PN-ABQ-039

ASSESSMENT OF POTENTIAL FOR LIBERALIZATION AND PRIVATIZATION OF THE EGYPT COTTON TEXTILE SUBSECTOR

Project No. 263-0233
Delivery Order No. 3
Contract No. PCE-0001-I-00-2051-00

Submitted to:
TEXTILE INDUSTRIES HOLDING COMPANY
AND MINISTRY OF PUBLIC ENTERPRISES
GOVERNMENT OF EGYPT

and

ECONOMIC ANALYSIS DIRECTORATE
AND AGRICULTURAL RESOURCES DIRECTORATE
USAID/CAIRO

CHEMONICS

Submitted by:
CHEMONICS INTERNATIONAL

July 30, 1993

CHEMONICS

INTERNATIONAL
CONSULTING
DIVISION

July 30, 1993

Mr. Jeffrey Goode and Dr. Rollo Ehrich
Agency for International Development
Cairo, Egypt

Eng. Mahmoud Ibrahim, Chairman
Textile Industries Holding Company
Cairo, Egypt

Reference: Project No. 263-0233, Delivery Order No. 3, Contract PCE-0001-I-00-2051-00
Cotton Textile Subsector Assessment

Subject: Cotton Textile Subsector Assessment

Dear Sirs:

Chemonics International is pleased to submit the final report on our assessment of the Egyptian cotton textile subsector.

In doing so, I would like to thank you for your continuing encouragement and support throughout this project. It was a pleasure to work closely with both AID and the Textile Industries Holding Company, and our good working relationship contributed greatly to the success of this project.

Sincerely yours,

Dean Ethridge

Dr. Dean Ethridge
Project Team Leader

2000 M Street, N.W.
Suite 200
Washington, D.C. 20036

Tel: (202) 466-5340 or 293-1176
Fax: (202) 331-8202
ITT Telex: 1440361 CHNC UT

TABLE OF CONTENTS

		Page
ACKNOWLEDGEMENTS		i
LIST OF ACRONYMS		iii
SUMMARY AND RECOMMENDATIONS		v
INTRODUCTION		xv
PART I	SECTORAL ANALYSIS	
INTRODUCTION		
SECTION I	INSTITUTIONAL FRAMEWORK AND STRUCTURE	I-1
	A. Role of the Textile Industry in Egypt's Economy	I-1
	B. Institutional Framework of the Textile Industry	I-2
	C. Production and Investment	I-5
	D. The Structure and Pattern of Exports	I-9
	E. Employment, Wages, and Productivity	I-11
	F. Linkages with Cotton Production and Trading	I-14
	G. Conclusions	I-19
SECTION II	ECONOMIC EVALUATION	II-1
	A. Institutional Imperatives	II-1
	B. Price System	II-3
	C. Trade Restrictions	II-9
	D. Supply and Demand Situation	II-13
	E. Competitiveness	II-44
SECTION III	FINANCIAL EVALUATION	III-1
	A. Introduction	III-1
	B. Sector Financial Performance	III-2
	C. Individual Company Financial Performance	III-4
	D. Conclusions	III-13

TABLE OF CONTENTS
(continued)

		Page
SECTION IV	TECHNICAL ASSESSMENT	IV-1
	A. Introduction	IV-1
	B. Spinning	IV-2
	C. Weaving	IV-6
	D. Other Operations	IV-9
	E. Critical Technical Issues	IV-9
	F. Private Enterprise	IV-12
	G. General Technical Recommendations	IV-12
	H. Technical Recommendations for Specific Companies	IV-13
PART II	ACTION PROGRAM FOR LIBERALIZATION AND PRIVATIZATION	
	INTRODUCTION	
SECTION V	LIBERALIZATION AND PRIVATIZATION STRATEGY	V-1
	A. Objectives	V-1
	B. Phased Approach	V-2
	C. Liberalization Measures	V-3
	D. The Privatization Program	V-6
	E. Labor Redeployment	V-6
	F. Training Recommendations	V-7
SECTION VI	PROGRAMMATIC IMPLICATIONS	VI-1
	A. Benchmarks	VI-1
	B. Technical Assistance	VI-2
	C. Training	VI-3
	D. Roles and Responsibilities	VI-3
	F. Financing	VI-4
ANNEX A	TECHNICAL ANALYSIS	A-1
	Misr Helwan for Spinning and Weaving	A-1
	The National Company for Spinning and Weaving	A-15

TABLE OF CONTENTS
(continued)

		Page
	Kafr El-Dawar	A-21
	ESCO	A-31
	El-Nasr for Spinning, Weaving, and Knitting (Chourbagi)	A-37
	Delta Company for Spinning and Weaving	A-43
	El-Nasr Clothing and Textile Company	A-49
	Cairo Clothing and Hosiery Company (TRICONA)	A-53
	Cairo Dyeing Company	A-59
ANNEX B	FINANCIAL ANALYSIS	B-1
ANNEX C	ECONOMIC AND STRUCTURAL ANALYSIS	C-1
ANNEX D	INTERVIEW NOTES	D-1
	Alexandria Cotton Exporters	D-1
	Arab Company for Textiles	D-3
	BTM	D-5
	CATGO	D-8
	Cotton Textile Consolidated Fund	D-11
	Delta Spinning and Weaving Company	D-15
	Egypt Textile Manufacturing Federation	D-17
	Giza Spinning, Weaving, Dyeing, and Garments Company	D-19
	Holding Company for International Trading and Cotton	D-23
	El Nasr Clothing and Textiles Company, S.A.E.	D-24
	Misr Fine Spinning and Weaving Company	D-26
	Kafr El-Dawar	D-28
	Agricultural Production Credit Project	D-29
	Mahalla	D-31
	El Messiri and Company	D-34
	National Spinning and Weaving Company	D-36
ANNEX E	QUALITY CONTROL AUDITING IN TEXTILE MILLS	E-1
ANNEX F	MILL MAINTENANCE FOR HELWAN	F-1
ANNEX G	TRAINING THE WORK FORCE	G-1
ANNEX H	PROJECT WORK PLAN AND SCOPE OF WORK	H-1
ANNEX I	INTERVIEWS AND SITE SURVEYS	I-1
ANNEX J	SELECTED BIBLIOGRAPHY	J-1

ACKNOWLEDGMENTS

The report would not have been possible without the generosity, support, and encouragement of key officials in the Egyptian government, especially Eng. Mahmoud Ibrahim, Chairman of the Holding Company for Textile Industries. We would also like to thank Mr. Adel Habashi, Chairman, Holding Company for Cotton Affairs, and Eng. Ahmed Shoman, Chairman, Holding Company for International Trade and Cotton.

