

### **III. Comparative Value Chain and Economic Analysis of the Apparel Sector (Polo Shirts) in Ethiopia, Tanzania, Zambia, China and Vietnam<sup>19</sup>**

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<sup>19</sup> Although polo shirts are not manufactured in Zambia, a basic understanding of the shortcomings of the Zambian apparel sector is included in this chapter.

### **III.1. Apparel Products Analysis: Objectives**

The purpose of the garment products analysis is to assess the current competitiveness of the subsector and the main opportunities for moving from the current relative inefficiency and low competitiveness to reach a competitive production level in the medium term future. To do this, a typical product (a polo shirt) is analyzed in the following manner:

- Examine important issues and trends in the world garment products market;
- Review the structure of the Ethiopian, Tanzanian, Zambian, Chinese and Vietnamese garments markets;
- Assess the key features, strengths and weaknesses of the existing supply chain for garments in Ethiopia, Tanzania, Zambia, China and Vietnam;
- Assess the overall economic efficiency of domestic garment production in relation to world prices (based primarily on Chinese prices) using alternative cost projection scenarios to establish current and medium term competitiveness;
- Taking the economic efficiency result as a starting point, analyze the garment (polo shirt) value chain to identify key strengths, weaknesses and opportunities or needs for investment, expansion or contraction to move towards international competitiveness at the business strategy and business process level; and
- Provide possible policy options and recommendations to help stimulate growth and improve competitiveness in the sector.

### **III.2. Product Selection Method**

Following a review of the first product screening in which 40 products were selected for consideration for the value chain analysis and feasibility study, the World Bank (WB) and Global Development Solutions (GDS)/HQ teams immediately agreed on seven out of the ten products needed for the analysis. The seven products selected by the teams were as follows:

1. Apparel:
  - a. Polo shirt; and
  - b. Underwear
2. Agribusiness:
  - a. Milk; and
  - b. Wheat milling
3. Leather:
  - a. High-end sheepskin loafers
4. Wood:

- a. Windows/French windows and frames
- 5. Metal:
  - a. Padlocks.

To finalize the selection of the remaining products from the wood, metal and leather sectors, based on the *Africa Competitiveness: Phase 1.1 - Preliminary Product Screening in Ethiopia* report (July 2010), the WB and GDS/HQ teams chose six products as potential candidates to be included in the list of the final ten products to be the target products for the value chain analysis and feasibility study. The six products included the following:

- 1. Wood products:
  - a. Wooden doors; and
  - b. Wooden chairs (not upholstered).
- 2. Leather products:
  - a. Leather golf gloves; and
  - b. Sports footwear of leather.
- 3. Metal products:
  - a. Metal doors, window-frame (security window frame); and
  - b. Aluminum doors and windows.

In order to screen the final six products, a product screening survey was developed which revolved around six factors:

- 1. Whether these products are currently produced by companies with less than 50 employees;
- 2. If companies identified in #1 above can be set up with less than US\$100,000 in investment capital;
- 3. The minimum level of skills and know-how required to produce the products;
- 4. Whether the products produced by the companies in #1 are being exported;
- 5. Whether products produced by companies in #1 are consolidated by brokers or other intermediaries for exports; and
- 6. Whether companies identified in #1 can readily access raw material inputs in the market to produce the products.

These questions were posed to the wood, metal and leather sector associations in both China and Vietnam. Following interviews with sector associations, additional interviews were conducted at the firm level to identify specifically the level of investments and minimum level of technical skills required for an entrepreneur or existing SMEs to set up a production operation. These questions were posed to existing operators in China and Vietnam to identify whether:

- Barriers to market entry, particularly from a financial and skills requirement, were sufficiently low to allow entrepreneurs and SMEs in Ethiopia to easily establish operations; and
- These products are currently being produced by SMEs in China and Vietnam, and are effectively being sold in local and export markets.

The product screening survey identified the following products as viable candidates to be targeted for the value chain and feasibility analysis.

1. Wood product:
  - a. Wooden chairs (soft wood); and
  - b. Wooden door (semi-solid).

Although French windows and their frames made of wood had originally been pre-selected for analysis, a decision was made to opt to analyze both wooden chairs and wooden doors. This decision stemmed from the fact that French windows require glass thus introducing an outside factor that could influence the manufacturing of the final product. Wooden doors (without glass) and wooden chairs (without upholstery) are more representative of wood processing exclusively.

2. Leather products: Leather golf gloves or sports glove of comparable structure and weight.
3. Metal products: Both the pre-selected products (security window frame; and aluminum doors and windows) were screened out of the selection due to various factors including high initial investment requirements. As a result, further analyses of products identified during the preliminary product screening were conducted. Interviews with metal sector associations and enterprises currently operating in China and Vietnam, as well as interviews with existing operators in the fabricated metal products sector in Ethiopia, identified crown cork (bottle caps) as a viable candidate to be targeted for value chain analysis. Crown corks currently are produced in four of the five countries, but Ethiopia continues to import substantial volumes of this product, including imports from China. As a result, crown corks have been chosen as the final fabricated metal product to be the focus of a value chain analysis in the target countries.

### III.2.1. Respective Government Definitions of Small, Medium and Large Enterprises in Ethiopia, Tanzania, Zambia, China and Vietnam

**Ethiopia:** For Ethiopia, the classification of enterprises into small, medium and large scale depends on a number of variables such as level of employment, turnover, capital investment, production capacity, level of technology and subsector. Accordingly, the following scales are referred to the classification of enterprises in the Ethiopian context (Table 15).

**Table 15: Company Size Classification Structure for Ethiopia**

Sub-sector	Number of Employees			Remark
	Small Scale	Medium Scale	Large Scale	
Textile and Apparel	5-9	10 – 49	above 50	According to the Central Statistics Agency (CSA)
Leather	2-10	21 – 50	above 51	
Diary	2-10	21 – 50	above 51	According to Federal Medium and Small Enterprise Development Agency (FeMSEDA)
Wheat	2-10	21 – 50	above 51	
Wood Processing	2-10	21 – 50	above 51	
Metal	2-10	21 – 50	above 51	

Source: Ethiopia CSA and FeMSEDA

**Tanzania:** For Tanzania, the classification of enterprises into small, medium and large scale depends on a number of variables such as level of employment and capital investment in machinery. The classification cuts across sectors and subsectors of the economy. Accordingly, the following scales refer to the classification of enterprises in the Tanzanian context (Table 16). Note that small enterprises form the core of the value chain analyses for Tanzania.

**Table 16: Company Size Classification Structure for Tanzania**

Category	Employees	Capital Investment in Machinery (TZS million)	Remarks
Micro enterprise	1 - 4	Up to 5	Majority in the informal sector
Small enterprise	5 - 49	5 - 200	Most in the informal sector
Medium enterprise	50 - 99	200 - 800	Most in the formal sector
Large enterprise	100+	800+	All in the formal sector

Source: Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA)

**Zambia:** Zambia classifies enterprises as micro, small, medium and large based on several factors including number of employees, annual revenue and capital investment. The capital investment category is further delineated by whether the firm is engaged in manufacturing or if it is a trading/services firm. For microenterprises, the minimum

revenue and investment requirements are kept intentionally low in order to encourage registration, although few microenterprises actually register.

**Table 17: Company Size Classification Structure for Zambia**

Classification	Employees	Annual Revenue (ZMK million)	Capital Investment for Manufacturing Firms (ZMK million)	Capital Investment for Trading/ Services Firms (ZMK million)
Micro	< 10	< 20	< 10	< 10
Small	10 - 50	150 - 250	80 - 200	150
Medium	51-100	300 - 800	200 - 500	151 - 300
Large	> 100	> 800	> 500	> 300

Source: Zambia Development Agency

**China:** The Chinese government is challenged in defining sizes of firms. Temporary definitions have been used for the past several years, and the government promised to revise the standard in 2010. The definition from the National Bureau of Statistics of China is complex. The definition was published in 2002 jointly by the Ministry of Finance, National Bureau of Statistics of China, State Economic and Trade Commission (no longer exists) and China Planning Commission, which has since split and exists as the State Development and Planning Commission (SDPC) and the National Development and Reform Commission (NDRC). A simplified presentation of the company size classification is shown in Table 18. Note that the Industrial type is most appropriate for all sectors studied in this analysis.

**Table 18: Company Size Classification Structure for China**

Type	Index	Unit	Small	Medium	Large
Industrial	Employee	person	Less than 300	300-2000	More than 2000
	Revenue	million RMB	Less than 30	30-300	More than 300
	Asset	million RMB	Less than 40	40-400	More than 400
Construction	Employee	person	Less than 600	600-3000	More than 3000
	Revenue	million RMB	Less than 30	30-300	More than 300
	Asset	million RMB	Less than 40	40-400	More than 400
Wholesale	Employee	person	Less than 100	100-200	More than 200
	Revenue	million RMB	Less than 30	30-300	More than 300
Retail	Employee	person	Less than 100	100-500	More than 500
	Revenue	million RMB	Less than 10	10-150	More than 150
Transportation	Employee	person	Less than 500	500-3000	More than 3000
	Revenue	million RMB	Less than 30	30-300	More than 300
Post services	Employee	person	Less than 400	400-1000	More than 1000
	Revenue	million RMB	Less than 30	30-300	More than 300
Lodging and Catering services	Employee	person	Less than 400	400-800	More than 800
	Revenue	million RMB	Less than 30	30-150	More than 150

Source: National Bureau of Statistics of China

**Vietnam:** A small firm has less than 50 laborers, while a medium-size firm has 51-200 laborers. Within the small and medium-size classifications, there are some detailed

categories depending on the purpose of research and management. For instance, a firm with less than 10 laborers is called a super small-size firm. Such a regulation is in line with Social Insurance Law.<sup>20</sup>

### III.2.2. Product Technical Specification

Following the identification of products to be targeted for the value chain and feasibility analysis, a detailed technical profile of each product with an accompanying diagram or photograph was compiled and sent to the field teams to help ensure that product data collection in the field focused on products with similar - if not identical - technical specifications. Table 19 below provides the product technical specifications for all ten products for which product data are being collected.

**Table 19: Product Technical Specifications**

	Product	Weight		Dimension			Unit of measure	Material
		Weight	Unit of measure					
1	Golf gloves	85 - 141	grams				Men's medium	Sheepskin
2	Loafer	780	grams	Heel	Width	Insole	cm	Sheepskin
	Size	US = 8	EU = 7	2.5	10	30		
3	Padlock*	760	grams	7	7	NA*	cm	Brass
4	Crown cork (metal bottle cap)**	290	mg	Thickness	Diameter	Height	mm	tin free steel (tfs)
				0.24	31.9	6.6		
5	Wooden chair	6.5	kg	Width	Depth	Height	cm	Pine
				45	45	75		
6	Wooden door	12	kg	Width	Depth	Height	cm	Pine
				80	4	210		
7	Milk	0.5	liters	Protein	Lactose	Ash	Vitamins	Fat content
				3.5%	4.7%	0.8%	B1, B2, C and D	Full
8	Milling	Type (German)	Type (French)	Ash	Protein	Moisture	All purpose flour	Wheat or rice
		550	55	<0.65%	approx. 11%	<14.5%		
9	Polo shirt	250 - 270	grams	Refer to diagram				100% cotton
10	Underwear	80 - 100	grams	Refer to picture				80% cotton/ 20% spandex

\* Overall height is 14 cm with a 2 cm shackle diameter

\*\* The weight of the cover (plastic sole made from PVC) in the internal surface of the cap is 290 mg

Source: Global Development Solutions, LLC

### III.3. Global Apparel Market

**Market Trends:** In 2009, the global apparel retail industry grew by 2.1 percent year-on-year, to reach a value of US\$1.078 billion; an estimated 80 percent of which is the value

<sup>20</sup> Information garnered from

[http://laws.dongnai.gov.vn/1991\\_to\\_2000/2000/200004/200004280005\\_en/lawdocum](http://laws.dongnai.gov.vn/1991_to_2000/2000/200004/200004280005_en/lawdocum)

of the global clothing retail industry. By 2014, the global apparel retail industry is forecast to have a value of US\$1.222 billion. The largest segment of the global apparel retail industry is women's wear, accounting for over half (51.3 percent) of the industry's total value, followed by men's wear, women's underwear, and children's wear. The largest market is the Americas, which accounts for over a third of the global apparel retail industry value (35.7 percent).<sup>21</sup>

**Table 20: Leading Importers and Exporters of Clothing (US\$ billion and percent), 2009**

	Value	Share in world exports/imports				Annual percentage change			
	2009	1980	1990	2000	2009	2000-09	2007	2008	2009
<b>Exporters</b>									
China a	107	4.0	8.9	18.3	34.0	13	21	4	-11
European Union (27)	97	-	-	28.5	30.7	6	15	8	-15
extra-EU (27) exports	22	-	-	6.6	6.9	6	19	12	-22
Hong Kong, China	23	-	-	-	-	-1	1	-3	-18
domestic exports	1	11.5	8.6	5.0	0.2	-27	-26	-42	-80
re-exports	22	-	-	-	-	5	10	5	-11
Turkey	12	0.3	3.1	3.3	3.7	7	15	-2	-15
India	11	1.7	2.3	3.0	3.6	8	5	16	0
Bangladesh b	11	0.0	0.6	2.6	3.4	9	6	23	-2
Viet Nam b	9	...	...	0.9	2.7	19	33	18	-1
Indonesia	6	0.2	1.5	2.4	1.9	3	2	7	-6
United States	4	3.1	2.4	4.4	1.3	-8	-11	3	-6
Mexico a	4	0.0	0.5	4.4	1.3	-8	-19	-4	-15
Thailand	4	0.7	2.6	1.9	1.2	0	-4	4	-12
Pakistan	3	0.3	0.9	1.1	1.1	5	-3	3	-14
Malaysia a	3	0.4	1.2	1.1	1.0	4	11	15	-14
Tunisia	3	0.8	1.0	1.1	1.0	4	18	5	-17
Morocco a	3	0.3	0.7	1.2	1.0	3	9	-3	-10
<b>Above 15</b>	<b>278</b>	<b>-</b>	<b>-</b>	<b>79.2</b>	<b>88.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Importers</b>									
European Union (27)	160	-	-	41.0	48.5	8	14	9	-11
extra-EU (27) imports	85	-	-	19.8	25.8	9	14	10	-9
United States	72	16.4	24.0	33.1	21.8	1	2	-3	-13
Japan	26	3.6	7.8	9.7	7.7	3	1	8	-1
Hong Kong, China	16	-	-	-	-	0	2	-3	-16
retained imports	...	...	...	...	...	...	...	...	...
Canada c	8	1.7	2.1	1.8	2.3	8	12	8	-8
Russian Federation b, c	7	-	-	1.3	2.2	12	79	-17	-40
Switzerland	5	3.4	3.1	1.6	1.6	6	11	12	-10
Australia c	4	0.8	0.6	0.9	1.2	9	13	16	-5
Korea, Republic of	3	0.0	0.1	0.6	1.0	11	15	-2	-20
Saudi Arabia b	3	1.6	0.7	0.4	0.9	16	18	4	50
United Arab Emirates	3	0.6	0.5	0.4	0.8	13	26	21	-8
Norway	2	1.7	1.1	0.6	0.7	6	16	12	-13
Turkey	2	0.0	0.0	0.1	0.7	26	43	41	-3
Mexico a, c	2	0.3	0.5	1.8	0.6	-6	-2	3	-17
China a	2	0.1	0.0	0.6	0.6	5	15	16	-19
<b>Above 15 d</b>	<b>299</b>	<b>-</b>	<b>-</b>	<b>94.1</b>	<b>90.7</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

a Includes significant shipments through processing zones.

b Includes WTO Secretariat estimates.

c Imports are valued f.o.b.

<sup>21</sup> Datamonitor



d Excludes retained imports of Hong Kong, China.

Source: WTO. Note: WTO estimates of world trade vary UN Comtrade statistics to include EPZ data

The largest exporter of apparel in general and clothing in particular is China. The phasing out of quotas and related safeguards in 2002, 2005 and 2008 led to arguably one of the biggest short-term transfers of production in the history of the world: by 2009, one-third of world's clothing exports came from China compared to less than 10 percent twenty years earlier (see Table 20 above).

The recent global recession, however, had a serious impact on most major clothing export countries, including China. Of the top supplying countries, India, Vietnam and Bangladesh were the only three that were able to withstand the sharp fall in annual export volumes during 2009.

**Industry and Consumer Trends:** Notwithstanding the current economic crisis, the global apparel market is expected to grow steadily. The living standards in emerging markets are growing and one of the most watched industry trends in the next decade is how, when and to what extent multinational corporations will expand their reach and penetrate emerging markets, especially in China, Russia and India.

The apparel industry also is experiencing significant trends in the form of increased:

- Consolidation amongst retailers;
- Proliferation of private brands;
- Proliferation of lifestyle and quick fashion brands; and
- Entrenchment of outsourcing and its integration in firm supply chains.

Supplying countries/firms that are best able to adjust to these trends are anticipated to succeed in the global clothing supply chain. Even though rising labor costs and the appreciation of its currency in recent years have caused many to question China's ability to remain competitive, China's ever-rising share in global clothing exports illustrates the importance of adaptability to industry trends. More often than not, in order to compensate for China's ability to compete on various levels other than on price, industries in competing countries must lower their prices in order to remain competitive with the industry in China - and not because Chinese export prices of clothing items are always lower (contrary to this "myth," Chinese prices are most of the time higher – see Table 21 below).

