

The Textile Cluster in Egypt



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1 Executive Summary

As one of the most influential nations in the Middle East, Egypt has encountered mixed success in transitioning from an economy driven by natural resources to one with a healthy amalgam of industry and services over the past 50 years. Although it has successfully diversified its economy, Egypt remains one of the poorest of its regional neighbors on the basis of per-capita income, and a succession of unstable governments have left the nation with inconsistent political institutions, weakening social infrastructure, and a legacy of corruption. Long-term national competitiveness will require a clear economic strategy and continuity of effort.

Egyptian cotton is recognized globally for its unmatched quality, fueling a textile cluster that has historically been an important component of the national economy. Bolstered by superb endowments and several advantageous related industries, the textile cluster faces new challenges as falling structural barriers to trade boost the intensity of global competition. To maintain sustainable competitive advantage and upgrade textile cluster performance, Egypt should privatize key SOEs in the spinning sector and partner with multinationals and clusters in developed nations to upgrade the skills of its textile labor force.

2 Country Analysis: Egypt

2.1 Geography and Demographics

Egypt is located strategically between the Mediterranean Sea and Red Sea, at the crossroads of Africa and southwest Asia. Bordering Sudan, Libya, and Israel, Egypt is home to the Nile, the longest river in the world. The river's ebbs and flows deposit nutrient-rich sediment (sapropel soils) from the Eastern Mediterranean onto what is otherwise an arid topography. As a consequence, nearly the entire population has concentrated in the Nile River Valley in southern Egypt and the Nile Delta in the north.

The nation's rapid population growth — from 23M citizens in 1960 to 83M today — has increased Egypt's regional importance but also deeply changed Egypt's character. Egyptian

urban areas have become some of the most crowded in the world, with Cairo itself recently laying claim to the title of world's most densely-populated city (46,804 people/sqm) (Korotayev & Zinkina, 2011). Agriculture is similarly constrained; only 3% of the country's total land mass was under cultivation in 2008 (AFDB, 2009).

2.2 Overall Economic Performance

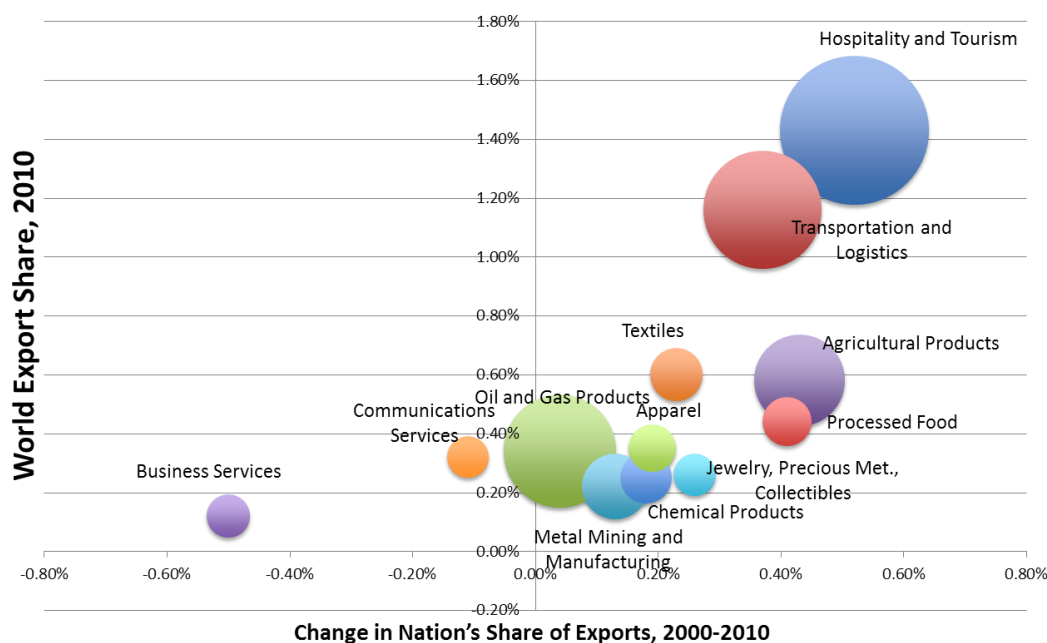
By 2010, Egypt was the fourth-largest economy in the Middle East. Recent economic performance has been positive, with 4.75% annual GDP growth from 2001 to 2010. Per capita GDP remains relatively low compared to regional peers.

Economic Indicators, 2010		Algeria	Egypt	Iran	Jordan	Lebanon	Morocco	Tunisia
GDP	Real GDP (PPP US\$ at 2005 prices)	\$ 263.8	\$ 449.8	\$ 810.3	\$ 30.3	\$ 51.2	\$ 137.3	\$ 81.3
	Real GDP (% change pa)	3.3%	5.1%	2.9%	3.1%	7.0%	3.7%	3.7%
	GDP per head (US\$ at PPP)	\$ 8,140	\$ 5,910	\$ 11,980	\$ 5,210	\$ 13,360	\$ 4,708	\$ 8,704
	Growth of real GDP per head (% pa)	1.3%	3.3%	1.7%	0.7%	6.0%	2.4%	2.7%
Demographics	Population (M)	36.0	84.5	75.1	6.5	4.3	32.4	10.4
	Unemployment (%)	10%	9%	13%	13%	0%	9%	13%
Fiscal and Monetary Policy	GDP deflator (% change; av)	16.2%	10.5%	9.5%	13.8%	0.1%	0.1%	4.0%
	Total foreign debt (US\$B)	\$ 5.28	\$ 34.84	\$ 12.57	\$ 7.64	\$ 28.42	\$ 26.58	\$ 21.58
	Public Debt (% GDP)	9.2%	81.4%	13.2%	57.3%	141.7%	61.1%	42.5%
GDP Composition	Agriculture (% of GDP)	12%	14%	11%	4%	5%	15%	8%
	Industry (% of GDP)	55%	37%	40%	30%	20%	29%	14%
	Services (% of GDP)	33%	48%	49%	65%	76%	47%	61%

Source: Economist Intelligence Unit, 2012

Egypt's economy is diversified as compared to its largest regional neighbors, many of which depend heavily on commodity petroleum exports (Saudi Arabia, Iran, and the UAE). As of 2010, the largest sector in the economy was the manufacturing sector (16.9%), followed by mining (14.4%), and agriculture (14%). Exports are concentrated in the hospitality and tourism, transport and logistics, and petroleum products clusters. Egypt's shifting export product mix over the past 20 years is symptomatic of a broader economic change — from a singularly natural resource-focused economy to one that is less factor-driven.

Egypt: Export Portfolio by Cluster, 2010



Source: Institute for Strategy and Competitiveness, International Cluster Competitiveness Project.

2.3 Historical Context for Development

The modern Egyptian state was founded in 1953, following a chaotic popular revolution in 1952 against colonial British forces and Egypt's standing monarch, King Farouk. A group of Egyptian Army officers, termed The Free Officers Movement, led the uprising, setting a precedent of close ties between Egyptian military forces and the nation's elected leadership. Most of the country's future presidents would arise from this movement and the military ranks in subsequent decades.

Egypt's first president, Gamal Abdel Nasser, took power in 1956 and committed to an agenda of socialist-inspired domestic policy and "anti-imperialist" foreign relations. Nasser aimed to politically position Egypt as the leader of the Arab world. Internally, he established a new constitution and national charter in 1964, which introduced universal healthcare and free education, a minimum wage, reduced working hours, provisions for housing, and expansion of women's rights. Nasser nationalized all British and French-owned assets in Egypt, including the Suez Canal — enterprises that produced one-third of the nation's output.

On September 9, 1952, Nasser instituted the first of a series of land reforms to assuage popular outcry against the historical concentration of land ownership — at the time, 1% of the population owned 70% of the nation's arable land. This effectively divided up Egypt's large agricultural plantations into single-family farms. However, more than half of the rural population continued to work as landless laborers and, by 1970, land ownership only increased to 10% of the population (Stearns, 2001). In 1970, Nasser died of a heart attack.