Numerous other cotton textile industry officials were generous in providing time for interviews, arranging site visits of mill facilities, and providing needed documentation. These officials include:

- Alexandria Cotton Exporters Association: Mr. A. Mohsen Abdellatif, President, and Mr. Aly M. Sherif, Executive Director
- Arab Company for Textiles: Mr. Ibrahim M. Hassen, Chairman.
- BTM: Mr. Louis Bishara.
- Cairo Dyeing Company: Eng. Wafiq Gamiel, Chairman.
- CATGO: Mr. Galal El Rifai, Chairman, and Mr. Ahmed M. Massekh, General Manager.
- Chourbagi: Mr. Samier Hammed, Chairman.
- Cotton Textile Consolidated Fund (CTCF): Mr. Tawfik Messiha, Director General, and Eng. Magdi El-Areef, Chairman
- Delta Spinning and Weaving Company: Eng. Mohsen El-Gillani, Chairman; and Eng. Abdel Megeed Asal, General Director.
- Egypt Textile Manufacturing Federation: Mr. S. Semida, General Manager.
- ESCO: Mr. Ahmed Saleem, Chairman.
- Giza Spinning, Weaving, Dyeing and Garments Company: Mr. M.G. Marzouk.
- Mahalla: Mr. Motaz B. Abdel Maksoud.
- El-Messiri and Company: Mr. Mohamed Ihab El-Messiri, Managing Partner.
- Misr Fine Spinning and Weaving Company (Kafr El-Dawar): Mr. Fathy Ahmed Aly, Chairman; Mr. Mohamed Shabaik, Ex-Chairman; Mr. Abdel-Aziz Helmy, Deputy Member; Eng. Moustafa L. Daoud, Commercial Sector; Eng. Mahmoud Ghamry, Spinning Sector; and Eng. Mohamed Salmine, Weaving Manager.
- Misr Helwan: Eng. Abdel Aziz El-Isrigi, Chairman, and Mr. Mohamed Serag, Financial Sector.
- El Nasr Clothing and Textiles Company, S.A.E. (Kabo): Mr. Hassan Abdel Kader Abdel Salam, Chairman.
- National Spinning and Weaving Company, Alexandria: Eng. Ahmed El-Sersy, Chairman, and Eng. Kamal Eldin Badr Eldin, Chief Sector of Mills.
- Samouly Company: Mr. Kamal El-Samouly.
- Sharkawi Weaving Company: Mr.Abdel Wahab El-Sharkawi.
- TRICONA: Eng. Abdel Khalik Yassin, Chairman.

4

Throughout the project, the team worked closely with USAID/Cairo officials who facilitated the project through their liaison with GOE officials and their constant willingness to consult with the team on analytical and other issues. In particular, we acknowledge the help and support of the following:

- **Economic Analysis Directorate**: Dr. Paul Mulligan, Director; Dr. Jeffrey Goode, Project Officer; Mr. Mark Gellerson, Project Officer; and Ms. Ingy Lotfy, Project Assistant.

- **Agricultural Affairs Directorate**: Dr. Rollo Ehrich, Economist, and Mr. Ali Kamel, Project Officer.

- **Trade and Investment Office**: Ms. Amal Amin, Cotton Assessment Committee Member.

The local professionals and support staff on the project team also contributed greatly to the team's understanding and appreciation of the functioning of public sector companies in the textile subsector as well as the Egyptian economy as a whole. Their outstanding support deserves special mention. These team members include Eng. Magdy El Shimy, Liaison Specialist/Textile Specialist; Prof. Dr. Magdy El Messeiry, Textile Specialist; Prof. Dr. Moussa El-Hewaty, Financial Analyst; Prof. Dr. Farida Roushdy, Economist; Mr. Hassan El Samman, Data Analyst; and Ms. Raghda Fawzi, Senior Secretary.

Many other individuals contributed as well to this project. That we are unable to list all of their names does not mean their efforts and contributions were not appreciated.

The Chemonics expatriate team included the following members: Dr. Dean Ethridge, Chief of Party and Senior Economist; Mr. Pierre de Raet, Political Economist; Mr. David Woodward, Financial Analyst; Dr. Ali El Shiekh, Textile Specialist; Mr. Ross Burke, Project Supervisor.

ACRONYMS

AC	Affiliated Company
APCP	Agricultural Production Credit Project (PBDAC)
AUC	American University in Cairo
CAPMAS	Central Agency for Public Mobilization and Statistics
CATGO	Cotton Arbitration and Testing General Organization
CCG	Corporation for Consumer Goods
CIS	Commonwealth of Independent States (former Soviet Union)
CPI	Consumer price index
CTC	Cotton Trade Corporation
CTCF	Cotton Textile Consolidation Fund
EEC	European Economic Community
ELS	Extra long staple cotton
ERSAP	Economic Reform and Structural Adjustment Program
ETMF	Egyptian Textile Manufacturing Federation
GCOLCT	General Committee for Organizing Local Cotton Trade
GOE	Government of Egypt
GOFI	General Organization For Industrialization
HC	Holding company
HCCG	Holding Company for Consumer Goods
HCITC	Holding Company for International Trade and Cotton
HCTMT	Holding Company for Textile Manufacturing and Trade
HVI	High volume instrumentation
ITMF	International Textile Manufacturers Federation
LE	Egyptian Pound
LS	Long staple cotton
MALR	Ministry of Agriculture and Land Reclamation
MEFT	Ministry of Economy and Foreign Trade
MOI	Ministry of Industry
MPE	Ministry of Public Enterprises
PEO	Public Enterprises Office
PBDAC	Principal Bank for the Development of Agricultural Credit
SFD	Social Fund for Development
TIC	Textile Industries Corporation
TIHC	Textile Industries Holding Company
USAID	U.S. Agency for International Development

SUMMARY AND RECOMMENDATIONS

This assessment evaluates the economic, financial, and technical situation of Egypt's cotton textile industry and develops a strategy leading first to increased liberalization and subsequently to privatization.

A. Major Findings

The cotton textile industry is dominated by 25 public sector companies. They tend to be large, vertically integrated companies engaged in spinning, weaving, knitting, dyeing, finishing, and producing ready-made garments. Private sector participation is significant only in knitting, garments, and other ready-made goods, with a large number of small firms and household shops.

The economic evidence on cotton textiles in Egypt shows that policies have had many unintended consequences and have been based on erroneous assumptions about world markets and global competition. These assumptions were used to justify a policy linking specialty (i.e., extra-fine) cotton production and specialty (i.e., fine-count) yarn and fabric production.

This policy has placed Egypt in a global market niche that requires a combination of efficiency and excellence to achieve the price competitiveness required to succeed. Also required is persistence in improving both the quality and yield of cotton; a high degree of market development and service; constant innovation; and flexibility in sources and handling of raw material, in machine configurations, in labor activities, and in product lines. The Egyptian industry is handicapped in all of these areas for the market that government policy has targeted.

At this time, the sector cannot meet many of the preconditions for successful liberalization or privatization. The following is presently the case:

- Government regulations governing the cotton textile market are not announced well in advance of implementation, are not progressive or time-specific, and fail to protect market participants from vested and special interests.

- The price system for cotton and textiles in Egypt is non-functional. Improved price signals are a necessary part of a "liberalization spiral."

- The spinning sector cannot presently match its fiber requirements to its product mix in a cost-effective way due to regulations and trade barriers.

- All trade channels for raw cotton in Egypt, whether domestic or international, are preempted by government control.