**Table 21: Comparative Garment Prices, Select Categories of Knit Apparel, 2009**

Articles of Apparel, Accessories, Knit or Crochet (HS 61)		World Trade US\$ billion	World Exports to World (Including China)					% Difference		China Exports to World				
Product code	Product label		Exported unit value (US\$/ton)					Unit Value (China/World)	Avg '05-'08	Exported unit value (US\$/ton)				
			2005	2006	2007	2008	Avg '05-'08			Avg '05-'08	2005	2006	2007	2008
'610910	T-shirts, singlets and other vests, of cotton	\$ 23	18,250	19,000	18,680	14,548	17,620	33%	23,376	20,402	20,402	23,372	29,329	
'611020	Pullovers, cardigans and similar articles of cotton	\$ 19	22,201	23,623	24,896	29,975	25,174	16%	29,175	24,941	24,941	28,699	38,119	
'611030	Pullovers, cardigans and similar articles of MMF	\$ 16	25,989	24,062	28,250	33,898	28,050	13%	31,580	27,796	27,796	31,331	39,395	
'610990	T-shirts, singlets and other vests, of other text. mtl	\$ 7	23,936	24,002	25,050	27,713	25,175	40%	35,180	30,862	30,862	34,894	44,102	
'610510	Mens/boys shirts, of cotton	\$ 5	23,050	24,290	26,021	28,569	25,483	24%	31,688	26,090	26,092	32,063	42,505	
'610462	Womens/girls trousers and shorts, of cotton	\$ 5	19,276	19,866	22,104	22,149	20,849	16%	24,144	21,449	21,449	24,973	28,706	
'611120	Babies garments & clothing accessories of cotton	\$ 4	12,819	13,160	14,023	14,609	13,653	-21%	10,785	9,391	10,177	11,063	12,508	
'610610	Womens/girls blouses and shirts, of cotton	\$ 4	20,226	23,287	22,179	24,175	22,467	37%	30,761	28,142	28,144	30,538	36,219	
'610711	Mens/boys underpants and briefs, of cotton	\$ 2	15,130	16,573	14,418	18,583	16,176	46%	23,665	19,524	19,524	25,004	30,606	
'610821	Womens/girls briefs and panties, of cotton	\$ 2	19,933	20,490	23,135	28,038	22,899	23%	28,109	23,365	23,365	30,562	35,144	

*Top 10 Products (55 percent of HS61 Value). Source: Global Development Solutions, LLC (trade data from UN Comtrade and International Trade Center, Intracen.org)*

Suppliers outside of China generally are compelled to lower clothing prices because industries in these countries often need to compensate for one or more deficiencies in their corresponding supply chains that make them less desirable sourcing locations compared to China. To a niche private-label, multi-season fashion retailer, for example, apparel suppliers' superior performance on order-to-delivery times and consistent quality is typically more important than the price differential that may exist between suppliers. The same holds for large, consolidated retailers: ability to source large quantities of clothing from few locations with consistent quality and reliable delivery times through an integrated global supply chains is critical for such firms; being a low cost supplier is generally a necessary but not sufficient condition that is going to guarantee access to large retailers' global supply chain. Therefore, a company's or country's ability to compete in terms of order timeliness and consistency and adaptability to small and large size orders alike, as well as the ability to ensure seamless flow of goods and transactions across borders, are all considered increasingly important competitiveness indicators in the clothing industry.

On average, consumers in developed countries spend only 4 percent of their disposable income on clothing.<sup>22</sup> This share of clothing expenditures in the developed world is generally flat and changes only slowly over time. In these markets, the leading consumer trends mainly are related to increased awareness and sensitivity of consumers to environmentally sustainable and socially equitable trade. Garments from organic materials or made under socially responsible conditions are increasingly popular and the industry caters to these trends by developing dedicated brands and product lines.

<sup>22</sup> OECD

In emerging markets, by contrast, especially China and India, it is expected that rising incomes will generate increased share of household expenditures on clothing. In these markets, consumers increasingly prefer international brand names and/or retail chain clothing brands, both at the luxury and low-end price levels. As a result, an increasing number of multinational apparel brands are present in these markets.

### III.3.1. Sub-Saharan Africa (SSA) Apparel Trade

SSA countries imported US\$4.5 billion worth of apparel in 2009, an increase of almost 50 percent from 2006 levels (US\$3 billion).<sup>23</sup> South Africa alone imported over a quarter of all SSA apparel (in terms of value), followed by Kenya and Angola.

**Table 22: Apparel Imports, Sub-Saharan Africa, 2009 (US\$000)**

Importers	Imported value in 2006	Imported value in 2007	Imported value in 2008	Imported value in 2009	% of World	% of SSA
'World	\$328,896,944	\$ 364,163,116	\$ 387,607,124	\$ 351,981,680	100%	
Africa	\$ 4,524,324	\$ 5,101,811	\$ 6,264,902	\$ 6,982,315	2.0%	
Sub Saharan	\$ 3,113,350	\$ 3,491,023	\$ 4,107,291	\$ 4,412,448	1.3%	
'South Africa	\$ 1,156,471	\$ 1,055,347	\$ 1,058,673	\$ 1,111,833		25.2%
'Kenya	\$ 121,289	\$ 140,314	\$ 135,580	\$ 299,163		6.8%
'Angola	\$ 168,069	\$ 227,669	\$ 338,736	\$ 280,678		6.4%
'Togo		\$ 40,529	\$ 347,634	\$ 251,523		5.7%
'Sudan	\$ 193,029		\$ 169,074	\$ 246,161		5.6%
'Ghana	\$ 94,413	\$ 106,000	\$ 118,974	\$ 225,929		5.1%
'Nigeria	\$ 6,985	\$ 30,865	\$ 31,472	\$ 225,376		5.1%
'Benin	\$ 83,636	\$ 269,235	\$ 263,514	\$ 216,589		4.9%
'Cameroon	\$ 63,672	\$ 124,022	\$ 150,056	\$ 136,928		3.1%
'Ethiopia	\$ 171,863	\$ 159,847	\$ 117,327	\$ 124,570		2.8%
'Congo	\$ 70,843	\$ 86,717	\$ 102,915	\$ 106,294		2.4%
Tanzania	\$ 56,605	\$ 65,666	\$ 89,087	\$ 88,788		2.0%
'Namibia	\$ 106,750	\$ 152,543	\$ 143,838	\$ 80,684		1.8%
DR Congo	\$ 62,287	\$ 84,173	\$ 79,474	\$ 76,347		1.7%
'Senegal	\$ 35,684	\$ 59,084	\$ 63,803	\$ 76,252		1.7%
'Côte d'Ivoire	\$ 41,063	\$ 62,370	\$ 59,305	\$ 69,848		1.6%
'Uganda	\$ 78,100	\$ 104,539	\$ 112,160	\$ 64,202		1.5%
'Mozambique	\$ 33,926	\$ 34,484	\$ 41,533	\$ 53,402		1.2%
'Botswana	\$ 87,658	\$ 110,765	\$ 85,517	\$ 53,135		1.2%
'Zambia	\$ 43,030	\$ 53,168	\$ 45,741	\$ 50,134		1.1%
'Guinea	\$ 8,604	\$ 9,621	\$ 14,745	\$ 49,603		1.1%
'Malawi	\$ 27,231	\$ 27,663	\$ 36,795	\$ 46,731		1.1%
'Madagascar	\$ 30,549	\$ 48,665	\$ 38,436	\$ 44,456		1.0%
'Mauritania		\$ 11,830	\$ 32,224	\$ 43,281		1.0%
'Gabon	\$ 22,431	\$ 33,607	\$ 38,760	\$ 37,492		0.8%
'Mauritius	\$ 40,705	\$ 47,168	\$ 64,789	\$ 33,203		0.8%
'Mali	\$ 25,055	\$ 48,280	\$ 54,154	\$ 33,052		0.7%
'Rwanda	\$ 29,283	\$ 25,702	\$ 31,953	\$ 32,774		0.7%
'Niger	\$ 43,601	\$ 48,005	\$ 66,132	\$ 32,141		0.7%
Other	\$ 210,518	\$ 223,145	\$ 174,890	\$ 221,879		5.0%

*Source: Global Development Solutions LLC from ITC/Comtrade data*

<sup>23</sup> Includes HS 61, 62 and 63.

Unlike the rest of the world, African imports of apparel increased in 2009, including SSA. Moreover, SSA countries imported roughly two times more apparel than they exported in 2009. In 2009, impacted by recessions in developed markets, apparel exports from SSA fell sharply to US\$2 billion from US\$3 billion a year earlier – a 33 percent decrease (see Table 23 below). Apparel exports from Mauritius and Madagascar, two leading exporters of apparel from SSA, fell most sharply in 2009 (35 percent and 50 percent respectively). A few countries, such as South Africa and Tanzania, were able to sustain apparel export values without major decreases in 2009. Only one country among the top exporters, Malawi, was able to grow the value of apparel exports in 2009 compared to 2008, albeit still at levels below its 2006 peak exports of apparel.

**Table 23: Apparel Exports, Sub-Saharan Africa, 2009 (US\$000)**

Exporters	Exported value in 2006	Exported value in 2007	Exported value in 2008	Exported value in 2009	% of World	% of SSA
'World	\$340,626,012	\$ 383,678,608	\$408,126,132	\$359,532,180	100%	
Africa	\$ 8,959,393	\$ 10,325,969	\$ 11,525,187	\$ 10,267,308	2.9%	
Sub Saharan Africa	\$ 2,539,483	\$ 2,970,069	\$ 3,022,420	\$ 2,014,444	0.6%	
'Mauritius	\$ 771,922	\$ 884,065	\$ 843,054	\$ 552,645		27.4%
'Madagascar	\$ 347,450	\$ 502,897	\$ 888,173	\$ 461,626		22.9%
'Lesotho	\$ 418,649	\$ 413,895	\$ 370,149	\$ 303,433		15.1%
'Kenya	\$ 279,255	\$ 286,231	\$ 288,419	\$ 215,847		10.7%
'South Africa	\$ 171,282	\$ 157,512	\$ 168,305	\$ 159,969		7.9%
'Swaziland	\$ 150,204	\$ 48,059	\$ 133,546	\$ 99,888		5.0%
Tanzania	\$ 29,181	\$ 69,128	\$ 76,678	\$ 70,205		3.5%
'Malawi	\$ 43,047	\$ 34,919	\$ 27,637	\$ 31,489		1.6%
'Zimbabwe	\$ 61,394	\$ 79,677	\$ 49,328	\$ 25,326		1.3%
'Bots wana	\$ 148,941	\$ 347,636	\$ 30,835	\$ 21,976		1.1%
'Côte d'Ivoire	\$ 17,352	\$ 15,623	\$ 20,116	\$ 16,823		0.8%
'Senegal	\$ 5,891	\$ 6,255	\$ 7,657	\$ 12,840		0.6%
'Ethiopia	\$ 8,196	\$ 10,927	\$ 10,753	\$ 7,904		0.4%
'Burkina Faso				\$ 5,274		0.3%
'Cameroon	\$ 524	\$ 3,297	\$ 2,771	\$ 3,642		0.2%
'Rwanda	\$ 603	\$ 974	\$ 1,485	\$ 3,564		0.2%
'Eritrea	\$ 1,274	\$ 1,704	\$ 1,927	\$ 2,565		0.1%
'Ghana	\$ 5,110	\$ 19,688	\$ 8,031	\$ 2,336		0.1%
'Uganda	\$ 6,855	\$ 11,952	\$ 19,296	\$ 2,319		0.1%
'Sierra Leone	\$ 2,152	\$ 3,486	\$ 1,690	\$ 2,174		0.1%
'Zambia	\$ 1,250	\$ 15,835	\$ 2,421	\$ 1,467		0.1%
'Mozambique	\$ 5,469	\$ 1,667	\$ 1,877	\$ 1,465		0.1%
'Nigeria	\$ 4,212	\$ 1,148	\$ 6,362	\$ 1,427		0.1%
Other	\$ 59,270	\$ 53,494	\$ 61,910	\$ 8,240		0.4%

Source: Global Development Solutions LLC from ITC/Comtrade data

#### III.4. Comparative Sector Profiles: Apparel Products Sector

**Key Indicators:** China dominates the global apparel trade commanding over one-third of global exports. In China and Vietnam, medium and large firms dominate the sector (85 percent and 75 percent respectively). In Ethiopia, over 90 percent of all firms in the

sector are small. Of the roughly 10,000 people employed in the apparel sector in Ethiopia, male and female workers are equally represented in the workforce. By contrast, the majority (80 percent) of the sector's workforces in China and Vietnam are female. In Tanzania, the size of the export-based garment sector is extremely limited and shrinking. In 2008, two integrated garment plants existed in the north of the country, and two non-integrated garment assembly plants operated in the Dar es Salaam region. As of January 2011, only four purely export-oriented garment firms existed in the country, and these generated very limited employment (estimated at less than 2,000 people).<sup>24</sup> An estimated three other small firms produce a mix of consumer and industrial clothing dedicated mostly for the local market; these firms are estimated to employ less than 100 people. By contrast, China and Vietnam generate millions of jobs in the sector (refer to Table 24 below).

**Table 24: A Snapshot of the Apparel Sector in China, Vietnam, Ethiopia, Tanzania and Zambia**

Key Comparative Indicators	China	Vietnam	Ethiopia	Tanzania	Zambia
Total Imports (Value)	\$ 1,651,745,000	\$ 604,373,333	\$72,546,928	\$ 88,788,000 *	\$18,719,204
Total Exports (Value)	\$ 100,479,288,000	\$ 8,244,000,000	\$10,405,248	\$ 8,299,000**	\$ 303,842
Companies Operating in the Sector	52,828	3,174	436	9	12
Small	13.2%	26.8%	91.1%	66.7%	-
Medium	54.0%	55.0%	1.6%	22.2%	50.0%
Large	32.8%	18.2%	7.3%	11.1%	50.0%
Estimated no. of work. in the sector	4,587,000	1,194,310	9,746	2,000	1,500
Male	20.0%	17.0%	58.0%	n.a	74.0%
Female	80.0%	82.8%	42.0%	n.a	26.0%

\* Includes worn clothing US\$40 million; \*\* Includes only clothing apparel (excl. furnishing textiles, linens, drapes, etc)  
Global Development Solutions, LLC

**Policy and Regulatory Environment:** China and Vietnam maintain various input and/or output subsidies to encourage industrial production and exports. In Vietnam electricity prices, for example, are controlled and generally subsidized; industry can access electricity at low prices and generally at rates on par with household consumers without paying premiums for load factors. In China, apparel exporters are given a 16 percent rebate on the exported price of apparel; in other words, all apparel manufacturing value added receives a 16 percent rebate - this more than covers the VAT manufacturers pay on inputs and allows Chinese exporter's significant room for price discounts when negotiating with foreign buyers.<sup>25</sup>

In Ethiopia and Tanzania (and Zambia as well) apparel manufacturers do not enjoy support at such levels and generally face a range of taxes and levies that increase their costs of doing business. Garment exporters working under Export Processing Zone status are exempt from duties on inputs and get VAT refunds.

<sup>24</sup> Excludes apparel producers of printed fabric that produce traditional kitenges and kangas used in the region as cover garments. One textile mill, which also produces exportable knit garments, employs over 2,000 people but not all of them work in garment assembly.

<sup>25</sup> The rebate rates and the list of items that qualify for export rebates change frequently depending on policy-makers assessments of various trends such as global price outlook, local market developments, etc.

**Table 25: Comparative Policy and Regulatory Environment for the Apparel Sector**

	China		Vietnam		Ethiopia		Tanzania		Zambia	
	1 Tariffs	Cotton(Preferential)	1%-40%	Thread (Preferential)	5%	COMESA	18% - 30%	EAC Origin	0-5%	Cotton Yarn
Cotton (Regular)		125%	Thread (CEPT)	5%	Customs duty	10 - 30%	SADEC Origin	10%-25%	Cotton Fabric	15%
Fabric (Regular)		80-90%	Fabric (Preferential)	12%	0%	0%	All other Origins	20%-25%	Cotton Garments	25%
Fabric(Preferential)		10-14%	Fabric(CEPT)	5%	0%	0%			Polo Shirts	25%
Clothes(Regular)		90-130%	Clothes(Preferential)	20%	0%	0%			Used Clothing	25%
									Zippers, buttons & other accessories	25%
Clothes(Preferential)		14-17.5%	Clothes(CEPT)	5%	0%	0%				
2 Taxes and Levies	VAT	3% or 17%	VAT(Cotton:Other)	5% 10%	VAT	15%	VAT	18%	VAT	16%
	Income Tax	25%	Income Tax	25%	Provident fund Tax	10%	Income tax	0 - 35%;30%	Income Tax	25%
	Other tax	7%	Business tax	55 - 155 USD	Salary Tax	0 - 35%	Presumptive			
			Registration fee (land: vehicle)	1% 2%	Excise tax	10 - 100%	Turnover Tax	1.1%-3.3%		
					Surtax	10%				
					Turnover Tax	2%, 10%				
					Dividend tax	10%				
					Royalty tax	5%				
					Capital gains tax	30%;15%				
					Withholding Tax	3%				
3 Subsidies	Export Rebate	16%	Electricity prices							
	0	0%	Normal time	0.047USD/kWh	None		None		None	
	0	0%	Peak-time	0.092USD/kWh						
			Off-peak time	0.025USD/kWh						
			Water price	0.351USD/m3						

Source: Global Development Solutions, LLC

### III.5. Sector Profile for the Apparel Products Sector in Ethiopia, Tanzania, Zambia, China, and Vietnam

#### III.5.1. Sector Profile: Apparel Sector – Ethiopia

The Ethiopian apparel sector accounted for 7.1 percent of the country’s industrial production in 2009/10. As of the fiscal year ending in June 2010, apparel exports totaled US\$12 million, which comprised 0.72 percent of the country’s total exports for the period.<sup>26</sup> Key products for the year were polo shirts (4,219,250 pieces), T-shirts (5,424,750 pieces), sportswear (2,411,000 pieces), work clothes (1,845,000 pieces), and uniforms (2,152,500 pieces). Major export destinations were the United States (11.4 percent), Italy (10 percent), Netherlands (5.1 percent), Germany (3.9 percent), Belgium (3.2 percent) and United Kingdom (1.9 percent).