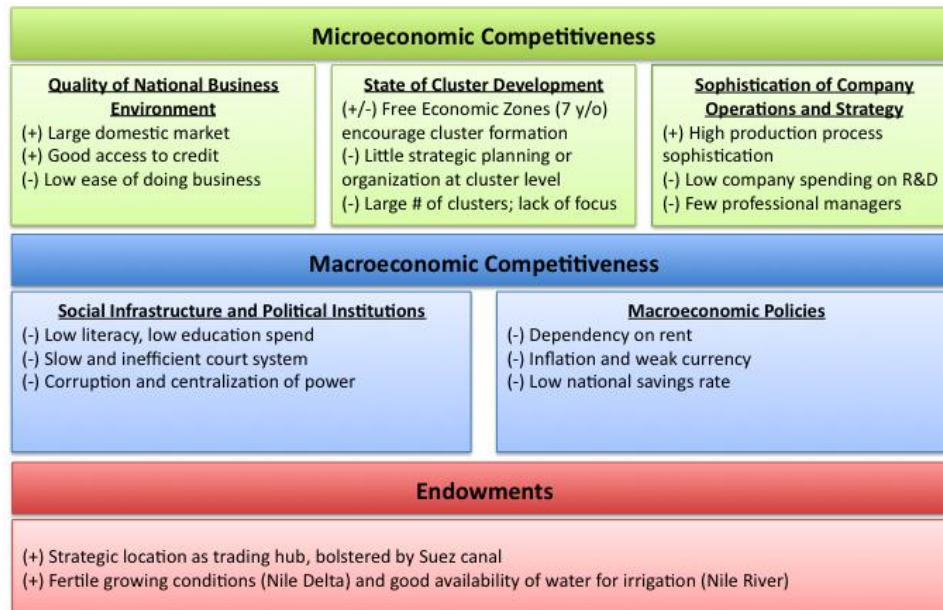
Anwar Al-Sadat, a close confidant of Nasser, was elected as his successor. He introduced a multi-party political system and launched an economic "infitah" (opening) policy in the years following the Yom Kippur War in 1973. In an attempt to improve the inefficiencies and bureaucracy of the public sector that developed under Nasser, Sadat aligned himself with the United States, promoting free market policy and legalizing foreign direct investment.

The Egyptian middle class, having suffered most from economic turmoil following the 1973 war, widely protested Sadat's economic liberalization. Riots became commonplace in major cities, and Sadat's government was increasingly accused of corruption, arbitrary arrests, and political suppression. His brokering of the 1979 Peace Accords with Israel further distanced him from the Egyptian populace. In 1981, an Egyptian military officer with the support of several influential Islamic clerics assassinated Sadat at a parade.

Hosni Mubarak, Sadat's vice president, assumed the presidency and led Egypt for the next 30 years. Having seen his predecessor assassinated literally right in front of him, Mubarak consolidated power and expanded the nation's security apparatus to enable him to subdue political threats, channeling foreign aid into military development. Decaying infrastructure, restrictions on free expression, rising consumer price levels, and uncertainty over presidential succession contributed to widespread popular resentment. Following a wave of protests and revolutions in neighboring nations termed "The Arab Spring," Egyptians took to the streets to rally against Mubarak's regime. Mubarak resigned in February 2011.

2.4 National Competitiveness Assessment

Egypt's national competitiveness is aided by favorable endowments and some positive microeconomic elements, ranking 63rd out of 138 countries in business sophistication and 26th in market size. But Egypt has been hamstrung by adverse macroeconomic conditions, ranking only 129th in macroeconomic environment, 133rd in labor-market efficiency.



2.5 Endowments

Egypt's strongest competitive advantages lie in its natural endowments. The country's position at the crossroads of three continents has made it a historic trading hub, amplified by the construction of the Suez Canal in 1869. Roughly 10% of the world's maritime volume has passed through Egyptian waterways, and the canal spawned a robust shipping and logistics cluster that facilitates export of goods like textiles.

The Nile Delta, an area of northern Egypt where the Nile River spreads into distributaries and drains into the Mediterranean Sea, has served as Egypt's breadbox for over five millennia (Baines, 2011). Until the river was dammed in 1902, the upper reaches of the Nile would flood annually, creating a vast delta of fertile soil necessary for high-quality crops that sustained the early Egyptian economy. Building on this endowment has allowed Egyptian farmers produce the highest quality-graded cotton in the modern world.

2.6 Macroeconomic Competitiveness

2.6.1 Social Infrastructure and Political Institutions

Twenty years of redistributive economic policies have left Egypt with inefficient, low-quality social institutions — the nation boasted a 29% illiteracy rate despite 96% enrollment in primary education. In an economy characterized by a high degree of centralized planning, Egypt spent only 3.7% of its government budget on education and 6% on healthcare.

Corruption and unreactive centralized economic planning constitute major challenge to Egyptian macroeconomic competitiveness. Although some Nasser-created SOEs were privatized under Sadat and Mubarak's regimes, a new form of centralization emerged. A small group of Egyptians relied on "the partial and selective process of economic reform" to acquire wealth and political linkages to secure it over time, giving rise to a class of oligarchs who have generally stood in the way of national development (Sfakianakis, 2004).

2.6.2 Macroeconomic Policies

Rents have long-constituted a significant portion of Egyptian government revenue — an uncertain source of income compared to taxes, and one that frequently reduces citizens' investment in government policy-making. Rent as a proportion of total government revenue rose to 23% in 2010, with fees from the Suez Canal (7%) and oil-based export royalties (16%) constituting the largest sources of rent income.

Remittances and aid compose the other two legs of a tripod that often constrains macroeconomic competitiveness in developing nations. Nearly two million Egyptians work abroad, mostly in Saudi Arabia and Kuwait, and remittances totaled \$8B in 2010, about 8% of Egypt's GDP. Although aid as a percentage of GDP has fallen, foreign assistance in 2010 composed about 1.5% of national output, and Egypt was the second largest recipient of American development aid.

Inflation has been a perennial scourge of Egyptian macroeconomic competitiveness. Throughout the last two decades, Egypt's persistent inflation in has exceeded that of its

regional neighbors and greatly contributed to rising poverty levels (22% in 2008 compared to 16% in 2000) (World Bank Database).

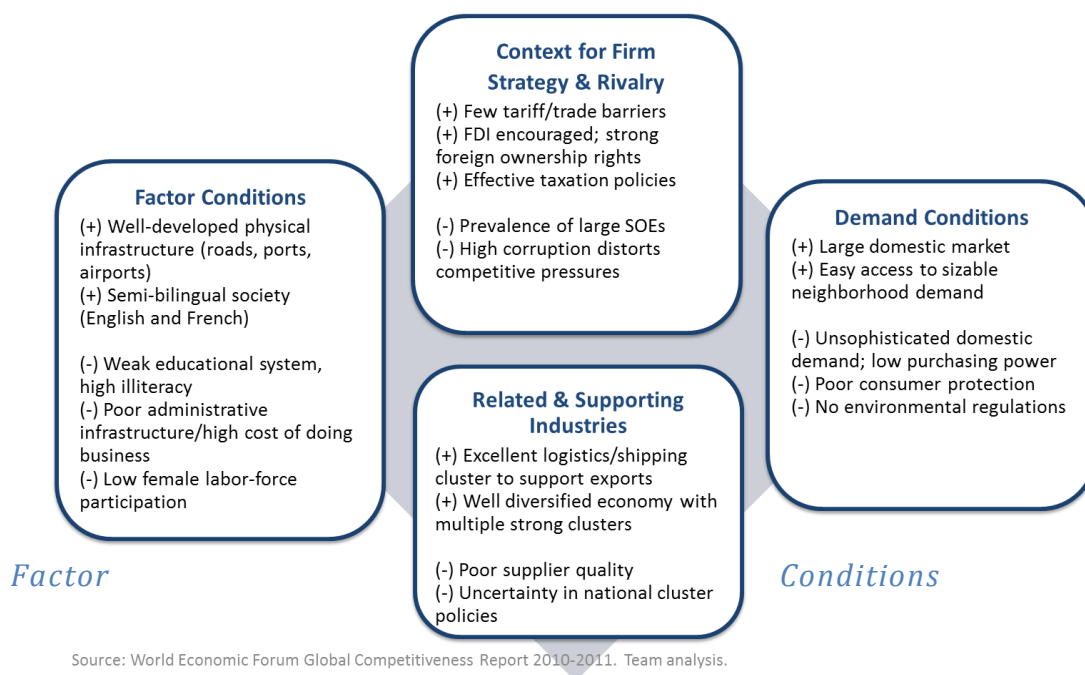
In an effort to boost savings, the Central Bank raised interest rates on deposits beginning 2004. Inflation was undeterred: the GDP deflator grew 16.2% in 2009, the largest increase since 1992 (World Bank databank, 2012).

2.7 Microeconomic Competitiveness

Microeconomic factors tell a mixed story: while Egypt succeeded in building a relatively sophisticated economy with various clusters (several of which may have linkages to the textile cluster), the country struggled to implement reform initiatives aimed at improving the business climate and increasing investor confidence. Corruption and bureaucracy remain serious worries for foreign investors, especially in the absence of strong legal infrastructure.

