of clothing textiles	CPSD-SL-01610-MTHD:2010 16 CFR 1610 (CS-191-53) Derived from 16 CFR 16130 and 16 CFR 1631	**Flammability Tester** Model M233G,S.N 21E0038 **Drying Oven** Model STF-N120LT S.N R282066 **Alumnium Test chamber** Flattening frame Steel plate Desicator
	Determination of flammability of small carpets/carpets and rugs	16 CFRB1630 & 16 CFR 1631-2015	

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)
Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B 1st accreditation date : October 3, 2007 Issue No. (3): October 24, 2016 Valid to June 13, 2020

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Natural , synthetic, blend (Knitted fabric, garment)	Determination of dimensional change in washing and drying	ISO 5077:2008 ISO 6330:2012 AATCC 135:2015 AATCC 150:2012	**Conditioning Cabinet** Model Climatic S.N M07110733 **Laundary Machine -Wascator(Front Feed)** Model FOM 71CLS S.N 9867601163 – 00520/126003 **Drying (Tumble Dryer)** Model Heavy Duty S.N MT190713 Model : IS60V (EX) PAI S.N:802280129 **Whirlpool Gold Top Feed Washing M/C** Model 3XGSC9455JQ4 S.N CS3101250 – CS2103754 **Balance** Manufacture : HI-LUX S.N:M2781 **Whirlpool Dry Clean** Manufacture : Whirlpool.USA Model:3RLEC8600RL0 S.N.:SNMT1901713
	Determination of spirality after laundaring	AATCC 179:2012 ISO 16322-2 :2005 ISO 16322-3 :2005	
	Determination of appearance of Fabrics after repeated laundering	AATCC 124:2014	
	Standard Specification for tolerances for knitted fabric	ASTM 3887:2008	**Conditioning Cabinet** Manufacturer Medsan,Italy Model Climatic S.N M07110733 **Pick glass** **Metric ruler**

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)
Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B 1st accreditation date : October 3, 2007 Issue No. (3): October 24, 2016 Valid to June 13, 2020

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Natural , Synthetic, Blend (Knitted fabric, garment)	(Determination of the elasticity) Stretch properties of fabric woven (from stretch yarns)	ASTM D 3107:2015	**Tensile tester** Model 710 Titan2 S.N 710/ 08/1097 Model M250-2.5KN S.Ns 250-797 & S.N 25672
	Determination of maxmium force to Seam rupture	ISO 13935-1:2014 ISO 13935-2:2014	**Tension Testing Machine** Model M250-2.5KN S.Ns 250-797 & S.N 25672 Model 710 Titan2 S.N 710/ 08/1097
	Determination of the slippage resistance of yarns at a seam	ISO 13936-1:2004 ISO 13936-2:2004 ASTM 434 : 1995	

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Natural , Synthetic, Blend (Knitted fabric, garment)	Determination of Zips strength	BS 3084:2006 Test(1,2,3,7,8)	**Universal Strength Tester** Model 710 Titan2,S.N 710/ 08/1097
	Detrmination of the elasticity of fabrics	BS 4952:1992 BS EN 14704-1: 2005	**Universal Strength Tester** Model 710 Titan2, S.N 710/ 08/1097
	Mechnical hazard testing for Soft line Components (Tension & torque testing of trim Components) (for zipper)	16CFR 1500.51-53 -1500.48-49:2012 16CFR 1501:2012	**Universal Mechanical Safety Tester** Model Imada FB – 30 K S.N Imada 226185 **Torque gauge** Model : 9BTG-S S.N:501964Y
Natural , synthetic, blend (Sliver ,roving, yarn)	Determination of Linear density of yarn (yarn number)by skein method)	ASTM D-1907:2012	**Auotmatic Yarn Counter** Model Autosorter 5, S.N 1128080127
	Determination of Tensile properties of yarns by the single-strand method	ASTM D-2256:2015	**Strength measurment system** Model UTJ-TE,S.N 010931179
	Determination of twist	ASTM D-1422:2015 ASTM D-1423:2008	**Electronic Twist Tester** Model Mesdan 2531C, S.N 167
	Measuring of irregularity & imperfection (un evenness of textile strands)	ASTM D-1425:2014	**Capacitance eveness tester** Model SX ,S.N 13001050890003

