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A

Report No. 54

***CREATING COMPETITIVE
ADVANTAGE:
Moving Beyond Comparative
Advantage for Egypt's Cotton
Industry***

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RDI Acronyms List

<i>ACRONYM</i>	<i>DESCRIPTION</i>
AC	Agricultural Census
AERI	Agriculture Engineering Research Institute
AHD	Aswan High Dam
AIC	Agricultural and Irrigation Committee of the People's Assembly
ALCOTEXA	Alexandria Cotton Exporters Association
APRP	Agricultural Policy Reform Program
ARC	Agriculture Research Center
AY	Agricultural Year Locator (October 1 st to September 30 th of the following year)
BOD	Board of Directors
CAGA	Central Administration for Governorates Affairs
CAPMAS	Central Agency for Public Mobilization & Statistics
CAPQ	Central Administration for Plant Quarantine, MALR
CASC	Central Administration for Seed Certification
CASP	Central Administration for Seed Production
CAWD	Central Administration for Water Distribution
CBE	Central Bank of Egypt
CIDA	Canadian International Development Agency
CIF	Cost, Freight and Insurance
CMA	Capital Market Authority
Co.	Company
COP	Chief of Party
CSPP	Egyptian-German Cotton Sector Promotion Program
CTS	Cargill Technical Services
DA	Development Associates, Inc.
DAI/B	Development Alternatives, Inc./Bethesda
EAO	Egyptian Agriculture Organization
ELS	Extra Long Staple Cotton
ERSAP	Economic Reform and Structural Adjustment Program
ESAS	Egyptian Seed Association
ESAs	Employee Shareholder's Association
ESOPs	Employees Stock Ownership Program

<i>ACRONYM</i>	<i>DESCRIPTION</i>
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FDIs	Foreign Direct Investments
Fed.	Feddan = 4200 square meter
FIHC	Food Industries Holding company
FOB	Free on Board
FSR	Food Security Research Unit
GA	General Assembly
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GOE	Government of Egypt
GTZ	German Technical Assistance Agency
HC	Holding Company
HEIA	Horticultural Export Improvement Association
IDA	International Development Association
IFC	International Financial Cooperation
IPPC	International Plant Protection Convention
IPO	Initial Public Offering
IIMI	International Irrigation Management Institute
IR	Intermediate Results
Kg.	Kilogram
Kt.	Kentar
Libra	Pound of 0.45359 kilogram, also abbreviated as lb.
LE	Egyptian Pound
LK	Lint Kentar of cotton, 50 kgs.
LOE	Level of Effort
LS	Long Staple cotton
MALR	Ministry of Agriculture & Land Reclamation
MENA	Middle East North Africa
MEIC	Ministry of Economy & International Cooperation
MIMW	Ministry of Industry & Mineral Wealth
MT	Metric Ton
MoTS	Ministry of Trade & Supply

<i>ACRONYM</i>	<i>DESCRIPTION</i>
MPE	Ministry of Public Enterprises
MPWWR	Ministry of Public Works & Water Resources
MLS	Medium-Long Staple cotton
MVE	Monitoring, Verification & Evaluation Unit
NARS	National Agriculture Research Center
NBE	National Bank of Egypt
NCF	National Consulting Firm
NFPA	National Food Processor Association
NGO	Non-Governmental Organization
O & M	Operation & Maintenance
OSAF	Office for Studies And Finance
OVR	Office of Variety Testing & Registration
PA	People's Assembly
PBDAC	Principal Bank for Development and Agricultural Credit
PEO	Public Enterprise Office
P&L	Privatization & Liberalization
PIDP	Partnership In Development Project
PMU	Project Management Unit
PPC	Program Planning Committee
PRA	Participatory Rapid Appraisal
PU	Purdue University
PVP	Plant Variety Protection
RDI	Reform, Design & Implementation Unit
ROW	Rest of the World
SCC	Sugar Crops Council
SCRI	Sugar Crops Research Institute
SIIC	Sugar and Integrated Industries Company
SK	Seed Kentar of cotton (157.5 kgs.)
SPC	Seed Privatization Committee
SS	Short Staple cotton
STTA	Short Term Technical Assistance
SWG	Sugarcane Working Group
TA	Technical Assistance

<i>ACRONYM</i>	<i>DESCRIPTION</i>
TAMIS	Technical & Administrative Management Information System
TAT	Technical Assistance Team
TF	Task Forces
TO	Training Officer
TOR	Terms of Reference
TNA	Training Needs Assessment
TRG	Training Resources Group
TSG	The Services Group
UMD	University of Maryland
USAID	United States Agency for International Development
US\$	United States Dollar
USPMA	U.S. Produce Marketing Association
USDA	U.S. Department of Agriculture
WB	World Bank
WTO	World Trade Organization
WUA	Water User Association

Creating Competitive Advantage: Moving Beyond *Comparative Advantage* for Egypt's Cotton Industry

Introduction

If ever there ever were an instance of an industry being trapped by *comparative advantage* and not being able to spring forward into a viable *competitive position*, “the cotton industry” of Egypt is a prime example.¹ Egypt developed the best genetic cotton in the world, the famous long staple and extra long staple Barbados cottons. The intrinsic value of these cottons has not been rivaled nor surpassed by any clones, imitations or substitute new varieties anywhere in the world. The San Joaquin Valley varieties, the Acala varieties, the Pima's and the Barakat's are all of lesser quality than the Egyptian varieties yet, over the last ten years, Egypt has lost its dominant market share to precisely those varieties mentioned above. By not developing a competitive marketing strategy, these lesser quality substitutes have stolen the market away from Egypt's long staples. What went wrong?

Industry studies in developed as well as developing countries show that firms and industries that rely on the basic factors of *comparative advantage* to maintain and expand sales, lose out to those firms and industries that practice more advanced *competitive strategies* for penetrating new markets and capturing more market shares. The majority of firms within an industry in any specific country generally follow the same business strategy; therefore it is possible to compare the strategies of industries country by country rather than analyzing firm-by-firm behavior.

So, what are the key factors of *comparative advantage* that Egypt's cotton industry pursued, thus losing its competitive edge? *Comparative advantage* relies on the access to an abundant natural resource (oil, coal, iron, gold, soil, water, climate, etc.) to produce a basic raw material, and access to cheap labor to extract, produce or manufacture that raw material into an intermediate or finished good. These two resources are often combined with a favorable geographic location that makes shipping of the product to the nearest markets relatively inexpensive.

A *competitive strategy*, on the other hand, generates advantage in a different way. It recognizes that in today's global economy, any firm or industry group can easily gain access to raw materials and cheap labor because transport costs have shrunk considerably in recent years. The locational advantage of being close to the source of these factors of production is usually not

¹Throughout this paper reference to the cotton industry will include all aspects of cotton production, trading and manufacturing, including growing of cotton, ginning cotton, trading and exporting cotton, spinning and weaving cotton, dyeing and finishing cotton, and making up cotton garments and other finished household products.

sufficient in and of itself to be competitive. The comparative advantages of yesteryear have evaporated. To be competitive, firms and industries must know and understand their markets and their customers, they must know what their competition is doing, and they must continuously improve their products to carve out new market demand. When the competition develops new machinery that can spin yarns of high quality from the cheaper short staple cottons, the producers of long staple cotton must either drop their prices or find a way to increase the demand for yarns that can only be made from the long staples. Or, if the demand for clothing shifts from high fashion and fine fabrics to casual wear made from cheaper cottons or synthetics, the producers of fine cottons must create a demand for casual wear made from fine cottons. Firms and industries must market aggressively simply to maintain sales, and they must do more market research to identify new customers and market outlets for an ever-changing product mix. Marketing choices become more important than production choices in the '90's, and this will be even more prevalent as we move into the new millennium.

In previous decades when comparative advantage determined who would own the world's markets and dominate market shares, Egypt's cotton farmers and firms performed quite well. With the fine soils of the Nile delta and the superior breeding techniques of the Egyptian scientists, the Egyptian cottons were grown under "greenhouse-like" conditions. Egypt produced the finest cottons in the world, cottons that dominated the long staple market through the '80s. But then the competitive varieties of Pima and Barakat were introduced, and the machine manufacturers developed and perfected technologies that permitted short staple cottons to be made into yarns of a higher quality than ever before, either as pure cotton or mixed with synthetic materials. At the same time, the Egyptian producers of seed cotton and the manufacturers of cotton yarns and fabrics boldly held to the position that the quality of the Egyptian cotton and cotton products was the best on the market and truly unique for the high-end uses that required only the finest cottons. With this position in mind, they priced their products with a premium above the competing varieties. This tactic was counterproductive and worked against the Egyptian producers and manufacturers, especially when the quality of the product they were placing in the market began to deteriorate. Higher prices for lower quality products cannot retain market shares and Egypt's market shares plummeted.

