The ICAC Recorder

Potential Employment in the Textile-Apparel Industry in Sub-Saharan Africa

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The textile and apparel industry provide a significant source of income and employment in many countries, particularly in Asia. In the last decade, Southeast Asian countries such as Bangladesh and Vietnam have emerged as powerful manufacturing and exporting countries of textiles and garments. However, these countries are highly dependent on imported raw materials, such as cotton, because domestic production only supplies 1% of their textile industry needs.

Figure 1. Textile and Clothing Exports from Sub-Saharan Africa

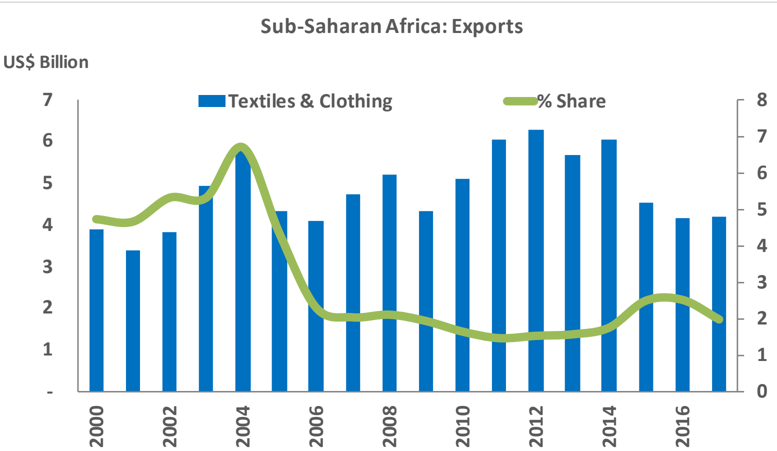

Figure 2. Textile and Clothing Exports from Ethiopia

Source: WITS, World Bank

In sub-Saharan Africa, cotton-producing countries export about 90% of their fibre. Cotton is produced by small-scale farmers; whose average plot size is approximately 2.4 hectares. According to the latest data in ICAC's 2017 report on production practices, a total of 3.6 million farmers grew cotton during the 2016/17 season. On the other hand, cotton consumption in sub-Saharan Africa has remained steady over the last two decades, with an average annual consumption of 240,000 tonnes between 1999 and 2018. Currently, Ethiopia, Tanzania, Nigeria and South Africa are the major cotton-consuming countries in sub-Saharan Africa.

According to figures from the World Bank, from 2008-2017, exports of textiles and garments from sub-Saharan Africa only accounted for 2% of total export revenue, which reached US$212 billion in 2017. However, in recent years, governments in countries like Ethiopia — the second-most populous nation of the region — have encouraged diversifying their export revenues by driving key sectors, including textiles and apparel. In 2012, Ethiopia exported US$71.2 millions of textiles and garments, a number that grew to US$ 94.1 million by 2016, a 32% increase. Similarly, textile and garment exports increased its share of total exports from 2.46% to 5.46% during the same period.

The Ethiopian cotton sector currently meets 70% of the domestic industry's raw material requirements. Cotton consumption in Ethiopia is expected to increase in coming years as a result of expansion in the textile industry due to foreign investment from countries such as China, India, and Turkey, among others.

According to the Ethiopian Investment Commission (EIC), several foreign companies have committed to investing about US$2 billion in industrial parks to accelerate textile production and garment manufacturing.

According to the 2016 ICEX Report, 'Ethiopian textile products have free access to the European Union and US market through

Figure 3. New textile mills in Ethiopia

Figure 4. Garments in Africa

Figure 5. Garments factory in Bangladesh

various global agreements. The textile sector is part of the Government's Growth and Transformation Plan (GTP), which was established in 2010 and expanded in a second version, GTP II, with all the objectives set out for 2020. The purpose of this plan is transitioning Ethiopia from an agriculture-based economy.

Potential Employment

The textile-apparel industry is a significant element of the economy, in both financial and social terms, as it is a major source of employment and foreign exchange. Data from major textile producing countries show that the textile and garment industry provides tremendous scope for employment generation. India has a strong textile industry. According to the Indian Ministry of Textiles, the textile and garment sector is the second-largest job provider in the country. In its most recent report, the Ministry of Textiles said that the textile industry provides direct employment to 45 million people, and indirect employment to 60 million more. Because cotton accounts for 60% of the raw material used by the textile industry, it has been estimated that the production of cotton textiles and garments generated about 27 million jobs and supported 36 million people with indirect employment, likely in the transportation, trade and retail sectors. Given that India produces about 5.3 million tonnes of cotton, it can be inferred that one tonne of cotton fibre provides direct full-time employment to about five people.

Furthermore, Bangladesh's textile-apparel sector provided direct and indirect employment to 4.5 million and 1.5 million people, respectively. In 2016, the consumption of cotton fibre in Bangladesh reached 1.4 million tonnes. Therefore, it can be deduced that one tonne of cotton fibre employs about four people.