(*) Ne: English Count
(*) TPM : Turn per meter

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)
Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B **1st accreditation date : October 3, 2007** **Issue No. (3): October 24, 2016** **Valid to June 13, 2020**

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Natural , synthetic, blend (Woven fabrics)	Determination of breaking force & elongation (strip method)	ASTM D-5035:2015	**Tensile Tester** Model DIN 3000, S.N 1007
	Determination of fabric mass per unit area using small samples (fabric weight)/ yarn count	ASTM 1059:2013 ASTM 3776/3776M:2013 EN 12127:1998	**Yarn Count & Weight Analyzer** Model TE 135 S S.N 156-17901969 **Balance** Model TE 153 S S.N 156-17901969

Schedule of Accreditation
Issued to
Textile Services Sector (TSS)
Textile Consolidation Fund (TCF)

Gamila Bouhred St.,- El Siouf -Alexandria – Egypt

Schedule No.: 20663B **1st accreditation date : October 3, 2007** **Issue No. (3): October 24, 2016** **Valid to June 13, 2020**

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Natural , synthetic, blend (Woven fabrics)	Determination of Fabric tensile strength (Grab method)	ISO 13934 -2:2014 ASTM D-5034 -09 (2013)	**Universal Tensile Tester** Model Tensolab , S.N 1007
	Determination of fabric propensty to surface fuzzing and to pilling	ISO 12945-1:2001	**Pilling Box Tester** Model M227B , S.N 668E0003
	Determination of tear strength (ballistic pendulum method)	ISO 13937-1:2000 ASTM D-1424:2013	**Elmendorf Apparatus** Model FX 3750 , S.N 2960207
	Determination of bursting strength	ISO 13938-1:1999 ASTM D -3786/3786M:2013	**Bursting Tester** Model M229 ,S.N 229E0014
	Determination of the abrasion resistance	BS EN ISO 12947-2:1999 ASTM D-4966-12(2016)	**Martindale Abrasion and Pilling Tester** Model Martindale , S.N 223
	Ability of fabric to form pills	ISO 12945-2:2000 ASTM D- 4970:2016	

Schedule of Accreditation

Textile Metrology Department
National Institute for Standards (NIS)
Tersa St., El Haram
Giza –Egypt

Schedule No.: 209011B **Issue No. 1** **Date of accreditation: June 28, 2011** **Valid to : June 27, 2015**

Materials / Products Tested	Types of Tests / Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Textiles	Color fastness to perspiration	ES 362:2005	**Perspirometer** Manufacturer KMS Colortech Service Co., Ltd , Hong Kong Model psp-Perspirometer kit S.N 090181
	Color fastness to rubbing (wet & dry)	ES 237:2005	**Electronic Crockmeter** Manufacturer SDL , UK Model SDL 23813 , S.N 15138/31
	Determination of number of threads per unit length	ES 294:2008	**Zoom Lens (Magnifier Lens)** Code No. NIS/TML/E/01
	Determination of mass per unit area (weight)	ES 295-3:2008	**Climatic Chamber** Manufacturer SDL , UK Model LT 601 , S.N 00198 **Digital Electronic Balance** Manufacturer Sartorius , Germany Model Bp221S ,S.N 007290
	Determination of maximum force & elongation at maximum force using the strip method	ES 1506-1:2007	**Tensile Strength Tester** Manufacturer SDL ATLAS , UK Model H5KT , S.N 0432

Schedule of Accreditation
issued to
Textile Testing Laboratory
Chemistry Administration (Nasr City)
Free Zone- Nasr City
Cairo- Egypt

Schedule No.: 210024B **1st. accreditation date: June 28, 2011** **Issue No. 2: 28 June, 2015** **Valid to : June 27, 2019**