Ethiopia apparel imports (primarily from China) outweigh domestic production by approximately 7:1 (see Table 26 below). The total import value is nearly equivalent to domestic demand (value = 99.3 percent of demand) yet import volume is 88 percent of demand thus suggesting domestically produced items are less costly than imported goods. Export figures suggest that the price per piece is much higher than those sold in the domestic market and imported products. This suggests higher quality items are being

<sup>26</sup> Ministry of Trade and Industry

exported from Ethiopia. These trends have been repeated for at least the past three years since 2007.

**Table 26: Apparel Production and Trade Statistics, Ethiopia, 2009**

	<b>Domestic Production</b>	<b>Domestic Demand</b>	<b>Total Imports</b>	<b>Total Exports</b>
<b>Volume (pieces)</b>	17,543,075	132,467,738	117,734,080	2,809,417
<b>Value (USD)</b>	10,937,533	73,079,213	72,546,928	10,405,248

*Source: Global Development Solutions, LLC; Ethiopian Customs Authority; Ministry of Trade and Industry*

The socialist government (1974-1991) allocated more land for cotton production, nationalized existing textile and apparel firms and built large textile factories to supply yarn and fabric. The textile sector grew to become the biggest contributor to GDP and became one of the largest employers in the country. Inefficiencies of the command economy led to the sector falling into neglect as technology became outdated and international standards could no longer be met. As a result, the cotton farming and apparel sectors ended up producing well below capacity. Revitalization, however, has taken effect over the past decade as factories have been privatized and foreign investment has come in. The sector has attracted US\$3 million in foreign investments, mainly from United States, Italy and Turkey. Ethiopian apparel exports have been growing steadily considering that in 2002 exports totaled less than US\$4 million.

The sector employs an estimated 9,746 workers: 58 percent male and 42 percent female. Small companies are prevalent and employ approximately 91 percent of the apparel labor force (see Table 27 below).

**Table 27: Employment Statistics for Ethiopia Apparel Sector**

<b>Company Size</b>	<b>Estimated Number of Companies</b>	<b>% of Companies by Size</b>	<b>Number of Employees</b>	<b>Avg Number of Employees</b>
Small	397	91.1%	1,961	5
Medium	7	1.6%	343	49
Large	32	7.3%	7,442	233
<b>Total</b>	<b>436</b>	<b>100.0%</b>	<b>9,746</b>	

*Source: Central Statistical Authority*

Advantages for the apparel sector in Ethiopia are low labor wages, raw material supply and preferential access for Ethiopian exports to the United States under the African Growth and Opportunity Act (AGOA) until 2015.

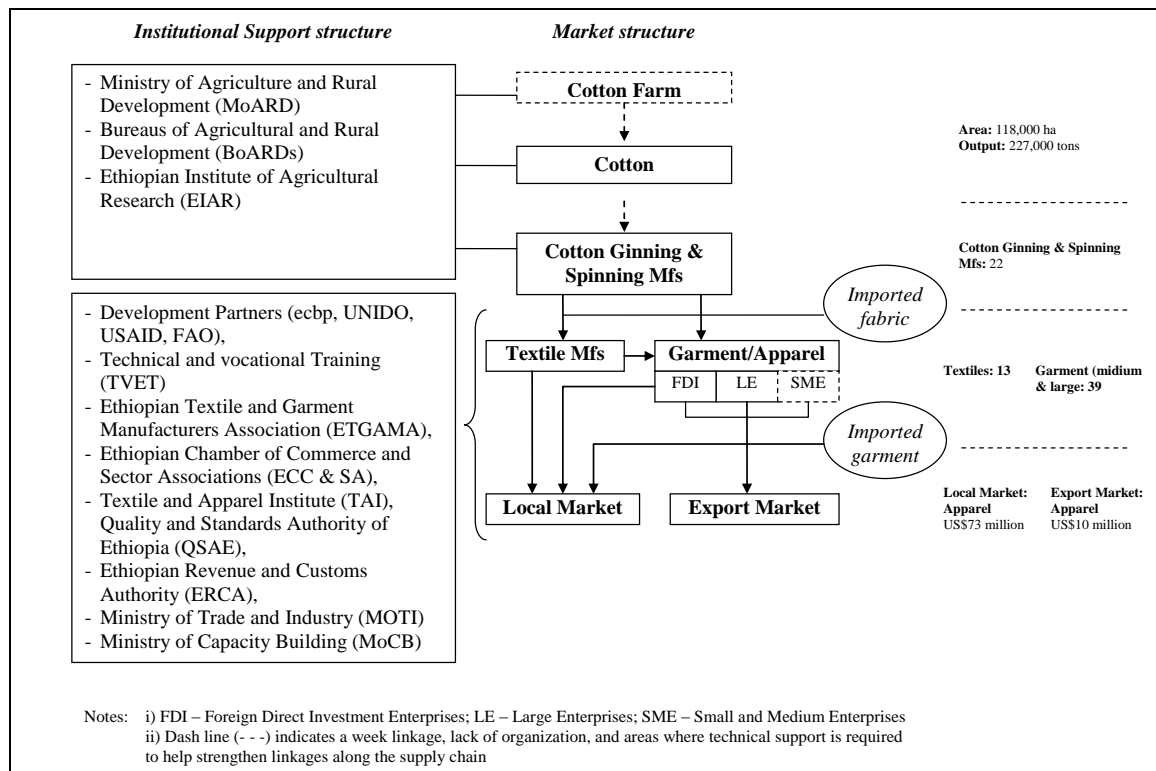
Drawbacks for the sector exist as well. A major drawback is that Ethiopia is landlocked. This, compounded by the weak transportation and communication links, presents problems for efficient exports, especially considering the high importance of time-to-market in the global apparel market. Further, and most significantly, while local raw

material (cotton) is available, as will be explained in detail in a subsequent section, the inability of the textile sector to produce fabric in sufficient quantity and quality for use in export apparel completely offsets the advantage of having locally grown cotton.

### III.5.1.1 Supply Chain and Institution Support Structure: Apparel – Ethiopia

The major stakeholders in the Ethiopian textile and garment sector are small farm holders, collectors (merchants), private commercial farms, state farm enterprises, ginneries and textile and garment manufacturers. They are supported by development partners (UNIDO, USAID and FAO) and technical and vocational training (TVET) institutions as well as universities, sector associations, and government institutions (see Figure 2 below).

**Figure 2: Ethiopia’s Cotton-to-Garment Market and Institutional Support Structure**



Source: Global Development Solutions, LLC

The Ethiopian Ministry of Trade and Industry (MoTI) determines policy and strategy and leads and supports the industrial development of the country. The Textile and Apparel Institute (TAI) is a specialized institute under MoTI and has the task to promote the textile and garment subsector. TAI is responsible for human resource development, technology transfer for industrial development, marketing support and research and



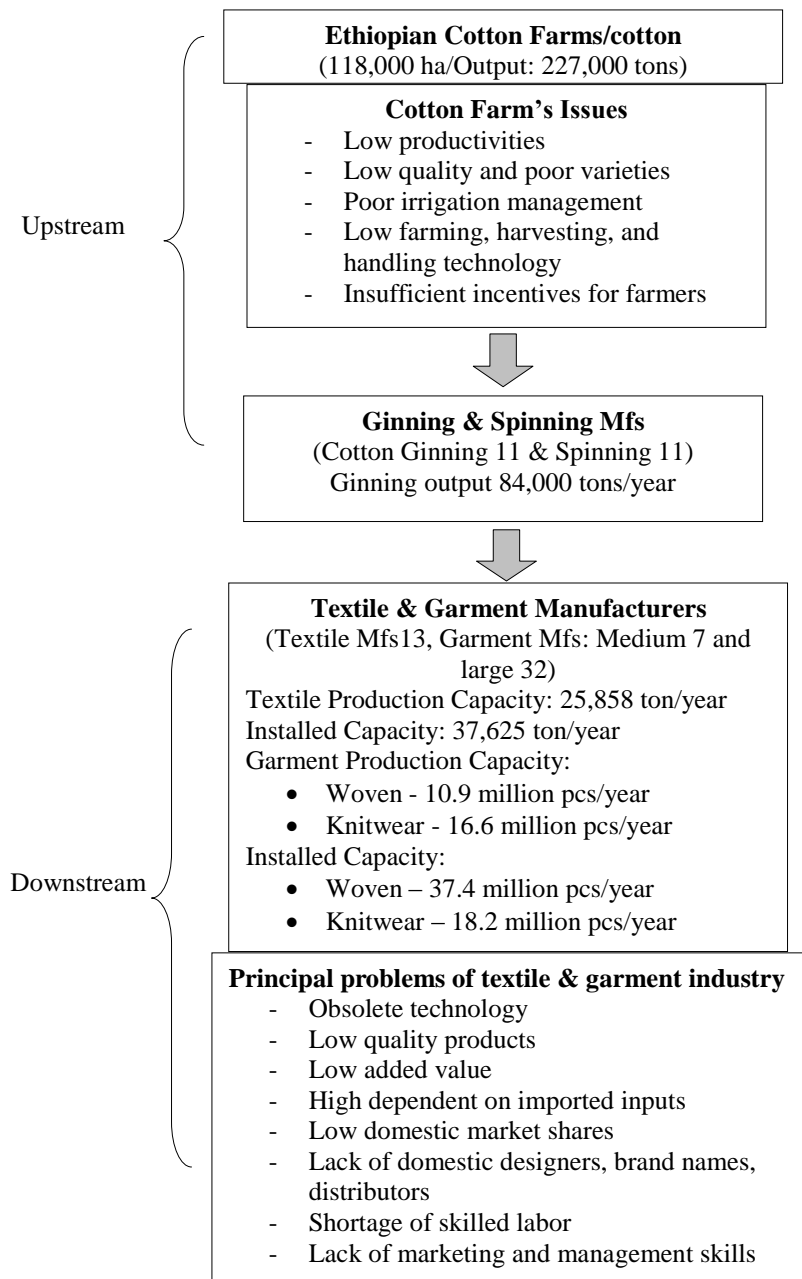
development activities in the subsector. The Ministry of Agriculture and Rural Development (MoARD) leads the development of cotton as a major input for the textile industry. Regional developments, extension services and training are promoted and organized through the Bureaus of Agricultural and Rural Development (BoARDs).

Under the guidance of the Ministry of Education (MoE), seven TVET centers in textile occupations have been selected countrywide in connection with the establishment of textile and garment clusters: Addis Ababa, Nazreth, Awassa, Kombolcha, Adwa, Bahir Dar and Dire Dawa. However, Bahir Dar University Textile Department is the only educational institution where textile education is provided at university level. Also, the Ministry of Capacity Building (MoCB), together with development partners, aims to build capacity in priority sectors of the Ethiopian economy.

The Cotton Growers Association and the Ethiopian Textile and Garment Manufacturers Association (ETGAMA) share a role in the developmental activities of the textile and garment sector in Ethiopia. ETGAMA was established in 2003 and represents the majority of Ethiopia's textile mills and garment factories.

Multiple problems persist along the cotton-to-garment processing chain in Ethiopia. Starting from the farm level and all the way up to garment assembly, productivity and capacity utilization are not optimal, technology is generally obsolete, and dependence on imported inputs is high (see Figure 3 below).

**Figure 3: Ethiopia's Cotton-to-Garment Processing Road Map**  
**Ethiopia's Cotton-to-Garment Processing Road Map**



Source: Global Development Solutions, LLC

From interviews with people in the textile sector, the consensus is that the performance of the existing textile mills in Ethiopia is relatively poor and the sector is not in a position to produce world class competitive fabric due to the following major factors:

- Low level of technology used;
- Lack of skilled human resource; and

- Financial constraints to acquire adequate technology and operate at optimal capacity levels.

Greenfield investments in the sector, however, are numerous. The aggregate level of investments, at different stages of development, registered by the Investment Agency of Ethiopia since 1992, is given in Table 28 below.

**Table 28: Summary of Licensed Textile and Garment Investment Project, by Investment Type and Status; 1992 - September 30, 2010**

Investment Type	Implementation				Operation				Pre-Implementation				Total			
	No of Projects	Capital in '000' US\$	Perm Empl.	Temp Empl.	No of Projects	Capital in '000' US\$	Perm Empl.	Temp Empl.	No of Projects	Capital in '000' US\$	Perm Empl.	Temp Empl.	No of Projects	Capital in '000' US\$	Perm Empl.	Temp Empl.
Domestic	38	27,198	4,475	943	36	127,696	7,668	429	416	259,124	44,869	20,762	490	414,018	57,012	22,134
Foreign	20	60,835	1,296	828	51	79,263	9,170	3,315	145	388,297	29,215	20,081	216	528,394	39,681	24,224
Public					5	15,308	1,241	20	2	15,547	1,415	184	7	30,855	2,656	204
Grand Total	58	88,033	5,771	1,771	92	222,266	18,079	3,764	563	662,968	75,499	41,027	713	973,267	99,349	46,562

Source: Ethiopian Investment Agency

In 2010 alone, approximately 23 textile and garment projects were registered by the Agency; projects are in various stages as shown below.

1. Under implementation
  - 1 textile and garment (integrated)
  - 3 garment
2. Pre-implementation stage
  - 4 textile
  - 11 garment
  - 4 textile and garment (integrated)

There is a dire shortage of fabric for garment manufacturers in Ethiopia as there is only a single textile factory that is functioning while all others are dysfunctional due to several reasons that include lack of working capital, mismanagement, problems with sourcing of raw materials, and other technical and non-technical problems. The only operating textile factory from the private sector used this opportunity to increase its prices for fabric by 45% in the last year. Although garment producers continue to purchase from this company regardless of the price escalation, this pattern may cease in the near future if the prices continue to move upwards. The garment producers are currently pre-ordering fabrics, especially knits, well in advance and are holding inflated inventories in order to keep stocks high since lead times from the local producer are high in the face of high demand. One private sector garment producer claimed that he had to use his 'connections' that arranged for him to buy an adequate quantity of fabric, but he is suffering from shortage of working capital due to the capital tied up in fabric inventory.

### III.5.2. Sector Profile: Apparel Sector – Tanzania

The Tanzanian apparel sector is very limited in scale. Up-to-date information on employment, production levels and income generated specifically from the garment industry is not available. According to the latest survey to be published in 2011, the country had 47 establishments manufacturing textiles, wearing apparel and leather products in 2008, and these firms collectively employed 13,430 people (Table 29).<sup>27</sup>

**Table 29: Tanzania Textiles, Apparel and Leather Products Sector Profile**

Textiles, Apparel and Leather Products, Tanzania, 2008	Manufacturers of textiles, wearing apparel and leather products					Total
Employment size/firm	10-19	20-49	50-99	100-499	>=500	
Number of firms	18	4	7	9	9	47
Total employees (private firms %)	13,430 (95%)					
Firm ownership (National, Foreign, JV)	44%;35%;21%					
Employees by gender (Male, Female)	59%;41%					

*Compiled by Global Development Solutions, LLC from Ministry of Industry, Trade and Marketing, Tanzania*

Tanzania imported roughly US\$90 million worth of apparel in 2009, almost twice as much as in 2005. Clothing apparel, including worn clothing (US\$40 million in 2009) constitutes almost 80 percent of all imports. This is in stark contrast to exports, where only 12 percent of exports are articles of apparel (knit and not knit); 88 percent of Tanzanian apparel exports are in the form of printed fabrics or other processed textiles such as those used in furnishings, rags, blankets, etc. (Table 30). Like Ethiopia, Tanzania's apparel exports to the United States are eligible for preferential access under the African Growth and Opportunity Act (AGOA); however, as a practical matter, given the current composition of Tanzanian apparel exports, the country does not presently leverage this support.