Two major factors contributed to the decline of Egypt's prominence in the cotton industry. First, the evaporation of the East European and Russian markets, where barter-trade agreements had been honored for almost a decade with little attention to quality and timing, and second, the shift from high fashion formal wear to causal wear. But it was Egypt's over reliance on *comparative advantage* that kept the traders and manufacturers from searching for new ways to compete. Egypt continually overpriced its products, maintained strict industry-wide control over input and output prices, allowed processing firms to deteriorate, ran up excessive debts (production quotas were met by the public firms in spite of the fact that the markets were not there) and failed to maintain machinery. The claim can still be heard today throughout the industry that "Egypt's cotton sells itself", and that competitive pricing and superior quality in manufacturing are not necessary. If it's Egyptian cotton it must be the best and the market must pay for this quality.

While Egypt continued this behavior, the global market became wiser and refused to continue paying premium prices for deteriorating or easily substituted products. Some in the Egyptian industry now realize the error of this policy, and dramatic changes are being made to become more competitive so as to regain that share of the worldwide high-end cotton products market that they once dominated.

Michael Fairbanks and Stacey Lindsay have studied the pitfalls of an over-reliance on *comparative advantage* in the new global market place. From their work over several decades in the Andean countries of Latin America, as well as in the Russian Federation and South Africa, they identified some strategic techniques that show firms and industries how to move past *comparative advantage* into positions of viable and sustainable *competitive advantage*. The results of this work have been published in *Plowing the Sea* (1997, Cambridge: Harvard Business School Press). The authors rely heavily on Michael Porter's theory of *competitive advantage* (*The Competitive Advantage of Nations*, 1990, New York: Free Press), that identifies which nations have been able to restructure their industries to meet the challenges of globalization in the '90's. The Porter theory shows that production factors must be created and demand conditions must be enhanced in order for an industry to truly become globally competitive. Some of the lessons learned and recommendations found in these books are equally valid for application to Egypt's cotton industry today. The following section will describe the elements of *comparative advantage* and how a *competitive strategy* can evolve from it, and then determine where Egypt's cotton industry is positioned along this spectrum.

We begin with trying to understand the "patterns of uncompetitive behavior"² that the firms and the industry as a whole have followed in the past. We then present the Porter "diamond" that describes the key elements in a *competitive strategy*. This is followed by a presentation of the "opportunities" that exist for recreating a new competitive position for the entire industry. We then discuss the industry-wide characteristics that will be required for the implementation of such a new strategy. Lastly, we identify the impact these measures will have on each firm, as well as for the industry as a whole in its role as the largest contributor to employment and income in the Egyptian economy.

***Comparative Advantage* and the Seven Patterns of Uncompetitive Behavior**

The *comparative advantage* that Egypt successfully developed was based on the growing of a cotton of such high and unique quality that it was regarded as a "natural resource", which could not be produced by any other country in the world. (The export of these seeds was strictly prohibited, as was the import of any short-staple cotton which could contaminate these cotton varieties.) This product was sold as lint cotton at prices well above field production costs. This single factor led to the initial success of the Egyptian cotton industry and created its fame as the finest in the world.

²Fairbanks and Lindsay, *op.cit.*, p.19

As a second step in the development of the industry within Egypt, large spinning and weaving factories were built, and Egypt's low cost labor was employed to mind the machines with three shifts a day. One factory alone (Misr Mehalla for Spinning and Weaving) is purported to be the largest in the world and still employs close to 30,000 workers. Wage rates and benefit packages are low by international standards, and, at one time, allowed these factories to set the standard by which the industry measured its productivity level for labor.

Lastly, Egypt is situated between East and West, with the Suez canal running through its middle, just a stone's throw from Europe and not too far from Asia or the United States. Neither the shipping of cotton lint nor yarns or fabrics was considered to be expensive.

This was the classic picture of *comparative advantage* and, until recent years, Egypt benefitted immensely from this situation. But with the demise of communism and the evaporation of the Eastern Block markets (which were almost totally reserved for Egyptian long staple cottons due to its encampment in a socialist state of government and its courting of Russian aid), coupled with the rapid liberalization of the Egyptian economy, set in motion forces that led to the disintegration of the *comparative advantage* that Egypt once enjoyed.

1) Over-reliance on Basic factors of Advantage It has been shown time and again countries whose industries rely on comparative advantage for their competitive edge are at some point challenged by another country producing a similar product cheaper and better. This new player in the market quickly takes over the former country's market share and the original comparative advantage exists no more. What used to "sell itself" now has to "be sold".

This is the trap of over-reliance on a raw material or commodity export. As the costs in the market chain shift, other countries are able to produce and deliver the same product at a lower cost or higher quality. In recent years the Pima's and Barakat's and Acala's are cleaner and more consistent in quality when they hit the market than are the Giza long and extra long staple Egyptian cottons, even though the intrinsic characteristics of the Gizas may be higher. Moreover, on-time deliveries of the other cottons has dampened the demand for Egyptian cottons that fail to meet these international standards. The basic factors of advantage give way to the advantages created by being able to service and market the product better than one's competitors. Post-sale servicing³ has also become important and Egypt has not been able to provide such services.

2) Poor Understanding of Customers One assumes that the demand for Egyptian fine cotton products remains strong, that the discerning consumer still desires a garment made out of very high-quality cotton. However, that's not what the public is ordering. They are instead ordering lower quality products made out of any kind of cotton, from long staple or short staple cotton raw material. Low count yarns and fabrics are being exported almost exclusively. High count yarns and fabrics, which can only be made from the high-quality Egyptian cottons may be

³ Post-sale servicing means being able to replace a product on-time when its quality fails to match the quality specified in the order.

as little as 5% of total cotton product exports. But does the Egyptian cotton industry really know what the customers want?

On a recent trip to Hong Kong (October, 1997), to the Interstoff Trade Fair, Egyptian textile company CEO's made a surprising discovery. If they could deliver a quality product (no tying knots or breakages or any other blemishes), on time and consistently with repeat orders, they could sell large quantities of high count yarns to Far East buyers at extremely favorable prices (above stated TCF⁴ export prices and at levels that could turn a profit at the mills). Nonetheless, a significant increase in sales has not materialized. Even the best firms in the industry cannot meet these standards. And the other spinning and weaving factories are not capable of locating this demand nor supplying it. Because the Egyptian firms do not know exactly what the customers really want, the industry has fallen into the trap of making low-end products from low-count yarns- T-shirts, underwear, terrycloth and linens- out of the fine Egyptian cottons (the long staple Giza 75, 85, 86, and even the mid-long staple 80 and 83). In a sense this is a misuse of these fine cottons, but it is what apparently Egypt's customers are buying.

The key to understanding customers is knowing what price they will pay for what type of product, given the service that accompanies the product which includes delivery time and post-sale services (i.e. replacements when quality standards are misrepresented or damaged products are delivered.) In this case, Egypt has run amiss. A floor price for cotton (Giza 75 was the standard bearer at LE 500 per seed kantar) was set significantly higher than the previous year's floor price in 1996, and well above the farm-level costs of production. This was done to encourage farmers to plant cotton instead of rice (in order to save water). The Government wanted to ensure the farmers that they would receive a handsome profit from growing cotton. However, this action forced ALCOTEXA, the association charged with setting export price guidelines, to fix the export price of lint cotton as close to the comparable seed cotton price as possible. The 1996 price was \$1.10 per pound. Egypt's major competitor, the U.S Pima cotton growers, reacted by selling their cotton just below this price, significantly limiting Egyptian lint cotton sales in the '96/'97 marketing season.

In addition to setting a floor price and export minimum, an arrangement was made to sell the lint to local spinners at the export minimum price less "fobbing"⁵ expenses (\$1.10-\$0.14=\$0.96/lb.). This excessively high price of cotton for domestic manufacturing meant the cost of producing yarn escalated, and the TCF felt obliged to respond by setting export prices for yarn at levels that would cover these input costs. Prices for Egypt's low count yarns and fabrics made

⁴TCF stands for the Textile Consolidation Fund, which plays a role of setting the minimum export prices for all yarns and fabrics from Egypt.