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Synthetic Fiber	Determination of the fiber blend composition of wool or polyester mixed with cellulosic fibers or silk	ASTM D 629:2012 Test Method No. 5	**Balance** Manufacturer OHAUS, USA Model E02140 ,S.N 1120050222 **Oven** Manufacturer Jero TECH, Korea Model ON-12G ,S.N N109223 **Water Bath** Manufacturer Lab.Companion, Korea Model BW-20G S.N N 059152
	Determination of the fiber blend composition of acrylic fiber or linear spandex mixed with nylon or polyester	ASTM D 629:2012 Test Method No. 10	

Schedule of Accreditation
Textile Testing Laboratory
Chemistry Adminstartion (Alexandria)

12, Dar El-Salam St., Gate No.14

Schedule No. : 211013B **Issue No. 1:December 6, 2012** **Valid to : December 5, 2016**

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Techniques Used / Standard Specifications	
Textile blends **- Spandex mixed with nylon**	Assay of linear spandex or acrylic fiber mixed with nylon or polyester	ASTM D629 : 2008 Test method No: 10	**Electronic Balance** Manufacturer Satorius , Germany Model I1700 , S.N 35110207 **Drying Oven** Manufacturer Wt-binder , Germany Model F53 , S.N 85105 **Water-Bath** Manufacturer Comfort S.N 65990000A
Textile blends **- Cotton mixed with polyesters**	Assay of polyester mixed with cellulosic fibers	ES 4839 :2005 No: 10	

Schedule of Accreditation
Issued To
El -Hesn Textiles Laboratory
El-Hesn Textiles Company
Industrial Zone B2 - 10th Ramadan City
Cairo – Egypt

Schedule No.: 211019B **1st accreditation date : June 14, 2012** **Issue No. (2): May 20, 2016** **Valid to : June 14, 2020**

Materials / Products Tested	Types of Tests / Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Woven & Knitted Fabrics	Dimensional changes after repeated home laundering	AATCC 135:2014	**Washing Machine** Manufacturer Whirlpool Gold S.N CM4504312 ,Model 365 **Tumble Dryer** Manufacturer White Westinghouse , USA S.N XD92307199 **Balance** Manufacturer Sartorius Model 124000/f2 S.N 86010762792 **Ruler** Manufacturer AATCC Code DS-13506
	Color fastness to crocking	AATCC 8:2013	**Crockmeter** Manufacturer SDL -ATLAS , UK Model M238BB ,S.N 718D00049 **Balance** Manufacturer Mettler Toledo , Switzerland Model PB303-S S.N 7293273

Schedule of Accreditation
Issued To
El -Hesn Textiles Laboratory
El-Hesn Textiles Company
Industrial Zone B2 - 10th Ramadan City
Cairo – Egypt

Schedule No.: 211019B **1st accreditation date : June 14, 2012** **Issue No. (2): May 20, 2016** **Valid to : June 14, 2020**

Materials / Products Tested	Types of Tests / Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Woven & Knitted Fabrics	Determination of color fastness to laundering accelerated	AATCC 61:2013 [Test Method 1A , 2A , 3A]	**Launderometer** Manufacturer SDL-ATLAS, USA S.N LEF-4454/F51 **Balance** Manufacturer Mettler Toledo , Switzerland Model PB303-S ,S.N1127293273
	Color fastness to perspiration	AATCC 15:2013	**Perspiration Tester** Manufacturar SDL-ATLAS ,UK Model MN 231 , S.N 918G – 0083-A **Incubator** Manufacturer Gallen kamp, U.K. Model IEF097 , S.N GS97/11/325 **pH meter** Manufacturer Mettler Toledo -Gmbh, Switzerland Model MP225 ,S.N 204809M **Balance** Manufacturer Mettler Toledo, Switzerland Model PB303-S,S.N 1127293273

Schedule of Accreditation
Issued To
El -Hesn Textiles Laboratory
El-Hesn Textiles Company
Industrial Zone B2 - 10th Ramadan City
Cairo – Egypt

Schedule No.: 211019B **1st accreditation date : June 14, 2012** **Issue No. (2): May 20, 2016** **Valid to : June 14, 2020**