**Table 30: Apparel Trade Statistics, Tanzania, 2009**

Apparel Trade, Tanzania (US\$ Thousand)	2005	2006	2007	2008	2009
<b>Apparel Imports</b>	<b>\$ 49,538</b>	<b>\$ 56,605</b>	<b>\$ 65,666</b>	<b>\$ 89,087</b>	<b>\$ 88,788</b>
Other made textile articles, sets, worn clothing etc	\$ 36,146	\$ 39,230	\$ 47,358	\$ 56,772	\$ 57,942
Articles of apparel, accessories, not knit or crochet	\$ 7,512	\$ 11,598	\$ 14,123	\$ 23,466	\$ 22,989
Articles of apparel, accessories, knit or crochet	\$ 5,880	\$ 5,777	\$ 4,185	\$ 8,849	\$ 7,857
<b>Apparel Exports</b>	<b>\$ 23,308</b>	<b>\$ 29,181</b>	<b>\$ 69,128</b>	<b>\$ 76,678</b>	<b>\$ 70,205</b>
Other made textile articles, sets, worn clothing etc	\$ 17,209	\$ 25,556	\$ 59,474	\$ 65,182	\$ 61,906
Articles of apparel, accessories, knit or crochet	\$ 4,802	\$ 2,219	\$ 4,855	\$ 5,899	\$ 7,151
Articles of apparel, accessories, not knit or crochet	\$ 1,297	\$ 1,406	\$ 4,799	\$ 5,597	\$ 1,148

*Source: Compiled by Global Development Solutions, LLC from Intransce/UN Comtrade*

In the upstream part of the apparel cotton-to-garment supply chain, Tanzania is a major producer of cotton and has textile milling capacity, but the chain is disconnected. Mills produce fabrics for their own integrated fabric/garment production and domestically

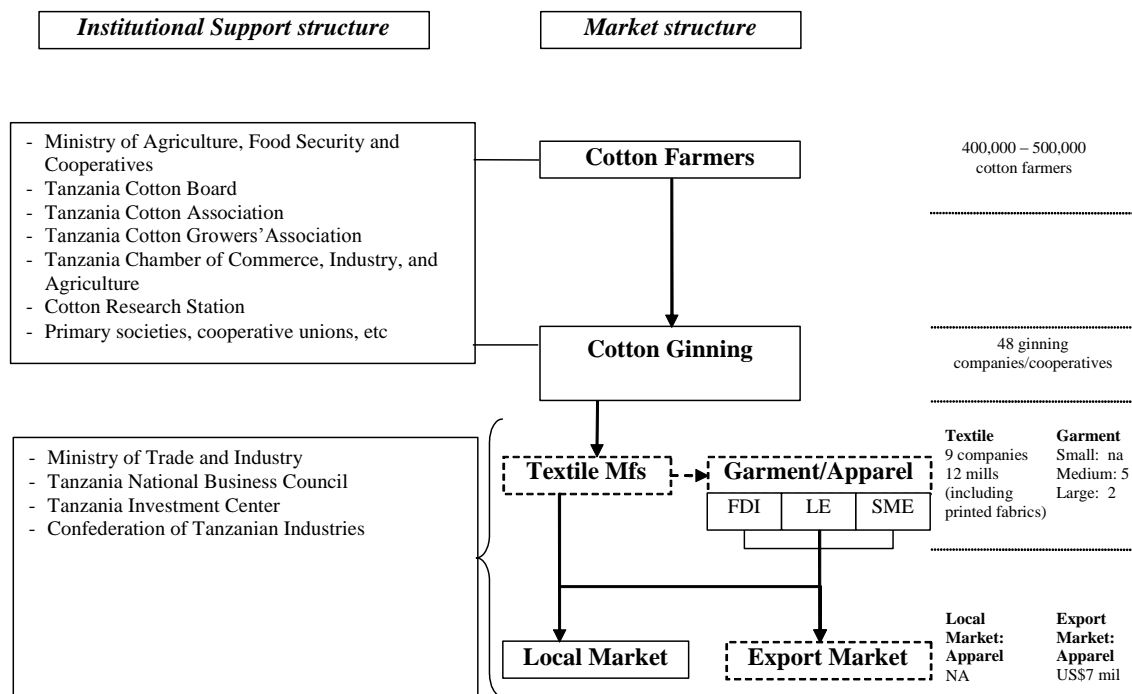
<sup>27</sup> Annual Survey of Industrial Production undertaken by UNIDO and the Ministry of Industry, Trade and Marketing

produced knit and woven fabric is not readily available to the garment industry. In the cases when local knit fabric mills make their fabric available to garment firms, the fabric generally is of poor quality and is not used for export-oriented garments.

### III.5.2.1 Supply Chain and Institution Support Structure: Apparel – Tanzania

The major stakeholders in the Tanzanian cotton, textile and garment sector are provided in the map below.

**Figure 4: Tanzania’s Cotton-to-Garment Market and Institutional Support Structure**



i) FDI – Foreign Direct Investment Enterprises; LE – Large Enterprises; SME – Small and Medium Enterprises ii) Dashed line ( - - ) indicates a weak linkage, lack of organization, and areas where technical support is required to help strengthen linkages along the supply chain. *Note: Figures for number of farmers, ginning, textile, and garment companies from 2008.*

Source: Global Development Solutions, LLC

### III.5.3. Sector Profile: Apparel – Zambia

The Zambian apparel sector is very limited in scale and scope. Up-to-date information on employment, production levels and income generated specifically from the garment industry generally is unavailable. According to the Central Statistical Office, the annual production of all clothing apparel totaled 14,000 metric tons (MT) in 2007, 11,000 MT in 2008 and 8,600 MT in 2009. The production statistics provide evidence that the sector is not only limited but actually in rapid decline, with the output falling 39 percent in the

three-year span. Sector statistics are captured in Table 31. Apparel exports totaled only US\$304,000 in 2009. Zambian apparel exports to the United States are eligible for preferential access under the African Growth and Opportunity Act (AGOA); however, as a practical matter, given the limited volume of Zambian apparel exports in total, this status provides no competitive benefit.

**Table 31: Apparel Production and Trade Statistics, 2009**

	<b>Domestic Production</b>	<b>Domestic Demand</b>	<b>Total Imports</b>	<b>Total Exports</b>
<b>Volume (kg)</b>	8,678,428	14,689,824	6,038,313	26,917
<b>Value (US\$)</b>	N/A	N/A	18,719,204	303,842

*Source: Zambia Central Statistical Office and Global Development Solutions, LLC*

Zambia is a cotton growing country, and 90 percent of the cotton is grown on small-scale farms, while the remainder is grown by commercial farmers and is mainly for seed multiplication. There currently are an estimated 200,000 cotton farmers in Zambia. The estimated yield ranges from 450 kg to 550 kg per hectare, and approximately 73,000 tons were produced in the 2009/10 growing season. Five ginning companies are active in Zambia and 100 percent of all seed cotton is ginned in country. With no spinning companies, however, all of the lint cotton is exported; destination countries are China, Democratic Republic of Congo, Germany, Great Britain, Italy, Lesotho, Malawi, South Africa, Spain, Switzerland, Tanzania and Zimbabwe.

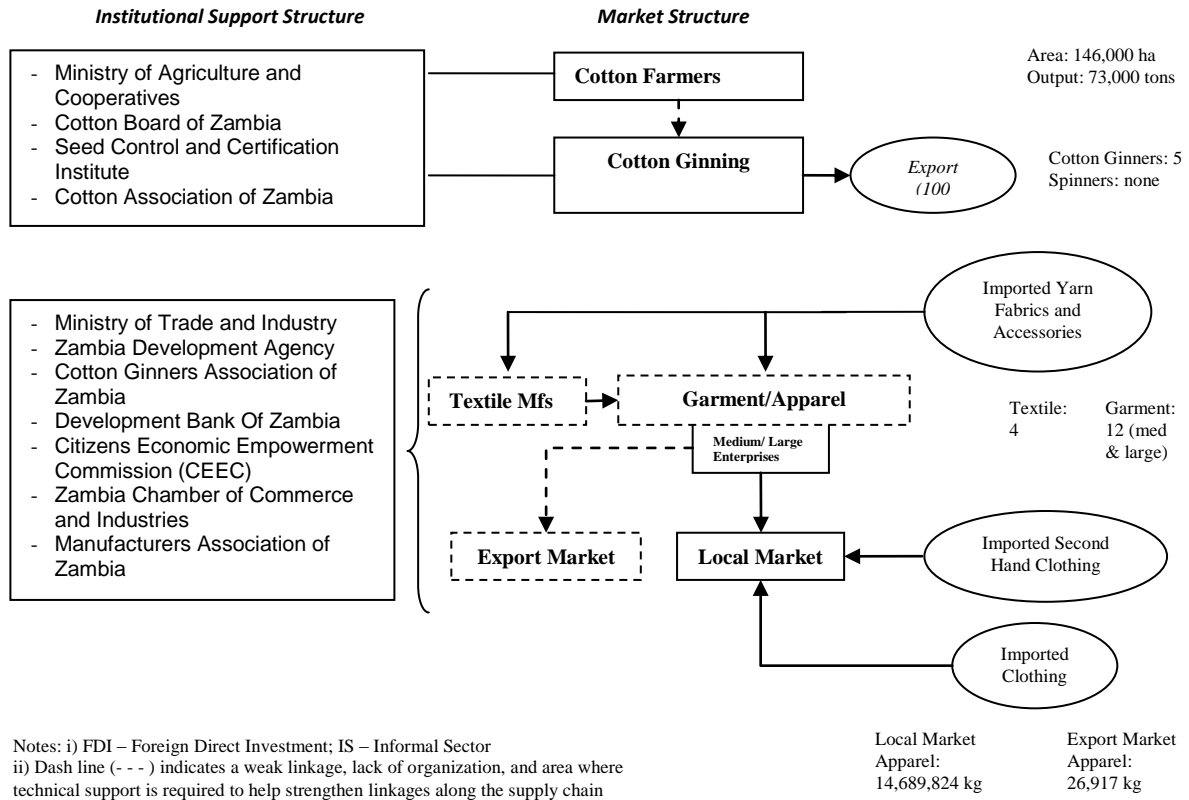
Before liberalization of the Zambian economy, local weaving and knitting industries operated under high protective barriers. However, since liberalization of the economy (1991), these protective measures have been removed. As a result, low-priced imports have flooded the country (both legal and smuggled) along with a high influx of second hand clothing. The Zambian textile industry has been unable to compete with these changes as the sector suffers from poor product quality, low efficiency, insufficient variety of products and long delivery periods - much of which is the result of lack of investment in equipment and machinery in more than a decade. Lack of public sector support also contributed to the sector's demise.

Fabric and second hand clothing imports reached such levels that by the mid-1990s, of the 140 apparel manufacturers that existed a decade earlier, only approximately 50 remained. By 2010, only 12 manufacturers remained, with none producing apparel for casual wear, only niche products such as local ethnic clothing, school uniforms, protective wear for mining and other professional uniforms where the manufacturers are able to compete on service and delivery.

### III.5.3.1 Supply Chain and Institution Support Structure: Apparel – Zambia

The supply chain for the Zambian cotton, textile and garment sector is provided in the map below.

**Figure 5: Zambia’s Cotton-to-Garment Market and Institutional Support Structure**



Source: Global Development Solutions, LLC

Table 32 below provides a rough guide regarding the number of firms operating specifically in textiles and garments (excluding leather products).

**Table 32: Firm Statistics, Zambia Apparel Manufacturing**

Company Size	Estimated Number of Companies	% of Companies by Size	Estimated Number of Employees	Avg Employees/ Firm
Small	0	0	-	-
Medium	6	50%	600	100
Large	6	50%	900	150
<b>Total</b>	<b>12</b>	<b>100%</b>	<b>1500</b>	
<b>Registration</b>				
Formal	12			
Informal	0			
State-owned enterprises	0			
<b>Gender</b>				
% Male		74%		
% Female		26%		

Source: Zambia Central Statistical Office

The Textiles Producers Association of Zambia is now defunct as a result of the industry's decline, but the association's main mandate was to promote the textile and apparel industry and to provide the lobbying capacity for presenting industry issues to policy makers. Currently, there is no sector-specific trade association representing the apparel sector. Thus, advocacy and sector representation for issues related to the apparel sector currently falls under the Manufacturers Association of Zambia.

#### III.5.4. Sector Profile: Apparel – China

The apparel sector in China is based mainly on the east coast (Guangdong, Zheijang and Jiangtsu Provinces). Most factories are within 'Special Economic Zones.' They predominantly are privately owned and foreign investment is common. In Guangdong Province, over 60 percent of garment factories are owned by Hong Kong and Taiwanese companies.

2009 was a disappointing year for the Chinese apparel sector: apparel exports fell by 11 percent compared to 2008 amid a generally negative unit price environment. Notwithstanding the current difficulties caused by the global economic recession, China remains the single most important player in the global apparel trade. Its annual apparel exports of over US\$100 billion constitute a third of the yearly global trade in apparel and are roughly ten to fifteen times higher in value compared to other top exporters in the sector (Turkey, Bangladesh, India and Vietnam).<sup>28</sup>

<sup>28</sup> Excluding the European Union (EU) and its intra-EU trade.



**Table 33: Export Volume and Number of Enterprises, Chinese Apparel Sector, 2009**

<b>Total Exports</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Volume (million pieces)	30	30	26
Value (CNY, billion)	783	815	728
Value (USD, billion)	115	120	107
Main countries/regions of destination	US, Japan, Hong Kong, Germany, UK		
<b>Estimated number of companies operating in the sector</b>	<b>% of Total</b>	<b>Avg No. of employees/firm</b>	
Small	6,976	14%	150
Medium	28,526	56%	350
Large	17,326	34%	500
Subtotal	51,370	100%	337

Source: China Statistical Yearbook Network

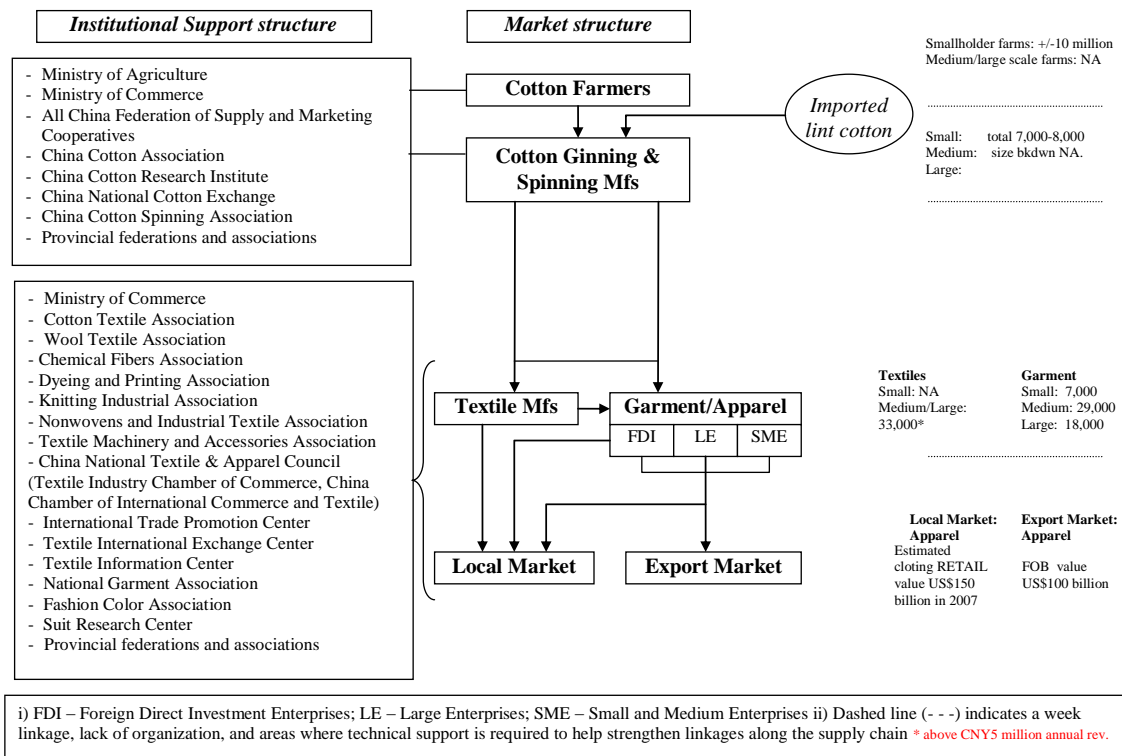
According to the Chinese Statistical Yearbook Network, over 18 million people were employed in the cotton, textiles and apparel industries in 2009. An estimated 4.6 million people worked in the apparel sector in 2009. The workforce is made up mainly of young women. As with most light manufacturing sectors in the country, the Chinese apparel industry operates in a fairly efficient supply chain characterized by competitively priced and locally available raw materials, accessories and other inputs.

The single most critical challenge to the apparel industry is that abundance and competitive prices increasingly are more difficult to attain in light of the evolving labor environment. Even though some social compliance measures have been introduced,<sup>29</sup> the working conditions in the apparel industry in China generally are unfavorable to workers. With practically no freedom of association allowed in the country, garment workers - most of whom are migrants - move between industries in order to improve their wages and working conditions. For garment firms in China, this labor movement often means high labor turnover rates (up to 85 percent in some parts of Guangdong) and increasing labor costs (US\$200 - US\$300 monthly wages for unskilled labor in 2010, up 10 percent - 20 percent from 2009), with an increasing incidence of having to turn down favorable orders.

<sup>29</sup> For example, the CSC9000t Code of Conduct for the textile and apparel industry was introduced in 2005 by the China National Textile and Apparel Council. The code is still very new, and proportionally only a very small numbers of firms are involved. Also, CSC9000t is not compulsory nor is it independently verified.

### III.5.4.1 Supply Chain and Institution Support Structure: Apparel – China

**Figure 6: Cotton-to-Garment Market and Institutional Support Structure, China**



Source: Global Development Solutions, LLC

### III.5.5. Sector Profile: Apparel – Vietnam

According to Vietnam’s General Statistics Office (GSO), the apparel industry took the lead among Vietnam’s exports in 2009, with a turnover of US\$9.1 billion, and, in the first seven months of 2010, exports rose a healthy 17.4 percent from the previous year to US\$5.87 billion. Currently, Vietnam’s apparel products account for roughly 2.7 percent of the world’s total market share. The main importers of Vietnam’s apparel are the US (55 percent), the EU (20 percent) and Japan (10 percent). In the domestic market, during the first half of 2010, garment and textile producers achieved a growth rate of 15 – 18 percent. According to the Vietnam Textile and Garment Group (Vinatex), local apparel manufacturers reported a rise in export orders, with prices rising between 10 percent – 15 percent year-on-year amid the global economic recovery.

According to Vinatex, the apparel sector employs about 1.2 million (1,194,310) workers divided among 3,174 officially registered small, medium and large enterprises (Table 34).

