

Microeconomics of Competitiveness

**- THE BOTSWANA TEXTILE CLUSTER -**

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## **I. EXECUTIVE SUMMARY**

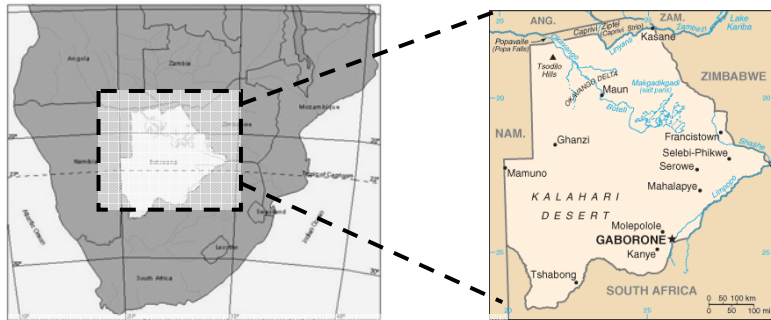
Through out the history of this sector, investors have moved into the textile sub-sector primarily because of domestic incentive policies or favorable international trade policies, rather than inherent competitive advantages in textile production. While the government's Financial Assistance Program (FAP) attracted over 50 firms in the 1980s, this boom was temporary. As the cluster deflated after FAP, AGOA, which was implemented in 2000, provided another incentive for textile production. Relative to highly competitive producers such as China, Botswana was rendered uncompetitive in the upstream production of fabrics. Botswana's only arena for competition was in export-oriented CMT apparel production.

In order to deepen the cluster and create the sort of collaborative linkages that foster competitiveness and increased participation in higher-value added production, our cluster specific recommendations are for forward integration into niche product and service areas. One area of particular interest is the existing production of protective wear for the local mining industry. If government and firms invest further in R&D to generate more innovation in this area, as well as create a Botswana brand for these products, Botswana could seek to specialize and expand this niche area through out the region by supplying to other mining and extractive industries in Africa. Broader recommendations are for appropriate policy adjustments and infrastructure investments to create a business environment that is attractive to FDI as well as better suited for private sector competitiveness. Lastly, the cluster itself with the assistance of government needs to establish active and effective institutions for collaboration that will create the linkages that are currently missing. With the implementation of these recommendations, Botswana's textile cluster could deepen and develop into a competitive and valuable sector for the country, and become an important aspect of the government's diversification initiative.

## II. COUNTRY ANALYSIS

Slightly smaller than France or the state of Texas, Botswana is a landlocked, semiarid country located in Southern Africa. The country shares a border with Angola, Namibia, South Africa, Zambia and Zimbabwe. (Figure 1)

**Figure 1:** Regional and Country Map of Botswana



Data source: CIA Factbook, 2007

### **Climate and Natural Resources**

Botswana's flat landscape is mostly dry and relatively infertile. Consequently, the population is concentrated in the southeastern

part of the country, which is better suited for arable production due to more favorable climate and soil conditions. The country suffers from volatile inter-annual variations of rainfall, high temperatures, and recurring drought. These conditions adversely affect already fragile food and agricultural production—seriously impairing the rural economy and the social and cultural familial and village structures.<sup>1</sup>

Botswana is famous for its natural beauty, evident in its wilderness, wildlife and cultural diversity. The remains of Africa's great animal populations lie in Botswana;<sup>2</sup> and while they constitute a valuable tourist attraction, this resource is not fully utilized.<sup>3</sup> Another famous characteristic of Botswana is its abundance of mineral resources, including gold, copper-nickel, coal, and diamonds.

### **Political History and Government**

Botswana has a relatively homogenous population of *Tswana*—members of African tribes that migrated to Botswana from southeast Africa in the middle of the eighteenth century.<sup>4</sup> Due to their remote, barren location, the Tswana were not entangled in the colonial battles that plagued the

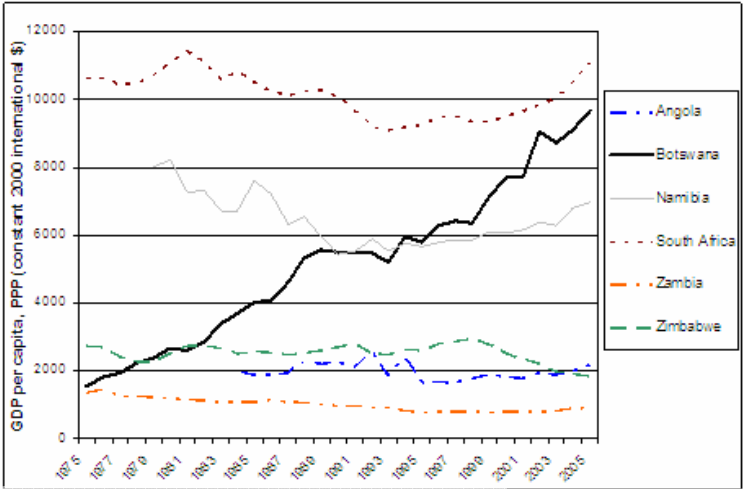
African continent. Even after the country became “*Bechuanaland*,” a protectorate under the British government in 1885, the country was still considered a colonial backwater.<sup>5</sup> Botswana adopted its new name after becoming independent within the Commonwealth on September 30, 1966.<sup>6</sup> Since its first general elections following independence, Botswana has had a stable succession of presidents, making Botswana Africa’s longest continuous multiparty democracy—a rarity in the continent—with nine multi-party elections since independence. Similar to the US government, Botswana has a bi-cameral parliament, which consists of a National Assembly and a House of Chiefs.

**Economic History**

At the time of independence, September 1966, Botswana’s was one of the least developed and poorest nations in the world with an annual per capita income estimated at between US\$ 70 and US\$ 90. Since its independence, Botswana has experienced one of the fastest income per capita growth rates in the world. Outperforming all of its neighbors (**Figure 2**), Botswana has transformed itself into a middle-income country with a per capita GDP of \$9,562 in 2005.<sup>7</sup> From 1966 to 1999, annual economic growth, GDP, has averaged approximately 10%.<sup>8</sup>

Botswana has achieved this impressive economic record as a result of fiscal prudence and cautious foreign policy, specifically, using revenue generated from diamond mining to fuel economic development. Botswana

**Figure 2: GDP per capita, PPP (constant 2000 int’l \$)**

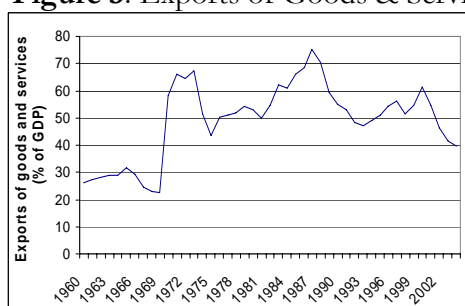


Data source: World Bank, 2007

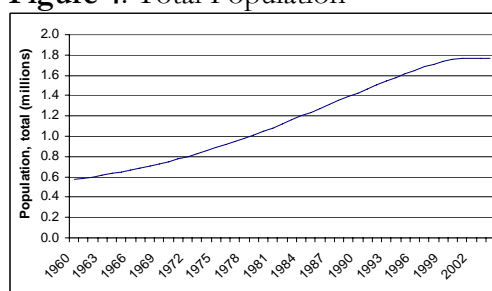
has one diamond mining company in operation, Debswana Diamond Company Ltd, a joint venture between the government and DeBeers of South Africa. Debswana generates about half of all government revenues.<sup>9</sup>

Behind the positive economic growth is a growing health crisis: HIV/AIDS. In 1990 the average life expectancy at birth was 64 years; the most recent figures show life expectancy at just 35 years, in 2004.<sup>10</sup> According to the World Health Organization, more than one in three Botswana has HIV, giving Botswana the second highest HIV infection rate in the world.<sup>11</sup> Some of Botswana's per capita economic growth can be attributed to the decline in population (**Figure 4**). The government's efforts to combat the epidemic, including free antiretroviral drug treatment and a nationwide Prevention of Mother-to-Child Transmission program, has yet to affect the alarming drop in Botswana's population.<sup>12</sup>