- Importing fabrics and garments is prohibited. There is a 30 percent tariff on cotton yarn imports. Private sector interest in the Egyptian spinning sector will not be significant until the freedom to import appropriate cotton is available.

Successful liberalization will require changes in these circumstances. It will also require improvements in the faltering financial and technical condition of the Egyptian textile industry. *Financial performance* for FY 1991-92, for instance, shows the following:

- Of the 25 companies in the assessment, five were financially sound, 10 were financially unsound, and 10 were financially in an intermediate group that had significant problems requiring additional attention.

- Ten of the 25 companies posted a loss for FY 1991-92. There was a net sectoral loss of LE 104.2 million.

- Five companies exhibited negative net worth; that is, they were technically bankrupt. The total sectoral net worth of LE 2.5 billion is less than the historic value of fixed assets, implying negative working capital within the sector.

- The sector is highly indebted, with overall leverage at 96 percent. Total indebtedness as of June 1992 amounted to LE 2,409 million: LE 1,431 million in short-term debt and LE 978 in long-term debt, much of it with local banks.

- As a consequence of high debt levels, interest payments over FY 1991-92 were LE 371 million, or an effective rate of just over 15 percent of outstanding loans.

In short, sector financial data point to massive under-capitalization and a chronic imbalance between resource use and the rate of return on operations. With total indebtedness at 77 percent of the value of fixed assets, the sector has relied on debt to build up productive resources. The aggregate return on these resources has been negative and, on the basis of current losses, sectoral net worth would be exhausted in just over 20 years. In practice, this situation is likely to occur much sooner, given the debt overhang and the exponential increase in losses.

Additionally, the assessment found that *technical circumstances* are negatively affecting the performance of this sector. On-site technical visits to nine firms revealed technical results that parallel the financial results:

- The technical assessment of KABO corroborated its financially sound status. Machinery and equipment were relatively new and efficient at KABO.

- The technical picture was mixed for Delta and Kafr El-Dawar, both rated as financially intermediate. Both had significant areas of obsolescence and low productivity.

- The technical evidence shows that all of the six financially unsound companies (Misr Helwan, Chourbagi, National, ESCO, Tricona, and Cairo Dyeing), require large capital investments and downsizing to raise efficiency to acceptable levels.

The four financially unsound firms not subjected to on-site visits (Cairo Silk, Middle Egypt, Upper Egypt, and Zagazig) have pervasive problems with technical obsolescence. They are candidates for liquidation from a technical as well as financial perspective. The four financially sound firms that were not visited (STIA, UNIRAB, Shebin, and Misr Mehalla) are also among the best technically equipped companies.

Compounding these circumstances are the *economic and structural factors* now affecting the Egyptian cotton textile market:

- In late 1991, the world textile market entered a recession that persists. Damage to textile industries has been worst for countries that lack a market orientation, such as Egypt.

- Because of the world supply/demand situation, Egypt now confronts a reduced export demand for its extra-fine cottons.

- The use of five-year averages of Egyptian cotton prices to set fixed price levels has resulted in uncompetitive prices for Egyptian cotton.

- Egypt's share of world cotton yarn production has stagnated in spite of a policy emphasizing public sector investment in spinning.

- Egypt's quarterly index of stocks of unsold yarns has risen significantly above the world index, revealing a growing disadvantage in competition for yarn sales.

- There is an overcapacity in spinning although falling productivity has caused yarn production to grow more slowly than capacity.

- In constant monetary terms, all major indicators of public sector textiles show significant deterioration in production performance since the mid-1980s.

- Over the past three decades, control of the Egyptian textile industry has become extremely hierarchical rather than flexible and market-driven.

- Although it is Egyptian public sector policy to specialize in spinning fine-count yarns, the spinning sector has in fact emphasized coarse- and medium-count yarns. Moreover, regulations on cotton production and imports make Egypt unable to compete in producing course-count yarns in an open market.

B. Major Recommendations

The recommended liberalization and privatization program is divided into two phases:

- **Phase 1: Liberalization and asset sales.** This will start immediately and last through the 1995-96 cotton marketing season. It will include implementing liberalization measures with respect to both policies and institutions. It will also include privatizing companies or operating divisions attractive to the private sector, downsizing the spinning segment of the industry, and liquidating loss-making companies or operating divisions. The Public Enterprises Office (PEO) should supervise and monitor this phase.

- **Phase 2: Restructuring and divestiture.** This will extend four years beyond Phase 1 and will involve restructuring and divesting companies less attractive to the private sector. It will include implementing management contracts with technical partners or negotiating performance contracts between the GOE and public companies to raise company performance and market value.

The major recommendations for Phase 1 liberalization-oriented policy actions are as follows:

Cotton production and trading

- Repeal the present law prohibiting the sale of cotton to parties other than the GOE.

- Introduce in 1993 measures presently under consideration by the GOE for liberalizing cotton trading.

- Abolish the system for allocating lint cotton production between exports and domestic spinning mills, so that mills are free to buy or not to buy, from whomever they choose, in the quantities and qualities they see fit.

- Form a task force to set conditions for importing cotton by Egyptian textile mills before the 1994-95 marketing year begins. Specifically, phytosanitary measures should be determined for importing cotton grown in areas where the boll weevil is a pest.

- Abolish the monopoly of cotton trading companies on importing cotton by 1994.

- Free the export price of cotton by 1994 so that cotton traders can set prices with foreign firms without reference to price formulas.

- Free the procurement price of cotton to farmers by 1994, so that this price will automatically derive from the export price.

- Free cotton prices to the mills by 1994.

10

- Free all exports of cotton by 1994.

Cotton textiles

- Abolish public sector systems for allocating cotton yarn production to internal use, exports, and domestic sales, so that mills can sell their product as they see fit in response to prices and market signals.

- Abolish the power of the Cotton Textile Consolidation Fund (CTCF) to set minimum export prices for sale of yarn and woven fabrics by the public and private sectors.

- Reduce the tariff on cotton yarn imports from 30 to 20 percent by 1994, 15 percent by 1995, and 10 percent by 1996.

- Abolish the prohibition on importing cotton fabrics by 1995.

- Reduce the tariff on cotton fabric imports from 80 to 35 percent by 1996.

- Abolish the prohibition on importing garments by 1996.

- Reduce the tariff on imported garments from 100 to 50 percent by 1996.

The major recommendations for Phase 1 liberalization-oriented institutional changes are designed to foster (1) private control of critical marketing functions and (2) procurement and delivery of appropriate raw materials. The following is recommended:

Cotton production and trading

- Start private collection centers for farmers to deliver seed cotton by 1993.

- Officially encourage domestic textile mills or their trading agents to buy cotton from the private sector.

- Officially encourage domestic textile mill involvement in cotton ginning.

- Reassess the Cotton Arbitration and Testing General Organization (CATGO) functions and capabilities; foster improvements in technology and procedures for classing cotton.

- Document the benefits of covered storage for cotton bales to foster the development of a warehouse sector to serve Egypt's cotton industry.