⁵"Fobbing" expenses are the costs required to prepare a bale for export, such as cleaning, blending and pressing. These costs generally run between 12 to 17 cents per pound, depending upon the variety.

from these yarns rose above the world price for these low-end products, and exports plummeted to all-time lows for most products. Failure to understand the customer played a major part at this stage, because a low count yarn or fabric made out of low count yarn is most often priced by the count level and not by the variety of cotton from which it is made.

In contrast, for high count yarns, the cost of the lint cotton raw material is relatively less important and the corresponding derived spinners price (minimum export price less “fobbing” expenses) is not binding. Manufacturers can easily produce high count yarn products and sell them profitably at world price levels. The price of the lint cotton going into the spinning mill remains the same while the price of the output increases as the count increases. However, the known markets for high count yarn products are limited and there is no program in place to discover or create new markets. Thus, the pricing system virtually froze Egypt’s low-end products out of the market. As a result, low count yarn exports dropped significantly in recent years.

In the 1997/98 season, although the floor price remained the same, the export price for lint was lowered to \$1.00/lb for Giza 75, graded good/fully good⁶. This lowered the spinners price to roughly \$.86/lb, a price that was no longer excessive. Nevertheless, the prices for exported yarn and fabric did not change. TCF still held on to the notion that the minimum export price should cover the raw material costs at the floor price level rather than at the spinners cost level. This meant that the export prices for the low count yarns were held constant at the level of 36 count yarns. While the TCF did lower these prices somewhat for a few low count categories, the impact was that the low count yarns were overpriced given the world market for these yarns. Pakistan and India and several other countries could easily produce yarns of this quality from short staple cottons. Why did TCF hold onto this price? Most likely to force the spinners into producing only high count yarns which would fetch higher prices and revenues for the industry, but this is probably not a justifiable strategy for pricing Egypt’s export yarns.

3) Ignorance of Relative Competitive Position In the ‘60’s, ‘70’s and ‘80’s, Egypt had the best cotton the world could buy. Competing cottons had not been developed. To take advantage of this “natural resource”, Egypt built socialist-style factories of enormous size, and consolidated numerous mills into one management unit, in an attempt to take advantage of economies of scale, as was common in that era in the textile sector of the Soviet Union. And during those decades, the farmers were forced to produce cotton under the crop land allocation schemes and to deliver their cottons to the large spinning mills at non-market prices. As a result, the spinners and weavers, all publicly-owned companies, produced on a massive scale, at low cost and bartered or sold their output to the Soviet Union or other Eastern Block countries, as well as to other buyers at relatively low prices but in large volumes. Costs were so low they were hardly even calculated, and costs per product unit were not analyzed.

⁶Other varieties and grades were set in relation to this price, according to the floor price schedule of CATGO and the export price schedule of ALCOTEXA.

Then Soviet Union and Eastern Block countries collapsed, and the market for the bulk of Egypt's fine cottons collapsed along with it. At the same time the world was moving towards more casual wear clothing that required much less fine cotton. But the incentive for the factories was output, not cost or earnings, so production continued. Excess output was placed in inventory, assets increased, loans using assets as collateral from Government-owned banks were renewed, more raw material was purchased and the system kept rolling along. Now public textile company debts are close to LE 6 billion, and inventories are over LE 3 billion. Although the Government forgave debt of LE 4 billion for the public cotton trading companies last year, such measures have not been taken for the spinning and weaving companies to date. At the same time, accumulating debt servicing and inventory carrying charges are added to company costs and expenses each year, and when cost per unit output is calculated these expenses are included. Moreover, the labor hired to run the large scale factories have not been laid off even with lower capacity utilization and output shrinkage.

The amount of labor that was used at full capacity still is counted when a factory is operating at 10% capacity or close to "idle". The result is that factor costs skyrocket and are not realistic. The debt and inventory costs, which are cumulative costs, are charged to current output. The result is that all of the public textile firms that remain in Government hands are loss makers. How can one compare factor costs per unit of output under these conditions? Is it realistic to measure factor productivities of this type and compare them with Korea or India or Pakistan in this situation? I would argue that this is not appropriate and that a stripping away of the debt and inventory backlogs must be made before such comparisons are valid. Redundant labor must also be eliminated before true labor and machinery productivities are calculated. Even if we had factor productivity rates from our competitors, we could not make realistic assumptions of the industry's competitiveness at this time. A separate study of the true running costs of a kilogram of yarn or a square meter of fabric is required.

In addition, the cotton industry must analyze its per unit costs across-the-board and compare them to competitors. If Pakistan can produce a ton of yarn using 0.10 FTE (full time employees) then Egypt must be able to do it as cheaply or cheaper, regardless of the wage rate. Similarly, Egypt must be able to analyze its costs of transportation, ginning, inspection, and all of the individual steps employed in manufacturing yarn and fabric, if it is to be competitive in the world markets. If it takes more input to produce higher count yarns, then Egypt must know how much the other countries spend to produce these products, especially with regard to capital equipment costs (including repair and maintenance); quality control; duties, fees and tariffs; technical training; and market research and marketing. If these costs are excessive in Egypt, then it may be cheaper to import yarn and/or fabrics made from short staple cottons to make the low-end products that are in demand, rather than use the overpriced Egyptian cottons. This requires in-depth study, and the preparation of per unit costs for production, processing, labor, transportation, packaging, exporting, licensing and fees, taxes and tariffs, etc. This study will be prescribed in the next section.

The extremely controversial issue of growing short staple cotton in Egypt for use in the

Egyptian textile industry to replace the imports of short staple yarns and fabrics, enters the picture at this point. This is a strategic decision that would contribute to gaining competitiveness for the Egyptian cotton processing industry.

4) Failure to Forward Integrate The case studies presented in *Plowing the Sea*, noted that several firms and industries in Latin America failed to forward integrate their manufacturing and processing facilities and they especially lacked off-shore marketing branches. However, it was pointed out that forward integration is not a must and the decision to integrate in any direction, vertically or horizontally, forward or backward, must be based on solid evidence drawn from in-depth cost studies of each individual situation. The classic case for forward integration is the one in which a manufacturing firm decides to open a marketing branch in a foreign wholesale market. If the product is branded this decision may include a retail outlet. Nevertheless, many other kinds of marketing arrangements are possible for achieving the same effects. The problem arises when a firm or industry fails to employ forward integration when it changes from marketing undifferentiated commodities, such as sugar, wheat, tomatoes, potatoes, or cotton lint or yarn, to highly differentiated products, such as processed foods, ready-made garments or household printed fabrics.

Using well-known name brands or private labels is one way to integrate, where the brand or label sells the product through any and all kinds of outlets. Using such a strategy may obviate the need for elaborate forward integration. However, without product identification, the value-added gains that are achieved by segmenting the market and identifying exclusive niches for one's products are lost to the marketing agents who step in to perform these services.

In August of 1997, a study of the better performing public spinning companies in Egypt revealed that their off-shore marketing efforts were lacking and somewhat disorganized and did not permit these companies to reach all of the potential markets that they had identified. When the Chairmen of these public companies visited the Interstoff Textile Trade Fair in Hong Kong in October of 1997, they found that Egypt was the only country that did not have a central organization to assist all the firms from their country in marketing their products. Thus, upon their return to Egypt a decision was made to organize such an organization.

As the industry-wide analysis was made in preparation for the organization of the umbrella marketing association, it was found that many private firms indeed did have forward marketing branches in Europe and sales agreements or branded product manufacturing sourcing contracts for the United States. As the public companies are privatized these forward integrated marketing arrangements will become more prolific. In the meantime, marketing assistance must be developed or provided for the public sector companies if they are going to pursue a production and marketing strategy for highly differentiated products such as high count yarns and fabrics and ready-mades made from these yarns.

Careful analysis of the costs of establishing such a forward marketing system must be carried out, but failure to integrate in some form will prohibit the firm or industry from

penetrating new markets and regaining market share lost aggressive competitors. Perhaps the most notable event in recent months was the visit by representatives of Marks and Spencer, the English mega-retailer. Officials of that enterprise expressed interest in acquiring contractual arrangements in several public spinning and weaving operations as well as in establishing more branded finished goods contracts with the private sector. Egypt's new approach to market segmentation, differentiation and sub-contracting arrangements lends itself to embracing and promoting more of these kinds of relationships.

5) Poor Interfirm Cooperation Forward integration is but one form of integration. Firms can integrate backwards as well. Vertical integration describes this forward and backward integration. Firms can also integrate horizontally. In the Egyptian textile industry both vertical and horizontal integration is common for the public textile firms. Extremely large complexes of manufacturing activities exist, where firms typically have several spinning operations, several weaving operations, their own dyeing and finishing houses, and ready-made units as well. However, the importance of the weaving, dyeing and finishing, and ready-made operations are not as critical to the public firms as is the spinning because many private firms are involved in these other activities. But there are only a few private spinning companies, the majority of the spinning capacity is in public hands. Many private weaving and ready-made operations are now interested in backward integration into spinning, by either building their own facilities or by acquiring these Government factories in the privatization program.