Closer to home, in South Africa, the textile-apparel sector generated about 120,000 jobs. Cotton consumption is approximately 22,000 tonnes, which would imply that one tonne of cotton employs at least about five people.

If all cotton-producing countries in the region fully develop their textile and apparel industry, it could generate slightly more than a six-fold increase in jobs. West African countries — where 75% of the cotton is currently produced and almost entirely exported — would have the most significant impact on the African continent's economy. As cotton consumption in southeast Africa is about 32%, job generation could increase from 570,000 to 1.8 million people.

A critical analysis points out high employment potential in the textiles and apparel sector, compared to ginning,

Table 1. Potential Employment in the Textile and Apparel Sector in Southern and Eastern Africa

	'000 tonnes			Employment (Million)	
Country	Production	Mill Use	Exports	Existing	Additional
Sudan	109	16	82	0.06	0.33
Zambia	44	1	49	0	0.2
Zimbabwe	50	7	38	0.03	0.15
Tanzania	93	38	27	0.15	0.11
Mozambique	24	1	22	0	0.09
South Africa	39	23	22	0.09	0.09
Uganda	27	3	20	0.01	0.08
Ethiopia	38	52	NA	0.21	NA
TOTAL	**444**	**142**	**271**	**0.57**	**1.08**

Table 2. Potential Employment in the Textile and Apparel Sector in West Africa

	'000 tonnes			Employment (Million)	
Country	Production	Mill Use	Exports	Existing	Additional
Burkina Faso	305	5	294	0.02	1.18
Mali	305	5	283	0.02	1.13
Benin	278	3	256	0.01	1.02
Côte d'Ivoire	185	5	174	0.02	0.7
Cameroon	109	4	93	0.02	0.37
Togo	50	3	44	0.01	0.18
Chad	26	2	27	0.01	0.11
Nigeria	51	65	7	0.26	0.03
TOTAL	**1309**	**92**	**1178**	**0.37**	**4.71**

Figure 6. Hand spinning in Africa

spinning and weaving. While the employment potential from the possible complete use of domestically produced cotton could be more than 4.7 million persons in West Africa, at least 1 million people could benefit from direct employment in southern and eastern Africa. Combined, countries such as Burkina Faso, Mali, Benin, Cote d'Ivoire, Cameroon and Sudan export more than 1 million tonnes of raw cotton annually. The total cotton produced in Burkina Faso, Mali and Benin has the potential to generate 3.3 million jobs, with each country getting the benefit of at least 1 million full-time jobs if the entire cotton crop is consumed locally.

Challenges

Africa has generated interest from the international textile and garment industry. The continent has abundant cheap labour, most countries have free trade agreements, and the textile industry can integrate the production of cotton fibre all the way through the manufacturing of the finished garments. In the last decade, the population of sub-Saharan Africa has increased by 228 million people, and it currently exceeds one billion inhabitants. The United Nations forecast that the world's population will increase from 7.9 billion in 2019 to 9.8 billion in 2050,

Figure 7. Quality assessment on HVI in Africa

Figure 8. Modern ginning mill in Africa

Figure 9. Cotton trading in Africa

Figure 10. Demonstration of a handloom unit in Africa

with sub-Saharan Africa accounting for more than half of global population growth. Additionally, according to the International Monetary Fund (IMF), the region's GDP grew by an average of 4.1% in the last decade and it is forecast to grow at an average rate of 3.9% over the next five years.

However, the region faces many challenges before it can become the new world's supply hub for textiles and garments. The countries in the region should work on the development of policies favouring new investments in infrastructure, training, implementation of environmental policies, financing programs, and promotion of exports through the signing of new trade agreements.

Another major challenge for the textile-apparel industry in Africa is the importation of second-hand clothing and other worn articles (Harmonized system code 6309). From 2013-17, the average export value of these products was US$3.95 billion. The five-year (2013-2017) average

Table 3. Trade of Second-Hand Clothing and Other Used Articles

EXPORTING COUNTRIES			IMPORTING COUNTRIES		
Country	**US$ Million**	**% share**	**Country**	**US$ Million**	**% share**
United States	724.2	18.33	Kenya	137.3	11.69
Germany	414.7	10.5	Ghana	133.4	11.35
United Kingdom	389.3	9.86	Cameroon	92.3	7.85
South Korea	260.2	6.59	Angola	74	6.3
China	215.9	5.47	Benin	71.9	6.12
Netherlands	169.6	4.29	Tanzania	67.9	5.78
Others	1,776.30	44.97	Others	598.1	50.91
TOTAL	**3,950.20**		**TOTAL**	**1,174.90**	

Source: United Nations Comtrade. Five-year average value (2013-2017)

Figure 11. Trading of second-hand clothes in Africa

Images: Africa Growth and Opportunity Act - AGOA

export value in the major exporting countries was US$724 million in the United States, US$415 million in Germany, US$389 million in United Kingdom, US$260 million in South Korea, and US$216 million in China. On the other hand, the average value of major imports of second-hand clothes and other used items in African countries was US$137.3 million in Kenya, US$133.4 million in Ghana, US$92.3 million in Cameroon, US$74 million in Angola, and US$71.9 M in Benin.