Cotton textiles

- Immediately abolish the CTCF price setting function and eventually abolish the CTCF as a public body. CTCF's other functions (e.g., quality control) should be transferred to private bodies.

- Incorporate the Egyptian Textile Manufacturing Federation (ETMF) as a legal private entity on the model of trade or professional associations in market economies.

- Provide for greater management autonomy of textile companies in the public sector and of separate operations within those companies.

For the Phase 1 privatization program, the following actions are recommended:

- Privatize the five companies identified as financially sound. These companies include KABO, STIA, UNIRAB, Shebin, and Misr Mahalla.

- Analyze the 10 financially unsound companies for future viability, producing specific recommendations for restructuring or liquidation. These companies include Misr Helwan, Cairo Silk, Middle Egypt, Chourbagi, National, ESCO, TRICONA, Cairo Dyeing, Upper Egypt, and Zagazig.

- Study restructuring possibilities for the 10 financially intermediate companies. These companies include Damietta, Delta, Daqahliya, Orient Linen, Kafr El-Dawar, Siouf, Nasr Mahalla, Alexandria, PORTEX, and Bida Dyers. The studies will require six to 12 months and should identify optimum privatization scenarios. Since the PEO has already slated some of these companies for privatization, it may consider revising its timetable based upon restructuring plans.

For the Phase 2 privatization program, the following actions are recommended:

- Pursue management contracts on a contingency fee basis with international textile companies. Alternatively, develop performance contracts between the companies and the GOE.

- Complete the divestiture, whether through privatization or liquidation, of all the remaining companies, based on the results of the Phase 1 studies. Restructuring, if undertaken, is expected to take at least two years.

To minimize negative social impacts of labor redeployment, emphasis should be on expanding the labor-intensive downstream (i.e., garment-making) activities of the industry. Specific recommendations include the following:

- Maintain the present hiring freeze in public sector companies.

12

- Evaluate the modalities and incentives by which employees entitled to early retirement can be encouraged to take advantage of this opportunity.

- Explore with the Social Fund for Development (SFD) ways in which its members can use SFD facilities to expand their activities and create new jobs under SFD's "Enterprise Development" program.

- Use the "Labor Mobility" program established under the SFD. The program specifically aims to facilitate the redeployment of labor displaced by the GOE's public enterprise reform.

Last, the following training measures are recommended:

- Develop short-term international training programs for mid-level managers of textile mills. The programs should emphasize raw material selection and processing, cost and quality control, product design and promotion, export marketing, and risk management within the global cotton and textile markets.

- Arrange visits by international experts to selected textile mills in Egypt to diagnose problems, recommend improvements in processing, and instruct employees in improved production methods.

- Assess the suitability of the Shoubra Vocational Training Center for Machinery in Cairo as a foundation to build on or as a model to be used elsewhere in Egypt.

C. Programmatic Implications

The recommendations listed above encompass a wide spectrum of initiatives, policy decisions, and institutional changes. Developing an action program based on these recommendations requires reformulating them as benchmarks for GOE action, technical assistance, and training.

Based on the assessment, the following benchmarks are recommended for *GOE action* with respect to the cotton textile sector:

1993

- Determine whether the 10 financially unsound companies will be liquidated or restructured. Downsizing (liquidating parts of a company) may be an integral part of restructuring.

- Initiate restructuring for four financially intermediate companies designated by the PEO for privatization in 1993-94; proceed with privatization based on the restructuring timetable.

- Initiate restructuring of the remaining six financially intermediate companies.

- Abolish cotton price controls, including export prices, procurement prices to farmers, prices to mills, and all export pricing and allocation systems currently in use.

- Abolish CTCF's price setting function and incorporate ETMF as a legal private entity.

- Abolish the lint cotton allocation system controlling mill purchases.

- Start private collection centers for farmers to deliver seed cotton.

- Enact cotton trading liberalization measures now being considered by the GOE.

1993-1994

- Liquidate all or parts of the 10 financially unsound companies designated for liquidation.

- Initiate restructuring of all or parts of firms in the financially unsound group that were designated for restructuring.

- Revise phytosanitary regulations for importing cotton.

- Privatize the five financially sound cotton textile companies.

- Repeal the present law prohibiting the sale of cotton to any party other than the GOE and abolish GOE's monopoly on importing cotton.

- Reduce the tariff on cotton yarn imports from 30 to 20 percent.

1994-1995

- Abolish the prohibition on importing cotton fabrics.

- Reduce the tariff on cotton yarn imports from 20 to 15 percent.

- Complete the transfer of CTCF's functions to a private body.

1995-1996

- Abolish controls on cotton garment imports; reduce the tariff from 80 to 53 percent on fabric imports and from 100 to 50 percent on garments.

- Reduce the tariff on cotton yarn imports from 15 to 10 percent.

14

The sector will require *technical assistance* to facilitate liberalization and prepare companies for privatization. The following measures are recommended for implementation either by the GOE or with the assistance of an international donor agency:

- Provide technical assistance to meet the above benchmarks.
- Analyze the 10 financially unsound companies with respect to possible liquidation, and begin restructuring the 10 financially intermediate companies.
- Assist the Social Fund for Development (SFD) in enhancing and expanding its job creation programs for redeployed employees.
- Assist the PEO in designing and implementing (1) management contracts with international textile companies and (2) performance contracts for current management.
- Assist CATGO in improving technology and procedures for classing cotton.
- Form collaborative research programs between Egyptian and international textile centers.
- Document and publicize the benefits of covered storage for cotton bales.

The sector will require *training* as well as technical assistance to implement the above program. The following measures are recommended for implementation either by the GOE or with the assistance of an international donor agency:

- Place mid-level textile mill managers in short-term international training programs.
- Arrange diagnostic visits by international experts to Egyptian textile mills.
- Assess models for textile training centers to be implemented throughout Egypt.

INTRODUCTION

A. Objectives

The purpose of this assessment is to evaluate the financial, economic, and technical situation of Egypt's cotton textile industry to develop an overall strategy leading first to increased liberalization and subsequently to the privatization of the spinning, fabric formation, and finishing subsectors. The proposed strategy is accompanied by a time-phased plan for its implementation.

The focus is not on specific steps to privatizing individual companies. Rather, this sectoral assessment complements the efforts of Egypt's Private Enterprise Office (PEO) by planning the broader context in which the PEO's privatization efforts will take place.

B. Background

Nationalization of Egypt's cotton sector was initiated in 1961 and completed in 1964, when all private cotton trading, ginning, spinning, and weaving were abolished and the cooperative marketing system was established nationwide. Since 1964 the GOE has controlled all aspects of the cotton industry, from farm to textile production. Price controls, area quotas, and monopsony control by public enterprises have been administered by the Ministries of Agriculture, Economy, and Industry to the virtual exclusion of private trade and investment. Policies have contributed significantly to declining yields, loss of international markets, increased reliance on imports to meet domestic requirements, and inefficiencies in the textile sector.