Interfirm cooperation is important for what Michael Porter calls "clustering". His research has shown that when several firms producing the same product cluster together, they learn new technologies and methods of production that improve efficiencies by sharing information amongst each other. Support firms also tend to spring up around them when they cluster. Firms for machinery servicing, input supply, packaging, freight forwarding, warehousing, cold storage and transportation are abundant in these clusters. This concentration of activity tends to make each component operate more efficiently.

In Egypt in the cotton sub-sector, the organizational structure is characterized not so much by interfirm cooperation but formal interfirm relationships. Six cotton trading firms are owned by the Government, as are three of the five major ginning companies. The spinning companies are also owned by the Government. Hence, when cotton lint is purchased from the farmers (at whatever the farm-gate or floor price happens to be) it is then transferred internally at fixed prices from trading companies, to ginning companies, to spinning companies. (The private ginning companies often do not take possession of the cotton but simply gin it for a fee.) The formal chain continues if the yarn is woven in-country at the Government weaving facilities that are integrated with the spinning companies, and many of these Government firms have dyeing and finishing in-house and also ready-made garment units. Under this arrangement all transactions are predetermined and set by Government decree rather than determined by competitive forces. These relationships do not add to improving efficiencies through interfirm cooperation as described by Porter, but are simply arrangements to transfer a commodity from one unit to another within the overall control of the Government Holding Companies. A new

structure is required and appears to be evolving as public companies are privatized and fixed prices are eliminated. New types of integration are on the horizon as private firms, predominantly in the ready-made field, are trying to backward integrate into dyeing, finishing and weaving - even spinning. The ginning companies are rapidly being privatized and may line up with the trading firms, although none of the Government trading firms have been privatized to date.

The biggest problem in the Egyptian cotton textile industry with respect to interfirm cooperation and liaison, is the lack of adequate dyeing and finishing houses. The Government-run, large scale firms are in disrepair or have outdated or run-down equipment. They cannot service the ready-made garment firms' demands for quality finishing for export. Some low capacity private dye houses have been established and other ready-made garment manufacturers have put up their own facilities. Nevertheless, this remains a major bottleneck in the industry that requires immediate attention.

6) Defensiveness and 7) Paternalism The review of the Latin American case studies of firms and industries caught in the *comparative advantage* trap - flowers, passion fruit and leather goods in Colombia, asparagus, anchovies and alpaca in Peru, and soybeans in Bolivia - revealed leaders who were defensive with regard to how solutions could be achieved. They tended to wait for a paternalistic Government to solve their problems. Defensiveness and paternalism prevented these industries and their leaders to move beyond comparative advantage to create a competitive industry structure and strategy. These attitudes and leadership characteristics are often found in Egypt's cotton sub-sector - leaders are unable to strike out on their own to create new opportunities and their fear of Government reprisals is all encompassing.

Perhaps these characteristics are most pronounced in pricing decisions. The Government employees in charge of the trading, ginning, spinning and weaving companies cannot conceptualize a market where prices between and among neighboring firms are not controlled. For whatever the reasons - cultural norms or years of socialist Government - this behavior dominates the industry. All Government companies use the same prices and they are reluctant if not prohibited from varying their prices to gain a larger market share or increased profit. In this atmosphere, these leaders are not responsible for their choices and actions; the Government makes the decision and they are simply carrying out Government instructions - buying, selling, ginning or spinning Government -owned. When real privatization occurs, these leaders will have to change their attitudes quickly or retire to the background.

The same is true with respect to upgrading the quality emanating from the majority of the Government -owned processing plants - the gins and the spinning and weaving facilities. Funds for spare parts are lacking so machinery is allowed to deteriorate, grounds and buildings are neglected. Yet labor is ample and being paid normal wages regardless of whether the plant is operating at capacity or not, but the maintenance of grounds and buildings has also been neglected. There is a defensiveness that permeates these firms. They feel they are not responsible for productivity or care and maintenance. An astounding transformation took place

last year when a Government-owned ginning company was privatized and now the former Government-employed manager is managing a private firm. He no longer looks to Government for the solutions to his problems, he is purchasing all the new equipment he needs to become highly efficient, and he plans to press the cotton into small bales (450 pounds) at the gins and avoid the “fobbing” costs. Six months earlier, as a Government employee, he maintained that the “fobbing” procedure of farfara and pressing into 720 pound bales was imperative to compete in the market.

One last aspect of these two characteristics of defensiveness and paternalism is reflected in the management style that permeates the industry. Because of Government ownership through Holding Companies, management decisions are made upon “instructions” from above. Individual affiliated company chairmen have little leeway in which to make decisions. Raw materials are delivered by quota with fixed prices. Products prepared for sale have fixed prices. Labor cannot be readily dismissed when idle. Retained earnings for financing spare parts or machinery renovations are notoriously lacking. Debts from the errors of mismanagement of eons passed are accumulated and kept on present day ledgers. Under these conditions, a manager is afraid to make a bold decision for fear that it might not be successful under the weight of this myriad of restrictions. As a result, new initiatives are stifled and the “as is” position of declining performance is maintained.

The Porter Diamond and Creating the Conditions for a Competitive Position

The key point that Porter draws from his research is that *comparative advantage* is based on the stock or endowment of inherited factors of production, whereas *competitive advantage* relies almost exclusively on those factors and elements that are either created anew or enhanced and improved upon. The implication of this finding is that a firm or industry must recognize the patterns of uncompetitiveness and aggressively respond to overcome these conditions and reverse their effects. This is done through constant innovation and incessant reaction to factor and market constraints by actually creating new or improving existing factors of production, enhancing demand by finding new markets, developing better firm-level strategies that highlight competitiveness and building strong clusters of related and supporting enterprises.

According to Porter, the determinants of national *competitive advantage* for specific industries depends on four elements which are interrelated in the form of a diamond. The “firm” sits on top of the diamond. The characteristics that affect firm behavior are the firm’s competitive strategy, the structure of the industry in terms of its competitiveness (monopoly structures are not competitive and atomistic competition is equally destructive), and the degree of firm rivalry that exists in any given industry structure.

The left-hand side of the diamond considers production factors, such as agricultural growing conditions, the availability and quality of capital, the level of technology and the quantity of labor, including the level of labor skills. Geography is also included here. The right-

hand side of the diamond covers demand conditions in all strata and segments of the demand schedule facing the industry. It also considers expanding demand in certain segments as may be needed or desirable. The bottom point in the diamond presents the need for supporting or related industries or firms, and is the first clue that “clusters” of related industries may be the most important characteristic for achieving a competitive position.

These points in the diamond do not stand alone, they are all interconnected. Porter shows that stressing one while neglecting another does not lead to improved competitiveness. All four points of the diamond must be addressed simultaneously, with equal effort, to create improvements.

Porter has his own Stages of Growth in Competitive Development, similar to those developed in several USAID documents describing the stages of growth in agricultural development: subsistence agriculture, low-productivity agriculture, surplus production for domestic and external markets, transition to industrialization and a fully modern economy. Porter’s model has four stages. The first is dependent on the basic factors of production and relies on import substitution to protect the domestic market. However, in this stage the existing stock of factors must be expanding; new factors must be created. Porter calls this the **Factor Driven** stage. The second stage, **Investment Driven**, counts on generating investments in large-scale, efficient factories with imported foreign technology and equipment. This stage develops licensing arrangements and promotes foreign joint-ventures. But the imported technology must be improved upon through local trial and adaptation within the country. Investments are not just made in turn-key plants but the technologies are mastered in-house. Nevertheless, in this stage, there is a reliance on low labor costs, large factory size, low service content, standardized products and readily transferrable technologies. The third stage begins to create new technologies within the country, by developing new innovations in processing machinery and creating new products for specialized markets. This is the **Innovation Stage**. The last stage is **Wealth Driven**, where competitiveness tends to decline as the society tries to reap financial gains without aggressively seeking to develop new competition. This is almost a return to the initial stage of development that Fairbanks and Lindsay criticized as one in which businesses rest on their laurels and are out-competed by their competitors.

In Porter’s review of hundreds of businesses in many countries, few businesses in developing countries have demonstrated success in passing Stage II. Creating new technologies in manufacturing and product development are tasks too difficult for the developing countries so far.