**Figure 3: Exports of Goods & Services** **Figure 4: Total Population**



Source: World Bank, 2007



Data source: World Bank, 2007

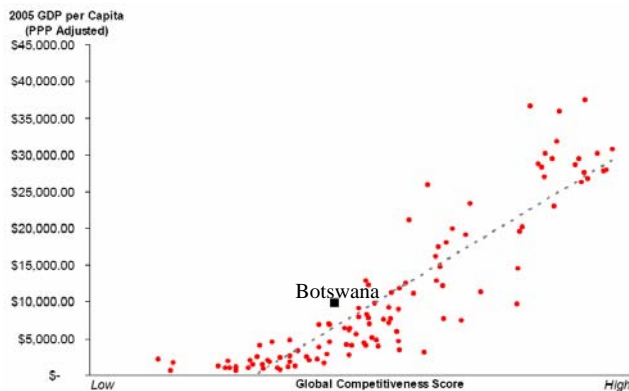
## Trade

The core engine behind Botswana's growing economy is diamonds. In 2004, diamonds accounted for over 70% of Botswana's export revenue, 45% of the government revenue and 33% of the gross domestic product (GDP).<sup>13</sup> Botswana's diamonds are extracted from Jwaneng –the world's largest and richest diamond mine.<sup>14</sup> Jwaneng is the second largest employer in the country. Additionally, diamonds also provide a source of foreign exchange. Beyond exporting diamond and other natural resource, tourism is a booming sector. In 10 years, 1995 to 2004, international tourism (as a % of total exports) nearly doubled from 7 to 12.5%. Botswana is part of the world's oldest customs union, Southern African Customs Union (SACU), which includes South Africa, Lesotho, Swaziland, and Namibia. In 2001, SACU had a weighted average common external tariff rate of 3.6 percent.<sup>15</sup> However, these duties have declined over time since 1995, when Botswana and

South Africa joined the WTO. The net effect has been increased international competition in Botswana and SACU. According to the U.S. Department of Commerce, "There are very few tariff or non-tariff barriers to trade with Botswana, apart from restrictions on licensing for some business operations, which are reserved for [Botswana] companies." <sup>16</sup> (Table 1, Figure 3)

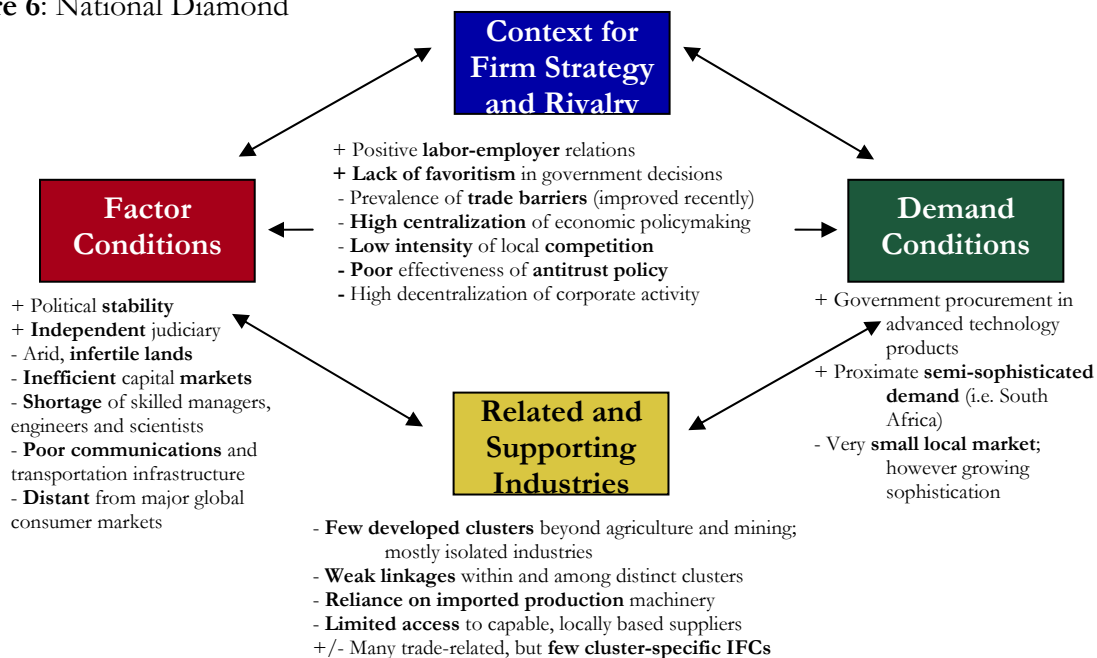
### III. BOTSWANA'S COMPETITIVENESS

**Figure 6: GDP and Global Competitiveness**



While GDP continues to climb, Botswana's global competitiveness (relative to other countries) is sliding (Figure 5). Since the country was first ranked in 2002, the three major measures of Botswana's competitiveness have all gotten worse. The following assessment helps to understand which factors of the four corners of the country diamond are declining. An initial assessment of Botswana's competitive environment reveals multiple weaknesses and most of the few positive attributes of the competitive environment relate to the government.

**Figure 6: National Diamond**



## National Diamond

- ***Factor Conditions***- Relative the country's overall national business environment, the judicial and legal environment in Botswana is better than average. However, all other factor conditions are not as competitive. Infrastructure (e.g rail, port, air, and telephone/fax) is poor relative to other countries.<sup>17</sup> Moreover, the quality of management schools is low and there is a low availability of scientists and engineers.
- ***Context for Firm Rivalry & Strategy*** - There is relatively low intensity of local competition and accompanied by a poor business environment (i.e. effectiveness of antitrust policy and efficacy of corporate bonds). On the upside, there is little favoritism in government decisions, good labor-employer relations and trade barriers have been improving.
- ***Related and Supporting Industries*** - The environment for Related and Supporting Industries is exceptionally poor; every indicator is well below the national average. The local quantity of suppliers remains poor while their quality is low. However, there are some signs of improvement in the local availability of specialized research, training services and process machinery.
- ***Demand Conditions*** - Finally, Demand Conditions fare considerably better relative to the other corners of the diamond. However, most indicators of demand are worsening. Buyer sophistication, ICT laws and environmental regulations stringency are all worsening. Additionally, with a population of just 1.6 million Botswana has a substantially small local market to reach true economies of scale.

## Government Initiatives: Diversification, Export Promotion and Attracting FDI

Given the heavy reliance on diamonds, Botswana has undertaken various initiatives to diversify its economy away from minerals. In pursuit of this goal, Botswana has improved its investment climate by abolishing foreign exchange controls in 1999, lowering its individual and



corporate tax rate (from 35% to 15%), lifting prohibitions on foreign ownership of companies, and maintaining a moderate inflation rate (7.6% in 2004).<sup>18</sup>

**Table 1: Ease of Doing Business in Botswana**

Botswana, ease of...	2005 rank	2006 rank	Change in rank	Africa Avg.
Closing a Business	27	22	+5	111
Employing Workers	62	62	0	118
Registering Property	34	34	0	121
Getting Credit	13	13	0	112
Protecting Investors	114	118	-4	92
Enforcing Contracts	73	77	-4	111
Paying Taxes	63	67	-4	104
Trading Across Borders	80	89	-9	124
Starting a Business	84	93	-9	125
Dealing with Licenses	115	136	-21	110
<b>Doing Business (overall)</b>	<b>44</b>	<b>48</b>	<b>-4</b>	<b>131</b>

Note: rank is based on a total of 175 countries  
Source: Doing Business Report, World Bank, 2006

Foreign Direct Investment Strategy, Competition Policy, Privatization Master Plan, and National Export Development Strategy.<sup>19 20</sup>

## FDI Inflows into Botswana

**Table 2: Economic Snapshot of Botswana (2003- 2005 data)**

	GDP	Emp.	FDI	Export
Agriculture	2.1%	12.3%	-	2.1%
-Industry (incl. manufacturing & mining)	65.9%	25.5%	-	83.9%
-Manufacturing	4.0%	18.2%	3.1%	2.1%
Mining	61.4%	6.0%	75.2%	80.0%
Services (incl. tourism & financial services)	32.0%	62.2%	-	14.0%
-Tourism (incl. trade hotel & restaurants)	11.7%	19.5%	-	7.5%
-Financial Services	11.9%	6.7%	-	n/a

Data source: World Bank, 2007

investing in Botswana since 2002 include Debswana Diamond Company, Gallery Gold, Indicator Minerals, Eurostar Diamond Traders and Firestone Diamonds.

FDI investment in industries other than mining is tremendously low for several reasons. South Africa remains a comparatively more attractive option, with its superior access to the Atlantic and Indian oceans, more favorable climate and physical environment and better global competitive environment.

## Understanding the Effect of Government Initiatives on Competitiveness

The need to diversify the economy is evident in **Table 2**.