2.7.1 Quality of the National Business Environment

Egypt's national business environment boasts several positive factor conditions and a large domestic market, but suffers from enduring structural challenges:



The Egyptian government historically leveraged Egypt's location as a trading hub by investing in physical infrastructure, resulting in air transport and railroad infrastructure that is

ranked in the top-50 globally (WEF, 2011). The country also benefits from a semi-bilingual society: while Arabic is the official language, English and French are also widely understood (CIA, 2012). While the secondary education enrollment rate is at 90%, the quality of the Egyptian education system is ranked 131st of 139 countries, with the quality of management schools and staff training being amongst the lowest in the world. Female labor participation is among the lowest globally (ranked 130 of 138 countries). Egypt also lags many Arab countries in contract enforcement and in government-imposed challenges to free enterprise. In 2011, Egypt ranked 94 out of 183 countries in ease of doing business (WEF, 2011).

Context for Firm Strategy & Rivalry

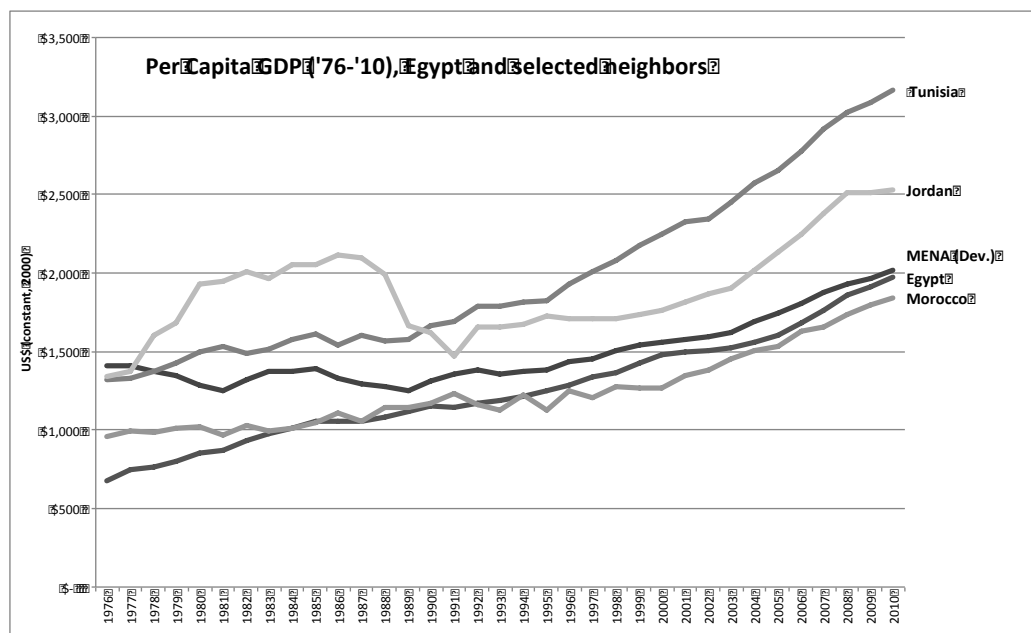
Private-sector competition remains constrained in the face of lax anti-monopoly enforcement (106th of 139 countries) and the persistence of large, inefficient SOEs. Widespread corruption and legacy labor regulations from the Nasser regime also negatively impact the national business environment.

However, policies aimed at spurring foreign investment proved reasonably effective. Nasser's nationalistic agenda and global realignments limited FDI until 1973, and what foreign investment did occur was mainly concentrated in the petroleum sector. In 1974, Al-Sadat began a series of policy reforms, establishing a special body tasked with reversing some land repossessions and providing guarantees against nationalization. FDI as a percent of GDP grew from 0% in 1970 to over 6% in 1978 (Library of Congress). The 1990s marked another turning point, as Egypt implemented laws eliminating preferential legal treatment for state and domestically-owned firms.

Demand Conditions

Despite boasting the largest population of the MENA countries and occupying a strategic location in the heart of the Arab world, sophistication of Egyptian demand is weak and consumer protections are underdeveloped. Consumer purchasing power is adversely affected by Egypt's comparative poverty — on a GDP-per-capita basis, Egypt ranked 16th

out of its 19 regional peers in 2010. Egypt has consistently underperformed its peers in per-capita income growth over the past three decades.



Source: World Bank WDI, 2012.

Changing societal composition also negatively impacted national demand conditions. Egypt's once-diverse ethnic and religious mix shifted over the past 40 years to an almost-exclusively Arab and Muslim population. An unstable political environment has impelled the exodus of foreign nationals and much of the country's intellectual class, diminishing the sophistication of the Egyptian consumer market.

Related and Supporting Industries

Egypt shows some linkages indicative of a cluster-based economy, with particular strength in transportation and logistics and a robust tourism cluster. But enforcement of input quality standards remains lax and availability of some support services is poor despite increases in FDI flows which might have encouraged cooperation between firms.

Given the high capital intensity of textile production and the specialized goods required, there is little overlap between the textile cluster and other clusters in which Egypt has strong global positioning. The relative strength of Egypt's transportation and hospitality

clusters, however, serves to complement the textile cluster by facilitating the efficient export of Egyptian textiles and promoting the high-quality perception of the national brand.

2.7.2 State of Cluster Development

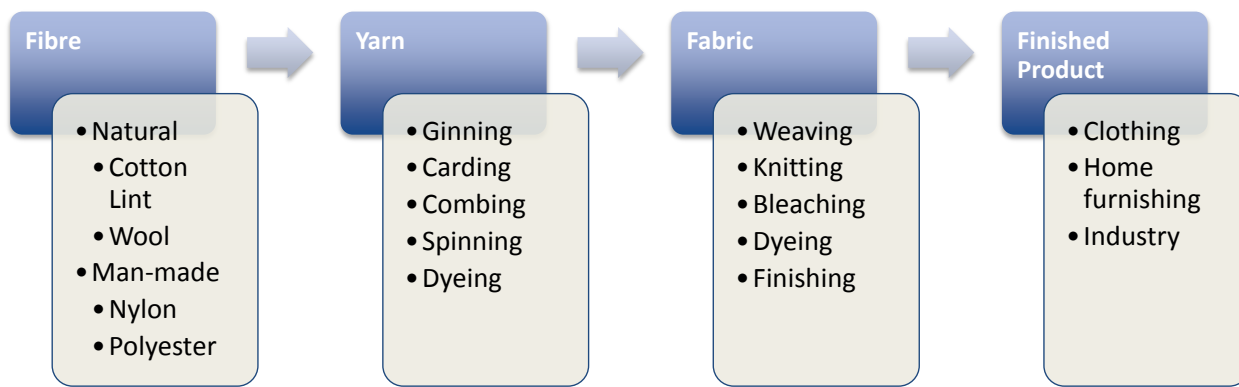
As the nation transitioned away from petroleum dependency, Egypt built competitiveness in several traded clusters – translating into gains in world export share and national share of exports. The country's hospitality and tourism cluster has flourished (aided by endowments like the Pyramids of Giza), and both the Egyptian transport and logistics and petroleum products clusters have proven competitive on a global scale.

The development of Free Economic Zones (FEZs) may be a significant driver of growth and diversification in the future. Although only introduced in 2007, by 2011, thirteen zones were established across the country. The sector of activity of these zones has varied, including Education & Research (3 zones), SMEs (2 zones), Building Materials, Textiles, Biotechnology, Engineering, Information Technology, Commercial Services, and Auto-feeding. To enforce special economic zones provisions, the government implemented new intellectual property laws (2002), labor (2003) and anti-trust legislation (2005), and a consumer product policy (2006). Nevertheless, it is still too early to discern whether these initiatives will constitute a coherent attempt at cluster-based strategy or simply subsidies for a variety of unrelated and arbitrary sectors.

3 The Global Textiles Industry

3.1 Overview

Textiles are loosely defined as any woven cloth or woven fabric (Random House, 2012). The textiles value chain is divided into four discrete phases by outputs, with each phase consisting of multiple labor-intensive steps (World Bank, 2008).



Source: World Bank, 2008.

Countries export intermediate goods at every stage of the value chain, and the total value of products exported increases significantly at every stage. Global cotton lint exports are valued at \$18.8B, while global cotton fabric exports are valued at \$31.3B. Although the United States and India account for over 50% of global lint exports, cotton fabric exports are dominated by Mainland China with 36% share of the global market (UNCTAD, 2011).

The nominal value of global textile exports increased at an annual growth rate of 28.3% from 1990 to 2010, and currently exceeds \$250B (WTO, 2010). Clothing and apparel embody an even larger market. Mainland China dominates the global market, with a 41% share of global exports by value, and Hong Kong accounts for an additional 7.6% of the \$314B export market. Developed nations constitute the largest textiles and apparel importers. The United States, Japan, and western Europe together account for 85.9% of all global clothing/apparel imports (WTO, 2011).