Markets for most agricultural crops have been liberalized significantly since initiating the Agricultural Economic Reform Component of the Agricultural Production and Credit project (APCP) in 1986. The cotton sector, however, was largely excluded due to the reluctance of the GOE. Successes under the APCP project include liberalizing prices and marketing of 12 major crops, liberalizing rice trade, reducing input subsidies, and improving agricultural credit services. While farm prices of cotton were increased according to a rigid formula, production, trade, ginning, and the cotton textile industry stayed largely under government control.

Currently, the Holding Company for Textile Manufacturing and Trade (HCITC) is the national institution responsible for cotton marketing. Under the HCITC are six procuring and exporting affiliated companies, five ginning companies, and one pressing company. Cotton domestic demand is governed by the predetermined requirements of the industrial sector through the Textile Industries Holding Company (TIHC) . The TIHC provides the public sector textile companies with the needed quantities of lint. Most of these companies are engaged primarily in spinning and weaving, but many also have dyeing, finishing, and garment-making facilities.

- 16

Two Law 43 investment sector (but majority public ownership) spinning and weaving companies also place special orders directly with the TIHC. The textile companies incur the cost of transporting the purchased cotton lint from the gins of the TIHC to the appropriate mills. They export all their products.

The deterioration of Egyptian cotton sales in the international markets can be attributed to the quantitative decline in national cotton production because of low farm procurement prices, increasing domestic consumption by local spinning mills, and unrealistically high official export prices. Traditionally, local mills' needs were met entirely by domestic production. Recently, imports of short staple cotton have increased to about 17 percent of the total consumption by spinning mills.

Until 1989-90, the artificially low fixed list prices charged to mills, and the arbitrary allocation of qualities and quantities, have isolated the mills from the direction and discipline of competitive markets. These conditions have resulted in the inappropriate use of high quality fiber for coarse-count, low-value yarns and in pervasive operational inefficiencies.

The GOE and USAID agreed to a study aimed at developing a plan for liberalizing and privatizing this important sector. Allowing private sector investment in all aspects of the cotton/textile complex could be expected to correct many current ills, including low levels of production, declining exports, low industrial and labor productivity, and low quality industrial output. Furthermore, liberalizing the pricing, investment, and trade systems should allow competitive forces to allocate resources at all levels of the cotton sector. In this regard, a study of how to liberalize cotton production, trade, and ginning was completed in August 1992.

Policy makers have been reluctant to free up market prices and open the door to private investment in the industry. Their reluctance stems in part from a lack of sound analysis. Therefore, AID designed this study as a follow-on to the earlier work and to provide additional analysis by:

- Measuring the economic and social costs and benefits of liberalizing and privatizing the textile industry.
- Providing guidelines, i.e., a plan, for implementing a liberalization program.
- Recommending a plan to enhance competition among and between public and private firms, encourage involvement of the private sector, and restructure the public textile enterprises.

C. Methodology

The assessment methodology included three basic elements. They are complementary and involved concurrently executed tasks.

The first element was *identifying and collecting data* required for the analytical work and organizing it in a systematic, usable form. The assessment emphasized collecting secondary rather than primary data. Although team members conducted site surveys of selected manufacturing facilities to observe actual conditions, performance and technical data were generally drawn from existing records maintained by the respective companies, as were the data to support the economic and financial analyses. For this reason, the quality of the team's analysis depended significantly upon the following factors:

- The scope and quality of manufacturing and financial records maintained by the companies included in the assessment.

- The accessibility of records to the assessment team.

- The availability of textile company officials to meet with assessment team members to interpret the records and explain perceived anomalies.

- The ability of TIHC to assist the team in translating critical data, especially financial data, from Arabic to English for expatriate team members.

The second element was *analyzing the cotton/textile industry* with a view to identifying the prerequisites and requirements for successfully implementing a liberalization and privatization strategy. Thus, the analysis covered the following:

- **Critical review of the industry structure.** Emphasis was placed on the spinning, weaving, knitting, and finishing subsectors. However, consideration was given to the structural features of the cotton production, ginning, and marketing sectors.

- **Technical assessment of the industry.** This was based on representative samples of public and private enterprises engaged in the activities above.

- **Evaluation of the industry's economic and policy situation.** This emphasized factors such as efficiency in resource use, prices and pricing policies, subsidy policies, production and products mix, employment and productivity, prospects for the domestic and export markets, and marketing arrangements. Policies undermining company performance were identified, along with policy adjustments to enable successful liberalization and privatization.

- **Evaluation of the industry's financial situation.** This included analyzing the financial condition of the sector and assessing institutional arrangements that affect the financial attractiveness of companies to potential private sector investors.

The third element was preparing a *liberalization and privatization strategy* based on the above analysis. This involved the following:

- **Identifying liberalization/privatization strategies.** The team identified liberalization and privatization strategies and corresponding implementation

12

scenarios, taking into account the respective contributions of each scenario to meeting macro-economic policy objectives. In evaluating strategies and scenarios, the team considered employment effects and other social costs of increasing private sector participation in the textile industry.

- **Identifying support requirements.** The team identified the financial and institutional support required to ensure timely and successful implementation of the recommended liberalization and/or privatization strategy.

- **Developing an action plan.** The plan includes recommendations for policy measures that the GOE may adopt and for associated steps that donor agencies may take, possibly in the form of financial and technical assistance.

- **Time-phased implementation schedule.** The assessment presents a two-phase implementation plan, with Phase 1 covering the three-year period 1993-94 through 1995-96, and Phase 2 extending four years beyond Phase 1.

D. Data Sources

Annexes I and J document the data sources for the assessment. These sources included interviews, published documents, and available public sector company records.

PART I

SECTORAL ANALYSIS

INTRODUCTION

Part I presents the factual and analytical basis for policy recommendations aimed at improving the performance of Egypt's cotton textile industry. Improving performance will take place within the framework of the Government's economic strategy to move from a centrally planned to a market economy through increased liberalization and privatization.

Section I provides an overview of the industry's institutional framework and structure. It covers the organization of the dominant public sector, as well as recent developments in production, investment, exports, and employment. It concludes with a short description of linkages with the cotton production and trading industry.

Sections II, III, and IV analyze the structure, conduct, and performance of the public sector companies over the past few years from the economic, financial, and technical points of view. The focus is on the following:

- The policy environment and other conditions under which the industry currently operates.

- The changes required to ensure its long-term viability in an open economy, where the ability to compete on the international market will be the overriding challenge.

Comparisons or references to performance in the private sector are made when appropriate and available.

SECTION I
INSTITUTIONAL FRAMEWORK AND STRUCTURE

This section describes key features of Egypt's cotton textile industry. The industry as defined includes the following activities: spinning, fabric formation (weaving and knitting), dyeing and finishing, and producing apparel (ready-made garments and other textile products).

Prior to nationalization in the early 1960s, the industry was privately owned. Since then, spinning has been a virtual public monopoly, with the other activities also largely concentrated in the public sector. However, with the Open Door Policy introduced by President Sadat in 1973, the private sector re-emerged and has played an increasingly important role in the downstream segments of the industry, which are labor intensive. Economic reforms adopted by the GOE in the past few years have reinforced this trend.