Beyond these general initiatives, the government of Botswana has adopted the National Development Plan 9 (2002-2009), which includes policies to enhance competitiveness through a new

At the firm level, FDI projects in Botswana continue to concentrate on mining (**Table 1**). The top multinational companies

GDP, FDI and export earnings are centered in the mining sector, despite accounting for a small percentage of employment. The progress of the National Development Plan (2002 - 2009) in improving Botswana's business environment is revealed in the World Bank Doing Business Report (Table 1).<sup>21</sup>

Closing a business, getting credit, registering property and are easy when compared to the average for Sub-Saharan African countries, dealing with licenses and protecting investors, requires attention. The government of Botswana is working with the World Bank to improve these indicators, which has yet to shift the country's overall competitiveness.

### Aid/Official Development Assistance (ODA)

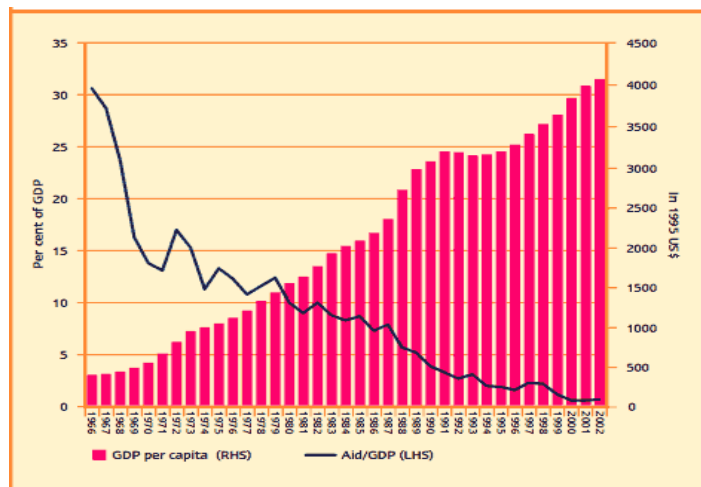
At the time of independence Botswana was dependent on the British for support. Upon independence, Botswana developed five-year *National Development Plans* (NDPs) to articulate Government policies and development priorities.

NDPs, transparency, accountability

and commitment by Botswana led to significant aid inflows; in the 1980s Botswana was one of the largest aid recipient developing countries (per capita). However, the government of Botswana has managed aid inflows exceptionally well (Figure 7).

ODA was integrated into the five year NDPs and rejected if it did not fit into the national strategy. At independence, ODA was instrumental in building educational capacity when Botswana had only a few secondary school graduates and technical assistance enabled Botswana to fund the geological exploration that led to the discovery of rich mineral resources.

Figure 7: Aid and GDP per capita in Botswana



Source: World Bank World Development Indicators, 2004 OECD/DAC International Development Statistics  
 Extracted from: Commission for Africa's report, March 2005

#### **IV. WORLD TEXTILE MARKET**

As of 2004 the global textile industry revenue was up by 160% from 2003; with a total revenue increase from \$395 billion<sup>22</sup> in 2003 to \$1032.4 billion in 2004--60% of the 2004 figure was generated from Asia.<sup>23</sup> The three largest textile markets are the U.S., China and India. Each of these countries offer models of robust textile clusters that are well developed and create industry relationships that promote the sectors competitiveness. China is quickly becoming the dominant player in the global textile production. Some industry experts, including a Senior Vice President at Liz Claiborne, Inc, expect 50 to 80 percent of clothing in America to be produced in China within 10 years.”<sup>24</sup> Historically, China has been competitive because of abundant access to cheap labor, but the government is now seeking to move away from price-based competition to the provision of quality services and quality-based competition. The U.S. textile cluster, another giant in the global arena, is distinguished by the investment in capital and more interestingly the investment in R&D which produces a strong innovative underpinning that is used to produce new cutting-edge materials. While the US and China offer models of fully developed and highly competitive clusters that Botswana could seek to emulate, their difference in legacy, size and factor inputs makes the contrast between these two models and infeasible gap to bridge. More appropriate frames of references with which to compare Botswana’s success are Kenya and Lesotho which better model Botswana’s position in the world textile market.

Both Lesotho and Kenya receive preferential access to the U.S. market under AGOA, and as with Botswana, both countries face competition from Asia. However, Kenya and Lesotho have characteristics that are distinct from Botswana, both in terms of the levels of integration, as well as the size and export orientation of their clusters.

Kenya is the second largest exporter of textiles under AGOA. Textile industry investments increased from “USD 16 million in 1999, to USD 162 million in 2004”<sup>25</sup> There are about 35 textile mills and 55 apparel manufacturing firms. most The most prominent impediment to Kenya’s cluster is its high rate of corruption. In addition, its weaknesses include unfavorable labor relations, difficult access to

local raw materials, difficulty sourcing local component inputs, and high leasing costs for industrial land.

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Lesotho holds the largest share of AGOA textile trade by Sub-Saharan African countries. Ninety percent of Lesotho's exports are to U.S. Lesotho's textile story is policy driven. The textile industry grew as a result of AGOA, and the "Special Rule" policy that allowed least developed countries to export apparel "both duty- and quota-free regardless of the origin of the textile inputs."<sup>27</sup> In response many Asian and South African (SA) firms moved into Lesotho to take advantage of this policy. This phenomenon has had both a positive and negative impact on the "commitment of firms" in such a volatile environment.

The government's strong involvement in the textile industry serves as a significant asset that has enabled the industry's survival. As the industry faces external pressures, the firms are seeking to evolve beyond the Cut, Make and Trim (CMT) model. In so doing, the government is encouraging firms to build mills and process the raw fabric in house. And the government is also offering training and skill development to textile laborers. These efforts are encouraging the spurs of related and supporting industries.

## **V. BOTSWANA'S TEXTILE CLUSTER**

### **Botswana and AGOA**

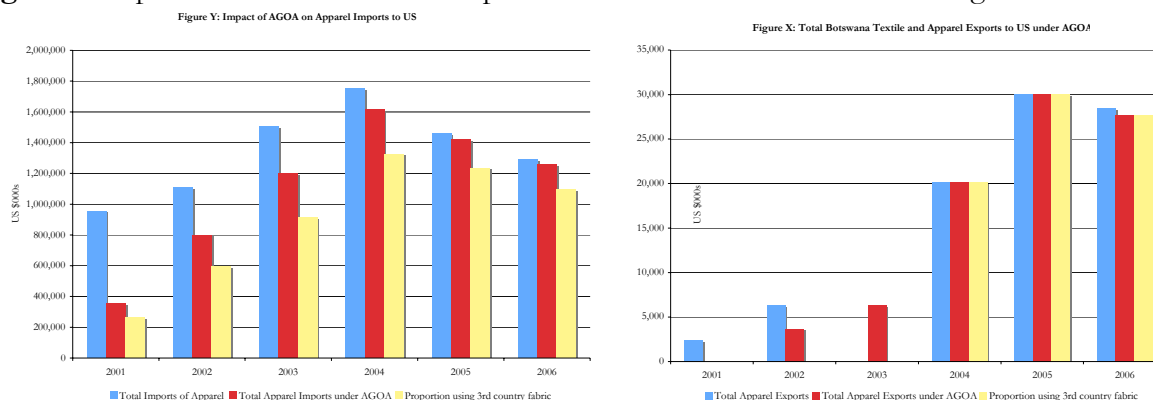
A critical influence on the Botswana textile and apparel cluster is the African Growth and Opportunity Act (AGOA). Passed by the US Congress in 2000, AGOA significantly opens access to US markets for 37 sub-Saharan African (SSA) countries by providing duty- and quota-free access on over 7000 product items<sup>28</sup> through 2015.

The textiles and apparel sector is one of three sectors comprising over 90% of exports qualifying for AGOA benefits<sup>29</sup>. AGOA provides duty-free access to eligible apparel articles made by AGOA beneficiaries. **Table 3** summarizes the current terms of AGOA.

Qualifying condition	Quantity Limit	Exp. Date
Apparel made from U.S. fabric and yarn sewn in AGOA eligible countries	None	Sept 2015
Apparel made from AGOA countries' fabric and yarn cut and sewn in AGOA countries	4.7% of US imports in 2004 growing to 7% by 2008	Sept 2015
Apparel from any country in world cut and sewn in AGOA countries (aka "Special Rule")	2.4% of US imports in 2004 falling to 1.6% in 2007	Sept 2007

A special rule allows AGOA-eligible countries that have met the 'Wearing Apparel' requirements with a 1998 GNP per capita below US\$1,500 to use non-qualifying third country input materials to offset domestic cost inefficiencies. All AGOA-eligible countries, with the exception of South Africa, Mauritius, Gabon and the Seychelles, currently enjoy 'Lesser Developed Country' (LDC) status. However, this provision expires in September 2007, after which all AGOA-eligible countries wanting to enjoy duty-free export privileges will have to use either local and regional fabrics and yarns, or U.S. fabrics and yarns.