Materials / Products Tested	Types of Tests / Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
Woven & Knitted Fabrics	Color fastness to water	AATCC 107:2013	**Perspiration Tester** Manufacturar SDL- ATLAS ,UK Model MN 231 , S.N 918G – 0083-A **Incubator** Manufacturer Gallenkamp, U.K. Model IEF097 , S.N GS97/11/325 **Balance** Manufacturer Mettler Toledo , Switzerland Model PB303-S ,S.N 1127293273

CERTIFICATE OF ACCREDITATION

This is to certify that

INTERTEK (MAURITIUS) LTD

Testing Laboratory No.: T003

is accredited by the ***Mauritius Accreditation Service (MAURITAS)***
for the following field:
TEXTILES AND GARMENTS TESTING
as per scope of schedule of accreditation

THIS LABORATORY MEETS THE REQUIREMENTS OF ISO/IEC 17025

This accreditation demonstrates technical competency for a defined scope and the operation of a laboratory quality management system and shall remain in force subject to continuing compliance with MAURITAS accreditation criteria, ISO/IEC 17025:2005 and any further requirements specified by MAURITAS

Issue Date: 26 July 2016 **Director of MAURITAS**

This certificate is valid only when accompanied by its schedule of Accreditation.

FIRST CERTIFICATE ISSUED ON **17 JULY 2008**

Schedule of Accreditation
Laboratory No T003

Permanent Address of laboratory:
Intertek Mauritius Ltd
2, Palmerstone Road
Phoenix
Mauritius

Postal Address:
Intertek Mauritius Ltd
2, Palmerstone Road
Phoenix
Mauritius

Tel No.: (230) 698 0758/698 0343

Fax No.: (230) 697 5402

E-mail: reception.mauritius@intertek.com

Technical Signatories:
Mrs. Vandana Jutton
Ms. Parmeswaree Teeluckchand (*for Azo colorants only*)

Issue No: 02

Expiry Date: 25 July 2020

	Materials/Products Tested	***Types of tests/Properties Measured*** ***Range of Measurement***	***Specification/Standard methods or techniques used***
I.	***Textiles and Garments Testing***		
1.	Textile and Garments	CF to Washing/ Laundering	ISO 105 C06:2010/AATCC 61:2013
		CF to Water	ISO 105 E01:2013/AATCC 107:2013
		CF to Crocking/Rubbing	ISO 105 X12:2001/AATCC 8:2013
		CF to Perspiration	ISO 105 E04:2013/AATCC 15:2013
		CF to Light	ISO 105 B02:2013/ AATCC 16:2012
		CF to Sea Water	ISO 105 E02:2013/AATCC 106:2013
		CF to Dry Cleaning	ISO 105 D01:2010/AATCC 132:2013

		CF to Chlorine Bleach	AATCC TS-001
		CF to Non-Chlorine Bleach	AATCC TS-001
		CF to Chlorinated Water	ISO 105 E03:2010
		Grey Scale for assessing change in colour	ISO 105 A02:1993
		Grey Scale for assessing staining	ISO 105 A03:1993
		Dimensional Stability to Washing	ISO 6330:2012/ISO 5077:2007/AATCC 135:2012/AATCC 150:2012
		Spirality	AATCC 179:2012/ ISO 16322-2:2005/ ISO 16322-3:2005
		Tensile Strength	ISO 13934-2:2014 (Grab)/ASTM D5034:2013 (Grab test G)
		Tearing Strength	ISO 13937-1:2000/ASTM D1424:2013
		Seam Slippage	ISO 13936-1:2004 (Fixed seam)
		Bursting Strength	ISO 13938-2:1999 (Pneumatic)
		Abrasion Resistance	BS EN ISO 12947-2:1998
		Resistance to Pilling Pilling Box Method	ISO 12945-1:2000
		Resistance to Pilling Modified Martindale	ISO 12945-2:2000
		Fabric Weight/Unit Area	BS EN 12127:1998/ASTM D3776(C) :2013
		Flammability	16 CFR 1610:2008