3.2 Recent Trends in International Textiles

The sunset of the Multi-Fibre Arrangement (MFA), a global quota system that governed international trade of textiles and garments, exposed many nascent textile clusters to unmitigated competition (McNamara, 2008). China now represents the largest global share of textile exports, having grown from 7% of the global textiles export market in 1990 to 31% of the global market in 2010. China, Europe, India, the US, South Korea and Turkey represent

the five largest textiles clusters and together comprise over 75% of all textile exports, while Egypt is responsible for roughly 1% of all exports (WTO, 2011).

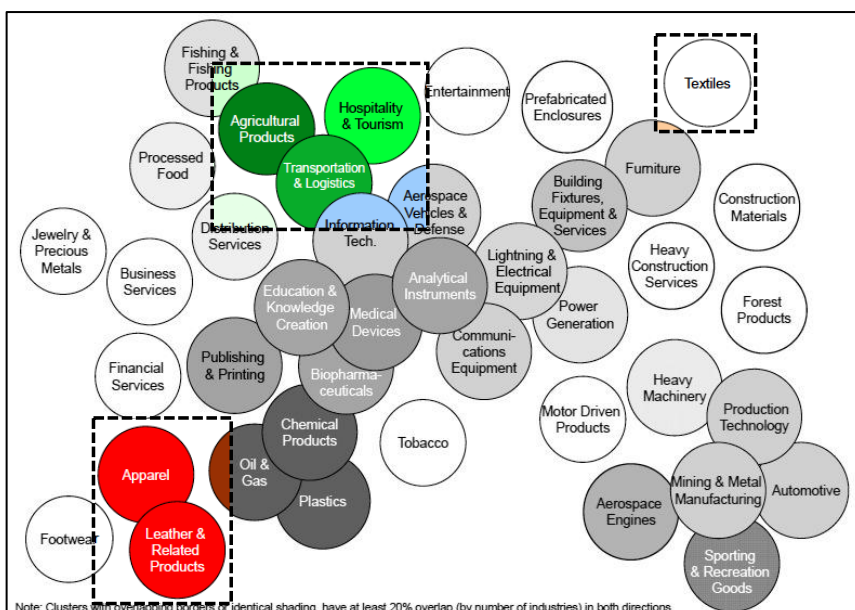
Both India and the US grow much of their cotton domestically and source over half of all cotton lint imported by other clusters. Cotton lint is also exported by Uzbekistan (9% of market), Australia (5%), and Brazil (5%), while cotton fabric is also exported from Pakistan (7%), Hong Kong (6%), and Italy (6%) (UNCTAD, 2011). China is the top global player in cotton fabrics, textiles, as well as clothing and apparel exports, where India and Europe also have strong positions. A 2001 study by the US Department of Commerce found that China alone owned 41% of all low-technology shuttle looms, while Eastern Europe held the dominant position in the higher-technology space, owning 25% of all shuttle-less looms (US DOE, 2001).

3.3 Related Clusters

The competitiveness of most traded clusters relies heavily on the strength of linkages between related and supporting clusters — sustainable success is usually not possible in isolation. Globally, the textiles cluster is one of the rare clusters exhibiting few linkages. Similar to firms in the furniture cluster, textiles producers rely heavily on specialized capital goods like looms that enable the efficient manufacture of cloth from yarn. Labor is a comparatively less critical factor input.

The textile cluster differs dramatically from the apparel cluster, which transforms cloth into clothing

(New Cloth Market, 2010). Competitiveness in apparel requires an abundance of low-cost



labor but a dearth of capital — even industrial-grade sewing machines are relatively commoditized and inexpensive.

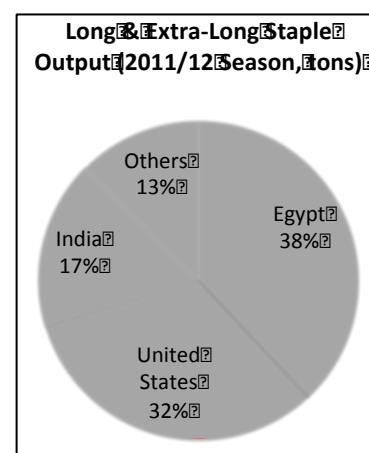
4 The Egyptian Textiles Cluster

4.1 Overview

Although dwarfed in size by clusters in Europe and Asia, Egypt is home to the largest (by export value) and most productive cotton and textile clusters in all of Africa. Textiles compose the third-largest Egyptian export by value, and the cluster constitutes 17% of manufacturing employment.

Several significant players in the cluster are government-owned, which is unusual in comparison with global peers. Although China converted its privately-owned textile manufacturing firms and garment factories into State-Owned Enterprises in the 1950s, economic reforms initiated in 1978 returned ownership into private and locally collective hands (Harvard, 1999).

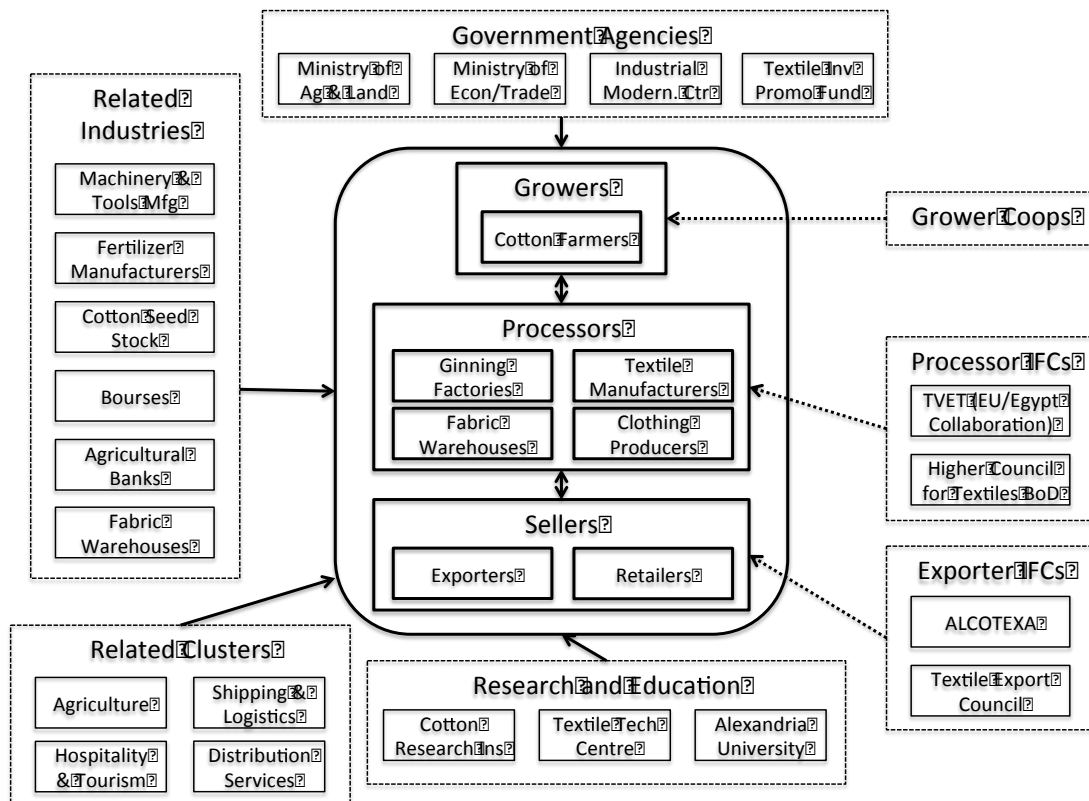
Egypt's strength in luxury long and extra-long staple cotton output stands out as the most unique contextual element affecting the cluster. Driven in large part by its strong endowments and commitment to independent grading and appraisal of its cotton products, Egypt is the largest global producer of high-end cotton, which is sold at three times the export price per pound compared to other Egyptian strands of cotton that trade at regular market rates (U.S. Cotton Council, 2011).



Source: Cotton Exchange, 2011.

4.2 Cluster Description

The major players in the Egyptian textile value chain can be divided into three segments: growers (cotton farmers), processors (ginning factories, weavers/cloth-makers, and ready-made textile producers), and sellers (exporters and retailers).



We will focus our analysis on the processing segment — the “core” of the cluster — but it is critical to understand the upstream cotton suppliers and downstream textile sellers because linkages between the three segments will be the most important determinants of the cluster’s long-term competitiveness.

Growers

Cotton farming is concentrated in the Nile River Delta in northern Egypt, with the highest-quality grades produced in a small area near the city of Damietta. Legal statutes on property ownership require farms to be family-owned, and average acreage under cultivation is 4 acres. Egyptian growers are far more fragmented than high-end Pima cotton producers in California, which average 3,000 acres per farm (RATES, 2005).

Farmers are required to purchase seed stock from the Ministry of Agriculture, which conducts research into optimal genetic varieties and breeding through the federally-funded Cotton Research Institute (CRI) (BMI, 2011). Alexandria University’s agriculture department also engages in some research on cotton growing techniques. The government-run Cotton

Arbitration and Testing General Organization (CATGO) supports growers by certifying cotton quality and cleanliness prior to raw fibre sales.