**Table 34: Enterprises in the Apparel Sector in Vietnam (2010)**

Size Category	No. of Enterprises	% of Total	No. of Employees
Small	851	26.8%	< 10
Medium	1,745	55.0%	10 – 200
Large	578	18.2%	>300
<b>Total</b>	<b>3,174</b>	<b>100%</b>	

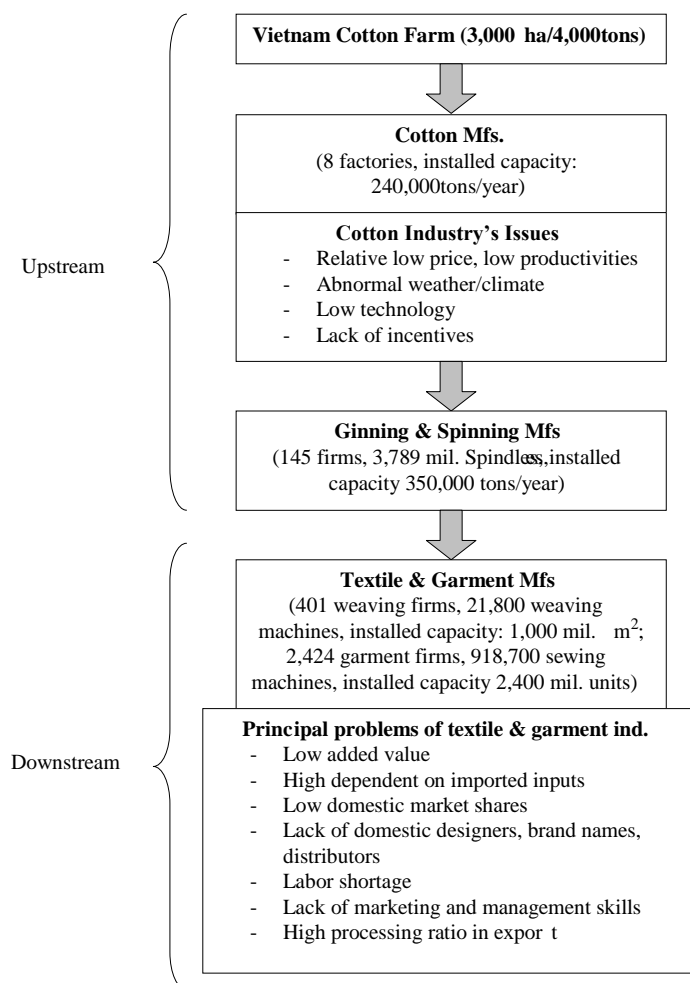
Source: Vinatex, Interview, August 2010

Of the 3,174 enterprises, 587 (18.5 percent) are partially or wholly foreign owned enterprises, 2,539 (80.0 percent) are Vietnamese owned non-state enterprises, and 48 (1.5 percent) are state-owned enterprises.

Amidst the impressive growth achieved by the apparel industry are also a host of challenges that continue to threaten the competitiveness of the sector (see Figure 7 below).

**Figure 7: Vietnam’s Cotton-to-Garment Processing Road Map**

Vietnam’s Cotton -to-Garment Processing Road Map



Source: Global Development Solutions, LLC

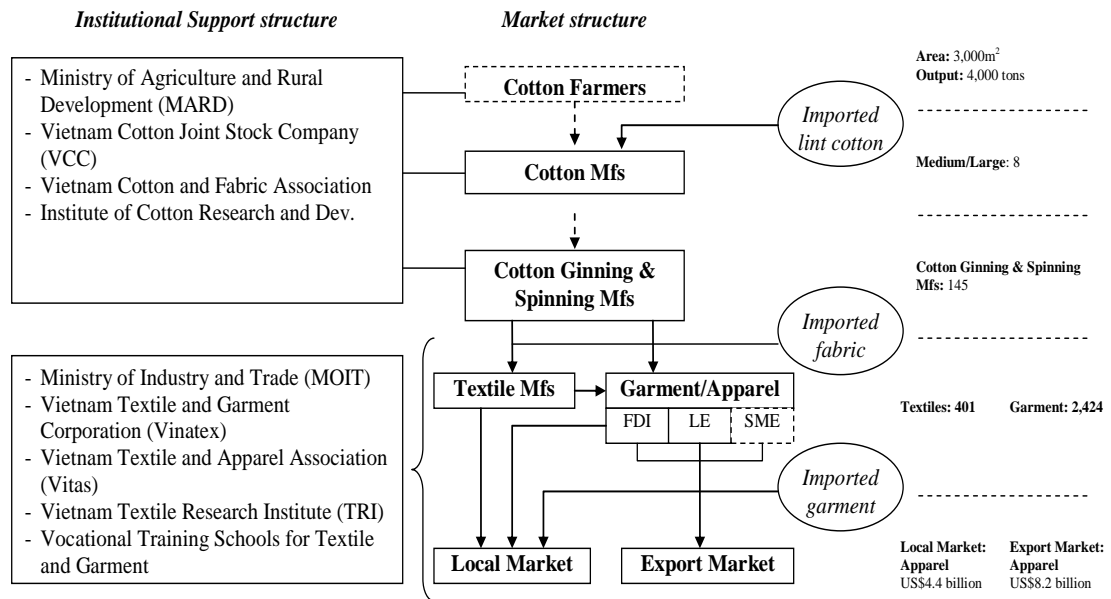
The biggest hurdle to maintain competitiveness in the world market is Vietnam's high dependence on imported inputs. Currently, it is estimated that 80 – 95 percent of the production relies on imported material (primarily from China, Taiwan and Korea). For example, during the first seven months of 2010, the sector imported US\$3.18 billion worth of cloth (up 34.3 percent from the previous year), US\$1.47 billion worth of apparel and footwear materials and accessories (up 35.4 percent from the previous year), US\$620 million worth of fiber (up 47.5 percent) and US\$362 million worth of cotton (up 98 percent). With respect to cotton, global prices more than doubled in 2010, placing even more downward pressure on profits for the apparel sector in Vietnam.

The second challenge faced by the sector is the slow transformation of the sector from CMT (cut, make and trim) to ODM (original design manufacturing). However, in order to realize a fully integrated value chain from the production of cotton to finished fabric, vast amounts of investments, technical know-how and technology is still required. With this noted, however, Vinatex recently has invested VND15.3 billion (or US\$0.8 billion) in the production of fiber, cotton and dye, but growth in the sector far outpaced the level of investments made by both state and private enterprises along the entire value chain.

The third challenge faced by the sector is the shortage of skilled and semi-skilled labor. Even with a starting salary at VND 2 – 3.5 million (US\$104 – US\$181) per month, enterprises have a difficult time hiring workers, particularly in urban and peri-urban areas where factories currently are located. The Government is encouraging the relocation of factories to rural areas through the development of specialized processing zones, but according to Vinatex, the labor shortage is likely to exceed 10 percent in 2010. As such, the apparel sector in Vietnam is basically low value-added production.

### III.5.5.1 Supply Chain and Institution Support Structure: Apparel – Vietnam

**Figure 8: Vietnam’s Cotton-to-Garment Market and Institutional Support Structure**



Notes: i) FDI – Foreign Direct Investment Enterprises; LE – Large Enterprises; SME – Small and Medium Enterprises  
 ii) Dash line (- - -) indicates a weak linkage, lack of organization, and areas where technical support is required to help strengthen linkages along the supply chain

Source: Global Development Solutions, LLC

## III.6. Economic Efficiency and Competitiveness of Clothes Manufacturing – Polo Shirts

### III.6.1. Ethiopia: Polo Shirts

The aim of this section is to establish the basic competitiveness of the garment industry and its likely future trend in competitiveness, with a focus on polo shirts as a representative product. This is a complement to looking more closely through the VCA at the strategic and process opportunities for upgrading and expansion at each production stage over the next five years.

The analysis focuses on the efficiency of three Ethiopian firms from the VCA survey selling in the domestic market. These firms were selected because they are regarded as representative examples of typical local firms competing against imports.

For the analysis, a composite firm was created by taking a weighted average of the economic production cost of the three firms (as defined above). This cost is compared with the cost of competing imports, which is reported as being in the range of US\$2.95-US\$3.25 per piece, with China likely to be the marginal import supplier. Given the problem of quality comparability, the low end of this range, i.e., US\$2.95 per piece, is taken as the applicable cost of the import alternative. It also is assumed that the internal transport cost of moving domestic goods from the wholesale stage to the consumption point is the same as for imports.

Economic production costs are derived according to the following procedures:

- An annual capital charge is obtained by multiplying the estimated replacement cost of assets by a capital recovery factor (ten-year asset life, 12 percent interest rate).
- All import tariffs on imported inputs and indirect taxes (VAT) are deducted where these can be identified.
- Costs (capital cost, electricity, water/fuel, administration) that do not apply specifically to the production of the primary output (polo shirts) are allocated on the basis of the reported share of polo shirts in total output.
- Utility costs of electricity, water and fuel are small components of total cost and have been adjusted only on the basis of their indirect foreign exchange effect.

Table 35 shows the results of the Domestic Resource Cost (DRC) efficiency calculation for the base year and for five years ahead (in 2015). The projections used and the DRC methodology are described in more detail in the Annex.

The key projections assumptions used here and reflected in Table 35 are:

- A 5 percent Ethiopian productivity growth over 2010 levels by 2015. This is an overall productivity increase in the sense of extra output for a given set of total inputs and is based on a review of the differentials in absenteeism, reject rates and material wastage rates in polo shirt production between Ethiopia, China and Vietnam as shown in the VCA section.
- A real appreciation of both the RMB and the Dong. Since the precise value of a future appreciation of these currencies is uncertain, the ‘switching value’ of the currencies (at which Ethiopian production becomes competitive) is calculated and compared with plausible future real exchange rates of these currencies.

**Table 35: Competitiveness Switch Table, Ethiopia**

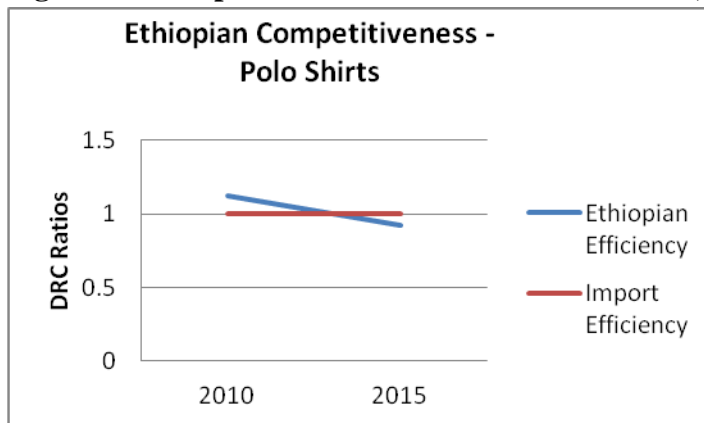
<b>Year</b>	<b>2010</b>	<b>2015</b>	<b>2015</b>	<b>2015</b>
<b>Assumptions</b>	Base Year	5 percent productivity increase; Switching value 6.5 percent real RMB appreciation	5 percent productivity increase; Constant RMB	5 percent productivity increase; 16 percent real RMB appreciation
<b>DRC Ratio</b>	1.12	1.0	1.06	0.92
<b>Level of Competitiveness</b>	INEFFICIENT	MARGINALLY EFFICIENT	INEFFICIENT	EFFICIENT

*Source: Global Development Solutions, LLC*

Based on the VCA, the current economic cost of production of polo shirts (i.e., after deducting all taxes and duties and valuing all traded cost and revenue items at border equivalent prices) is 12 percent higher than the cost of equivalent imports. (That is, the cost of saving foreign exchange through local production is 12 percent above the market exchange rate in 2010 prices). However, if Ethiopia can achieve an overall productivity increase of 5 percent by 2015, it requires only a 6.5 percent real exchange rate appreciation of the RMB for the position to switch to a competitive one vis-à-vis China. This analysis is conservative in that it assumes that both the value of competing imported products and of imported inputs used in Ethiopian production of polo shirts increase as a result of the real appreciation (so implicitly all imported inputs are assumed to come from China).

A 6.5 percent real appreciation of the RMB over the years from 2010 to 2015 is relatively modest in comparison with the projections based on the range of World Bank estimates discussed in Chapter I. At the upper end of the range projected for the real value of the RMB in 2015, Ethiopian production cost would be 8 percent below that of China. Based on the latter, the switch, vis-à-vis China as the main import source, can be denoted in Figure 9 where the Ethiopian domestic resource cost ratio falls below the benchmark import supplier's cost ratio during the five-year period.

**Figure 9: Ethiopian Domestic Resource Cost Ratio, 2010 - 2015**



Source: Global Development Solutions, LLC

A qualification to this projection is that quality differentials between Ethiopia and China might be greater than have been reflected even by assuming the current lowest end of the range of CIF import prices. If so, this would either reduce or delay the improvement in relative competitiveness. On the other hand, the import substitute market (e.g., Addis Ababa) gets an extra degree of natural protection from the long distance road link (450 miles) from Djibouti port, which helps uncompetitive firms sourcing their materials close by. The overall conclusion holds that due to the projected productivity improvements and possible real exchange rate movement, Ethiopian competitiveness will improve and the gap with China and Vietnam will narrow or close based on most likely estimates of changes in conditions over the next five years.

Table 36 provides the detailed estimates of efficiency in 2010 and the switching value scenario for 2015.



**Table 36: Detailed Estimates of Efficiency in 2010 and the Switching Value Scenario for 2015, Ethiopia**

POLO SHIRTS ASSUMPTIONS:	2010 (Base year)		2015	
	Real Ex rate adjustment (Yuan)	Zero		6.50%
Productivity adjustment			5%	
CIF price assumption	2.95		3.14	
Import value	746187.4		834424.1	
	<b>Total Cost</b>	<b>Average Unit Cost</b>	<b>Total Cost</b>	<b>Average Unit Cost</b>
Imported inputs	62850.9	0.248	66936.3	0.252
Domestic inputs	610779.4	2.415	610779.4	2.3
Packaging	10812.7	0.043	10812.7	0.04
Labor	84222.4	0.333	84222.4	0.317
Electricity: imported inputs	603	0.002	642.2	0.002
Electricity: local inputs	603	0.002	603	0.002
Fuel/water: Imported inputs	818.6	0.003	871.8	0.003
Fuel/water: Local	1227.9	0.005	1227.9	0.005
Professional services	2881.5	0.011	2881.5	0.011
R and M	2253.1	0.009	2253.1	0.008
Admin	20348.4	0.08	20348.4	0.077
Cap costs: imported inputs	19648.3	0.078	20925.4	0.079
Cap costs: local inputs	11613.9	0.046	11613.9	0.044
Total cost	828663.3	3.28	834118.1	3.14
Total quantity	252944.9		265592.1	
Average unit cost	3.276		3.14	
Foreign exchange saved	746187.4		834424.1	
Foreign exchange direct use	62850.9		66936.3	
Foreign exchange indirect use	21069.9		22439.5	
Net Foreign exchange	662266.6		745048.4	
Domestic resources	744742.4		744742.4	
<b>DRC</b>	<b>1.12</b>		<b>1</b>	

Source: Global Development Solutions, LLC

### III.6.2. Tanzania: Polo Shirts

A representative production unit has been taken for this analysis. Although Tanzania is a net importer of these products, and therefore, for the purposes of estimating efficiency we would normally compare domestic costs with the import price, in this case the production is exported, so the FOB price is the reference.

The representative firm is a foreign investment firm exporting all of its output at a price of approximately US\$5.7/piece. This is within the range of FOB prices (US\$5.3 to US\$5.7) reported for six Chinese export firms in the VCA survey and is prima facie evidence of competitiveness. Using the export price of US\$5.7 gives a DRC ratio of 0.61, suggesting this firm is highly competitive and capable of trading competitively against Chinese or Vietnamese goods.

Average unit economic cost is calculated according to the following procedures. The firm-level financial data from the VCA survey are adjusted as follows:

- Import tariffs are removed from the value of imported inputs
- VAT is removed from the value of domestic items
- An annual capital charge is estimated based on the application of a capital recovery factor for 12 percent over 10 years to the replacement value of assets
- To allow for indirect foreign exchange content, it is assumed that 80 percent of fuel and electricity cost is for foreign exchange<sup>30</sup>
- Import duties on fabric will vary with its origin - it is assumed that all fabric qualifies for the 5 percent preferential duty but that it is subject to VAT at the standard rate of 18 percent.

With these assumptions, average economic cost is US\$4.5/piece, of which US\$2 is the cost of imported fabric.

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<sup>30</sup> This is only an assumption, but given the relatively small share of fuel in total cost, the results are not sensitive to this assumption.

**Table 37: DRC Analysis: Polo Shirts - Tanzania**

<b>Assumptions</b>			
FOB price	\$ 5.7/pc		
Quantity (Pcs p.a.)	100,300		
<b>Cost</b>	<b>Financial</b>	<b>Economic</b>	<b>Econ Cost/pc</b>
<b>Imported</b>			
Fabric	257985.0	209743.9	2.092
Collar Cuffs	51667.2	43785.8	0.437
Placket Hardener	3008.6	2549.7	0.025
<b>Domestic</b>			
Thread	6666.7	5649.7	0.056
Wash Care Labels	2005.7	1699.8	0.017
Buttons	9025.7	7648.9	0.076
Brand Labels	3008.6	2549.6	0.025
Packaging			
Plastics	1504.3	1274.8	0.013
Cartons	9035.0	7657.9	0.078
<b>Labor</b>	116640.0	116640.0	1.163
Electricity	3333.3	3333.3	0.033
Water	3333.3	3333.3	0.033
Fuel Oil	2000.0	2000.0	0.020
R and M	4666.7	4666.7	0.047
Admin	666.7	666.7	0.007
Capital Charge	37026.5	37026.5	0.369
<b>Total</b>		450227.1	4.489

Source: Global Development Solutions, LLC

**Table 38: DRC Estimate: Polo Shirts - Tanzania**

FOB price	5.7
Foreign exchange output	571628.6
Imported inputs	256079.3
Indirectly imported inputs	4266.7
Net Foreign exchange	311282.6
Domestic resources	189881.1
<b>DRC</b>	<b>0.61</b>

Source: Global Development Solutions, LLC

## Medium Term Scenario - 2015

The prospects for continued production on the above cost basis appear good over the medium-term as it is currently clearly competitive. Efficiency is helped by relatively low wastage and reject rates, on par with China and Vietnam, although labor absenteeism is fairly high. While this result is representative of foreign investment firms in apparel in Tanzania, it is unclear how far it can be taken as representative of domestic production for the local market as a whole. However, since on this basis internationally competitive clothing products can be produced in the country, the sector therefore has longer-term potential. Operations are however highly import-intensive, with imported fabric alone accounting for 45 percent of costs. Any real increase in the cost of this fabric clearly will have a significant effect on the viability of operations, but the switching value for imported fabric at which the DRC becomes uncompetitive (above 1.0) would require an increase of as much as 58 percent, indicating a strong underlying efficiency.