		Fibre Composition: - Mixture of certain Protein and other fibres	ISO 1833-4:2006
		- Mixture of Viscose, Lyocell, Modal and Cotton Fibres	ISO 1833-6:2007
		- Mixture of Polyamide and other Fibres	ISO 1833-7:2006
		- Mixture of Cellulose and Polyester Fibre	ISO 1833-11:2006
		- Mixture of Acrylic, Elastane and other Fibres	ISO 1833-12:2006
		Fibre Composition	AATCC 20/20A:2013
		pH	ISO 3071/AATCC 81:2005
		Fabric Count	ISO 7211-2 :1984
		Released Formaldehyde	ISO 14184-2 :2011/AATCC 112 :2008
		Pull Test	BS EN 71-1 :2011
		Formaldehyde	ISO 14184-1:2011
		Detection of the use of certain Azo colorants accessible with and without extracting the fibres	BS EN 14362-1:2012
		Detection of the use of certain Azo colorants which may release 4-aminoazobenzene	BS EN 14362-3:2012

Issued by the Mauritius Accreditation Service (MAURITAS)

Date: 30 September 2016

…….
Director of MAURITAS

CERTIFICATE OF ACCREDITATION

This is to certify that

MSB-FIBRE TECHNOLOGY LABORATORY

Testing Laboratory No.: T012

is accredited by the ***Mauritius Accreditation Service (MAURITAS)***
for the following testing field:
TEXTILES AND GARMENTS TESTING
as per scope of schedule of accreditation

THIS LABORATORY MEETS THE REQUIREMENTS OF ISO/IEC 17025

This accreditation demonstrates technical competency for a defined scope and the operation of a laboratory quality management system and shall remain in force subject to continuing compliance with MAURITAS accreditation criteria, ISO/IEC 17025:2005 and any further requirements specified by MAURITAS

Issue Date**:** 12th August 2014 Director of MAURITAS

This certificate is valid only when accompanied by its schedule of Accreditation.

FIRST CERTIFICATE ISSUED ON **12 AUGUST 2010**

Schedule of Accreditation
Laboratory No.: T012

Permanent Address of Laboratory:
Mauritius Standards Bureau
Villa Road
MOKA

Tel No.: (230) 433 3648
Fax No.: (230) 433 5051
E-mail: msb@intnet.mu

Postal Address:
Mauritius Standards Bureau
Villa Road
MOKA

Technical Signatories:
- Mr R.R.Gunnoo
- Mrs C.Jeebun

Issue No: 01
Expiry Date: 11 August 2018

	Items, Materials or products tested	***Specific Tests or Properties measured range of measurement***	***Specification, Standard methods or Technique used***
1.	Fabric and yarn	Colour Fastness to water	ISO 105 E01
2.	Fabric and yarn	Colour Fastness to perspiration	ISO 105 E04
3.	Fabric and yarn	Colour Fastness to rubbing	ISO 105 X12
4.	Fabrics	Determination of fabric propensity to surface fuzzing and to pilling	ISO 12945-1
5.	Single spun yarns	Determination of twists in single spun yarns	ISO 17202
6.	Toys	Features protruding 50 mm or more from surface of toy Features protruding 50 mm or less from the surface of toy Full or partial moulded head masks Soft filled toys	BS EN 71-2

Issued by the Mauritius Accreditation Service (MAURITAS)

Date: 12 August 2014

……
Director of MAURITAS

CERTIFICATE OF ACCREDITATION

In terms of section 22(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 23(1), (2) and (3) of the said Act, I hereby certify that:-

CAPE OF GOOD HOPE WOOL COMBERS (PTY) LTD

Co. Reg. No.: 1947/024568/07

Facility Accreditation Number: **T0524**

is a South African National Accreditation System accredited facility
provided that all conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying schedule of accreditation, Annexure "A", bearing the above accreditation number for

PHYSICAL WOOL TESTING

The facility is accredited in accordance with the recognised International Standard

ISO/IEC 17025:2005

The accreditation demonstrates technical competency for a defined scope and the operation of a quality management system

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant accreditation symbol to issue facility reports and/or certificates