Data about the public sector are available from public sources, but data relating to the private sector are fragmentary. It is therefore difficult to have an accurate picture of the relative importance and role of the private and public sectors in the industry. This section concentrates on the sector's structural features.

The discussion below covers: (1) the role of the textile industry in Egypt's economy; (2) the institutional framework of the industry, with emphasis on the organization of the dominant public sector; (3) the structure of production and investments; (4) the pattern of exports; (5) employment, wages, and productivity; (6) some features of the linkages with the cotton production and trading industries; and (7) conclusions.

A. Role of the Textile Industry in Egypt's Economy

The lack of comprehensive and detailed data does not permit complete picture of the role of the cotton textile industry in the economy. Most aggregate data refer to the textile industry as a whole, including wool and synthetics. However, since cotton is by far the industry's most important component, the data largely reflect the importance of the cotton textile industry.

Excluding petroleum, spinning and weaving represent some 25 percent of total industrial output, the second largest manufacturing sector after food processing. Excluding export of crude oil, which has expanded rapidly in the past few years, textiles and textile articles accounted for half or nearly half of total export earnings until 1990-91, when they fell to 33 percent (see Exhibit I-A on the following page).

In terms of employment, the public sector cotton textile companies that are the focus of this study employ 200,000 employees, about half of those employed in public sector industry. The combined public and private sectors employ an estimated half a million.

Exhibit I-A
Indications of Economic Importance of Egypt's Textile Sector

Textile sector's percent share in:	FY86	FY87	FY88	FY89	FY90	FY91
Value of industrial production (excluding petroleum)	25.5	23.1	25.4	25.6	26.0	26.7
Total exports (excluding crude oil)	51.0	51.5	44.5	47.7	43.2	33.0

Source: CAPMAS

B. The Institutional Framework of the Textile Industry

B1. Organization of the Public Sector

The public sector of Egypt's cotton textile industry is mainly composed of large vertically integrated mills. They operate under two basic legal regimes: Law 203 and Law 230.

B1a. Law 203 Companies

Of the 31 public sector textile manufacturing companies in Egypt, 25 process cotton. These 25 companies are organized within and distributed among three public holding companies, which have sole or majority ownership of their share capital. The companies are referred to as Affiliated Companies (ACs).

Before the promulgation of Law 203 of June 19, 1991, on the Public Business Sector, state-owned enterprises were organized within Public Sector Organizations (or Authorities) in accordance with Law 97 of 1983. Under the latter, Authorities and their subsidiaries were essentially outgrowths of the administration entrusted with the execution of the National Economic Development Plan. They had virtually no autonomy.

Under the GOE's Economic Reform and Structural Adjustment Program (ERSAP), Law 203 of 1991 removed Authorities (and subsidiaries with an industrial or commercial vocation) from the purview of Law 97, establishing them as legal entities governed by Law 159 of 1981 on Joint Stock Companies, Limited Partnerships, and Limited Liability Companies. Thus, under Law 203, Authorities became Holding Companies (HCs) and their subsidiaries became Affiliated Companies (Acs), taking the legal form of joint stock companies like any private company. Indeed, Law 203 provides that Hcs and Acs operate as other private sector companies incorporated under Law 159.

Before the enactment of Law 203, the 25 publicly owned cotton textile companies were part of the Textile Industries Corporation (TIC)[1], created in 1983 under Law 97. With the passage of Law 203 in June 1991, they became part of the Textile Industries Holding Company (TIHC). Two other HCs concerned, among other things, with cotton production and export trading were established at the same time, the Holding Company for Consumer Goods (HCCG), and the Holding Company for International Trade and Cotton (HCITC).

To foster competition between HCs and ACs as part of its liberalization and privatization policy, in February 1993, the GOE reshuffled the portfolios of these three HCs. As a result, each HC now includes some of the 25 textile companies, some cotton export trading companies, some cotton ginning companies, as well as companies belonging to other sectors of the economy. The portfolio of the three HCs is currently as follows:

Exhibit I-B
Portfolio of Cotton and Textile Holding Companies
(May 1993 status)

	TIHC	HCCG	HCITC	Total
Cotton textile companies	9	10	6	25
Cotton trading companies	1	1	4	6
Cotton ginning companies	1	1	3	5
Non-cotton textile companies	3	2	1	6
Other companies	3	3	8	14
Total	17	17	22	56

Source: TIHC.

At the time of nationalization, the equity held by some small shareholders was not nationalized. Thus, eight of the 25 cotton textile companies retained some private ownership. They are referred to here as "mixed" companies, according to the standard terminology. They are shown in Exhibit I-C on the following page.

For these "mixed" companies, private shares are reportedly held by several owners, individuals, and/or companies and are quoted on the Cairo Stock Exchange. Although private shareholding in some "mixed" companies is substantial, these companies are relatively small in size. As a result, the total equity held by the private sector in the 25 cotton textile companies is negligible, representing less than 1 percent in the aggregate (LE 3.6 million of a total equity of LE 408.8 million, excluding "advances," or LE 412.9 million including "advances").

[1] Six other textile companies were engaged in manufacturing textiles other than cotton. These companies are still organized today within the three HCs, but are not relevant to the present assessment.

Exhibit I-C
Equity Distribution of "Mixed" Cotton Textile Companies

	Total	Public	Pct.	Private	Pct.
In TIHC:					
Orient Linen	1,544	*968	62.7	576	37.3
Damietta	1,591	991	62.0	600	38.0
Daqahliya	1,128	978	86.7	150	13.3
KABO	1,531	1,195	78.0	336	22.0
In HCCG:					
UNIRAB	2,852	1,824	64.0	1028	36.0
National	26,415	26,087	98.4	328	1.6
Portex	17,726	17,467	98.5	260	1.5
Alexandria	861	**517	60.0	344	40.0

Source: TIHC.

* GOE has "advanced" LE 360,961 to the company, not recorded as equity.
** GOE has "advanced" LE 1,055,299 to the company, not recorded as equity.

B1b. Law 230 Companies

Two large, wholly state-owned companies operate under Investment Law 230 of 1989[2] and are therefore not part of the HC portfolios. One, El Amria, is owned by a large public sector bank (Misr Bank) and the other, Miratex, is owned by several public sector companies and the Iranian Government. They are closed to the domestic market, and their entire production—whether yarns, fabrics, or ready-made garments—is targeted for export. Three other "mixed" companies also operate under this law.

B2. The Cotton Textile Consolidation Fund

The Cotton Textile Consolidation Fund (CTCF) was created by Law 251 of 1953 as a state organization to address problems faced by private industry in the early 1950s. Its primary broad objectives were as follows:

- To promote textiles on the domestic and export markets.
- To raise the technical and professional standards of the industry.
- To grant loans to textile companies to assist them in coping with international standards and quality.

[2]Law 230 of 1989 supersedes the system of investment governed by Law 43 of 1974 on Investment of Arab and Foreign Funds and the Free Zones.

CTCF is controlled by a 12-member "Permanent Committee," with seven members representing spinning and weaving companies and five elected ex-officio by five ministries.