The creation of a *competitive advantage* grows out of constant improvements, innovation and change. Porter insists that it must permeate the entire industry value system in order to be effective. Industry members must be constantly stimulated into adopting a policy of relentless improvements in production factors, demand enhancements, expanding the support system and modifying individual firm strategies. Each industry must constantly upgrade facilities and manufacturing processes to be sustainable, and eventually, sustainability must mean

encompassing a global approach.

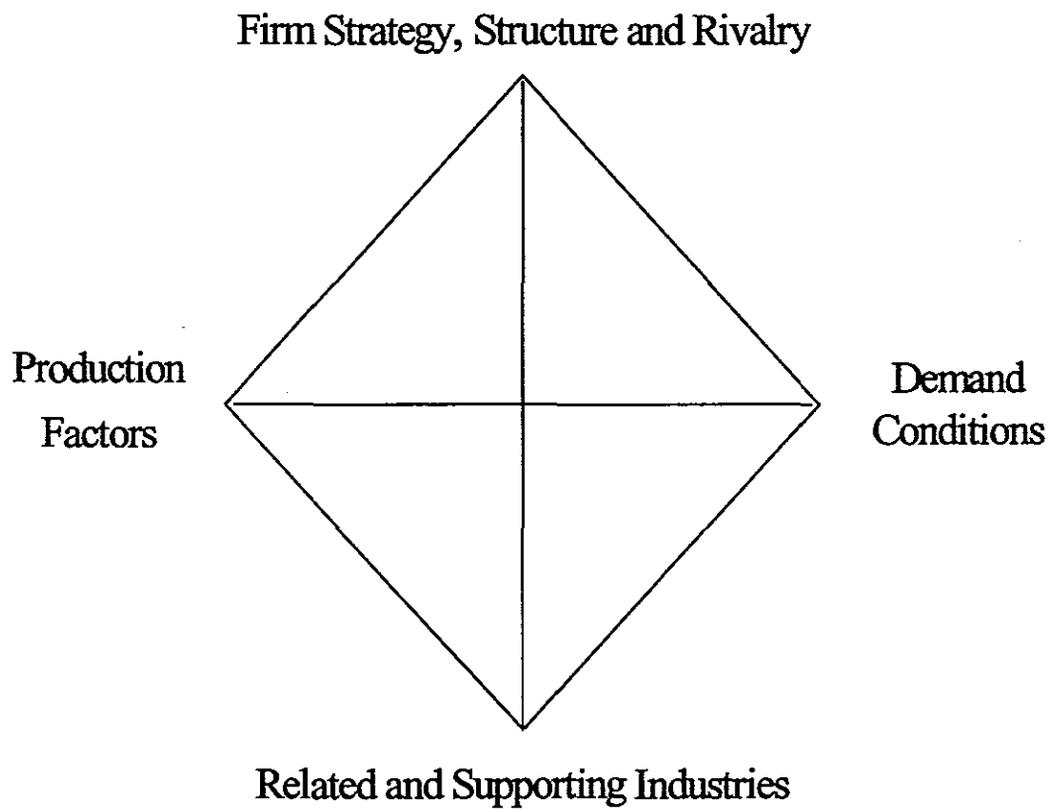


Figure1. Porter's Diamond

Egypt's Opportunities for Competitive Strategy and Repositioning in Cotton

Egypt must reposition itself and develop a new strategy if she expects to regain the competitiveness she once maintained.

Strategic Actions The authors of the *Plowing the Sea* make the point that not taking action, not making critical choices, is in itself making a choice; it is making a choice not to compete. There are three choices to make. The first action is to choose which **advantage** to follow - low cost production due to cheap inputs on the one hand or extensive product differentiation on the other. The second is to decide on the **scope** of activities - the degree of vertical integration that is required, which segments of the market to penetrate and the range of products to offer, the extent of geographic coverage to pursue, and the number of related businesses to introduce. The third action is to select the appropriate level and type of **technologies** to employ. Strategic positioning requires informed choice and timely action. New strategies must emerge that are not conditioned or constrained by past strategies or actions.

Choice of Advantage When the APRP project was asked to assist Shebin El Kom Spinning and Weaving Company locate new markets for its high count yarns, the consultants first analyzed the capacity of the international market to absorb increased output. The results of the analysis confirmed that a substantial market existed but that Egyptian prices were too high for that market, and that the recent decline in the reputation of the quality of Egyptian yarns and poor delivery times have worked against her ability to service this market. Nevertheless, it was clear that if quality and customer service could be improved, Egypt could significantly increase her exports of high count yarns and fabrics. To reach these goals a major rehabilitation of the industry and reorientation of production strategy to high count yarns would be required. Many Egyptian technical experts contend that the volume of demand for high count yarns is too limited and would not be sufficient to justify a major shift in this direction for Egypt's textile industry.

Amidst this controversy it has become evident that not even the high count yarn strategy will succeed if the raw material lint cotton prices remain elevated, or, even more importantly, if the export price for yarn exceeds the world price. Egyptian cotton products must be priced at their competitive levels throughout the production chain. If this is done, then improved quality at competitive prices will sell large volumes and regain lost markets.

Since international arbitrage should determine the prices for Egypt's lint cotton in the new season, it is presumed that export prices for yarns and fabrics will be set at or below international levels. As a result, a new window of opportunity will emerge. At the expected price levels for the '98/'99 crop, spinners will be able to produce 30/1 and 40/1 yarns at prices lower than relatively equal yarns imported from Pakistan and India. Ready-made garment manufacturers (RMG's) have already expressed interest in purchasing these yarn counts made up from the '97/'98 carryover stock, which has been discounted LE50/kantar for domestic spinners, to replace their current yarn imports from Pakistan and India. Not only will the prices for these yarns be lower than those from abroad, but they will also be of higher quality because they will

be made from the Giza (Barbadense) long staples rather than the imported short staple Hirsutum varieties - they will be stronger and softer. Moreover, the RMG's feel they will receive better customer service if they can buy directly from the Egyptian spinning and weaving plants, they will potentially avoid time delays for special orders and replacements, terms of financing for purchasing Letters of Credit will be cheaper, transportation and handling costs will be lower, and overall risks for the whole acquisition process will decrease. If this develops as planned, Egyptian cottons will not only be competitive for the high count yarns, but a new market will evolve for the mid-long and long staple cottons for use in garments and made-ups that currently use low count yarns. If this market opens up as expected, the domestic industry will absorb virtually all of the Egyptian cotton growth for manufacturing into exportable products.

In this way Egypt will be choosing to take advantage of producing a low cost product (the low count yarns) with a superior cotton raw material at prices that are competitive with the short staple imports. At the same time, an equal portion of the production will be for high count yarns whose market is highly segmented and differentiated.

Choice of Scope Individually, each firm must decide what degree of vertical integration is appropriate. The large government-owned Affiliated Companies (AC's) in the textile sector tend to be fully integrated vertically although there are some exceptions. But in the privatization process no strategy has been developed with respect to whether these firms should be sold in tact or whether they should be broken up and sold as units. Both approaches are possible and have been implemented. If the firm is performing relatively well with low debt levels, the sale of the entire AC firm has been preferred. If the firm is floundering, separate units have been leased out or prepared for sale. However, the vertical integration issue in Egypt is not so much a concern of any individual firm but rather that of the industry as a whole. There is one glaring gap in the vertical chain of processing in Egypt and that is for high-quality dyeing, finishing and printing. Even if Egypt's fine cottons are spun and woven in Egypt, the garment manufacturers find they must ship the cloth to Turkey or elsewhere for final preparation prior to cutting and sewing. This lack of vertical integration within the country is particularly destructive and is perhaps one of the key reasons why the majority of the RMG's import Indian and Pakistani fabrics for cutting and sewing. If this one cog in the wheel were replaced, the whole industry would see a revitalization and increased demand for Egyptian-made yarns and fabrics.

Much has been discussed about the selection of the market segment that would be most appropriate for Egypt. Without being repetitive, it must be recognized that Egypt's competitive advantage should be in the finer cotton market segments. The range of product design for this segment must also be determined. Shirts, sheeting, linens and women's wear all have made-ups that can be destined for the high-end segments. If the yarn and fabric can be finished properly, there is no reason why Egypt cannot produce these products and corner a significant share of this market. But a high-quality chain from lint to yarn to fabric to finishing to made-ups must be forged before success can be expected.