Restrictions on imports of second-hand clothing — together with the promotion of the textile-apparel sector — would provide a significant increase in job creation and resources in the region. However, according to the World Food Programme (WFP), approximately 75% of the African population lives on less than US$2 per day, and half of it on less than US$1.25 per day (http://www.wfp.org/fais/quantity-reporting). While the second-hand clothing sector poses a problem for the domestic textile and garment producers, the affordability of low-cost clothing for consumers in low-income countries is significantly more important than the product quality. Also, trading of second-hand clothes generates jobs in importing countries, as they require personnel to transport, classify, clean, repair, restore, and distribute the clothes.

Self-Employment, Entrepreneurship and Revenue Generation

The value of cotton by-products — such as stalks, short fibres and seed meal — is grossly optimised in Africa. Across the world, proven technologies are available that can enhance the value of by products, which not only generates additional income, but also provides employment and entrepreneurship opportunities.

Studies (*Patil et al.,* ICAC RECORDER June, 2018) showed that:

- Removing gossypol using a microbial technology results in a net income (profit) of US$33 per tonne of seed meal.
- Short fibres into absorbent cotton results in a net income of US$ 770 per tonne.
- Creating briquettes from cotton stalks provides a net income of US$ 7.0 per tonne.

Table 4. Value Addition to Seed Meal, Short Fibres and Cotton Stalks in West Africa

		Seed-meal	Short fibres	Cotton stalks			
Country	Seed production	Removing *Gossypol*	Absorbent cotton	Brickets	Pellets	Power generation	Power
	'000 t			US$ Million			'000 MW
Burkina Faso	549	18	16	13	29	0.57	38
Mali	549	18	16	13	29	0.57	38
Benin	500.4	17	15	12	26	0.52	35
Cote D'Ivoire	333	11	10	8	17	0.35	23
Cameroon	196	6	6	5	10	0.2	14
Togo	90	3	3	2	5	0.09	6
Chad	47	2	1	1	2	0.05	3
Nigeria	92	3	3	2	5	0.1	6
TOTAL	**2356**	**78**	**71**	**57**	**123**	**2.45**	**164**

Table 5. Value Addition to Seed Meal, Short Fibres and Cotton Stalks in southern and eastern Africa

		Seed-meal	Short fibres	Cotton stalks			
Country	Seed production	Removing *Gossypol*	Absorbent cotton	Briquettes	Pellets	Power generation	Power
	'000 t			US$ Million			'000 MW
Sudan	196	6	6	5	10	0.2	14
Zambia	79	3	2	2	4	0.08	6
Zimbabwe	90	3	3	2	5	0.09	6
Tanzania	167	6	5	4	9	0.17	12
Mozambique	43	1	1	1	2	0.05	3
South Africa	70	2	2	2	4	0.07	5
Uganda	49	2	1	1	3	0.05	3
Ethiopia	68	2	2	2	4	0.07	5
TOTAL	**799**	**26**	**24**	**19**	**42**	**0.83**	**56**

- Creating pellets from cotton stalks provides a net income of US$ 15.0 per tonne, and the power generated from cotton stalks results in a net income of US$ 15.0 per MW per hour.

The study also showed that one megawatt (MW) of power could be generated from 50 tonnes of cotton stalks. These calculations were extrapolated to the commercial value-added potential of cotton by-products in Africa to show that countries in West Africa could generate an additional income of US$78 million by removing gossypol from seed-meal, US$71 million by producing absorbent cotton from short fibres, US$ 57 million by producing fuel-briquettes, and US$123 million by producing fuel-pellets.

Similarly, about US$80-100 million could be generated by utilising cotton products in southern and eastern Africa by producing absorbent cotton, fuel- briquettes, fuel pellets, power generation, and removal of gossypol from seed meal.

This concept note highlights the fact that cotton crop provides a tremendous opportunity for trade and employment. Unfortunately, Africa has not been exploiting cotton fibres and cotton by-products either for value addition or for employment. Africa produces fibres worth about US$ 2.5 billion. If the fibres are processed to produce textiles and apparel, the export revenues could reach an estimated US$ 30 to 90 billion depending on the kind of products produced. Interestingly, value addition of cotton seed-meal and cotton stalks could generate revenues worth about US$400 million apart from generating more than 200,000 MW environment-friendly electric power in the continent. Even conservative estimates show that the 1.5 million tonnes of cotton fibres produced in Africa can provide direct employment for about 6.5 million persons and indirect employment to almost an equal number or even more. Textile technologies are not new, neither are the value addition technologies. The technologies are being used across the world to generate income and employment across the world. What Africa needs is a political will and an enabling environment that can transform the sector, that could eventually transform the socio-economic landscape of the cotton growing countries of the continent.