Today the main functions of CTCF are as follows:

- To establish minimum export prices for cotton yarn and most woven fabrics.
- To apply industry standards through quality control and testing.
- To represent Egypt's industry in international forums.
- To collect, compile, and disseminate industry data.

CTCF's price setting function is of critical importance in evaluating the competitiveness of the cotton textile industry. CTCF sets minimum export prices applicable to all exporters (public and private) for each count of yarn and each type of woven fabric. Minimum prices are normally established and announced twice a year (March and September), on the basis of changes in production costs reported by public and private sector companies and in international markets as reported by commercial attachés abroad. Export prices of knitted fabrics were freed in 1984.

B3. The Egypt Textile Manufacturing Federation

The Egypt Textile Manufacturing Federation (ETMF) was created in 1937 as a public body aimed at enlisting companies engaged in the manufacture of textiles. Although membership is mandatory by law, ETMF presently has 1,883 registered members, or some 40 percent of all firms. The majority of its members are small privately owned companies and household shops. ETMF is governed by a Board of 15 members, including four from public sector companies. The decisions of the Board are carried out by a small staff of public servants with a meager budget (LE 200,000) financed by members' contributions.

In practice, ETMF attempts to fill, on a modest scale, the role of traditional trade associations, i.e., rendering services and advice to its membership in areas such as legal, tax, and labor issues. In most cases, the Federation assumes the role of advocate or honest broker when disputes arise among its members or between members and government. It also attempts, within the constraints of extremely limited resources, to assist small private entrepreneurs with export promotion and training.

C. Production and Investment

C1. The Structure of Production

The cotton textile industry is dominated by 25 public sector companies, which are the focus of this study, and two "investment" companies (i.e., the aforementioned Amria and Miratex). About half of these large, vertically integrated public enterprises are located in the Delta, the largest cotton producing area in the country. Virtually all are engaged in spinning and weaving, but many are also engaged in knitting, dyeing, finishing, and ready-made garments. The public sector, which has monopsonistic power over procuring lint cotton (see

Section F below), has a monopoly on the production of cotton yarn.[3] The public sector also dominates weaving, with some 60 percent of installed capacity and 80-90 percent of production.

The private sector dominates the knitting, garments, and other ready-made goods segments of the industry, with a large number of small firms and household shops. However, there are no reliable statistics on the relative importance of the private sector in terms of volume or value.

Clearly, having combined control over procurement of lint cotton and yarn production enables the public sector to preempt management decisions in all downstream activities, whether in the public or private sector. In 1988, for example, public sector plans called for yarn exports of 50,000 metric tons, while private sector weavers were slated to get 125,000 metric tons. In the course of the year, however, exports were raised to 93,000 metric tons by reducing the allocation to the private sector. This episode gave great impetus to the importation of yarns by the private sector.

According to the General Organization for Industrialization (GOFI), the breakdown of industrial establishments between the public, private, joint, and cooperative sectors is shown in Exhibit I-D.

Exhibit I-D
Number of Industrial Establishments*
(April 1991)

Public (Law 203)	141
Private	4,160
Joint (Law 230)	29
Cooperative	10
Total	4,340

Source: GOFI as quoted in World Bank, *Arab Republic of Egypt: The Private Sector Regulatory Environment*, June 12, 1992, Vol. II, p.23.
*GOFI records data on the basis of industrial establishments and not on the basis of firms.

Production of cotton textile products by the Law 203 companies has generally been stable over the past eight fiscal years, except for ready-made garments, which declined dramatically from 1985 to 1986 (Exhibit I-E). No comparable data are available for production by the private sector.

[3]Only one private firm, engaged mostly in garment-making, decided in 1990 to move into spinning to ensure its supply of yarn. It acquired discarded equipment from a public mill and from other countries.

Exhibit I-E
Production of Cotton Textile Products
(Fiscal Year: July-June)

	FY85	FY86	FY87	FY88	FY89	FY90	FY91	FY92
Cotton/cotton blend yarn	242	250	249	250	249	259	260	273
Cotton/cotton blend fabric	591	608	633	592	604	605	523	550
Ready-made garments	116	14	16	16	15	13	13	11
Knitting underwear	53	50	47	43	46	43	43	40
Knitting outerwear	2	2	4	5	5	5	5	5

Source: TIHC. Data apply to the 25 textile companies covered in this study; except for the data on ready-made garments, which include one company that makes woolen yarns, fabrics, and garments.

Units:	Yarn:	Thousands of tons
	Fabric:	Millions of meters
	Garments:	Millions of pieces
	Underwear:	Millions of pieces
	Outerwear:	Millions of pieces

C2. Recent Developments in Investment

A key feature of the industry is its overcapacity in spinning. The overcapacity resulted from a public sector policy, enacted under the leadership of the former TIC during the 1980s, to expand and modernize textile spinning in Egypt. Easy access to public or state bank credit, preferential exchange rates, and strong protection against foreign competition encouraged an ambitious investment policy toward the most capital intensive stages of the industry. Over the six-year period from 1986-87 to 1991-92, public sector investments amounted to LE 1,780 million in current prices, with a heavy concentration on spinning (see Exhibit I-F on the following page). Of note is the sharp rebound in the share of spinning investment in FY 1991, which interrupted a declining trend since FY 1987.

Heavy investments in new spinning capacity, without corresponding removal of aging capacity, led installed capacity to increase at a much higher average annual rate than for yarn production. Between FY 1984 and 1992, the number of spindles in public companies increased at the rate of 6.25 percent per year, compared with 1.84 percent per year for yarn production. Installed capacity in weaving operations declined in number of looms but not necessarily in capacity, as new looms are more efficient. Over the same period, the number of looms decreased at the rate of 3.75 percent per year while cloth production decreased at the rate of 1.97 percent per year. (See Exhibit I-G).

29

Exhibit I-F
Public Sector Investments*
(fiscal years)

6-Year Activities	1987	1988	1989	1990	1991	1992	Total (LE Mn)	Pct.
			(% share)					
Spinning	72	75	67	61	96	56	1,313	74
Weaving	7	4	9	21	1	37	214	12
Processing	5	5	5	7	1	1	66	3
Ready-made	7	8	12	6	1	2	100	6
Eng./Utilities.	9	8	7	5	1	4	87	5
Total	100	100	100	100	100	100	1780	100

Source: TIHC.

* The data refer to the 31 textile companies, but reflect the trend in the cotton textile companies, the dominant component.

Exhibit I-G
Growth in Capacity and Production
(fiscal years)

	1984	1989	1992	Growth rate per annum (1984-1992)
No. of spindles (000)	2,000	3,600	3,000	6.25%
Yarn production (000 MT)	238	248	273	1.84%
No. of looms (000)	27	24	19	-3.75%
Fabric production (000 LM)	653	562	550	-1.97%

Source: TIHC. Data cover the 31 textile companies.

MT = Metric tons
LM = Linear meters

The slower growth in yarn production relative to installed capacity is due in part to a small increase in average yarn count for the industry. However, a primary reason has been lower productivity levels.