### III.7. Value Chain Analysis: Polo Shirts<sup>31</sup>

The average cost of producing an export quality polo shirt in Ethiopia is US\$2.41/piece. A similar polo in China costs about US\$4.07 to produce. In Vietnam, the majority of polo/garment production is on assembly basis at an average cost of US\$0.48/polo shirt.<sup>32</sup>

**Key Characteristics:** The cost of raw materials (fabric, collar, thread, etc.) generally constitutes the largest portion of polo shirt production in most countries. Tanzania, Ethiopia and China are no exception – raw materials constitute roughly 85 percent polo manufacturing costs in China and Ethiopia and 65 percent in Tanzania (see Table 39 below).

**Table 39: Raw Material Input Cost Comparison in Polo Shirts, Tanzania, Ethiopia and China**

		Ethiopia		Tanzania		China	
1.0	Raw material inputs as % of value chain	83%		65%		84%	
2.0	Total cost of raw material inputs/shirt	\$2.17	% of Total Input	\$ 3.32	% of Total Input	\$3.41	% of Total
2.1	Fabric (cost/shirt)	\$1.70	78%	\$ 2.57	77%	\$2.65	78%
2.2	Other inputs (cost/shirt)	\$0.47	22%	\$ 0.75	23%	\$0.76	22%

*Global Development Solutions, LLC*

For an Ethiopian garment firm to be able to export, it must rely entirely on imported raw materials: fabrics, thread, buttons, etc.: all has to be imported. With few exceptions, established garment firms that sell in the local market also import all the raw materials of

<sup>31</sup> Value chain diagrams in this section reflect actual data from export oriented best practice firms.

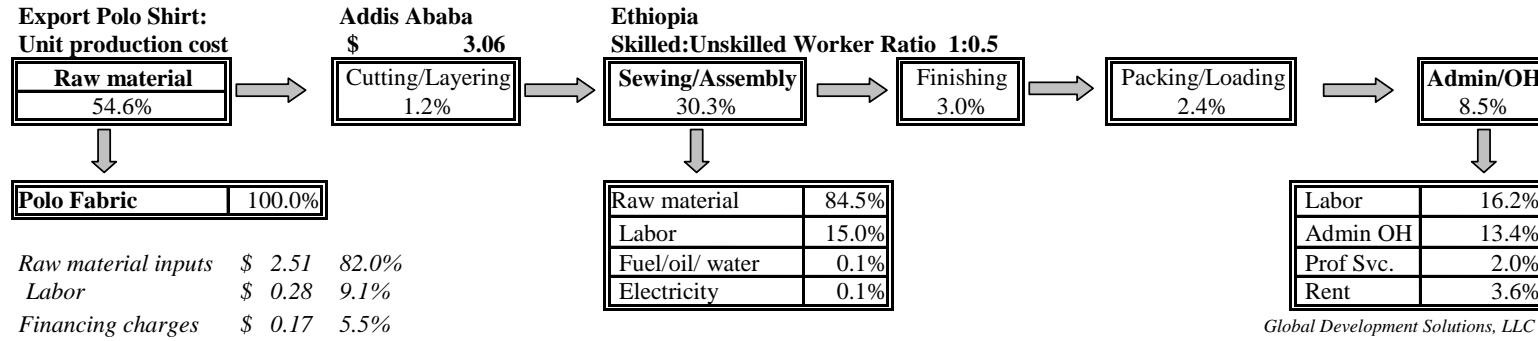
<sup>32</sup> The local manufacturer is expected to cover all production costs, including equipment maintenance and packaging material costs, while the buyer provides the necessary raw materials required for the production of a polo shirt.

varying quality as the local textiles and accessories industry either do not produce such materials at all or produce them at poor quality and uncompetitive prices. For example, Ethiopian firms can source locally produced polo fabric at US\$6.00 - US\$7.00/kg. This fabric is neither good enough (more than three holes per kg of material) nor cheap enough to enable manufacturers to compete in the foreign and local markets; most companies therefore import their fabrics and other raw materials. Depending on the segment in which they operate, firms in Ethiopia can import fabrics for as little as US\$3.00/kg (those selling in local market) and higher quality Italian or Chinese fabric at US\$6.60/kg.

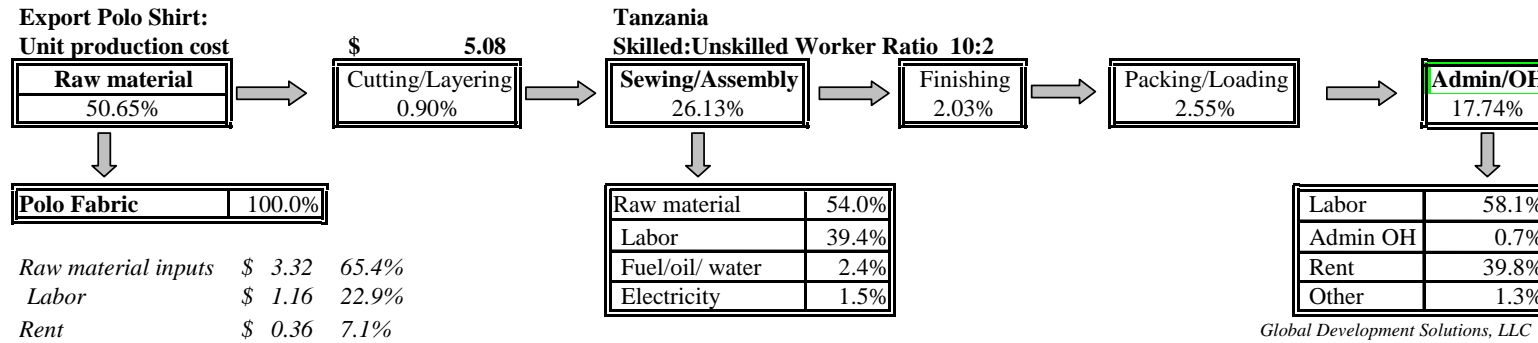
In Tanzania, garment exporters also cannot rely on the quality of locally available fabric. First, there is only one domestic supplier of knit fabrics. Second, fabric quality is poor. The shrinkage rate of local knit fabrics averages 9.5 percent, compared to a more normal rate of 5 percent for fabric used for export-grade garments. This suggests that Tanzanian fabrics are not finished properly – in general, higher shrinkage rates are indicative of over utilization of starch and under utilization of chemicals during finishing. Also, the local fabric supplier offers a limited range of fabric width from which to choose compared to imported fabric that can be ordered in many different width variations depending on order/design/client needs. Although the local knit fabric is generally cheaper (US\$7-US\$8 per kilogram) and transport to the factory (US\$0.04/kg), Tanzania garment producers purchase fabrics exclusively from abroad when assembling polo shirts to fill export orders. Typically, Tanzanian garment exporters order fabrics from Mauritius, Egypt, or from European countries at prices ranging from US\$8.7 to US\$9.2 per kilogram with transport costs between US\$1.3 - US\$2 per kilogram depending on order size and means of transport.

The inability of the local textile industry in Ethiopia and Tanzania to supply materials at competitive prices and quality is, therefore, one of the key impediments in their respective garment industries. Reliance on imports is necessary for local garment firms but this weakens their supply chain in many aspects, including a critical one: time-to-delivery. It takes Chinese firms approximately 30 - 45 days to complete an order. In Tanzania it takes approximately 65 days to complete an order. Selection of proper fabrics and other inputs, matching color/texture/design features, takes time to import.

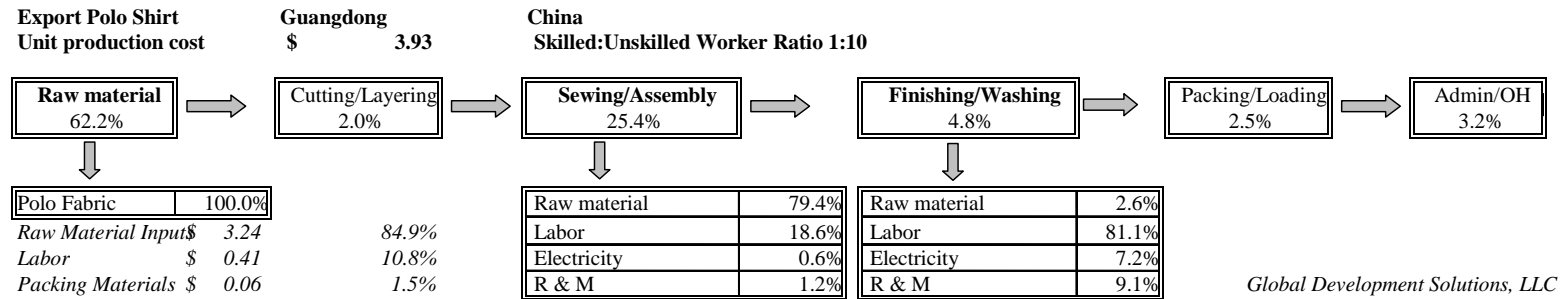
**Figure 10: Polo Shirt Value Chain Diagram, Ethiopia**



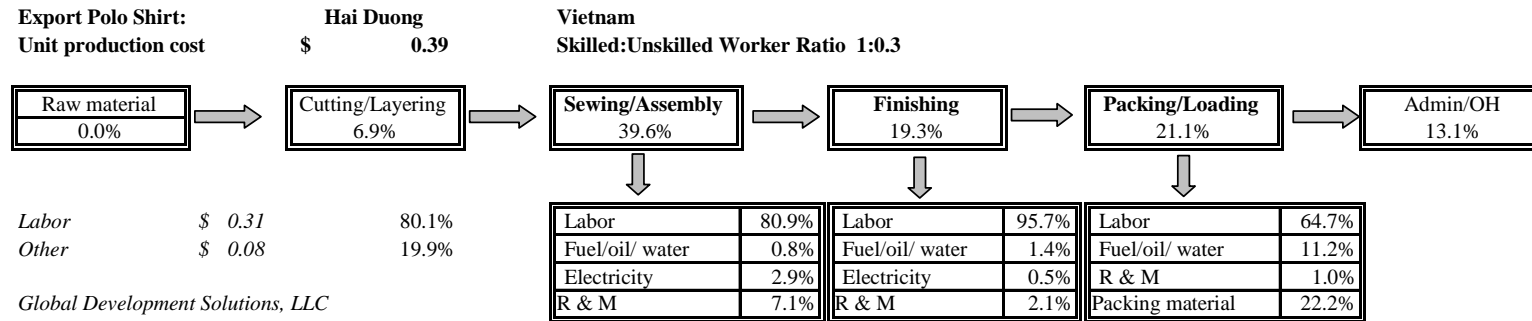
**Figure 11: Polo Shirt Value Chain Diagram, Tanzania**



**Figure 12: Polo Shirt Value Chain Diagram, China**



**Figure 13: Polo Shirt Value Chain Diagram, Vietnam**



In Vietnam, availability of good quality and competitively priced fabric and other raw materials is also limited, particularly given that the CMT market using imported materials developed quickly without a parallel growth in the textile sector. With few exceptions, textile producers in Vietnam, as is the case in Ethiopia, generally are not able to satisfy quantity, quality or timely delivery standards of international buyers. Unlike Ethiopia, however, Vietnam has been able to attract and encourage foreign firms to invest in and/or source garments from Vietnam. Relatively low, albeit increasing, wages and a relatively developed and business-friendly infrastructure have made Vietnam a location of choice for many Korean, Taiwanese and other firms to source garments on CMT basis using imported material.

While the CMT production modality generally is considered to be suboptimal among Vietnamese policy makers, it has served Vietnam well particularly in the context of employment creation, for developing a skilled and semi-skilled labor force and for contributing to the economic growth of the country. For one, the CMT basis provides Vietnamese garment producers opportunities to strengthen operational and management capacity without committing scarce resources and taking risks.

The VCA suggests that polo CMT costs in Ethiopia can be competitive relative to Tanzania, Vietnam and China (see Table 40 below). However, like Vietnam, in Ethiopia the absence of a strong and efficient domestic textiles and accessories supply chain, expansion of export production will not necessarily result in an increased domestic content ratio and/or value addition. In Tanzania, CMT costs are highly uncompetitive mainly due to high fixed operating costs such as the cost of rent in export processing zones and extensive reliance on expatriate labor (typically from Kenya, Malaysia, etc.) for factory floor management and other upper management positions.

**Table 40: Comparative Polo Shirt CMT Costs**

Comparative CMT Costs			
China	Vietnam	Ethiopia	Tanzania
\$0.33 - \$0.71	\$0.39 - \$0.55	\$0.23 - \$0.55	\$0.82 - \$1.75

*Source: Global Development Solutions, LLC*

### **III.7.1. Benchmarking Key Variables**

In addition to the weak local raw material supply chains, the value chain analyses identified a number of other key factors impacting the competitiveness of garment manufacturing sector in general and the production of polo shirts in particular in Ethiopia and Tanzania.



First, African garment producers have low polo shirt labor productivities. Specifically, Ethiopian producers manufacture, on average, 11 polo shirts per worker per day; Tanzanian producers manufacture, on average, 12 polo shirts per worker per day.<sup>33</sup> Compared to Chinese workers, these productivity rates are low: in Guangzhou, garment manufacturers produce, on average, 25 polo shirts per day.

**Table 41: Benchmarking Key Variables for the Production of Polo Shirts**

Benchmarking Data Sheet: Polo Shirts		China	Vietnam	Ethiopia	Tanzania
<b>1.0</b>	<b>Avg Spoilage &amp; Reject rate: List different types (3)</b>				
1.1	In-factory product rejection	2% - 3%	1% - 3%	2% - 5%	1% - 3%
1.2	Product rejection by client	0%	0% - 1%	1% - 3%	0%
<b>2.0</b>	<b>Avg Waste &amp; losses: List different types (% of total)</b>				
2.1	Production waste - scrap (fabric-to-polo, weight)	5% - 10%	1% - 7%	10% - 11%	3% - 10%
2.2	Losses (theft)		0%	0%	0%
<b>3.0</b>	<b>Electricity</b>				
3.1	On grid (Cost/kWh)	\$ 0.13	\$ 0.07	\$0.05 - \$0.06	\$0.14
3.2	Off grid (Cost/kWh) - self-generated	\$ -	\$0.10	\$0.07	\$0.22
3.3	% of time off grid/month	0% - 10%	7% - 10%	10% - 16.7%	20% - 30%
<b>4.0</b>	<b>Water (\$/m<sup>3</sup>)</b>	\$0.59 - \$0.61	\$0.31 - \$0.45	\$ 0.06	\$ 0.06
<b>5.0</b>	<b>Fuel &amp; Oil (\$/liter)</b>	\$0.87 - \$0.96	\$0.36 - \$0.87	\$0.89 - \$0.93	\$0.89 - \$0.93
<b>6.0</b>	<b>PRODUCTIVITY &amp; EFFICIENCY</b>				
6.1	Range - Labor productivity (polos) : Pieces/employee/day	18 - 35	8-14	7-19	5 - 20
6.2	Average - Labor productivity (polos) : Pieces/employee/day	25	12	11	12
6.3	Electricity usage: On-grid (kWh/1,000 pieces)	49 - 196	132 - 344	40 - 98	120 - 140
6.4	Electricity usage (\$/1,000 pieces)	\$6 - \$24	\$8 - \$25	\$2 - \$6	\$15 - \$25
6.5	Water usage (m <sup>3</sup> /1,000 pieces)	3 - 14	3 - 15	16 - 37	18 - 20
6.6	Water usage (\$/1,000 pieces)	\$2 - \$8	\$1 - \$7	\$1 - \$2	\$1 - \$2
6.7	Fuel & oil usage (liters/1,000 pieces)	0.5 - 5	1-13	1-13	10 - 12
6.8	Fuel & oil usage (\$/1,000 pieces)	\$1 - \$5	\$1 - \$13	\$0.73 - \$12.28	\$10 - \$12
6.9	Transport (\$/km-ton)	\$0.27 - \$0.30	\$0.12 - \$0.25	\$0.03 - \$0.19	\$0.04 - \$0.06

\* Cost reflects assembly costs only

Source: Global Development Solutions, LLC

This productivity gap reduces the labor/wage cost differential that Ethiopian firms may enjoy compared to Chinese firms. When one considers the relatively high reject rates, waste and high absenteeism in Ethiopia (up to 12 percent), Ethiopian firms in effect lose most of their labor cost advantages to China as a result of these inefficiencies. Some of these inefficiencies stem from the generally poor socioeconomic environment in Ethiopia, including high HIV prevalence, which cannot entirely be attributed to firms' poor management. At the same time, the VCA suggest that Ethiopian garment manufacturers exhibit poor capacity utilization and management skills. For example, when measured in terms of output per machinist, Ethiopian workers can sew more than 20 polo shirts per day, although they are the least paid workers out of the three countries in this analysis. Given the high absenteeism rate, 10 percent or more of the workers in Ethiopian garment firms may not show up for work in any given day. Also, capacity utilization is low. As a consequence, the worker-to-machine ratio in Ethiopian factories may be as high as 3:1 as opposed to China where the ratio is generally around 1.25:1.