**Figure 8: Impact of AGOA on textile exports to US from Botswana and SSA region**



At least 25 of the 37 AGOA countries have fulfilled the provisions of the special rule, and 18 have started exporting apparel to the U.S. duty-free under AGOA. As **Figure 8** demonstrates, the impact of AGOA and the special rule have been clear and immediate both on Botswana and the SSA region as a whole. In both cases however, there has been no decline in dependence on non-originating fabric, casting doubt on future export growth after the special rule expires later this year. While the entire region will be hard-hit with the expiration of the special rules, Botswana will not be among the hardest hit. As **Figure 9** describes, Lesotho and Swaziland are the most prominent beneficiaries of AGOA, though nearly all exports to the US have sourced third country fabric.

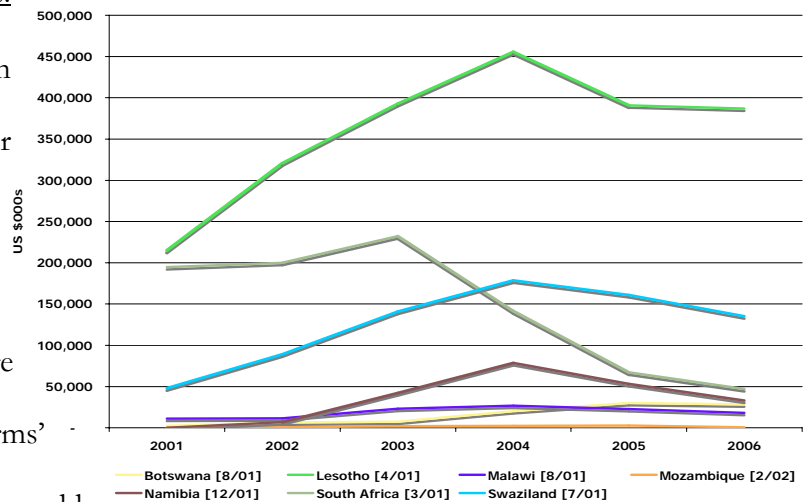
## Strategic challenges for the cluster.

Major challenges to future growth in the textile and apparel industry include: <sup>31</sup>

### Workforce development challenges:

- *HIV/AIDS*: High infection rates have caused low labor productivity, high employee turnover, and absenteeism
- *Lack of skilled labor*: A shortage of skilled laborer limits firms' ability to enter into higher value-add stages of the textile value chain.

**Figure 9: Southern African Total Apparel Exports to the US**



### Production inefficiencies

- *Diseconomies of Scale*: Textile buyers abroad prefer to purchase in large-volumes that Botswanan firms lack the capacity to fulfill.
- *High input costs*: According to the Southern African Global Competitiveness Hub, <sup>32</sup> the high cost of raw materials cripples attempts by Botswanan firms to compete in cotton spinning, weaving and dyeing. In addition, electricity and water costs remain high, mainly due to the small consumer base in the country and lack of industrial rates on utilities.

### Weak cluster linkages

- *Weak domestic and regional linkages*: Textile firms both within Botswana and across the region are poorly connected, lacking the depth of coordination between trade organizations observed in the mining sector.

### Political and bureaucratic obstacles

- *Weak logistical infrastructure.* Landlocked Botswanan firms incur higher transportation costs via land than air or sea and are forced to rely on cost- and time-intensive ports in neighboring countries (e.g. Durban, South Africa)<sup>33</sup>
- *Regional strife.* Conflict in neighbors like Zimbabwe weakens the confidence of foreign investors in regionally-minded Botswanan firms

### **History of Botswana's Textile Sub Sector**

Botswana's modern development of the textile sub sector has been driven by international trade and domestic incentive policies that served to attract local and foreign firms to set up and invest in textile manufacturing. Botswana experienced its first peak in activity in the textile cluster in the 1970s when Zimbabwean firms relocated to Francis Town, as they fled political unrest in Zimbabwe.<sup>34</sup> The 1980s saw the second peak in the textile sector which was fueled by the government's somewhat controversial Financial Assistance Program (FAP) which was the cornerstone of Botswana's industrialization policy.<sup>35</sup> The FAP, established in 1982, sought to incentivize manufacturers (both local and foreign, existing and newly established) to invest in various industrial sectors. The FAP provided five attractive financial subsidies: (1) pre-production capital grant; (2) production period labor grant; (3) training grant; (4) sales augmentation grant to support economically productive activities; and (5) tax-holiday grants

While FAP successfully catalyzed a flow of investment into various manufacturing sectors including textiles, it has largely been considered a disastrous policy endeavor. Many firms that moved into textiles (and other manufacturing sectors) sought to exploit the incentives, making the minimal investments necessary to qualify for subsidies and closing the firm and/or exiting Botswana immediately when the five year incentive period expired.<sup>36</sup>

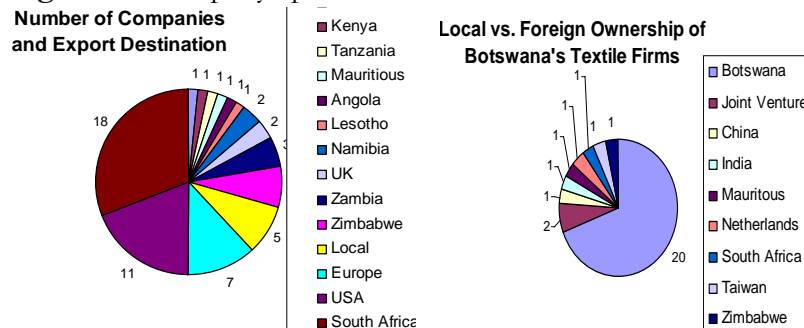
Figure 1 presents the date that current firms (as of 2005) were established. During the 80s there were as many as 50 textile firms in Botswana. In 1984 there were 30 foreign textile firms in addition to dozens of local firms.<sup>37</sup> Of the number of firms that were established from 1982 (the start of FAP) until the mid 1990s when the FAP was still a significant source of attraction, only eight firms have continued production until today.

While tainted by the exploitive nature of most investments at this time, it is important to note that this period was defined by participation in the upstream production of textiles from the spinning of yarn, to the weaving and dying of fabric. Due to FAP's lack of viscosity, and the lack of competitive access to factors of production, both the number of firms and the participation in upstream manufacturing were un-sustained. The cluster deflated both in terms of size and value chain linkages. The flattening of the sub-sector cluster meant that the sector actually shifted from "textile" production into CMT apparel production. The consequences of this limitation to CMT were twofold: 1. the lack of value chain supply and demand linkages removed the relationships that create a "cluster"; 2. CMT manufacturing is actually the least value-added segment of the supply chain, thus Botswana is capturing limited value from this industry.<sup>38</sup>

### Current Characteristics of Botswana's Textile Cluster

There are currently 31 textile firms registered in the BEDIA industry directory.<sup>39</sup> There are a wide range of products being manufacture; however, there is a concentration of production in t-shirts and denim with approximately 50% of firms producing these products. The remaining 50% of

**Figure 10:** Company-specific Cluster Information



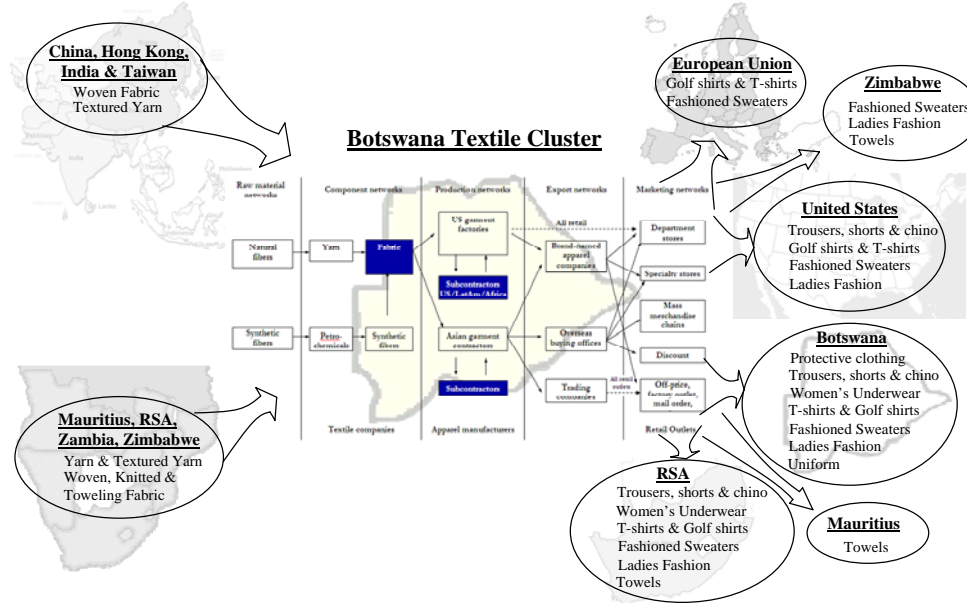
firms produce a range of products from sox and ties, to safety apparel for mining. The firm sizes vary, with the