Mr R Josias
Chief Executive Officer

Effective Date: 07 November 2016
Certificate Expires: 08 November 2021

ANNEXURE A

SCHEDULE OF ACCREDITATION

Facility Number: **T0524**

Permanent Address of Laboratory:
CAPE OF GOOD HOPE WOOL COMBERS (PTY) LTD
5 Kelvin Street
Alexander Industrial area
Uitenhage
Eastern Cape
6229

Technical Signatories:
Mr E Van Rooyen

Postal Address:
PO Box 85
Uitenhage
Eastern Cape
6230

Nominated Representative:
Mr E Van Rooyen

Tel: (041) 992 3412
Fax: (041) 992 1519
E-mail: Elton.vanrooyen@cghwc.co.za

Issue No.: 04
Date of Issue: 16 August 2016
Expiry Date: 08 November 2021

Material or Products Tested	Type of Tests/ Property measured, Range of measurement	Standard Specifications, Techniques / Equipment Used
Wool Tops		
	Fibre Diameter (µm)	IWTO 6 - Method of test for the Determination of the Mean diameter of Wool Fibres in Combed Sliver using the Airflow apparatus.
		IWTO - Regulations for the testing of Wool Slivers for Mean Fibre Diameter and Mean Fibre length.
	Fibre length (mm) and Distribution	IWTO 17 - Determination of Fibre length and Distribution parameters.
		IWTO - Regulations for the testing of Wool Slivers for Mean Fibre Diameter and Mean Fibre length.
	Condition testing (Calculated Invoice Mass only)	IWTO 34 - Determination of Oven-Dry Mass and Calculated Invoice Mass & Merchantable Mass of Wool Tops.
		IWTO - Conditioning and Testing Regulations for Wool Tops.

Original Date of Accreditation: 07 November 2011

ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

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Accreditation Manager

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ETHIOPIAN NATIONAL ACCREDITATION OFFICE

ETHIOPIAN NATIONAL ACCREDITATION OFFICE

ACCREDITATION CERTIFICATE

Ethiopian Conformity Assessment Enterprise
Addis Ababa
Ethiopia
Facility Accreditation No: T0001

is accredited by the Ethiopian National Accreditation Office (ENAO) to perform tests in accordance with the attached *Scope of Accreditation* in the field of

Microbiological, Chemical, Mechanical, Electrical and Textile testing

The facility is accredited in accordance with the requirements of ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*. The accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system. While this certificate remains valid, the Accredited Facility named above is authorized to use the relevant ENAO accreditation symbol to issue test reports and/or certificates.

Effective Date: 18 May 2016
Certificate Expires: 14 April 2017

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
ETHIOPIAN NATIONAL ACCREDITATION OFFICE

Ato Araya Fesseha
Director General
Ethiopian National Accreditation Office

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ETHIOPIAN NATIONAL ACCREDITATION OFFICE

SCOPE OF ACCREDITATION

Facility Accreditation No: T0001

Permanent Address of Laboratory:	Technical Signatories:
ECAE: Microbiological Laboratory, Woreda 6, Bole Sub-City, Addis Ababa. Postal Address: PO Box 11145, Woreda 6, Bole Sub-City, Addis Ababa. Tel: +251 (0)11 646 0683 Fax: +251 (0)11 645 9720 Email: info-tld@eca-e.com	Solomon Aysanew for Item 1 to 3 Wondemu Kebede , Abel Anberber and Hawine Debela for Item 4 Hawine Debebla ,Zeryiun Abebe and Abeba Habtu for Item 5 Ermias Ali and Belete Eshetu for Item 6 Amsalu Enyew and Yohannis Kedir for item 7 and 8 Worku Yimer for item 7 Daniel Ketema and Tarekegn Mengesha for item 8 Mulugeta Mehari, Tatek Shiferaw and Birahanu Sisay for item 9 Zemene Mulualem, Zerihun Fanosie and Ashenafi Abebe for item 10 Nominated Representative: Amsalu Enyew Management Signatory: Gashaw Tesfaye Original date of Accreditation 15 November 2012 Issue No: 5 Date of issue: 18 May 2016 Expiry date: 14 April 2017