In Tanzania, the value chain analysis suggests that even though they are not on par with Chinese factories, indicators such as waste, reject rates and labor productivity are better

<sup>33</sup> Micro and small enterprises selling in the local market report making as few as 5 polos per person per day. Best practice exporting firms report making 20 polos per person per day for single style large orders.

than in Ethiopia. However, this relatively good performance among Tanzanian garment exporters comes at a high cost because of the support received from expatriate management. Tanzanian garment exporters typically hire at least one experienced expatriate line manager (typically from Kenya) per garment assembly line at a cost of US\$30,000 – US\$40,000 per year in wages and benefits. Such firms often have expatriates managing orders or production in general. As a result, even though Tanzanian garment firms generally have better factory floor management practices than Ethiopian garment firms, their labor overheads are high (at least 10 percent of production costs with 60 - 70 percent capacity utilization rates).<sup>34</sup> Maximizing capacity utilization is an enduring challenge among Tanzania firms due to, in part, issues such as high labor absenteeism rates. Even with experienced management oversight, Tanzanian garment exporters exhibit the poorest results of all countries in areas such as labor absenteeism – as high as 21 percent. Like most other manufacturing firms, export oriented garment firms try to encourage the workforce to show up to work on a regular basis by establishing performance-based payments and bonuses. For example, a typical garment firm in Dar es Salaam will pay roughly US\$70/month in fixed wages and an additional US\$20 - US\$50 per month in performance-based bonuses, depending on the level of productivity targets met by workers. Nevertheless, roughly two out of ten workers will not show up for work in any given day due to a variety of social or other circumstances. Yet workers expect to be paid at least the fixed portion of their wages no matter how often they do or do not show up for work.

In Ethiopia, the net result of the poor factory floor and garment flow management is that Ethiopian polo shirt producers are not able to gain any significant edge over Chinese producers on the delivered factory price of their product. In markets where markups from factory gate to international retailer prices are high, such as is the case for clothing, international retailers, all else being equal, prefer to source from known and proven locations (China, Vietnam, India, etc.) instead of shopping for cheaper sourcing locations elsewhere (Ethiopia and other African countries), unless the alternative sourcing locations are significantly cheaper and can supply a variety of products consistently and reliably.

The VCA shows that while Ethiopia is a less expensive location than China in terms of production costs of export quality polo shirts (see Table 42 below),<sup>35</sup> Ethiopian producers are unable to capture a higher FOB price than their Chinese competitors. A polo shirt of similar quality and make sells for US\$2.95 - US\$3.41 (FOB Djibouti) versus US\$5.38 - US\$5.80 (FOB Guangdong, China). This is roughly a 40 percent price differential and

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<sup>34</sup> The garment export firm illustrated in the VCA diagram does not include expatriate proprietors'/partners' earnings/wages in its product costing.

<sup>35</sup> Note that the lower production cost in Ethiopia pertains to manufacturers who produce lower quality polo shirts for the local market.

reflects differences in quality, volume and the ability to deliver consistently on time. At the same time, if Chinese producers are under pressure to sell, they can comfortably decrease prices in proportion to the export rebate subsidy they obtain from the government (or roughly US\$0.75/piece or polo as per August 2010 rates).

For Tanzania, the VCA shows that the country has the highest production costs: roughly US\$5 per export quality polo. The high production costs are for the most part caused by the inability of Tanzanian firms to generate sufficient orders to both minimize input costs as well as to effectively spread out the high management and overhead costs associated with an operation.<sup>36</sup> In terms of input cost minimization, for example, Tanzanian garment firms could reduce fabric input costs by at least 15 percent and up to 20 percent only by the virtue of ordering one TEU load of fabric per order instead of the current case of ordering only a fraction of a TEU load.<sup>37</sup> In terms of spreading fixed costs across higher volumes of production, an increase in capacity utilization from 60 percent to 85 percent is estimated to reduce production costs by at least 10 percent.<sup>38</sup> Combined, these two cost savings that could be generated by increased volumes of operation would reduce production costs by at least 16 percent to US\$4.27/polo. To date, small and medium-size Tanzanian garment export firms have not been able to overcome the challenge of securing large orders, partly because they generally have limited capacity (up to 550 pieces/day) and because they have limited product ranges. As such, they are not attractive for foreign clients operating in the volume segment or those working with multiple product and fashion cycles. In addition to their small size, Tanzanian garment exporters face a range of other challenges to competition with both Asian and other African competitors, including lack of country awareness by the majority of international apparel buyers and/or their agents and generally inferior delivery times compared to Asian competitors.

As was the case for Ethiopia, Tanzanian garment exporters operate in an industry small in size and attractive only for the smallest buyers specializing in a few products. Unlike in Ethiopia, however, garment exporters in Tanzania are able to execute the low-volume high-price strategy well: they obtain high prices in the low-volume niche markets in which they operate. The VCA shows that Tanzanian FOB prices are among the highest of all countries surveyed (US\$5.7-US\$6.3/polo); employment of experienced expatriate

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<sup>36</sup> Analysis does not pertain to the two large garment exporters in Arusha (vertically integrated) who each employ over 2,000 people.

<sup>37</sup> Actual quotation from Mauritius fabric suppliers: sea freight costs of US\$1.3 waived for any order of a TEU load of fabric and a 10 percent discount on fabric prices for a repeat order of TEU load of fabric.

<sup>38</sup> Simulation of actual production costs for the polo producer illustrated in the VCA, i.e., costs for acquiring additional button opening and attaching machines that are required in this particular factory set up to accommodate increased volumes are minimal (less than US\$0.01 per polo piece) and therefore not included. Additional labor costs for operating the additional machines are minimal (US\$0.01 per polo piece) and are included.

management is one of the factors behind the high quality of polo garments produced in Tanzania as reflected by their prices.

**Table 42: Benchmarking Key Variables for the Production of Polo Shirts (Part 2)**

Benchmarking Data Sheet: Polo Shirts		China	Vietnam*	Ethiopia	Tanzania
<b>7.0</b>	<b>FACTORY</b>				
7.1	Capacity utilization	60% - 85%	80% - 95%	55% - 70%	50% - 75%
7.2	Installed capacity (piece/day)	357 - 2,000	3,200 - 77,000	1,000 - 4,156	100 - 550
7.3	Labor absenteeism rate (%)	1%	0.3% - 2%	6% - 12%	15% - 21%
7.4	Average salary/wage/month				
7.5	Skilled	\$311 - \$370	\$119 - 181	\$37 - \$185	\$107 - \$213
7.6	Unskilled	\$237 - \$296	\$78 - \$130	\$26 - \$48	\$93 - \$173
7.7	Days of operation/month	26 - 28	26	25	26
7.8	Working hours/day	9 - 10	8	7.5	8.0
7.8	Average age of major equipment	1.1 - 2.5	4 - 13	3 - 13	8 - 15
<b>8.0</b>	<b>Exported Output (finished primary product)</b>				
8.1	Direct Export without consolidator/broker	0% - 25%	97% - 100%	0% - 100%	0% - 100%
8.2	Indirect Export Through Local Consolidator	75% - 100%	%	0% - 27%	0%
8.3	Indirect Export Through Overseas Consolidator	0%	%	0%	0% - 100%
<b>9.0</b>	<b>Domestically Sold Output (finished primary product)</b>				
9.1	Direct Sales to Wholesalers/Retailers without consolidator	0%	0% - 3%	0% - 80%	0% - 100%
9.2	Direct Sales Through Own Outlets/Shops/Showrooms	0% - 25%	0%	0% - 30%	0%
9.3	Indirect Sales Through Local Consolidator/Trader	0%	0%	0% - 10%	0% - 100%
<b>10.0</b>	<b>Unit production cost (\$/piece)</b>	\$3.93 - \$4.33	\$0.39 - \$0.55	\$1.98 - \$3.21	\$4.76 - \$5.10
<b>10.1</b>	<b>Export VAT Rebate (\$/piece)</b>	\$0.74 - \$0.79			
<b>11.0</b>	<b>Avg Selling Price (US\$)</b>				
11.1	Factory gate	\$4.97 - \$5.36	\$ -	\$3.19 - \$8.89	-
11.2	Wholesale	\$5.18 - \$5.58	\$ -	\$3.19 - \$9.33	\$8 - \$10
11.3	FOB price	\$5.38 - \$5.80	\$0.80 - \$1.42	\$2.95 - \$3.41	\$5.70 - \$6.30

Source: Global Development Solutions, LLC

### III.7.2. Other Factors Contributing to Differences in Competitiveness in the Apparel Sector

The value chain analysis identified a number of factors at the factory level that contribute to differences in competitiveness between apparel manufacturers in the select countries. But a closer analysis of the supply chain structure for the apparel sector revealed major structural differences in the way the sector is organized that substantially impact labor productivity and production efficiency.

**Supply Chain Structure in Ethiopia:** The apparel sector in Ethiopia is composed of:

- Predominately SMEs producing for the local market with a few large, fully integrated (fabric purchase-to-finished product export) manufacturers; and
- Limited number of local producers capable of supplying export-quality fabric.

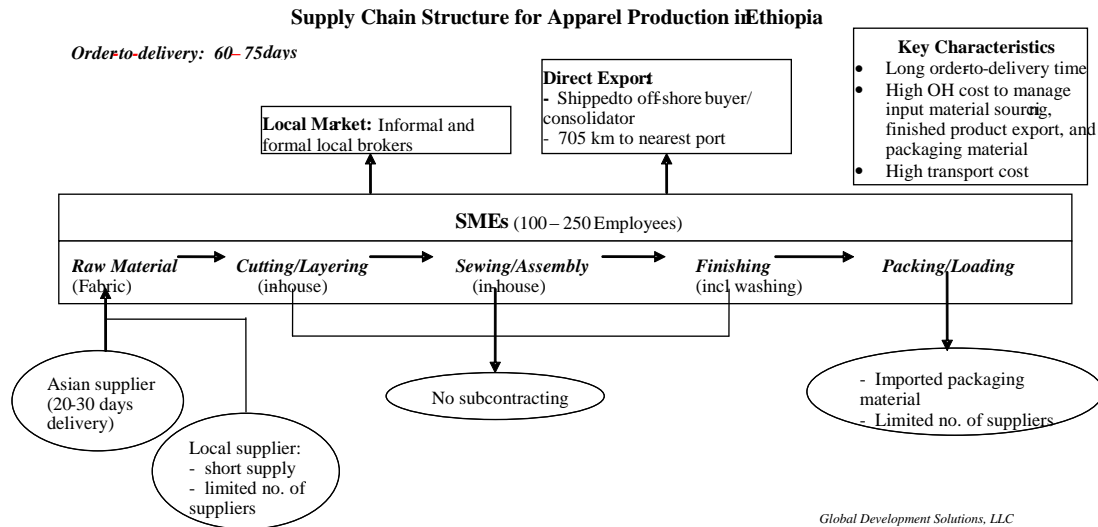
With a limited number of capable fabric suppliers, garment manufacturers must order fabric from Asian suppliers, which generally take up to 20 – 30 days. In addition, no production activities along the value chain are outsourced to local SMEs. Consequently, the garment production structure in Ethiopia is characterized by:

- Long order-to-delivery time (60 – 75 days) – the time lag is further aggravated by the fact that the nearest port is over 700 km away in Djibouti;
- High overhead costs to manage input material sourcing, in-house production, finished product exports and sourcing packing/packaging material (as the value

chain diagram indicates, the Admin/OH cost is the third highest segment of the value chain accounting for 4.3 percent of the total value chain cost compared to 3.3 percent in China);

- High inland transport cost.<sup>39</sup>

**Figure 14: Supply Chain Structure for Apparel Production in Ethiopia**



**Supply Chain Structure in Tanzania:** The supply chain structure in Tanzania is very similar to the one in Ethiopia, except that most garment firms operating in Tanzania are much smaller (10-50 employees on average) than those in Ethiopia (100-250 employees on average). The other notable difference is that Tanzania is not landlocked and the logistics of operating in an export-based supply chain are less complex and often less costly than they are in Ethiopia.<sup>40</sup>

**Supply Chain Structure in China:** An assessment of the supply chain structure for the apparel sector in China points to a very different story. The supply chain structure in China is characterized by the following (refer to the diagram below):

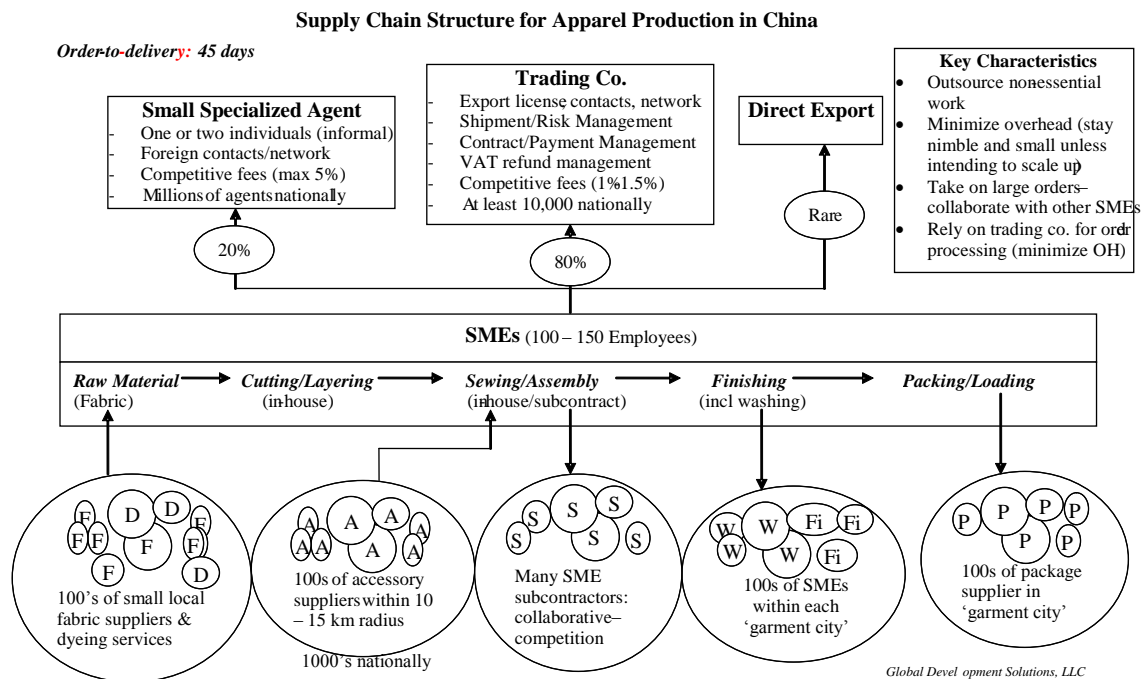
- The sector is organized in a large cluster structure where entire towns and cities are devoted to the production of apparel products;
- Within the cluster structure are many SME suppliers supplying all of the necessary input material within close proximity to the production facility where input supplies can be accessed within a matter of days or even hours;

<sup>39</sup> Note that from the benchmarking table the inland transport costs are higher for China and Vietnam measured in US\$/km-ton due to the fact that the distances that the products are transported are very short, and thus transport costs tended to be higher in these two countries.

<sup>40</sup> Inland transport costs along main axes in Tanzania are relatively low (US\$0.04/km-ton).

- Also within the cluster structure are many SMEs performing both similar and specialized production activities where segments of the value chain can be readily subcontracted out, thus allowing a garment manufacturer to achieve a much higher labor productivity rate;
- Many value adding activities, including contracting, shipping and market risk management with overseas buyers are managed by a vast network of traders and specialized agents that operate within a textile/garment cluster. This network provides critical market linkage support to garment manufacturing firms, especially SMEs, and allows them to focus on improving operating efficiencies with limited overhead staffing and other expenses. This makes possible an environment in which manufacturers enjoy low cost to market entry (limited investment capital requirement) and low overhead cost. The trader/agent network also maintains critical backward linkages with garment SMEs, such as disseminating up-to-date information on the latest international consumer trends and market developments. This gives the SMEs in the cluster the vital ability to quickly shift from one product line to the next as seasonal and fashion demands and preferences change;
- All these characteristics contribute to a very short order-to-delivery time of 45 days.