**Figure 11: Botswana in the Global Value Chain** (For a better picture of the value chain see figure 13)

**SOURCE OF IMPORTS**

**DESTINATION OF EXPORTS**



smallest employing 12 people and the largest 1800 with an average of 271 employees per firm. As of 2004 there were 8,500 people formally employed in the textile sub sector. This labor market consisted of approximately 37% of total employment in manufacturing.<sup>40</sup> At that time, firms anticipated an increased demand for labor, and the employment of 10,000 additional employees.<sup>41</sup> The industry is largely supported by access to South Africa, and to the largest importers of textiles; the US and Europe. Because of its relatively small and poor domestic market, juxtaposed to regional and international trade opportunities, Botswana's textile market is predominantly export oriented, with only 5 firms (16% of the sector) producing for local distribution. The primary export destination is South Africa (60%), the secondary markets are the US (37%) and Europe (23%).

In all, 100% of firms export products to at least one destination, with several firms exporting to several destinations. In addition to the major export concentration on South Africa, the US and Europe, 15 firms (50% of the cluster) also export through out Africa to Malawi, Kenya, Tanzania, Mauritius, Zimbabwe, Namibia, Lesotho, Angola, and Zambia. Of the 31 formal producers, BEDIA lists seven of these firms as having foreign origin and two additional firms having partial foreign ownership. The seven foreign firms are from China, India, Taiwan, Zimbabwe, Netherlands, South

Africa and Mauritius. The largest firm in the sub sector employs 1800 people and originated in Taiwan. The level of foreign ownership in Botswana stands in stark contrast to the regional trend. Much of the growth in textiles in Southern Africa has been dominated by South East Asian investment, Botswana is an outlier. In 2001, for example, 85% of Lesotho's textile cluster was owned by South East Asian investment<sup>42</sup>. In Lesotho's experience, this FDI brought with it expertise and a global supply network that improves the international competitiveness of the cluster. The lack of foreign investment in the textile sector limits Botswana's access to the expertise and capital that would bolster the countries competitiveness in this sector. The following diagrams illustrate the Export Market and FDI sources of the existing firms: According to the Ministry of Trade and Industry, 9 companies are currently able to benefit from AGOA. (This constitutes approximately 30% of the textile cluster). Of these nine companies, one is 100% local, another is a joint venture company, while the remaining seven are all foreign owned.<sup>43</sup>

## **BOTSWANA'S APPAREL CLUSTER**

Botswana's apparel/textile cluster is actually not a true "cluster", but rather a group of firms that manufacture textiles, but have no linkages amongst themselves, and almost non-existent linkages with related and supporting industries. It is characterized by extreme diversity with 31 firms that produce as many different products ranging from women's underwear to t-shirts, to safety wear. (Table 1) The participation of these firms along the textile production value chain is very limited. Twenty nine firms import pre-knit fabrics, and cut and sew the final product for export. Cutting and sewing are, however, the least value-added processes of the textile value chain. Not only does the lack of upstream integration limit the value captured by Botswana,

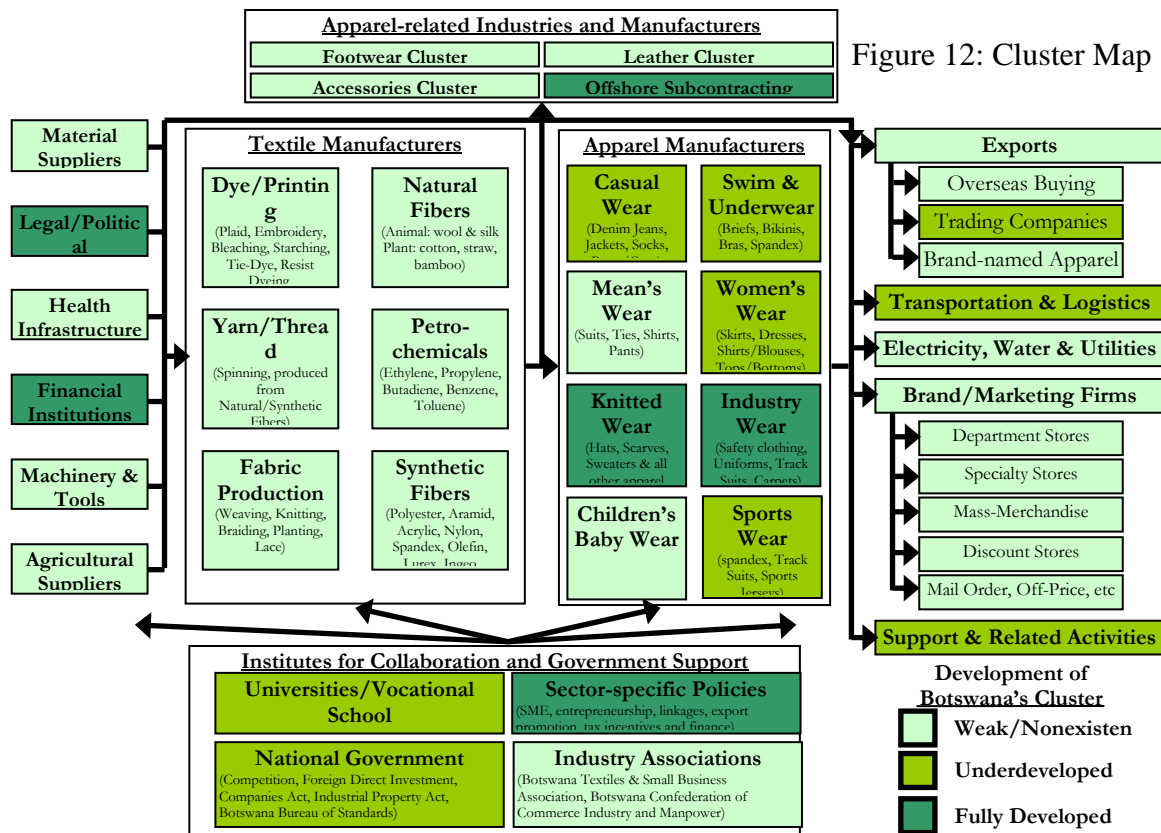
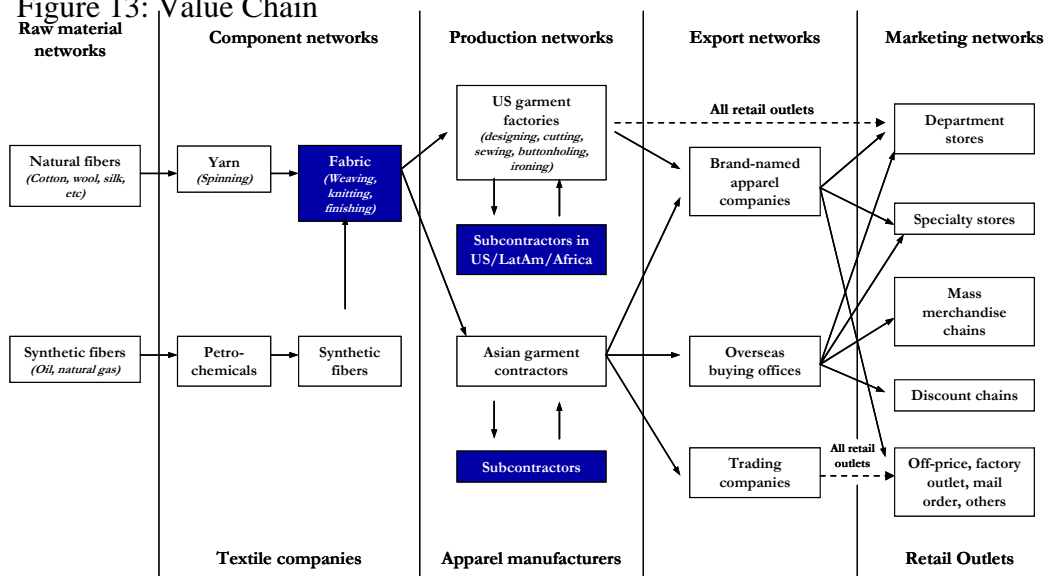


Figure 12: Cluster Map

Figure 13: Value Chain



Source: Appelbaum and Gereffi (1994), p.46.