However, not all of Egypt's cottons need to be processed into fine cotton products made

from high-count yarns. Good quality products often use low-count yarns. This is true for the Ralph Laurent Egyptian Estate Cotton terry cloth towels, recently found in the exclusive Macy's Department Store. With the price discounts on carryover stock and the new cotton growth produced without a floor price, high-quality low-count yarns can be spun which are competitive with imported short-staple Indian and Pakistani yarns. If this is the case, then the industry could strike competitive positions in the casual low-count market. The range of products and the market segments are much more extensive than what is currently being serviced.

The 1997 trip to Hong Kong was a wake up call to the industry that showed they could profitably market high-count yarns into the Far East. Such sales are ongoing into Europe but very little if any yarn is sold to North America. After reports on the trip to Hong Kong were received by industry leaders, they decided to create *Cotton Egypt*, an export promotion association with both public and private members that would promote Egyptian cotton products through regional offices in Hong Kong (the Far East), Europe and North America. This association will assist the industry in determining what geographic coverage is appropriate for each firm.

One nemesis of the cotton industry is the polyester or plastic bag used to wrap lint cotton. Since pieces of the gunny sack used to wrap the seed cotton often gets mixed into the lint cotton during ginning, this becomes particularly troublesome if the material is plastic rather than jute. These plastic pieces can remain in the cotton and be spun with the yarn, and then when the yarn or fabric is dyed a defect is found. On the other hand, the jute will absorb the dye and not cause such a problem. This highlights the need for a jute bag facility even though the existing local public company is in financial trouble. Due to this interdependency with the cotton industry, it might be wise to subsidize the rehabilitation of this related operation in order to avoid excessive defects in the yarns and fabrics that are produced in-country.

Another related industry to cotton yarn and fabric development is the dyeing and finishing industry, including printing. Several Government-owned facilities are in a state of disrepair and failing financial conditions. One has been leased and is on the road to recovery. However, at the moment the installed capacity is not sufficient to handle the current output of yarn and fabric. Due to poor quality and incapacity to process large quantities, the RMG sector usually sends the yarn or fabric outside the country for dyeing and finishing, and then brings it back for cutting and sewing. As a result of this inconvenience, much yarn and fabric simply remains off-shore for ultimate processing into ready-made sewn products. The result is that most Egyptian ready-mades import dyed, finished and printed material for their operations. It would behoove the industry to concentrate some efforts on revitalizing the Egyptian dyeing, finishing and printing industry.

It has been brought to our attention that "sizing" of yarns is also a problem. If this procedure is not done correctly the yarns will not hold a uniform dye. This procedure is carried out by the spinning companies and must be improved upon. Another aspect of the industry that is lacking is machinery repair, machinery adaptation and machinery manufacturing. A complete

line of machinery manufacturing would greatly improve the industry's capacity to replace and improve the currently installed machinery.

Not all of the "missing" components in this industry deal with the technical aspects of the manufacturing process. The support services that are available are also lacking. Financing for the new forms of contracting is required - for performance, leasing and management contracts. Financing for equipment and machinery replacement and repair is also needed. Either a new type of financial institution is required (similar to GE Capital in the United States, that could finance equipment and operational leases and contracts) or the existing financial institutions should be encouraged to expand their services.

The cement industry in Egypt has benefitted from a unique type of consulting firm that offers technical assistance in management for the Government-owned facilities. ASEC (Arab Swiss Engineering Company) was formed as a joint-venture between a Swiss firm and private and public share holders in Egypt to service the cement production holding company. They have been responsible for turning this industry into a profitable sub-sector in Egypt's economy. The textile sub-sector could benefit from a similar type of support servicing company.

The complete set of related and supporting service companies cannot be determined at this stage but as the needs for these complementary industries arises they must be introduced.

Choice of Technology The private sector ready-made garment industry and the household products industry in Egypt uses modern equipment and machinery of international standards. However, the lack of sophistication of equipment and machinery at the finishing level has already been mentioned. Although much of the machinery at the weaving and spinning levels is antiquated, some of it can still perform the job adequately. Technical experts have evaluated the technology levels in these facilities and have made recommendations for improvements. Decisions must now be made as to how to carry out the rehabilitation; immediate action is required if the spinning and weaving industry is to survive.

Factor and Demand Creation If we agree that the industry must reposition itself with a new competitive strategy, then we must determine what needs to be done and who should do it. Timing is critical. Taking the cue from Porter, we must recognize that existing production factors must be improved and demand must be enhanced.

Factor Improvements Improvements in raw material, technology, management, labor, and capital - could be stimulated with the formation of a new set of unique mechanisms to foster factor creation, improvements and upgrading:

The Agricultural Research Center - Cotton Research Institute The Cotton Research Institute is currently in a class of its own with respect to cotton variety development. This position must be maintained and support must be given to continuously upgrade the

Barbadense long staple, extra-long staple and medium-long staple Giza varieties. At the same time, the Institute is testing some Hirsutum varieties for development in the new lands. Support for this research and development must also be encouraged. Support for these programs is imperative so that the range and quality of raw cotton being produced and prepared for spinning within the country continues to be the best in the world.

R&D Technical Center A world class research and development center could be established at one of Egypt's universities which already has a textile training faculty. A joint-venture effort could be formed with a foreign research institute (such as North Carolina University's College of Textiles) or an R & D unit of a multi-national firm. All aspects of the textile production and manufacturing cycle could be studied at such a facility, and would set the stage for Egypt in her quest to reach Porter's third stage of development, the **Innovation Driven Stage**. This kind of long-term investment and foresightedness is essential if Egypt's cotton industry is to reach its ultimate goal of competitiveness on a global basis. USAID project support could be considered for co-financed research grants for this R & D research similar to those offered in the ATUT (Agricultural Technology Utilization and Transfer) project.

Technology Transfer, Adaptation and Improvement Center The first two stages of development of a competitive industry rely on borrowed and imported technologies. The current level of machinery and equipment in the textile industry is not up to industry standards and each year Egypt falls further behind. A technology transfer, adaptation and improvement center could import selected new models, test them under Egyptian conditions with Egyptian cottons, and then make them available to the industry. The industry would work closely with this institute as would the TCF testing laboratories, and in some instances the testing and adaptation work may be done in on-going operations at individual public or private firm locations. In all instances of technology transfer and adaptation, attempts would be made to improve the machinery's performance under Egyptian conditions.

Management Training Institute The Egyptian management style in Government-owned factories in the textile industry tends towards "Management by Instruction", a traditionally top-down technique which dictates prices, prearranges procurements and sets production quotas. A shift to more responsive and flexible management without directives is required. Current management will need to be retrained, especially with respect to dealing with free prices for inputs and outputs, making independent procurement decisions and in identifying product mix to respond to market demand. A management training curriculum could be developed at one of Egypt's universities or any other existing institute of management, if such an institute exists in Egypt, for the express purpose of training managers for those firms just entering markets that have recently been liberalized and whose firms have been privatized (in terms of private management although the assets might still be owned by the Government, as is the case under leasing and management contracts).

Skills Training Institute One of the most striking sights I have run across is in Mali, just after one crosses the bridge where President Moussa Traore ordered the attack on the

students which led to his downfall. There sits a large multi-storied building called the Textile Training Institute. This is striking not because Mali had the wisdom to introduce technical training on a large-scale basis, but because Mali only has two textile mills, one of which was shut down and the other operating at only half capacity. Egypt needs specialized skills training in textile manufacturing. As new technologies are introduced and privatization picks up speed, workers will have to be retrained to work in different positions on different machines, carrying out different functions. Workers trained to operate spinning machines may be required to start operating weaving machines, and those in weaving may be shifted to finishing or cutting and sewing. Changes in the work force are imminent and will be dramatic. The current work force in textiles is aging; early retirements may be more prevalent than retraining and redeployment. But as the industry steps into a new era of competitive advantage, more, not less, employment will be required. The Egyptian cotton and textile sector is poised to expand if Egyptian cotton can be processed into yarns and fabrics that can be made into finished garments and household goods. This dramatic shift in the market for Egyptian products will lead to a significant increase in the demand for skilled labor, and Egypt needs a specialized textile skills training institute to handle this situation.

Textile Rehabilitation Trust Fund The textile firms must upgrade their machinery and equipment if they are to reach a new competitive position. A proposal has already been presented that deals with the rehabilitation of fourteen "idle (spinning) firms" owned by the Government. These firms have machinery in place that, with a moderate injection of capital (for spare parts, equipment rehabilitation and "key" machinery replacements), these firms could become fully operating companies, producing yarns of export quality. In addition, several private sector entrepreneurs are considering the construction of spinning, weaving and finishing facilities. However, capital is lacking to finance the "idle firms" rehabilitation program or the new private sector firms. This is in spite of the fact that with the new competitive prices for raw cotton, yarn and fabric operations have become quite profitable.