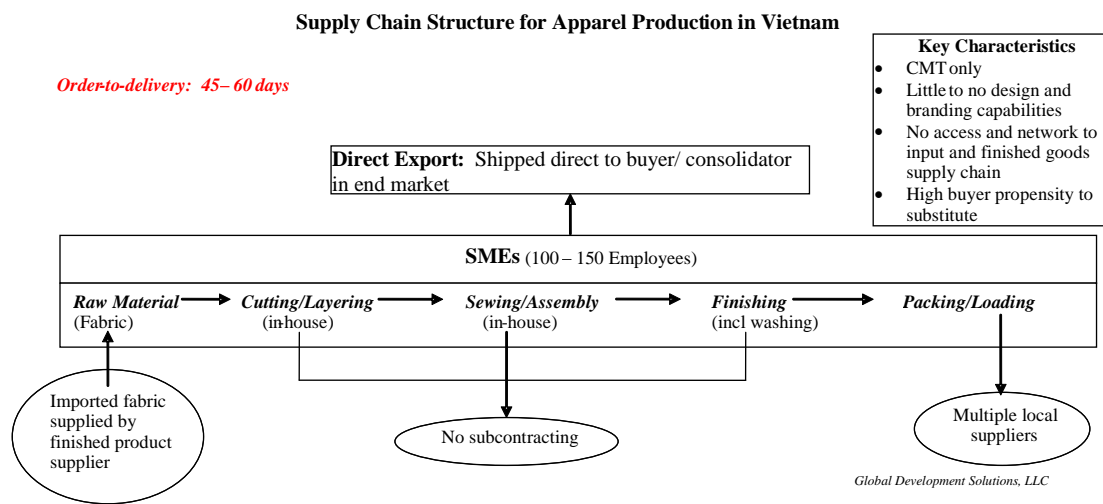
**Figure 15: Supply Chain Structure for Apparel Production in China**



**Supply Chain Structure in Vietnam:** The supply chain structure and the production system in Vietnam are somewhat unique compared to China and Ethiopia, since many manufacturers are subcontractors to buyers/consolidators in consuming markets. In this context, apparel manufacturing in Vietnam can be characterized as follows (refer to the diagram below):

- CMT only where input material is provided by the buyer/consolidator;
- As a consequence of the manufacturer’s reliance on its buyer/consolidator, many manufacturers have little to no access to or knowledge of input and output supply chain networks either within or outside the country;
- Since the buyer/consolidator also provides all of the product and engineering specifications (and at this time the production equipment), apparel manufacturers in Vietnam have not developed in-house design and engineering capability to allow them to graduate from a role of a subcontractor to developing their own products and brands;
- Interviews with apparel manufacturers suggest that given that apparel manufacturers are accustomed to merely assembling products, there is high buyer propensity to shift from one manufacturer to the next based on cost.

**Figure 16: Supply Chain Structure for Apparel Production in Vietnam**



Source: Global Development Solutions, LLC

### **III.7.3. Vietnam's Potential to Move from CMT to FOB Polo Manufacturing<sup>41</sup>**

Table 43 below illustrates a scenario in which Vietnam garment assembly firms operate under the most basic FOB arrangement terms: the buyers designate the raw material supplier(s), and the Vietnamese source fabric and other raw materials on their own account.<sup>42</sup> Under such terms, and assuming the current market price for transportation from Guangzhou to Hanoi to be US\$650/TEU, including all handling and overland transport changes in Vietnam, a typical Vietnamese firm could potentially source fabric at US\$1.82/polo and other raw materials at a price of US\$0.57/polo. When material, transportation, estimated overheads and other manufacturing costs (including labor) are added, Vietnamese firms could potentially produce export quality polos similar to those highlighted in the VCA for US\$3.12/piece.

At a production cost of US\$3.12/polo, Vietnamese firms would be able to compete internationally in terms of price.<sup>43</sup> This, however, does not necessarily mean that Vietnamese firms should abandon their CMT production modality and move toward any particular FOB modality, especially as far as the more complex FOB arrangements are concerned. Such complex FOB arrangements (in which buyers send samples and the Vietnamese firms find their suppliers or Vietnamese firms initiate garment production based on their own designs) generally require significant financial costs to build and organize their supply chain/design capabilities on their own but also take time to build. Any abandonment of the CMT strategy, which is built on the solid labor cost and productivity competitiveness, should therefore be taken with extreme caution and not without careful measurement of costs associated with own supply chain management that is required under most FOB modalities.

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<sup>41</sup> 'CMT' refers to a production modality where Vietnamese firms are provided all input materials from foreign buyers. 'FOB' refers to a production modality where Vietnamese firms purchase all input material. In this context, 'FOB' implies a form of garment production/distribution and does not have any practical relationship with FOB as defined under Incoterm (Free on Board).

<sup>42</sup> The operations which Vietnamese and other firms call FOB vary significantly in the forms of the actual contractual relationships with foreign buyers, and they can be classified into the following three types. The first type is where Vietnamese firms purchase input materials for processing from suppliers that are designated by foreign buyers (FOB Type I). The second type is where Vietnamese firms receive garment samples from foreign buyers (FOB Type II). The third type is where the Vietnamese firms initiate production of garments based on their own design, with no prior commitment of any kind from foreign buyers (FOB Type III). For this example, FOB Type I is considered.

<sup>43</sup> This production cost estimation is based on the assumption that Vietnamese firms are required by their clients to source fabric and other materials from Chinese suppliers similar to those supplying to Chinese firms analyzed in the VCA. This is a hypothetical case and should not be used for investment decisions especially in regard to the price of fabric: dedicated suppliers (those that qualify as 'choice suppliers' for big brand retailers) generally charge a premium for their materials as a result of them being part of an existing supply chain of big buyers, something left out of the current scenario.



**Table 43: Estimated Production Cost of Polos in Vietnam with Imported Fabric from China**

<b>Vietnamese Polo Manufacturing, FOB Scenario</b>	<b>US\$/polo</b>
Fabric (FOB Guangzhou, China)*	\$ 1.82
Other materials (FOB Guangzhou, China)*	\$ 0.57
Sea freight, Customs Clearance and Related Charges (Guangzhou-Hanoi)**	\$ 0.03
Overheads - Supply Chain Management, Financing and Related Costs (10% of Raw Material Cost)	\$ 0.23
Other Manufacturing Costs, Including Labor***	\$ 0.48
<b>Total Manufacturing Cost, US\$/Polo, FOB Hanoi</b>	<b>\$ 3.13</b>

\*Based on prices in Guangzhou less VAT charts for local sales in China

\*\*Includes overland transport and other charges in Vietnam. Assumes no duties in Vietnam.

\*\*\*Average for Vietnamese firms interviewed (VCA)

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### III.7.4. Benchmarking Best Practice Firms

Table 44 below highlights the key characteristics that emerge from benchmarking the best practice firms in China and Ethiopia polo production.<sup>44</sup> The first notable comparator that cuts across firms in these two countries is capacity utilization. In Ethiopia, the best practice firm, like all others, does not have sufficient orders and operates at 65 percent capacity. Large firms generally have spare capacity, very often as a matter of operational choice, but for garment firms of this (small) size, operating significantly below capacity is unusual and indicative of poor order book. In China, by contrast, firms of similar small size have full order books but have difficulties with high labor turnover rates (80 percent in this case) which force them to operate below capacity. Yet, at 85 percent, Chinese capacity utilization among small garment firms is superior to the 65 percent capacity utilization prevailing in Ethiopian firms.

The thin order books for Ethiopian small garment firms become a critical drag for Ethiopian firms especially when their very high machinery content is considered. Also, Ethiopian small garment firms (output of 4,000-5,000 polos per day) hire two to three times more workers per machine than do similar Chinese firms. For example, the typical small Chinese garment manufacturer illustrated in Table 44 needs 120 permanent workers and 110 basic machines (nothing computerized or new) to produce 5,000 polos per day. An Ethiopian firm needs four times as many workers (460) and almost two times as many machines (181) to make roughly 4,000 (20 percent less) polos than the

<sup>44</sup> Refers exclusively to firms analyzed for the value chain analysis in Guangdong Province of China and a select Ethiopian best-practice firm that exports 100 percent of its production.

Chinese firm. Moreover, the Ethiopian firm uses the latest technology sewing machines as well as computerized layering and cutting CAD CAM machines but largely to no avail in terms of competitiveness: Chinese firms that cut the fabric manually with ready patterns waste only half as much fabric than Ethiopian cutters who use computerized patterns and machines (5 percent fabric-to-polo waste levels in China as compared to 10 percent in Ethiopia).

**Table 44: Benchmarking Selected Variables, Best Practice Firms in China, Tanzania, Ethiopia Polo Production**

<b>Benchmarking Best Practice Firms - Polos</b>	<b>China</b>	<b>Ethiopia</b>	<b>Tanzania</b>
Installed Capacity (pcs/day)	5,000	4,000	536
Capacity Utilization	65%	85%	60%
Average age of major equipment (years)	10	5	9
Number of Permanent Employees	120	460	47
Number of Machines	110	181	26
Employees/Machine (all types)	1.1	2.5	1.8
Labor absenteeism rate (%)	1%	11%	21%
Labot turnover rate	80%	7%	3%
Wage rate, skilled (monthly)	\$ 325	\$ 185	\$ 107
Wage rate, unskilled (monthly)	\$ 251	\$ 46	\$ 93
Unit Production Cost (\$/polo)	\$ 3.96	\$ 3.06	\$ 5.08
Average Selling Price (\$/polo)	\$ 5.38	\$ 3.41	\$ 6.00
Average Gross Margin (%)	25%	10%	15%
Production Waste (fabric-to-polo)	5%	10%	5%
CAD CAM computerized cutting	No	Yes	No
Polos/machinist/day (8-hour equivalent)*	28	19	20

*Global Development Solutions, LLC*

In Tanzania, the best practice garment exporter has the worst indicators of all countries compared in two respects. First, it has the highest reported absenteeism rates (21 percent). While this is a major concern, what worries garment firms more is the poor performance along the second indicator: the capacity utilization (60 percent). Low capacity utilization reduces the ability of firms to spread high fixed costs (overhead labor, rents, etc.) over large volumes. With their current high-price, low-volume clients from Europe, Tanzanian garment firms receive orders that can be as low as 1,000 pieces per style. By contrast, fairly standard orders of 15,000 – 60,000 pieces of garments per order generally are unheard of for most Tanzania garment exporters.<sup>45</sup> Interviews suggest that if Tanzanian exporters were able to attract individual orders of such magnitude, their CMT

<sup>45</sup> Ibid.

costs would fall drastically and the ability to decrease their price quote for garments would improve substantially (see Table 45 below).<sup>46</sup>

**Table 45: Impact of Order Volumes on Quoted Garment Prices, Tanzania**

<b>Actual T-Shirt Quotation To Clients (Per Piece)</b>	<b>CMT</b>	<b>Full*</b>
Regular (low) Volume Order (1,000 pieces/style)**	\$1.38	\$4.71
High Volume Order (58,000+ pieces/order)	\$1.04	\$2.95
% Variance (Low Volume/High Volume)	33%	60%

\* *FOB Dar es Salaam. Full means complete order handled by manufacturer - from fabric to packaging material.*

\*\* *Total order volume typically 5,000-10,000 pieces. Full means complete Global Development Solutions, LLC*

Notwithstanding high employee to machine ratios and high absenteeism rates in Ethiopia, the best practice firm there has solid labor productivity rates – 19 polos per worker per day. This allows the firm, unlike most other firms in Ethiopia, to make use of the significant labor cost advantages in Ethiopia where labor is two to four times cheaper than in China, depending on workers’ skill levels. As a result, unit production costs of US\$3.06/polo are attainable in Ethiopia. This is almost a dollar below the production cost from the best practice firm in China (US\$3.96/polo) and demonstrates the importance of high labor productivity in firms’ competitiveness. Yet, the Ethiopian best practice firm is able to sell its polos at not more than US\$3.5 per piece, whereas a similar polo from China sells at US\$5.4 per piece. This demonstrates the invisible off-balance sheet costs that Ethiopian firms have vis-à-vis Asian as well as African competitors:

1. They operate in a country generally unknown to the majority of international apparel buyers and/or their agents.
2. They operate in a supply chain with inferior delivery times for both inputs and final outputs.
3. They operate in an industry small in size and unattractive for all but the smallest buyers.
4. They operate in an industry with limited product depth and sophistication which is unattractive for most buyers except those specializing in a few products.

The net result is that even though Ethiopia has individual best practice and probably other firms that can produce polos and other garments at competitive prices, the country and industry as a whole does not provide any major benefit to buyers for making it a preferred sourcing location. The non-price benefits sought by international buyers yet not apparent in Ethiopia include ability to meet sizable order volume, consistency, favorable delivery

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<sup>46</sup> Actual quotation. The factory mostly exports t-shirts but estimates that the price differential ratio between high and low volume Polo shirt orders is similar to t-shirt orders.

times and product diversification. Table 46 below provides a comparative product performance index related to clothing and its accessories.

**Table 46: Clothing and Accessories, Comparative Product Performance Table, 2007**

Product Performance Table (Clothing and Accessories)			CHINA		VIET NAM		ETHIOPIA		TANZANIA		ZAMBIA	
Indicators			Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Position in 2007 (Current Index)	P1	Net exports (in million US\$)	112,597	1	8,216	6	-93	109	-123	112	Not Ranked	
	P2	Per capita exports (US\$ per inhabitant)	87	48	105	42	0	145	0	138		
	P3	Share in World market (%)	34%	1	3%	9	0%	117	0%	115		
	P4a	Product diversification (N° of equivalent products)	50	4	29	38	20	58	3	143		
	P4b	Product spread (concentration)		4		29		104		116		
	P5a	Market diversification (N° of equivalent markets)	15	3	3	102	2	111	6	48		
	P5b	Market spread (concentration)		2		55		90		87		

Source: *Product Map, International Trade Center*

### III.8. Conclusions: Possibilities and Actions for Maintaining Competitiveness in Polo Shirts

Given constraints along the value chain and the structural differences in the supply chain that gives apparel manufacturers in China a substantial competitive advantage over Ethiopian manufacturers (as well as those in other countries), can apparel manufacturers in Ethiopia continue to compete in the international market? Combining economics and VCA in a medium term framework, this analysis has developed a series of recommendations regarding the maintenance of future competitiveness in the garment industry, with reference to polo shirts, in Ethiopia.

A general condition underlying the possibilities of increasing the competitiveness of the Ethiopian garment industry over the next five years are expected changes in relative Real Exchange Rates. It is anticipated that relative movements in Chinese and Vietnamese RER will benefit Ethiopia by increasing the costs of these competitive suppliers while Ethiopian costs tend to fall.

Given this background, the key conclusions that underlie increased efficiency at the industry level fall into three broad categories as follows:

#### 1. Encouraging Scale:

- The Ethiopian garment industry is characterized by small producers to a greater extent than are China and Vietnam. As in the case of leather goods, there may be a tendency for Ethiopian producers to maximize short-term profits whereas competing manufacturers, e.g., from China, are more concerned to expand long-term market share. To the extent that this is the case, the Ethiopian business strategy needs to change to permit scaling up of production to achieve economies

of scale. It would be in the interests of the industry to encourage more private investors to enter at medium scale.

- The cost of labor in Ethiopia (both skilled and unskilled) is between two to ten times lower than in China, and one to two times lower than in Vietnam. In this context, it is conceivable that with adequate training and capacity building, apparel manufacturers can be competitive in the international volume-based market segment, including CMT manufacturing.

**Building Market Linkage Infrastructure to Put Ethiopia on the Map of International Outsourcing:**

According to *Ethiopian Journal*, "...construction of a modern multi-million Africa International Trade Centre is under way in Ethiopia's capital, Addis Ababa. The trade centre to be called Addis Africa International Trade Centre will be the first of its kind in Africa...Trade centre project manager Ayalew Abey disclosed in Addis Ababa that the project which is owned by the Addis Ababa Chamber of Commerce and Sectoral Associations (AACCSA) will cost about US\$23million. Mr. Abey said the project is unique because it will see the birth of a trade centre which will bring together all African countries and provide an opportunity for them to sell their products particularly exports to the rest of the continent."\* Although its main goal is to facilitate trade in the continent, this trade center and other similar trade infrastructure is critical for garment and other producers in countries like Ethiopia in that such infrastructure provides critically important platforms through which international buyers, subcontractors, or other agents in the global supply chain get to explore the potential of sourcing from Ethiopian suppliers on CMT or other basis of assembly.

\*'Ethiopia to Build Africa International Trade Center', *Ethiopian Journal*, November 17, 2009

- The outlook for Ethiopian garments seems to be reasonably favorable if the above-suggested investments in scale materialize and the current course of economic growth is maintained in China and Vietnam, leading to higher real wages and unit labor costs that are likely to provide over time an increasing cost advantage for Ethiopia. This may provide an additional boost to Ethiopian competitiveness in garment assembly costs (heavily dependent on labor costs) and enable the country to become a favorable location for volume-based garment manufacturing, such as CMT garment assembly.

2. Encouraging Import Substitution:

- Under present circumstances, Ethiopian polo shirt production is inefficient by a factor of about 12 percent compared with the cost of lower quality imports. Among the reasons for this are relatively high labor absenteeism, material wastage and rejection rates.
- The 12 percent cost disadvantage might be underestimated if quality factors are more important than assumed by taking the lowest import price.

- Ethiopian cotton is, however, of high quality and improving the competitiveness of the local textile industry would lower domestic costs of good quality fabric and enable garment manufactures to compete and increase penetration in the domestic apparel market.
- As textile and an garment manufacturers increase their ability to serve the needs of the domestic textile/apparel market, this could provide a key stepping stone towards increasing product quality and factory efficiencies necessary to compete in international markets.

### 3. Improving Productivity:

- The success of any sector growth strategy, including 1 and 2 above, is contingent upon productivity growth in the sector.
- Reductions in wastage rates and reject rates, through improvements in factory material workflow and other training, are necessary.
- Competitiveness also could be improved through reduced absenteeism and labor turnover, especially among skilled workers.
- Improvements in delivery times are necessary.

Should Ethiopia be able to affect changes in the sector along this three-pronged approach, it is likely that an additional key ingredient will slowly emerge in the country: textile/garment firms will begin to gravitate and cluster around common industry interests. Under current conditions, there is very little, if anything, around which the 13 textile and 39 mid-to-large garment firms can cooperate or cluster. Also, the number of producers is limited to allow for any trading/specialized agent network to emerge in the short-term. In this context, it is important that cluster formation be encouraged from outside the industry until a sufficient mass of producer/suppliers/agents emerges and the cluster can sustain itself.