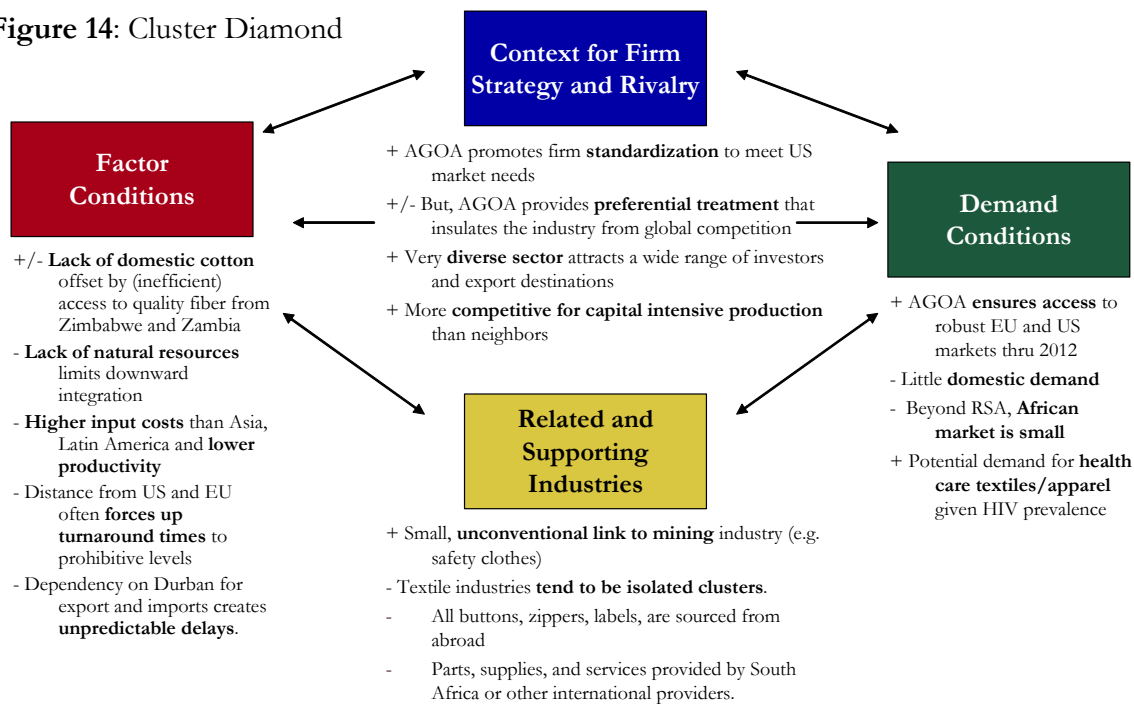
but it also

limits the opportunity to form inter-firm collaboration for production and supply linkages. The exception in regards to upstream integration, are two firms which import yarn and spin that yarn into circular fabrics. These companies source their yarn from Zimbabwe, India and South Africa, and use the yarn for fabrics that are then cut and sewn to produce t-shirts and gulf shirts. Both companies have excess capacity yet they do not source locally. Additionally there are a couple of

firms that dye their own fabrics, and have developed water recycling technology and mechanisms that seek to maximize the efficient use of this limited resource. One of these firms has a commission-based relationship to dye the fabrics of one of the fabric producers. Thus in a cluster that consists of 30 firms, there is only one collaborative linkage.

Another area of potential is the presence of four firms that produce safety clothing for the local diamond mining. **Need details about specific types of clothing.** Although currently a small portion of cluster activity, the production of safety-wear could prove to be an area of interest for the government, because this niche area could mean participation in a more value-added activity and the potential for engaging research and development in the production of natural and/or synthetic fibers that are appropriate not only for mining but also for other extractive industries and then can be exported to Namibia, South Africa, Tanzania and West African locations as well.

**Figure 14:** Cluster Diamond



As is evidenced by the preceding cluster map, Botswana's textile cluster is a flat integration structure, with a lack of firm collaboration, and near-isolation from any related or supporting industries. The early history of the cluster indicates that the initial driver for growth in this industry

was a shallow industrialization policy that incentivized opportunistic entry into the sub sector rather than long term productivity development. At the time when the government began to phase out the FAP the industry continued to be bolstered by the African Growth and Opportunity Act which provided duty and quota free to the US market.

While the factors contributing to the relative weakness of Botswana’s textile cluster are numerous, there are several aspects of the sub-sector and the country that can be identified as determining factors for the limitation of the cluster: (1) Limited resource endowments; (2) Shallow government policies; (3) Lack of Institutions for Collaboration; (4) international competition.

Before exploring these four priorities, it is important to note that textile clusters, in general, tend to be relatively isolated in regards to related and supported industries. So while this lack of connection is a significant limitation for Botswana’s sub-sector, it is not unique to Botswana.

**Botswana’s Resources:**

**Table 4:** Requirements for textile and apparel production

	Energy Usage	Water Usage	Labour intensity	Capital Intensity	Lead time for new production
Natural fibre preparation	low	little or none	low	low	moderate
Man-made fibre production	moderate to high	moderate to high	low	Very high	long
Yarn texturising	moderate	low	low	moderate	moderate
Yarn spinning	moderate	little or none	low	moderate	moderate
Yarn Twisting	moderate	None	Low	moderate	moderate
Yarn dyeing	very high	very high	low	moderate	moderate
Weaving	high	Moderate (low for twisted yam weaving)	low	high	long
Circular Knitting	moderate	Low	Low	moderate	moderate
Hand-flat knitting (manual)	Low	Little or none	High	Low	low
Hand-flat knitting (automatic)	Moderate	Little or none	Low	Moderate	moderate
Fabric dyeing and finishing	very high	very high	low	Very high	long
Garment production	low	low	high	low	short
Garment washing	moderate	high	low	moderate	short

Source: Modified from Coughlin, Rubin, Darga, 2001: Table 3

time to market. The following table provides a qualitative outline of the varying need for each of these factors: Botswana has moderate water and energy resources. Water shortages are common given the countries arid climate and location in the Khalahari desert. Because of touch and go water access; dyeing, and washing of fabric are more difficult areas of production for companies to enter. Those that have pursued dyeing have done so by adopting innovative water recycling technology. Additionally the production of man made fibres would be more water intensive than natural fibres.

There are several aspects of textile production, each with varying levels of resource demands. The primary inputs at each stage are: Energy, Water, Labor and Capital. A non-input factor of production is lead

Considering that there is no production of either sort of fibre currently, it is not feasible to recommend that the industry pursue fibre production. The demand for labor at each stage is relatively low, however some points of interest are manual knitting and garment production. Botswana almost exclusively in garment production, but could consider moving upstream to hand knitted, particularly higher-end, fabric production that could serve to create more jobs, but also increase the value captured by Botswana. The most capital intensive phases of production are synthetic fiber production, weaving and dyeing. If Botswana is seeking to leverage textiles as a means of spurring high-tech and capital driven industrialization, the government should seek to foster entry into these areas of production. Of particular interest would be the production of synthetic fibers, which could be used to source safety apparel production and could be a source of more innovation driven growth in this sector.

In regards to lead time to market, Botswana is at a relative disadvantage because it is land locked and has access to only one port; Durban. While the road, rail and air transportation are fairly developed, in order to compete with countries that are much quicker to market, Botswana can not settle for moderate infrastructure but would need to develop world class infrastructure in order to compensate for its geographic disadvantage.

As is, Botswana does not enjoy a comparative advantage for any of the factors of production for textile manufacturing. Water production experiences frequent shortages due to climate, energy is moderately priced and thus presents no price advantage, labor productivity is moderate and increasing expensive, and the current business environment is not inviting to FDI which would supply capital.