What is needed is a textile turnaround and rehabilitation trust fund to provide this necessary capital. There are many ways to finance such a fund - from outright sale of shares to the public, to forming a limited partnership from off-shore or local investors, to using donor funds, such as tranche monies, or directly from Government-controlled funds, including proceeds from inventory sales or unutilized asset sales. The Rehabilitation Trust Fund could offer these funds to the new or rehabilitating companies by purchasing their stocks, bonds, or debentures with fixed or open-ended returns, or by granting fixed rate loans. One attractive type of instrument that these companies could use would be low fixed-rate preferred stock for the first five years during the initial recovery period and then kicking in with balloon payments of some multiple of net profits or of fixed-rate payments in the later years, when profits have recovered and begin to expand. The recipients of these funds would be lease-holders and management contractors of the rehabilitating factories, anyone who outright purchases any of the Government-owned plants, new entrepreneurs building new units, and others involved in related or supporting service industries. Placing these funds in the hands of the recovering industry in a way similar to the way a venture capital company would use such funds, will generate future revenues

that will keep the fund active for decades to come and allow the industry to continuously finance its own expansion..

Quality Control Unit Quality standards are at the core of developing a competitive position in the global textile market. Egypt already has the laboratories of the Textile Consolidation Fund that are charged with maintaining the highest standards for all products exported by the industry. Each lot exported, in principle, has a sample drawn and is inspected by this institute. However, in reality, much of what is exported does not pass through this inspection process. Nevertheless, this institute must be upgraded and improved so that it will be able to efficiently service the new demands that will arise when the industry is rejuvenated. The laboratory equipment is in place and it must be maintained in good operating condition.

Secondly, the European and other markets are insisting upon ISO 9000 certifications. Every effort must be made to provide the services to the individual companies so that they may gain these certifications. A Government quality-evaluation and certificate-granting unit may be required.

Management Technical Assistance (An ASEC look-a-like) In-pant management may not be sufficient to reach operational effectiveness and efficiency. The cement industry in Egypt faced this dilemma years ago and decided to form a management consulting and technical assistance company through a joint venture with a Swiss company. The foreign partnership has changed hands many times but the company, known as ASEC, continues to operate with over 50% Egyptian ownership. The company places foreign and Egyptian technical experts in the cement companies to carry out day-to-day management activities. Several experts are seconded to each plant on performance or management contracts. ASEC's contracts have performance goals and include incentive payments or profit sharing when those goals are exceeded. A similar type of organization is needed for the textile industry and could be designed to operate from within the Holding Companies or as a separate company similar to the one that was initiated with ASEC.

Demand Enhancement Demand enhancement has already been discussed with respect to the formation of *Cotton Egypt*. Other institutional supports can also improve demand. A listing of potential actions in demand enhancement appear below:

Egyptian Fashion Institute The textile industry maintains a fashion training institute at its main headquarters, which is staffed with UNDP (United Nations Development Program) experts. The institute was designed according to the recommendations of New York City's premier fashion design training school. Besides offering training courses in fashion design, the center has a showroom in which the products from all of the Government-owned facilities are on display. With a small amount of assistance - by placing a well-known Paris designer in residence for an extended period of time - the key designers in Egypt's textile industry could greatly improve their work and possibly develop a unique Egyptian fashion reputation.

Egyptian Cotton Promotion Association - Cotton Egypt The story about *Cotton Egypt* begins with the trip to Hong Kong in October 1997, when four textile spinning company chairman attended the Interstoff Fair. They recognized that all of their competitors benefitted from the assistance of a national textile promotion agency. Upon returning to Egypt they reported on their observations and held an industry-wide conference to suggest the formation of such an association for Egypt. After several steering committee meetings over the succeeding six months, an association was formed with both public and private firms participating, and including participation from farmers, traders, ginner, spinners, weavers and many ready-made garment firms. The association filed for registration under Law 32 and registration has been granted. At present the association is searching for start-up funding.

The principal aim of the association is to develop name recognition for Egyptian fine cottons. A logo will be developed that will vouch for Egyptian cotton purity and quality. A quality standard will be developed for all those who use the logo. Promotion in the Far East (Hong Kong), Europe and North America will be conducted through regional offices staffed by the association by promoting the Egyptian fine cotton label. The association will carry the normal functions of an industry promotion and marketing organization, although they will never take possession or title of any product. However, they will be in constant contact with buyers and sellers and assist in monitoring product quality and prices and help ensure that all parties honor their contract agreements.

Idle Firms Rehabilitation through the Carryover Stock Set-Aside When the Government decided to reduce the price of the carryover stock of lint cotton, they created an opportunity to facilitate the rehabilitation of up to fourteen under-utilized or "idle" firms. Many of the lesser producing firms are actually only using a small portion of their capacity for various reasons, yet a recent review by a group of technical experts, both foreign and domestic, concluded that many of these firms have units that could produce a quality carded or combed yarn in the 30's to 40's count range. With the reduction in prices to the spinners, these yarns could be produced at a cost that would make them competitive with Indian and Pakistani yarns of similar count. And, they would have the advantage that they would be made from Giza varieties which would command a 5% premium, even in the Indian and Pakistani 30 to 40 count market. When the Egyptian RMG sector heard about the program they requested first choice on these yarns before exporting them to the Far East. This means that these yarns would be extremely competitive within Egypt and would begin the trend toward substitution of imported yarns with Egyptian yarns, which is the overall goal of this competitive strategy formulation.

The program would require an infusion of capital for each participating firm of about LE 600,000 for spare parts and minor repairs, and LE 3,000,000 to purchase that piece of machinery in the spinning line which is obsolete or missing (such as auto-levelers or splicing machines). The first amount mentioned could be granted to each firm by the Ministry of Public Enterprise (MPE), whereas the second could be part of the Rehabilitation Trust Fund financing program outlined above.

Who Is Responsible for What? It is generally recognized that the Government's role is to gain that competitive edge through improving factor conditions: training workers to new skill levels, teaching more modern management techniques, transferring advanced technologies from abroad into the Egyptian industry, and promoting more interfirm cooperation and encouraging mergers. Government traditionally invests in research, ensures that the proper enabling environment is in place (with respect to taxes, import duties, licensing fees, price liberalization and procurement practices) and creates incentives and rewards for private and public sector initiatives. Government's role is to increase the rate of factor improvements and generate a pool of advanced and specialized factors, such as human resources, scientific and technological knowledge, economic information, infrastructure and appropriate rules, regulations and standards. Government is seen as the principal engine of factor creation, justified in its endeavor because of the externalities and synergistic benefits to the economy that exceed those of any individual participant. Under such conditions, the private sector will be reluctant to finance such initiatives because they will feel that they will not capture all the benefits of their efforts. They will suspect that their rivals will also benefit from their efforts and as a result, such expenditures will not be readily forthcoming.

Improving Firm Level Organization Re-organizing the structure and activity of the individual firms in this industry will be an important task for achieving competitiveness. **Related and supporting services** must evolve around the principal manufacturing facilities. And each firm must develop its own clear **(firm-level) competitive strategy**. The **structure of the industry** must shift from large, unwieldy relatively inefficient company complexes to more custom fit entities that recognize the how competition is created, and in which flexibility and constant change and upgrading are the norm. Different forms of horizontal and vertical integration must be introduced, while at the same time a degree of **interfirm rivalry** is cultivated..

Related and Supporting Services Firms The major gap in the production process for Egyptian cottons is in **dyeing, finishing and printing**. It is proposed that either the existing Government-owned firms be revitalized with a major rehabilitation effort or that two or three specialized foreign companies be encouraged to build and operate such facilities in Egypt. Without substantial improvements in this area, ready-made firms will send their yarns and fabrics off-shore for finishing, thereby defeating the efforts by the spinning and weaving firms to make a competitive product from Egyptian cottons that could be used internally by the garment manufacturers, thereby adding value to the Egyptian product and industry.

As the industry advances towards global competition other gaps in related and supporting service industries may be identified. One activity that may need attention is the "sizing" process in yarn production. Another supporting service industry is machinery manufacturing and repair. All of these activities must eventually be introduced into the overall industry in order for them to reach global competitiveness.