Field of Testing	Item	Sample/ Material Tested	Test Method	Type of tests/properties measured/ range of measurements
Microbiological testing	1	Food	ISO 4833	Total Plate count
		Food	ISO 21527-1&2	Enumeration of yeast and mold
		Food	ISO 4831	Detection & enumeration of coli forms (MPN)
	2	Water	ISO 6222	Total Plate count

Araya Fesseha
Director General

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		Water	ISO 9308-1	Detection and enumeration of coli forms, thermo tolerant coli forms and E.coli
	3	Food and Water	ISO 6579	Detection of salmonella
		Food and water	ISO 6888-1	Enumeration of coagulase positive staphylococci
Chemical testing	4	Honey	Harmonized method of International Honey commission (2002) (Abbe refractometer)	Moisture Content
			Harmonized method of International Honey commission (2002) clause 8	Water insoluble matter
			Harmonized method of International Honey commission (2002) clause 3	Ash content
			Harmonized method of International Honey commission (2002) clause 4.2	pH and free acidity
	5	Oil Seed	ES 25:2001	Moisture Content
			ES 24: 2001	Oil Content
			ES 26: 2001	Free Fatty Acid
	6	Cement	ES 1176-2:2005	Loss on ignition
			ES 1176-2:2005	Sulphate trioxide
			ES 1176-2:2005	Insoluble Residue
Mechanical Testing	7	Cement	ES 1176-1:2005	Compressive Strength
			ES 1176-3:2005	Setting Time
			ES 1176-3:2005	Soundness
	8	Steel for the reinforcement of concrete-ribbed bar	ISO 15630-1:2010	Tensile Strength
			ISO 15630-1:2010	Yield Strength
			ISO 15630-1:2010	Elongation
			ES ISO 6935-2:2011	Dimension
			ES ISO 6935-2:2011	Mass per length
Electrical Testing	9	Insulated Cables	IEC 60228:2004-11	Conductor resistance
Textile Testing	10	Fiber ,Yarns, fabrics, Garments and textile products	IS 667:1981 ES ISO 1833:2012	Fiber identification and material composition

Remark: The previous facilities accreditation numbers T0002 and T0003 are merged to T0001.

Araya Fesseha
Director General

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ETHIOPIAN NATIONAL ACCREDITATION OFFICE

ETHIOPIAN NATIONAL ACCREDITATION OFFICE

ACCREDITATION CERTIFICATE

ETHIOPIAN TEXTILE INDUSTRY DEVELOPMENT INSTITUTE

Addis Ababa
Ethiopia

Facility Accreditation No: **T0007**

Is accredited by the Ethiopian National Accreditation Office (ENAO) to perform tests in accordance with the attached *Scope of Accreditation* in the field of

Textile testing

The facility is accredited in accordance with the requirements of ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*. The accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system. While this certificate remains valid, the Accredited Facility named above is authorized to use the relevant ENAO accreditation symbol to issue test reports and/or certificates.

Effective Date: 08 Sept 2016
Certificate Expires: 19 June 2018

Ato Araya Fesseha
Director General
Ethiopian National Accreditation Office

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ETHIOPIAN NATIONAL ACCREDITATION OFFICE

SCOPE OF ACCREDITATION

Facility Accreditation No: **T0007**

Permanent Address of Laboratory: **Address:** Ethiopian Textile Industry Development Institute Addis Ababa P.O.Box: 5637 Addis Ababa Ethiopia Tel: +251(0)11439951 Fax: +251(0)114395003/19 Email: ethio.tidi.2002@gmail.com	Management Signatory: Demlie Asratie Technical Signatories: FIkadu Alemu, : Smegnew Mersha, : Ewnetu Yitayew : Wehib Mekonnen Nominated Representative: Demlie Asratie Original date of accreditation: 20/12/2013 Issue NO: 5 Date of issue: 08/09/2016 Expiry date: 19/06/2018

Field of Testing	Item/ Product	Sample/ Material tested	Test Method	Type of tests/ Properties measured/ Range of measurement
Textile	Cotton	Lint Cotton	ASTM D5867-05	Strength
				Upper half mean length
				Uniformity index
				Micronaire
				Yellowness (+b)
				Reflectance (+Rd)

Araya Fesseha
Director General

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