Processors

The processing segment includes the production of intermediate goods like lint, yarn, and fabric, as well as finished goods like ready-to-wear clothing.

Cotton ginning in Egypt is dominated by five firms, four of which are publicly-owned. The prevailing ginning technology is the labor-intensive roller stand, with most gins reportedly installed during a capacity overhaul in 1905 (RATES, 2005). Although ginning privatization initiatives have been under way since the mid-90s, they have been unsuccessful for two overarching reasons. First, the antiquated equipment would require large private sector capital expenditures for which there is no local loom machinery industry and the Government maintains high import taxes on foreign machinery; thereby diminishing the attractiveness of any such investment. Second, many Egyptian officials saw privatization as a threat to social peace as it would make thousands of public sector employees redundant. This latter concern appears to be resurfacing with a ten-year plan to privatize half of the Nile Cotton Ginning Company (which controls 17% of the gins in Egypt) having been overturned by an Egyptian court in December 2011 (Staff of Egypt Independent, 2011). The court alleged that the sale undervalued the firm's assets.

Linkages between ginners and the Cotton Research Institute are historically weak; despite a mandate covering research into ginning technology, ginning process technology has been almost unchanged over the past 30 years (RATES, 2005).

Egyptian spinning firms are mainly privatized, and most produce using locally-grown, long-staple cotton lint. Capacity-utilization has been consistently high in private-sector firms (91% in 2005) and lower in public-sector firms (70% in 2005) (RATES, 2005). Foreign investment in private-sector firms is common, majority-foreign ownership is legal, and most spinners target the export markets (Kim, 2004).

Linkages between spinning firms and weaving/ready-made goods producers are weak at best. Egyptian textile-makers predominantly use imported short-staple cotton yarn, and production of high-value textiles has steadily declined. Six-month consumption of Egyptian cotton in July 2009 amounted to 38K tons, the lowest figure in 70 years (El-Haddad, 2010). Export-share of production is very high — in 2009, textile firms attributed 56% of revenue to export sales.

The Textile Consolidation Fund, founded in 1953, is a non-profit Institute for Collaboration funded by textile producers and the Egyptian Ministry of Trade and Industry. TCF promotes Egyptian textiles abroad and funds limited research, but its most significant activity relate to quality certification. TCF publishes quality standards for non-toxic textiles (the “Eco-Label” logo) and offers laboratory services to test for the presence of heavy metals and pesticides in finished goods. Its laboratory is not currently accredited to the standards of developed nations, and only the two largest textile producers (Misr Mahalla and Giza Spinning & Weaving) certify their products. TCF recently formed an affiliated Cotton Consolidation Fund (CCF) to focus on setting standards for Egyptian lint used in domestic manufacturing.

The overarching Industrial Modernization Center (IMC) is an umbrella organization primarily funded by the EU and the Egyptian government that explicitly aims to build “specialized industrial clusters.” To date, its textiles subgroup has focused primarily on channeling foreign technical assistance and training to smaller Egyptian textile producers. Although the organization has been effective in directing foreign aid to producers, Egyptian firms do not play a governance role in IMC’s textile cluster development program.

Exporters

The largest textile producers manage exports themselves, but most processors rely on exporters to reach international markets. In 2012, there were 51 registered export agents of which 7 were publicly owned (CATGO, 2012). Export agents mostly operate out of the port of Alexandria, in close proximity to most processors.

As the cluster participants with the closest ties to discriminating international cotton buyers, exporters dominate the cluster's Institutes for Collaboration. The Alexandria Cotton Exporters Association (ALCOTEXA) exerts the strongest influence on cluster activities. An exporter-funded non-profit with close government ties, ALCOTEXA focuses on the trade of cotton lint and yarn, and exporters of these goods are legally required to register with the association.

Textile and finished goods producers generally affiliate with the Egyptian Exporters Association (ExpoLink), a less focused trade association that promotes development of trade in all Egyptian manufactured goods.

4.3 Cluster Development

The influence of national government has weighed heavily on the Egyptian textile industry since its inception. A Frenchman planted Egypt's first high-quality cotton in 1818 after persuading Muhammed Ali Pasha, the wāli (Ottoman viceroy) who founded the kingdom of Egypt, that the crop could bring in enough cash to outfit the new country's military (Little, 1958). At the time, the state owned all property in Egypt and farmers were required to sell their production to the wāli to be re-sold domestically or abroad. As high-quality cotton proved profitable, Muhammed Ali established massive government-owned spinning and weaving enterprises to process raw cotton with the levied (*courvée*) labor of Egypt's lower social classes (Cleveland, 2009).

Because labor was essentially free, textile mills bore no incentive to invest in capital goods. Notably, in 1822 a group of Americans arrived in Cairo selling the cutting-edge Whitney-Saw cotton gin. The wāli watched a demonstration of the gin but demurred on purchase, supposedly noting, "The fellah's hands and feet are cheaper."

The onset of the American civil war in 1861 spurred a run-up in the global price of cotton, and Egypt responded by increasing cotton output by a factor of five. Prices subsequently plummeted after the Confederate surrender, and the Egyptian economy was

decimated. When the British annexed the country in 1882, Egypt was heavily in debt to European governments and crippled by a decade of runaway domestic inflation. The British legalized private property, distributing ownership of most of the cotton and textile industry to non-Egyptians who built massive plantations as well as spinning and weaving firms. The first Egyptian commodity exchange — the Cairo Bourse — opened in 1902, providing a marketplace for cotton-based financial derivatives.

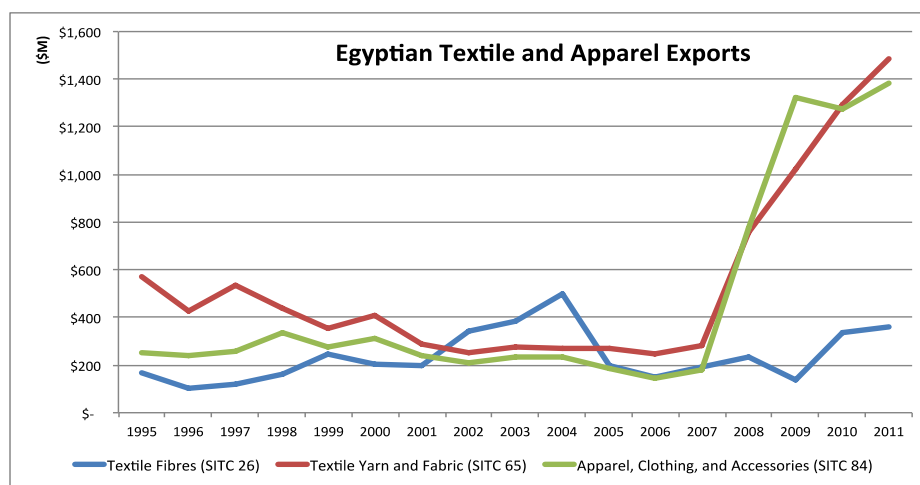
Cotton fibre dominated Egypt's export mix when Gamal Nasser led the Egyptian Revolution in 1952, establishing the Egypt of today. In the wake of the revolution, the Egyptian government implemented an import-substitution strategy, re-established itself as the sole purchaser of cotton and subsidizing clothing manufacture for the domestic market. Nasser's government also pursued a dramatic land re-distribution. Law Number 178 prohibited landowners from owning more than five hectares, outlawing the large cotton plantations that had historically dominated the industry.

Egypt began to liberalize its economic and trade policies in the early 70s, removing subsidies for domestic clothing producers in the early 1980s and lifting the requirement for farmers to sell raw cotton to the government. Policy changes decimated the weaving and spinning sectors — previously sheltered from global competition — and marked the beginning of a trend whereby an increasingly large share of raw cotton production has been exported as cotton lint rather than thread or textiles. Egypt's accession to the WTO in 1995 and the end of the Multi-Fibre Agreement in 2005 marked progressive steps along the path to exposing the Egyptian textile cluster to unfettered global competition.

4.4 Cluster Performance

Egyptian textile exports have increased both as a percentage of national mix and as a percentage of world share since 2000. The end of the MFA constituted the main driver behind the especially rapid uptick in yarn and fabric exports since 2007. Increased exposure to global competition since 2004 tariff cuts has also aided the cluster; several

empirical analyses concluded that the drop in import duties increased productivity in all segments of the cluster (Al-Ayouty, 2010).