## **Government Policies and IFCs**

The government of Botswana’s prime development agency is the Botswana Economic Development and Investment Agency. Similar to many such agencies in other countries, BEDIA is responsible for facilitating the entry of potential investors through a “one-stop-shop” model that not only allocates incentives but also facilitates the forming of partnerships between foreign investors and local operators. To date, the government does not have a policy strategy that is specifically geared toward

**Table 5:** Types of Products & Number of Firms

Type of Apparel	Number of Companies
Sweaters	1
Fleecy Track Suits	1
Disposable nappies	1
Napkins	1
Women's Pads	1
Military Caps	1
Berets	1
Embroidered Badges	1
Mens Shirts	1
Blouses	1
Skirts	1
Ties	1
Socks	1
Track Suits	1
Corporate Wear	1
Bed Linen	1
Knit to Wear	1
Gowns	1
Underwear	1
Food Bags	1
Ladies' Tops	1
Chinos	1
Shirts	1
Batting	1
Jersey (knit to shape)	2
Golf-Shirts	2
Trousers	2
School Uniforms	2
Jerseys	2
Blankets	2
Knitted Fabrics	2
Uniforms	3
Over-Garments/Jackets	3
Cotton Face Clothes	3
Cotton Kitchen Towels	3
Towels	3
Protective Clothing	4
Denim Jeans/Trousers	6
T-Shirts	8

the textile industry. Rather, textiles are considered to be an area of interest that fall under their broader export promotion and diversification strategy. The general incentive structure that the government has development is as follows:

USAID’s Regional Center for Southern Africa has established the Southern Africa Regional Competitiveness Hub in Gaborone which provides a number of services to improve regional competitiveness through taking full advantage of trade relations with the US, as well as regional trade agreements, in addition to providing technical and financial assistance.

BOTSBOA is the Botswana Textile and Small Business Owners Association. It is a trade organization

intended to facilitate linkages between enterprises, particularly creating bridges between smaller and larger enterprises from all sectors. It is not evident that BOTSBOA has a clear strategy, or has taken effective action toward facilitating these linkages within the textile cluster in particular.

The government of Botswana has established several industry and trade organizations that fall under three categories of activity: Finance, Training and Business Development. Each of these existing institutions seem to perform limited roles in regards to facilitating investment and business development, rather than actually serving as a catalyst for competitiveness. What we would like to see for Botswana's diversification efforts, is an emphasis on R&D and identifying/creating areas of comparative advantage that distinguishes Botswana from its neighbors.

There are no existing industry organizations that are particularly focused on textiles, but there are several general institutions that have the potential to serve as institutions for collaboration: BOCCIM: Botswana Confederation of Commerce, Industry and Manpower: This is a diverse trade organization that has representation from all sectors; however there are only two industry representatives from the textile cluster.

### **Botswana's Competition**

One of the major challenges facing the Botswanan government as it considers the next steps for this cluster are the challenges that international competition present, not only in regards to capturing their primary markets, but also in regards to integrating along the supply chain domestically and regionally. As it is now, yarn and fabrics produced in Southern Africa are not price or quality competitive relative to East Asian imports, which are cheaper and offer a greater variety of qualities. It is not foreseeable that with the current FDI participation, and lack of collaboration that the existing cluster would be able to compete in fabric production. That being said, there is access to raw fiber from Zimbabwe and Zambia which would provide an initial advantage in regards to access to raw materials.



## **VI. RECOMMENDATIONS**

### **Country-Level Recommendations: (*Targeted towards the Government*)**

**1. Diversify the economy through the development of employment-generating industries.** Five specific policies to achieve this objective are to provide assistance (technical and financial) to small, medium and micro enterprises; educate citizenry to create entrepreneurship culture and national consensus; integrate educational institutions into economy (through multi-stakeholder committees) to enhance productivity; increase investment by building capital markets through independent financial institutions, educating the public, and transparent policies; and improve local infrastructure (road, rail, air and communication).

**2. Encourage the establishment of productive and competitive export-oriented industries.** Five Policy-specific recommendations are to completely abandon of the previous import substitution strategy; ensure the effective function of Botswana Export Development & Investment Authority (BEDIA); eliminate/reduce anticompetitive and restrictive business practices; facilitate the creation and integration of knowledge/research-based institutions at the national and industry level; and provide technical assistance and lenient tax/investing incentives for such industries.

**3. Keep investment friendly-policies and market Botswana to foreign investors.** More specifically enacting the following three policies, increase offshore market development and promotion of Botswana; create a guide book and internet site under BEDIA that provides guidance for foreign investors; and create clear and transparent competition law to induce greater competition.

**4. Augment strategies and increase funding to reduce HIV prevalence.** Achieve this objective through the following four policies: develop policies for business to protect and appropriately respond to HIV-positive employees; improve education and publicity campaigns on HIV/AIDS awareness; increase funding and technical assistance to HIV/AIDS prevention programs; and ensure company policies protect the rights of all workers including those who are HIV positive. Once the above

recommendations are integrated into the five-year *National Development Plan* (NDP), it is imperative to coordinate all the above recommendations and accompanying policies.

**5. Build transportation and logistics infrastructure.** As long as Botswanan firms have difficulty physically reaching the world market, firms will be unable to compete on costs. The industry needs commitments from public sector agencies to upgrade domestic road systems, transform the Gaborone's Khama International Airport into a world-class facility, and negotiate more cost-effective access to South African and Namibian ports.

**Cluster-Level Recommendations: (*Targeted towards Firms, IFCs, and cluster stakeholders*)**

**1. Develop and grow trade organizations to promote shared problem-solving and advocacy.**

Several problems (HIV, high input costs, and weak infrastructure) are challenges faced by all Botswanan textile firms. However, there remains poor coordination between firms in confronting these challenges.

There are some signs of progress:

- The Southern African Global Competitiveness Hub partners with firms involved in multi-country sourcing, manufacturing, and marketing to develop strategy, operations, products and marketing. The upcoming May 2007 Business to Business (B2B) conference in Johannesburg is one example of collaboration.
- The Botswana Textile and Small Business Owners Association (BOTSBOA) fosters linkages among microenterprises in textiles and other sectors to improve access to policymakers, and facilitate bulk purchase of raw materials.

While promising, these organizations have substantial untapped potential to do the following:

- **Coordinate HIV testing and training:** to control HIV prevalence rates among workers, companies should pursue joint HIV education and testing programs available at workplaces.
- **Promote best practice sharing to grow base of skilled labor.** Innovations captured by individual firms need to be better shared across the sector to accelerate the growth of a based of

highly skilled managers and laborers.

- **Purchase imported inputs in bulk.** To control the costs of raw materials and energy, Botswanan firms should try to bargain collectively when purchasing imported fabric, yarn, water and electricity to reduce costs.
- **Coordinated political advocacy.** Nascent textile firms must coordinated efforts to lobby the government to adopt more business-friendly policies. The recent success of efforts to simplify customs processing is one example. Until recently, more than a dozen customs forms were necessary to move products within the Trans-Kalahari Corridor (Namibia, Botswana, and South Africa). Due to joint lobbying, the sector leaders convinced governments to create a single customs declaration made in the originating country that dramatically reduces transaction costs.

### **Firm-level Recommendation**

Botswana doesn't have much of a "textile cluster" to speak of. There are weak linkages among the firms and no real foundation for growth except through government incentives. However, we have targeted the textile industry partly due to extended AGOA policies and partly due to the foundation that a textile industry can set for a country. Instead of a generalist approach, we are recommending building the textile cluster through a niche strategy geared toward forward integration along the value chain. Given Botswana's proximity to the mining industry and the AIDS epidemic, Botswana could pursue a textile niche cluster in personal protective clothing/equipment<sup>44</sup> as it relates to mining or general medical supplies. Currently, 4 companies produce protective clothing.

Personal Protective Equipment (PPE) "refers to protective clothing, helmets, goggles, or other gear designed to protect the wearer's body"<sup>45</sup> from exposures to chemical, heat and infections. PPE can be categorized into a)protective headgear-masks, eye protection, face shields, goggles b)protective garments—coveralls, vests, jackets, aprons, full body suits c) protective footwear—

safety shoes, metatarsal guards (MSHA's Occupational Illness and Injury Prevention Program Health Idea).

A PPE industry would leverage Botswana's relationship with De Beers for local distribution. In the neighboring countries, the mining industry accounts for a significant portion of GDP and employs a significant number of people. In South Africa alone, mining accounted for 8.1%<sup>46</sup> of GDP (the largest economy in Africa) in 2002 and it employed about 556,045<sup>47</sup> people in direct and indirect employment. The PPE industry is also a platform to stimulate innovation and technology input into the textile cluster. Botswana could use this spring board to become a hub in Africa for protective wear training and regulation.