Firm Strategy, Industry Structure and Interfirm Rivalry The top point in the diamond refers to the individual firms and its behavior, and its position within the industry itself:

Firm Strategy Encourage individual firms to develop a strategy of using fine Egyptian cottons (predominantly ELS Giza 70 and 77 and to a lesser extent Giza 86, 85 and 75) to spin into high count yarns for making high quality products at all stages of production and manufacturing and to place these products in the appropriate high-end markets at competitive prices to ensure robust sales. Although at one point in this analysis it was felt that the competitive position would be almost exclusively in the fine, high-grade, high-count cotton market, recent policy changes which have removed price controls on cotton lint means that Egyptian cottons can now be used to produce low-count terry cloths, linens, denims, and knit wear, and still be competitive for exports. Liberalized pricing at this level opens a huge market for Egyptian cottons far beyond what was originally conceived when this analysis was initiated.

However, each individual firm should not try to make all types of products and garments. Final end demand is fickle and consumer preferences shift as fast as the seasons. Firms need to specialize in a few high-quality products and be poised to adjust to changes in market demand at a moment's notice. This requires flexibility and an ability to change and alter production lines quickly with a dedication to constant innovation and adaptation. This generally means facilities of smaller size than are customary in Egypt at this time; it will most certainly mean breaking up the huge Government-owned and managed spinning and weaving factories into smaller units managed by individual firms.

Management training in *competitive positioning* will be critical as this adjustment in firm-level behavior becomes more wide-spread. Current management in the public sector is not in tune with these techniques and approaches, which are driven by the need for constant change. One important concept that has recently spread throughout the garment industry on a world-wide basis is the idea of "just in time" manufacturing. At the privatization course in the United States which was attended by 25 senior textile holding company personnel, the visit to North Carolina University College of Textiles had one key message: Respond to inventory replacement requests within 72 hours! It is clear that a change of attitude and a shift in the manager's value system is required.

Industry Structure The first order of business is to make the industry more agile to the demands of the new *competitive strategy* by reducing the number of the public companies and their size, where they are holding several production units under one Affiliated Company (AC) management system. This can be done most effectively by privatizing the public companies, through any of the six accepted privatization techniques-management contracts, leaseholds, public share sales, employee buyouts, management buyouts or anchor investment sales. And this privatization can be for an entire AC or what is more likely, for the individual units, i.e. the number of ring spinning units with their respective number of spindles, is different than vertical integration of several steps in the process from spinning to ready-mades. There may be a need to maintain vertical integration while at the same time reducing the scope of horizontal integration.

Moreover, the degree to which backward and forward linkages are required (raw material supplies meaning trading and ginning companies, chemical supplies, packaging supplies with respect to backward linkages, and freight forwarding, labeling, advertising, distribution sales offices off-shore and domestic retail sales on the forward linkages end) will depend on the results of industry and individual firm analyzes respectively.

Michael Porter's research found that successful competitive industries relied heavily on the development of clusters of similar and supporting companies. This development led to interfirm cooperation in research; importing and adapting new technologies; developing new types of materials for weaving, with new combinations of synthetics and natural fibers; and ultimately introducing new fashions. The role of the cluster and the need to provide incentives for its creation should not be underestimated.

Interfirm Rivalry: The key to stimulating innovative change, according to Porter, is to have very strong interfirm rivalries. It is pointed out that sometimes it is beneficial for a serious constraint to arise in an industry so that rival firms will develop unique solutions through their own ingenuity. If one firm runs up against a situation that they cannot overcome, they may wait for Government to find them a solution. But if several rival firms face the same constraint, one of them, for sure, will find a way around the obstacle and beat out the others in sales and provides as a result. It will not take long, however, for the other firms to get the idea and find additional solutions for themselves, thus pushing the industry to a higher level of performance.

Intense firm rivalry is healthy when there is good interfirm cooperation. Support for the *Cotton Egypt* trade and commodity promotion association will help ensure that this spirit of cooperation is maintained. Rivalries can become quite cutthroat when bribery and corruption are at the base of it. Appropriate safeguards must be introduced to avoid this kind of situation.

Potential Impact of Competitive Repositioning on Labor, Income and Exports

Labor and Employment As of 1996, Government statistics showed a total employment level of 179,169 in the public textile sector. This employment level does not include those working in the private sector spinning, weaving and ready-made sub-sectors. Estimates from the *Cotton Sub-sector Map* publication (APRP, Cairo: August, 1997) show 286,000 in private spinning, weaving, finishing and ready-mades. Total employment in the cotton sub-sector, in manufacturing and trading and ginning is roughly 500,000. On top of this number there are 1,000,000 cotton growers and about 300,000 employed in retail distribution, which gives us a total number of 1.8 million workers.

A recent firm-level labor adjustment plan showed that one existing unit of one public AC of the firm would require a 50 % to 100% increase in labor within two years depending on the degree of vertical integration included in the planned rehabilitation program. Similar analyzes

for other firms have indicated that if the 14 idle public spinning firms (with 2,000 workers each) that have latent potential are rehabilitated, the potential impact on labor would be an increase of 14,000 jobs. If larger firms are rehabilitated, this number would increase. In addition, if a larger share of the Egyptian cotton growth were kept in-country to be processed into yarns and fabrics that the Egyptian ready-made firms would use to substitute for imported fabrics, total labor would increase another 75,000 jobs. In total, employment in the textile sector could increase 20%, and fully absorb the cotton produced by Egypt's 1,000,000 cotton growers, even to the extent of significantly increasing cotton production itself, with a concomitant increase of cotton growers.

Income Currently, the spinning and weaving sector is operating under capacity. Some firms are actually idle. The public dyeing and finishing industry is moribund and ready-made industry is importing over half of its raw material. If the industry is revitalized, Egyptian cottons yarns of both high and low counts will be used by the local ready-made firms for both domestic and export markets. Under this scenario, value added incomes to the sub-sector will increase, in the range of slightly over LE 2 billion from a current value of LE 3 billion.

Exports Exports of cotton lint will increase as quality improves in harvesting and ginning, that is, when trash content is reduced. Exports of yarn, fabric and ready-mades will also increase as the ready-made firms use more local cotton in their final products and as the count level increases in their products. However, as was pointed out above, with the price discounts and liberalization of farm-gate prices across-the-board, more of Egypt's ready-made garments and household products will be competitive in the global market and exports will increase significantly. Of the LE 2 billion increase in the value of output, more than two-thirds of this amount will be destined for export, if not more. This based on the fact that Egypt's local market (at the price the local consumer is willing to pay) is fairly well saturated at the moment. Even if domestic prices for ready-mades fall slightly due to the lower price of raw material, the increase in local consumption will not be dramatic. Most of the new benefits will have to come from exports, and for that reason a global position must be carved out rather than depending on domestic sales.

Conclusions

All of the actions highlighted above are designed to capture a new and expanded *competitive position* in the global market place for Egyptian cottons and to regain the market share lost to an unwarranted dependence on *comparative advantage*.

The table below summarizes the strategic actions that are recommended for the Egyptian cotton textile industry:

Factor and Demand Creation
Factor Improvements Cotton Research Institute R & D Center Technology Transfer, Adaptation and Improvement Center Management Training Institute Skills Training Institute Textile Rehabilitation Trust Fund Quality Control Unit Management Technical Assistance Unit (ASEC look-alike)
Demand Enhancements Egyptian Fashion Institute Egyptian Cotton Promotion Association - <i>Cotton Egypt</i> APRP Demand Studies
Related and Supporting Institutions Dyeing and Finishing Printing
Firm Strategy and Structure Instilling competitive firm rivalry Privatizing public companies through Interfirm Rivalry

Recently Egypt initiated its move towards market liberalization and the privatization of its production facilities and, concurrently, decided that those firms that would eventually be privatized should not be allowed to invest in new machinery or equipment. This led to

stagnation of production capacity and a deterioration in production quality. It did not take long for these public firms to begin to show negative balances on their profit and loss sheets.

Although the decline of the Egyptian cotton and textile industries does not lie squarely on the shoulders of the demise of the passive application of a *comparative advantage* theory, this attitude contributed significantly to the current situation. Over-reliance on the basic factors of low-cost raw materials, cheap labor and advantageous location to world markets, with an underlying adherence to the premise that "Egyptian cotton sells itself", stifled the industry and prevented it from making the appropriate and necessary adjustments that it sorely needed in order to position itself for the future.

The industry must now decide whether to move forward and establish a new *competitive strategy* that will recapture its dominant position in the world cotton markets or avoid the choices and let the industry self-destruct. This paper has outlined a solution for the industry leaders and has identified the preliminary efforts that have already been made toward adopting a new *competitive strategy*. It is now up to the Government of Egypt to instill the belief amongst its industry participants that they can meet this new challenge to reconstruct the industry and claim a globally *competitive position*, and to provide the incentives, financing and training required to reach this goal...