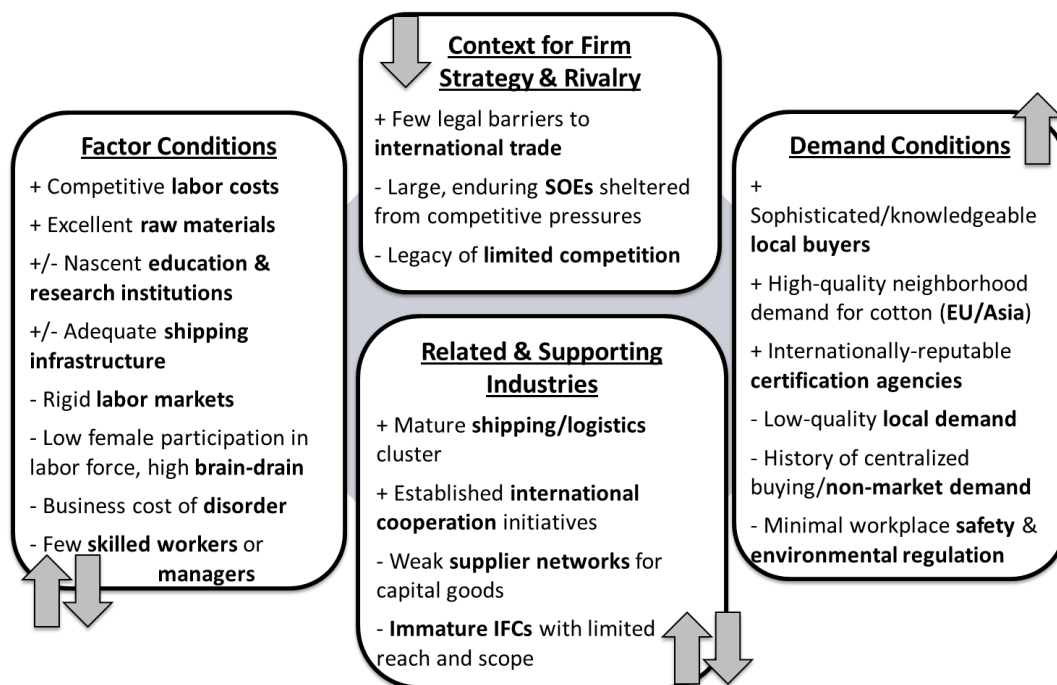
Source: UN Comtrade, 2012.

But there are some signs that the cluster's overall performance has been more mixed than export performance would suggest. In a national economy where real manufacturing output grew at 4.8% per year, the output of Egypt's textile cluster declined by an average of 2.9% per year over the past decade (UNIDO). And although Egyptian labor remains reasonably inexpensive, textile manufacturers cannot effectively compete with Chinese or Bangladeshi producers on the basis of low labor cost alone (Werner, 2005). The cluster's export boom reflects one-time exogenous changes in global textile trade rather than the true competitiveness of the cluster. And because of structural barriers to firm flexibility in the most-traded segments, the future may not be as bright as the recent past.

4.5 Cluster Competitiveness Assessment

The textile cluster faces a number of obstacles to cluster development, including inflexible labor markets, an absence of skilled workers, and the competition-limiting impact of massive, weak State Owned Enterprises. These obstacles are somewhat mitigated by advantageous factor conditions, a well-developed set of exporter with ties to sophisticated global textile buyers, and the presence of high-functioning related clusters like logistics. In

recent years, several cluster-focused development initiatives emerged and successfully involved international textile cooperation organizations.



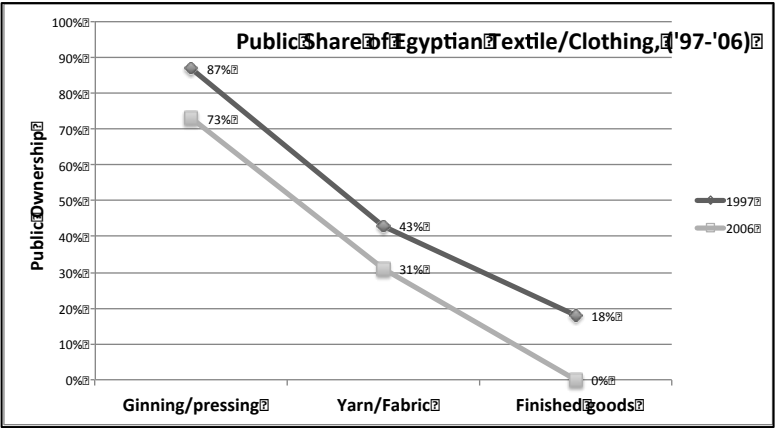
4.5.1 Context for Firm Strategy and Rivalry

On a global scale, textiles provoke a startling wide assortment of tariffs, subsidies, and protectionist policies. Egypt has dramatically reduced its tariff policies since 1998, currently imposing a 5% import tariff on cotton yarn and a 10% tariff on woven fabric — dramatically lower than 20-35% tariffs imposed by nearly all peer nations.¹ Implementation of the Qualifying Industrial Zone (QIZ) program in 2009 essentially eliminated all duties on traded textiles between Egypt and the United States, Israel, and Jordan (American Chamber of Commerce in Egypt, 2009). These reforms have reduced the overall weighted tariff from 14.6% in 2007 to 5.5% in 2010 (USITC, 2012). More qualitative metrics of openness to trade are also positive; median port clearance time in Egypt is 5.5 days, faster than most peer nations (Clark, et al., 2004). However, given the country's reliance on the cotton crop, it

¹ Selected peers: Mexico (21% on yarn, 35% on fabric), Jordan (0-20% on yarn and fabric). (OTEXAS, 2011).

imposes strict import quarantines on raw materials with a double-quarantine procedure in order to fumigate the crop twice. This is both expensive, harmful to trade, and – according to international experts – unnecessary (Clark, et al., 2004).

The persistence of large, unproductive government-owned firms — particularly in the ginning, spinning, and weaving activities — has been the most serious barrier to the competitiveness of the Egyptian textile cluster. A single state-owned enterprise (the Holding Company for Spinning, Weaving, Cotton, and Ready-made Garments) controls 33 separate affiliated firms (El-Haddad, 2010). SOEs continue to crowd-out private enterprise, raising unofficial



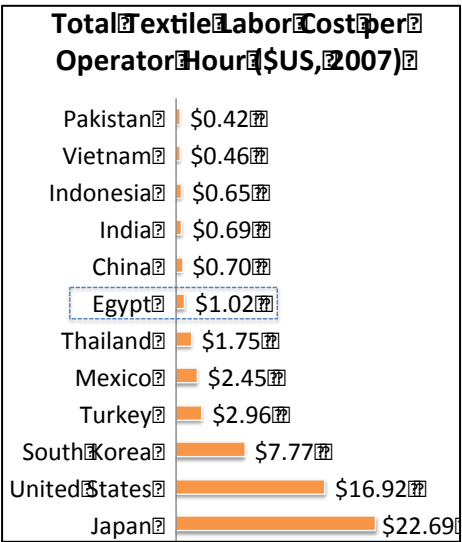
Source: Magder, 2005.

barriers that have maintained a public lock on the profitable export trade and hampered growth of sophisticated firms downstream from the government-dominated ginning sector (Magder, 2005). SOEs constitute only 22% of gross cluster production value, but their concentration in ginning is a serious detractor to cluster competitiveness (El-Haddad, 2010).

4.5.2 Factor Conditions

Egypt enjoys higher-quality transportation infrastructure than most textile-producing nations, as well as a satisfactory port infrastructure (World Economic Forum, 2011). On an hourly basis, textile labor is less costly than in Thailand or Mexico (although nearly 50% higher than in China) (Werner, 2007).

Some specialized textile research programs exist at the Alexandria University and at government-funded think-



Source: Magder, 2005.

tanks like the Cotton Research Institute. Research focuses on applied R&D and process engineering, investigating (for example) how differences in Nile geography and cotton seedstock impact ginning outturns (a metric for ginning efficiency) (El-Feky, 2010).

Productivity growth has been impeded by inefficient labor markets (ranked 133 of 139 nations in 2011) and a persistent dearth of skilled knowledge workers and general managers (ranked 131 in overall quality of educational system, with similar rankings for math/science and management education) (World Economic Forum, 2011). Cultural norms around the role of women have translated into low female labor force participation — a structural challenge for Egyptian producers given that women typically compose a high proportion of the labor force in textile firms.

4.5.3 Demand Conditions

In the wake of MFA, international demand for luxury Egyptian cotton and textiles remains extremely strong, and a discerning set of local buyers, trade agents, and exporters operates primarily around the port of Alexandria. Exporters have driven most cluster-level planning through the Alexandria Cotton Exporters Association (ALCOTEXA).

Local demand is weaker and less sophisticated. Annual domestic lint cotton consumption (ginned cotton suitable for yarn-making) has steadily fallen from a peak of 6M quintals in 1994 to 0.8M quintals in 2010, reflecting a trend towards export of lower value-add products (Central Agency for Public Mobilization and Statistics, 2011).