## VI. APPENDIX AND ENDNOTES

**Table 6:** Company-specific Information

<b>Company Name</b>	<b>Company Origin</b>	<b>Number of Employees</b>	<b>Established</b>
Alvic Textiles	Botswana	15	1986
Bolere Investments	Botswana	22	2003
Dimawe Textiles	Botswana	50	1996
Dinesh Textiles	Botswana	100	1999
Erno Manufacturing	Botswana	45	1980
Everbody Knitting	Botswana	350	1998
Garnet Promotion	Botswana	800	1997
Javeria Garments	Botswana	100	1995
Kalahari Textiles	Botswana	180	1998
Marigold Textiles Mills	Botswana	38	1997
Micro Lith	Botswana	680	2001
Mudd Jeans	Botswana	120	1999
Northern Textiles	Botswana	324	1989
Pearl Creations	Botswana	125	1990
Premier Clothing	Botswana	350	1982
Rocket Fashions	Botswana	110	1990
Vision International	Botswana	350	1998
Western Apparels	Botswana	100	2001
Western Knitting Mills	Botswana	30	1995
Western Textiles	Botswana	130	1991
White Dove Garments	Botswana	300	1992
Fascinating Botswana	China	360	1999
Whinstone Enterprises	India	12	1999
Pyramid Holdings	Joint Ventures	99	1988
Rising Sun	Joint Ventures	570	2000
B&M Garments	Mauritius	750	1999
Bots Cap and Helmit	Netherlands	61	1963
Benrose	South Africa	137	2000
Caratex Botswana	Taiwan	1800	1998
Justine Manufacturers	Zimbabwe	22	1999

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- <sup>1</sup> Encyclopedia Britannica.
- <sup>2</sup> Botswana are an estimated 386 bird species and 164 species of mammals, which includes lions, leopards, cheetahs, elephants, giraffes, zebras, hippopotamuses, rhinoceroses, African buffalo, hyenas, and 22 species of antelope, duiker (a small, horned antelope), wildebeest (gnu) and springbok (gazelle). Source: Encyclopedia of the Nations, Botswana.
- <sup>3</sup> Approximately 18% of the land has been set aside as national parks and game reserves, including five game reserves, three game sanctuaries, and 40 controlled hunting areas.
- <sup>4</sup> HBS Case: 9-703-027, "Botswana: A Diamond in the Rough," November, 2005.
- <sup>5</sup> Ibid.
- <sup>6</sup> U.S. Department of State, Bureau of African Affairs, Botswana, December 2006.
- <sup>7</sup> GDP per capita, PPP (constant 2000 international \$), World Bank, 2007.
- <sup>8</sup> GDP per capita has averaged 7% over the 34 years since independence. Concurrently, from about US\$2 million in 1966, exports have risen to US\$2 billion in 2002.
- <sup>9</sup> U.S. Department of State, Bureau of African Affairs, Botswana, December 2006.
- <sup>10</sup> This places Botswana's life expectancy at the lowest in the world (based on World Bank figures for 208 countries and territories); a figure that is barely half the 59-year average for low-income countries.
- <sup>11</sup> While the prevalence of HIV among the working population (between the ages of 15 and 49) in 2003 was between 35.5 – 39.1%, 11 over 50% of the female working population has HIV. Source: 2006 Human Development Report (UNDP).
- <sup>12</sup> "Summary Country Profile for HIV/AIDS Treatment Scale-Up," December, 2005. World Health Organization.
- <sup>13</sup> DiamondFacts.org.
- <sup>14</sup> U.S. Department of State, Bureau of African Affairs, Botswana, December 2006.
- <sup>15</sup> World Bank (2001)
- <sup>16</sup> Ibid.
- <sup>17</sup> The quality of air transport infrastructure is average (in line with other indicators of the national business environment).
- <sup>18</sup> Ibid.
- <sup>19</sup> Botswana National Development Plan 9 (2002-2009), Government of Botswana, 2002.
- <sup>20</sup> In 2004, Transparency International ranked Botswana's economic governance as the least corrupt country Africa's, ahead of many European and Asian countries. Source: Transparency International, 2006.
- <sup>21</sup> Within Sub-Saharan Africa, Botswana ranks fourth, to South Africa, Mauritius and Namibia, as the easiest country to do business.
- <sup>22</sup> What textile means to India; World trade developments have opened new opportunities for India's textile industry, The Business Times Singapore December 31, 2005
- <sup>23</sup> Global - Textiles – Market Overview," Datamonitor Market Research Profiles, 01 May 2005
- <sup>24</sup> Shariff, Aliyah. Challenging Goliath: Can developing countries compete with China in the Textile Industry?
- <sup>25</sup> Snapshot Africa : Benchmarking FDI competitiveness in Sub-Saharan African countries-- [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000020953\\_20070307114626&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000020953_20070307114626&searchMenuPK=64187283&theSitePK=523679)
- <sup>26</sup> ibid
- <sup>27</sup> Case: The Market and the Mountain Kingdom: Change in Lesotho's textile Industry.
- <sup>28</sup> AGOA builds upon existing US trade policies by expanding benefits previously available via the Generalized System of Preferences (GSP). The combined AGOA/GSP provisions cover 7,000 product tariff lines, of which AGOA accounts for 1,800. These lines include apparel and footwear, wine, certain motor vehicle components, a variety of agricultural products, chemicals, steel and so forth. (Source: [www.AGOA.info](http://www.AGOA.info))
- <sup>29</sup> "Energy-related products," and "transportation equipment" are the other two major sectors associated with AGOA trade.
- <sup>30</sup> Salm, Andy. *Botswana Textile and Apparel Sub Sector Study*. ComMark Trust, World Bank, BEDIA. 4 May 2007 < [http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana\\_ApparelSub\\_Sector\\_Study.pdf](http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana_ApparelSub_Sector_Study.pdf)>.
- <sup>31</sup> Source: [http://www.ustr.gov/assets/Document\\_Library/Reports\\_Publications/2005/asset\\_upload\\_file604\\_7857.pdf](http://www.ustr.gov/assets/Document_Library/Reports_Publications/2005/asset_upload_file604_7857.pdf)
- <sup>32</sup> In June 2002, the United States Agency for International Development (USAID) Regional Center for Southern Africa (RCSA) established the Southern African Global Competitiveness Hub, also known as the "Trade Hub", in Gaborone, Botswana, to enhance Southern Africa's trade competitiveness on a regional and international basis.
- <sup>33</sup> According to Salm, Andy, it reportedly costs the same to ship from within the region as it does to ship between South Africa and Hong Kong.
- <sup>34</sup> Salm, Andy. *Botswana Textile and Apparel Sub Sector Study*. ComMark Trust, World Bank, BEDIA. 4 May 2007 < [http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana\\_ApparelSub\\_Sector\\_Study.pdf](http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana_ApparelSub_Sector_Study.pdf)>.

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- <sup>35</sup> Valentine, Theodore. Botswana'S Financial Assistance Policy. School of Business, Montclair State University. 3 May 2007 <<http://alpha.montclair.edu/~lebelp/CERAFRM051Valentine1993.pdf>>.
- <sup>36</sup> Salm, Andy. Botswana Textile and Apparel Sub Sector Study. ComMark Trust, World Bank, BEDIA. 4 May 2007 <[http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana\\_ApparelSub\\_Sector\\_Study.pdf](http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana_ApparelSub_Sector_Study.pdf)>.
- <sup>37</sup> Ibid, 9
- <sup>38</sup> In June 2002, the United States Agency for International Development (USAID) Regional Center for Southern Africa (RCSA) established the Southern African Global Competitiveness Hub, also known as the "Trade Hub", in Gaborone, Botswana, to enhance Southern Africa's trade competitiveness on a regional and international basis.
- <sup>39</sup> According to Salm, Andy , it reportedly costs the same to ship from within the region as it does to ship between South Africa and Hong Kong.
- <sup>40</sup> Salm, Andy. Botswana Textile and Apparel Sub Sector Study. ComMark Trust, World Bank, BEDIA. 4 May 2007 <[http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana\\_ApparelSub\\_Sector\\_Study.pdf](http://www.bidpa.bw/docs/archive/Economic%20Diversification/Botswana_ApparelSub_Sector_Study.pdf)>.
- <sup>41</sup> Apparel Sub Sector Study.
- <sup>42</sup> Lesotho Garment Industry Subsector Study for the Government of Lesotho - 2001 - *Salm et al.*
- <sup>43</sup> [http://www.mti.gov.bw/index.php?option=com\\_content&task=view&id=412&Itemid=2&lang=en](http://www.mti.gov.bw/index.php?option=com_content&task=view&id=412&Itemid=2&lang=en)
- <sup>44</sup> The term personal protective clothing and equipment are used interchangeably.
- <sup>45</sup> Wikipedia
- <sup>46</sup> <http://www.bullion.org.za/CurrentIssues/2004/SnapshotofSA.htm>
- <sup>47</sup> <http://www.bullion.org.za/CurrentIssues/2004/SnapshotofSA.htm>