The Egyptian Ministry of Trade holds trademarks on “Egyptian Cotton” in 26 countries, and certifies manufacturers to use the distinct Egyptian Cotton logo. The Ministry of Trade and ALCOTEXA have regularly met with international retailers and pursued legal action to enforce brand standards in recent years (Marks, 2008). The Organic Trade Association maintains a certification office in Egypt, and the country was the ninth-largest producer (by volume) of certified organic cotton in 2010 (Textile Exchange, 2010).

4.5.4 Related and Supporting Industries

A robust shipping and logistics cluster centered in the port of Alexandria exists to serve traffic through the Suez Canal. Port efficiency measures compare favorably to neighboring nations (Fink, Mattoo, and Neagu, 2004). Egypt ranks highly in quality of air transport (46th) and railway infrastructure (39th), although the quality of its port infrastructure has suffered from underinvestment of late.

As discussed previously, IFCs exist but their scope remains limited and international assistance to the textiles cluster flows through government-organized groups. The two most prominent privately-funded IFCs, ALCOTEXA and TCF, bear somewhat competing incentives — ALCOTEXA members predominantly export lint and thread, and have not focused on the production of textiles from high-quality Egyptian intermediate products.

Although improved supplier quality serves as the *raison d'être* for current IFCs, quality of inputs falls well short of international standards in developed nations. Although the Egyptian government reduced tariffs on capital goods from an average of 40% to 5% in 2004, import tariffs on some goods critical to cluster development remain significant — duty on mid-sized trucks is 32% (OTEXA, 2011).

5 Recommendations

5.1 National Recommendations

Since the Egyptian revolution in early 2011, the nation faces a plethora of challenges. It is tempting to offer an exhaustive list of recommendations, but given the context — a recently ousted leader, a transition government, a populous under military control, and a recent outbursts of violence — desire for grandiose improvement should be tempered by an acknowledgment that Egypt's transformation will be measured in decades, not months.

The Egyptian government's immediate goal should be creation of a safe environment in which firms can operate and outsiders can invest capital. As seen in nations like Singapore

and Rwanda, the methods that even high-growth nations use to ensure safety can be sometimes unpopular.

Once physical safety and rule of law look secure, the Egyptian government should prioritize government legitimacy and reduce corruption. Instilling faith in the quality and durability of public institutions will be critical given Egypt's historical inconsistency in national policy aims.

After addressing larger-scale political challenges, Egypt should focus on removing several key impediments to microeconomic competitiveness that adversely impact domestic firms and dissuade international investors from committing capital and expertise to Egyptian clusters. First, the government should address several hindrances to firm strategy and rivalry, aiming to improve ease of doing business and increase investor protections. "Time required to enforce a contract" currently stands at 1,010 days (well above the average of 554 days in regional neighbors like Turkey and Jordan). Property registration currently takes 193 days in Egypt, also dramatically higher than the Jordan/Turkey average of 14 days. Improved investor protections like patent laws are not valuable if transaction costs and friction related to enforcement are so high undermine the safety of capital.

Finally, private investors must feel safe that their investments will appreciate in real and not just nominal terms. As such, the Government must address inflation, an area of perennial macroeconomic weakness, by lowering the fiscal deficit through a focus on strategically important sectors and by withdrawal of subsidies. Decreasing subsidies will both loosen the government's dependence upon rents and lower inflationary pressures.

Once physical and capital safety is assured, Egypt can position itself as a secure country within an unstable region. As evidenced by increased FDI flows following the Camp David accords (despite clear signs that some capital was usurped by government), Egypt's political stability will ensure support from advanced economies in search of allies in a geopolitically important region.

5.2 Cluster Recommendations

5.2.1 Goals

Egypt has a long road ahead to reach its goal of a globally-competitive textile cluster. In situations where the end goal is a distant, policy leaders must define a vision for cluster improvement that can endure across business cycles and political administrations.

Aging equipment and chronic underinvestment in public-owned ginning mills precludes Egypt from efficiently processing the long-staple cotton it is famous for. Due to its uncompetitive ginning sub-sector (average age of Egyptian gins is slightly over 100 years), the textiles cluster must import lower quality cotton for its local RMG segment while exporting raw, unfinished long-stem cotton – removing any cluster-type benefit to linkages between firms at different stages of the value chain. Our first overall goal is clear: to spur investment in the ginning mills through privatization of the spinning segment.

However, while the prescription may be lucid, through the lens of the government's failed privatization efforts from 1994-2000, the steps to such a resolution may be more opaque. In order to ensure privatization succeeds, it is helpful to consider what went wrong in the late '90s. With history in mind, we can offer a prescription for change that may succeed in upgrading competitiveness through cluster-focused strategy.

5.2.2 Cluster Value Proposition

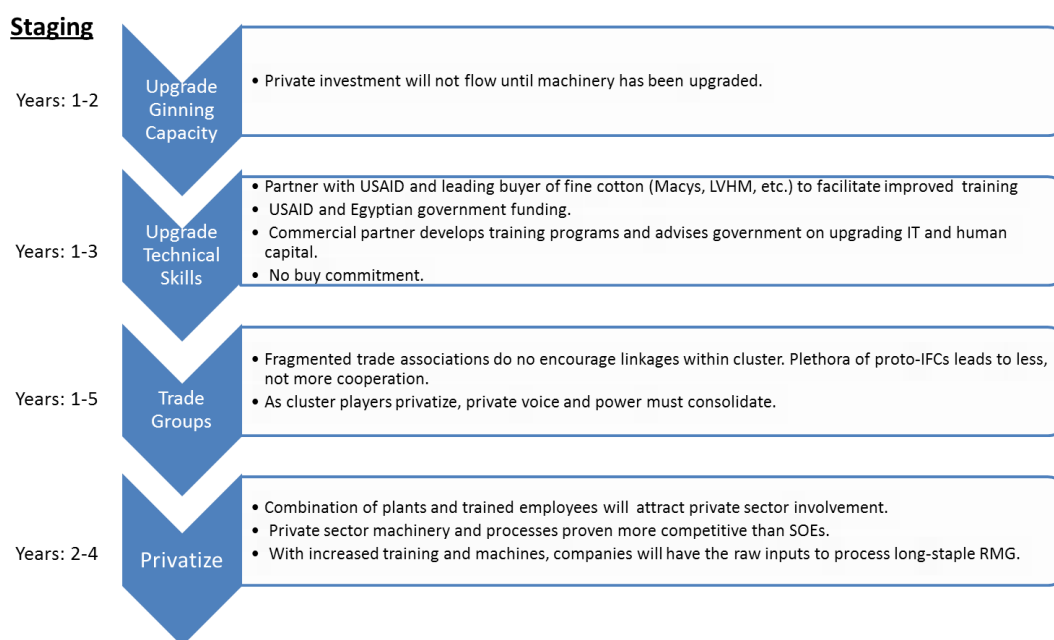
The Egyptian textile cluster's vision should be to become the leading producer of long-staple yarn and fabric in the world, as well as the leading supplier of textiles expertise within to the MENA region. In order to achieve this vision, the cluster must first remove its key bottleneck: an uncompetitive ginning sector.

5.2.3 Reduce Government Participation in Raw Material Supply

In its effort to privatize the sector during the 1990s the Egyptian government enacted seven unique policies beginning in 1994 intended to phase out centralized lint allocation

policies. These policies for the first time allowed the private market to access a steady flow of raw materials. As a result, even before formal privatization programs began in 1995, two private firms launched in the spinning sector, primarily focused on niches where SOEs did not participate (ABT Associates, 1999).

Unfortunately, incentives to source from SOEs have persisted, and impose negative externalities that seriously impact the context for firm strategy and rivalry in the cluster. This must change first. The government should aim to eliminate subsidies to state-owned mills, forcing these enterprises to compete on their own merits. By purchasing commodities at artificially-inflated prices, government-owned factories gain an unfair competitive advantage over private-sector players, causing inefficient resource allocation and discouraging private investment that might upgrade competitiveness.



Second, the government tightly controls cotton production by banning all seeds except those on an “approved list” – a list which takes up to 18 months for the government ministries to revise (versus 7 days for Serbia). While this policy represents an attempt to protect the quality of Egypt's differentiated factor inputs, centralization limits available raw inputs and discourages innovation by the growing community. From a cluster perspective, regulating seed stock impairs cluster factor conditions. Cluster participants are discouraged from

establishing linkages across the value chain; spinners and weavers would have trouble realizing any benefit from investment in cottonseed R&D.

Land ownership reforms represent a third priority: the four-acre restriction on farm size harms factor conditions and imposes distortions on the context for firm strategy and rivalry. Without larger grower organizations, scale economies in cotton production will continue to be elusive, making the fixed cost of investment and farmer R&D prohibitive. And without such investments, Egyptian cotton yields will inevitably decline.

Finally, given the spinning sector's reliance on imported cotton, Egypt must either permit growers to diversify their crop and increase production of short-stem cotton at competitive prices or reduce the non-tariff related transaction barriers to imported raw products. Such a policy would allow other cluster players to better manage inventory levels.

As shown in 1994, free and equal access to raw inputs may attract private interest. However, access to materials alone will not attract the sufficient investment to achieve our vision for the cluster. During the period from 1997 to 2000, ten private spinners began operations – unfortunately and perhaps counter-intuitively, 90% of these firms chose open-end (manual) rather than more advanced and productive ring spinners. Without an upgrade in capital stock, the textile cluster will remain inefficient in processing its key factor input — even if SOEs can successfully transition to private ownership.

5.2.4 Break the Investment Trap

The ginning segment of the textile cluster is trapped in a vicious cycle that discourages capital expenditures and consequently dis-incentivizes private investment. Due to the industry's antiquated machinery, most firms must produce low-margin products, creating a dependency on low-wage labor that then leads to a lack of training and R&D into production processes. New investment in new machines becomes unattractive, and the cycle repeats.

In order to break this investment trap, Egypt must take advantage of its concentrated ownership within the ginning sector. Rather than continuing to auction off inefficient assets to

a tepid investor community, the government must focus its resources to upgrade state-owned ginning assets. Given excess capacity and national fiscal constraints, Egypt should first liquidate those plants it cannot afford to upgrade. Immediate divestment would both restrain excess capacity and structurally align production towards long-stem cotton ginning. It is important to note that Egypt should not wait to identify a buyer with whom to split the costs or profits from ginning investment. Rather Egypt should learn from Rwanda's struggle to build quality tourism infrastructure: people believe a story more readily when they can see and touch it.

In addition to the poor capital stock, the ginning sector is plagued by an unproductive and low-skill workforce. While broad national policy prioritizes improvement in the educational sector, such improvement will not immediately avail the textile cluster. The cluster must increase its commitment to specialized training programs. In upgrading human capital, the Egyptian government should form a coalition of multinational firms and international actors.

One possible partnership: USAID, IBM Corporation, and a large multi-national retailer. In such a partnership, IBM stands to gain from helping to establish a smarter infrastructure to connect suppliers, farmers, ginners and exporters and improve the quality of cluster suppliers. IBM could partner with Egyptian academic institutions like Cairo University to train workers to employ IT effectively. Building better linkages between cluster players would facilitate the transfer of knowledge that passive FDI cannot.

Our team has shared this plan with the head of Corporate Social Responsibility for IBM, who recognized IBM's history of collaboration with the Egyptian government and private sector (a senior IBM executive is of Egyptian nationality).

In addition to IT training and upgrading, Egypt should partner with USAID and a large retailer (Macy's, for example) to institute a certification program. Under this program, Macy's would stand to realize better input quality from improving supplier training programs. This would both increase the cluster's human capital and also afford managers a quicker feedback loop with sophisticated buyers to compensate for the unsophisticated local market demand.

The combination of these public-private partnerships in which the government provides investment in the physical capital and the private sponsors invest in human capital should reverse the trends of the investment trap from a vicious to a virtuous cycle.

Once the investment trap is broken and free flow of raw material is possible, private players will be incentivized to innovate and increase productivity.

6 References

- Abernathy, Frederick; John Dunlop; Janice Hammond; and David Weil. 1999. *The Development of the China Apparel Industry*. Cambridge, Massachusetts: Harvard Center for Textile and Apparel Research & China Textile University.
- African Development Bank (AFDB). 2009. *Egypt Private Sector Country Profile 2009*. Abidjan, Côte d'Ivoire: AFDB.
- Al-Ayouty, Iman. 2010. Textile Global Commodity Chains: Efficiency and Industrial Upgrading in Egypt. Cairo: Egyptian Center for Economic Studies.
- American Chamber of Commerce in Egypt. 2009. *Improving Labor Productivity in Egypt's Ready-Made Garments Sector*. Cairo: American Chamber of Commerce in Egypt.
- Baines, John. 2011. *The Story of the Nile*. London, BBC.
- Business Monitor International (BMI). 2011. *Egypt Agribusiness Report, Q1 2012*. London: BMI.
- Central Agency for Public Mobilization and Statistics. 2011. *Annual Bulletin for the Actual Supply of Lint Cotton for August 31, 2010*. Cairo: CAPMAS, Arab Republic of Egypt.
- Clark, Ximena, David Dollar, and Alejandro Micco. 2004. *Port Efficiency, Maritime Transport Costs, and Bilateral Trade*. Washington: World Bank and Inter-American Development Bank.
- Cleveland, William L. 2009. *A History of the Modern Middle East*. Boulder: Westview Press.
- Cotton Arbitration and Testing General Organization (CATGO). 2012. *Distribution Commitments Per Each Company From 01/09/2011 to 07/04/2012*. Cairo: CATGO.
- El-Feky, H. 2010. "Motes percentage and ginning outturn as affected with cotton cultivar and location" in *Agricultural Sciences (May 2010)*. Irvine, CA: Scientific Research Publishing.
- El-Haddad, Amirah. 2010. Effects of the Global Crisis on the Egyptian Textiles and Clothing Sector: A Blessing in Disguise? Cairo: Egyptian Center for Economic Studies.
- Kim, Kyung Youn. 2004. "Case History of International Investment in the Egyptian Textile Industry" at the Annual Meeting of the International Cotton Advisory Committee (ICAC). Cairo: ICAC.
- Korotayev, Andrey & Zinkina, Julia. 2011. "Egyptian Revolution: A Demographic Structural Analysis" in *Middle East Studies*. London: Routledge.
- Little, Tom. 1958. *Egypt*. New York: Frederick A. Praeger.

Magder, Dan. 2005. *Egypt after the Multi-Fiber Arrangement: Global Apparel and Textile Supply Chains as a Route for Industrial Upgrading*. Washington: Institute for International Economics.

Mark, Clyde. 2001. *Egypt-United States Relations* (CRS Issue Brief for Congress). Washington: Congressional Research Service.

Marks, Jennifer. 2008. *Egyptian Cotton Enforces Brand Rights*. New York: Home Textiles.

McNamara, K. 2008. *The Global Textile and Garments Industry: The Role of ICT in Exploiting the Value Chain*. Washington, DC: World Bank.

Office of Textiles and Apparel (OTEXA), International Trade Administration. 2011. *Market Reports/Tariffs: Textiles, Apparel, Footwear, and Travel Goods, Egypt*. Washington: International Trade Administration.

RATES Center. 2005. *Cotton - Textile - Apparel Value Chain Report, Egypt*. Nairobi: Regional Agricultural Trade Expansion Support Program.

Sfakianakis, John. 2004. "The Whales of the Nile: Networks, Businessmen, and Bureaucrats During the Era of Privatization in Egypt" in *Networks of Privilege in the Middle East* (ed. Steven Heydemann). New York: Palgrave MacMillan.

Staff of the Egypt Independent. 2011. "Egyptian court annuls privatization of state-owned company" in *Egypt Independent* (Dec 18, 2011). Cairo: Al-Masry Al-Youm for Journalism and Publication.

Stearns, Peter (ed.). 2001. *The Encyclopedia of World History (Sixth Edition)*. New York: Houghton-Mifflin.

Textile Exchange. 2010. *Farm & Fiber Report: Organic by Choice*. O'Donnell, Texas: T.E.

U.S. Department of Commerce. 2001. *U.S. Textile and Apparel Industries: An Industrial Base Assessment*. Washington: U.S. Department of Commerce.

United Nations Conference on Trade and Development (UNCTAD). 2011. *Trade and Development Report, 2011*. Geneva: United Nations Conference on Trade and Development.

United Nations Department of Economic and Social Affairs, Population Division. 2006. *International Migration 2006* (United Nations Publication, No. E.06.XIII.6). New York: United Nations Department of Economics and Social Affairs.

United States Cotton Council. 2011. "Development of New Reference Standards for Cotton Fiber Maturity" in *The Journal of Cotton Science* (3:188-193). Cordova, Tennessee: The Cotton Foundation.

Werner International. 2005. *Primary Textiles Labor Cost Comparisons, Winter 2004-2005*. Herndon, VA: Werner International.

Werner International. 2007. *Primary Textiles Labor Cost Comparisons, 2007*. Herndon, VA: Werner International.

World Economic Forum. 2011. *Global Competitiveness Report, 2010-2011*. Geneva: WEF.

World Trade Organization (WTO). 2011. *International Trade Statistics 2011*. Geneva: WTO.

World Intellectual Property Organization (WIPO). 2010. *Cotton from the Land of the Pharaohs*. Geneva: WIPO.