Excessive investments in spinning have resulted in capacity imbalances between stages of production and in inadequate complementarity with other investments (such as infrastructure and preparatory equipment), as discussed in Section IV. In addition, loan

29

servicing on large debts started coming due as market conditions deteriorated. The financial consequences of the ambitious investment policy of the 1980s are assessed in Section III.

Another negative effect of overcapacity in the capitalistic segments of the industry has been the inevitable temptation for the public mills, in a constrained and inflexible labor market, to maintain production levels and accumulate large inventories. The market downturn and an inflexible pricing system has made liquidation of these inventories difficult, if not impossible, over the past few years. Section II addresses these issues in the context of the pricing system in which the industry operates and, as a corollary, its competitive position on the international market.

D. The Structure and Pattern of Exports

Egypt's textile exports stagnated in the first half of the 1980s, with all products except yarn showing substantial declines. This was mainly due to a highly protected and distorted policy environment, notably with respect to exchange rate, price, and trade policies. Textile exports grew rapidly during the latter years of the decade, reaching a peak of US$ 572 million in 1989, mainly because of a more flexible exchange rate policy introduced in 1987.

In 1990, however, textile exports started declining steadily. Between 1989 and 1992, total exports fell on the average 5.7 percent per year, ending up more than 16 percent lower than at the beginning (Exhibit I-H). The decrease was due entirely to cotton yarns and woven fabrics; in particular, cotton yarn exports fell an average of almost 15 percent per year. If yarn and woven fabric exports are netted out, the other four categories in Exhibit I-H increased at an average annual rate of almost 20 percent.

Exhibit I-H
Trends in Textile Exports
(fiscal years)

	1980	1985	Average growth p.a.*	1989	1990	1991	1992	Aver. growth per annum**
Cotton yarn	181	197	1.8%	396	340	271	245	-14.7%
Woven fabrics	53	52	-0.4%	77	79	88	65	-4.1%
Knitted fabrics	15	9	-8.0%	60	65	73	77	8.7%
Terry fabrics	3	2	-6.8%	6	4	5	6	26.1%
Clothing	8	5	-7.5%	21	39	52	71	44.1%
Household Products	5	3	-8.0%	9	17	18	15	26.0%
Total	265	268	0.2%	572	544	507	479	- 5.7%

Source: CTCF.

* 1980-1985
** 1989-1992

30

The shares of total exports held by each product category are shown in Exhibit I-I. Between 1980 and 1992, a 23.5 percent loss in share for cotton yarns and woven fabrics combined resulted in a 12.9 percent loss for *all* yarns and fabrics combined (from 95.1 percent to 82.2 percent). Meanwhile, the share for clothing and household products increased 11.7 percent and 1.3 percent, respectively.

Exhibit I-I
Shares of Egyptian Textile Exports by Product Categories
(percent of total value)

	1980	1985	1989	1990	1991	1992
Cotton yarn	68.3	73.3	69.2	62.5	53.3	51.2
Woven fabrics	20.0	19.5	13.4	14.6	17.4	13.6
Knitted fabrics	5.7	3.5	10.5	12.0	14.4	16.1
Terry fabrics	1.1	0.6	1.1	0.7	1.1	1.3
Sub-total	95.1	96.9	94.2	89.8	86.2	82.2
Clothing	3.0	2.0	4.3	7.2	10.3	14.7
Household Products	1.9	1.1	1.5	3.1	3.6	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: CTCF.

Analyzing the change in the composition and relative growth trends of exports reveals that products for which the public sector is the sole or main supplier have lost ground, while segments of the industry with higher value-added products and in which private sector participation is larger (knitting and garment-making) have gained. Indeed, private sector exports have grown most rapidly in segments of the market not subjected to price regulation by the CTCF. Private sector exports currently account for about 70 percent of total knitted fabric exports, 35 percent of terry fabrics (up from 1.1 percent in 1989), 30 percent of ready-made garments, and 12 percent of other ready-made articles (up from 1.9 percent in 1989). The private sector has therefore been relatively successful in adapting to changing conditions and in making inroads in the international market (see Annex C for the percentage distribution of exports by product and by public, private, and "investment" sectors for the period 1989-92).

However, it is important to note the following:

- Interviews with private sector operators indicate that, while private sector exports are concentrated in ready-made products, they are also concentrated in the low end of the market. Products consist mainly of T-shirts, beach towels, sportswear, and

31

casual wear. Output is directed almost entirely to the clientèle of discount stores in the United States and the European Community.

- Although declining, the share of low-value products (gray cotton yarn and fabrics) still accounted in 1992 for over 80 percent of Egypt's total exports (with the bulk of these low-value products produced and exported by the public sector) despite the boom in the world apparel market and exports during the 1980s.

Clearly, Egypt as a whole was unable to capitalize on the textile export growth of the 1980s by establishing itself in high-value textiles and apparel. The reasons underlying the country's export pattern will be further explored in Section II in the analysis of the industry's current competitive position on the international market. The depressed state of the world market for cotton and cotton textiles in the early 1990s cannot alone explain the pattern of Egypt's textile exports and its lack of success in international markets. The rigidities characterizing the management and operations of the public sector, as the dominant supplier and exporter, and the technical and financial weaknesses that affect it, particularly in the policy environment in which the industry operates, point to more fundamental reasons for Egypt's failure to develop an efficient and internationally competitive industry as other low or middle-income countries were able to do in the past decade.

E. Employment, Wages, and Productivity

As indicated above, only fragmentary and scanty data are available on the private sector, especially for employment, wages, and productivity, since firms are typically small. Personal interviews and observations provide the best insights on conditions prevailing in this sector. On the other hand, data relating to Law 203 public sector companies are generally available from the HCs.

E1. Law 203 Companies

Since its creation in 1983, TIC followed a policy of reducing employment in the public companies by limiting hiring and encouraging early retirement. Interviews with the senior managers of public companies confirm that this policy is still applied.

Total employment in the Law 203 public sector textile companies has consistently declined over the 1980s and early 1990s, reaching 199,000 in 1991-92 (Exhibit I-J). Of this number, 192,000 are regularly employed, the others being on leave or on military assignment. Excess labor is generally believed, however, in the range of 25-40 percent on the average.

Data on the total wage bill, average annual wages, and value of production of the 25 companies are expressed in constant monetary value in Exhibit I-J. Value of production data from Egypt's public sector companies do not allow a straightforward analysis of value at each stage (i.e., yarn, fabric, garments, etc.) of production. The financial statements even duplicate the value of production at earlier stages in later stages. For purposes of exposition, the terminology used here is "total gross value of production" (TGVP). Using 1992 fiscal

year data, removing the duplicate counting of values at each production stage enabled a rough estimate of the total net value of production (TNVP). The result was a TGVP:TNVP ratio of 1.26. Thus, there is a substantial overstatement in the values of production in Exhibit I-J.

Exhibit I-J
Employment, Wages, and Productivity in Public Sector Companies
(Law 203 companies)

	85/86	86/87	87/88	88/89	89/90	90/91	91/92
Employment							
Total work force (000)	230	220	213	210	207	202	199
Regular work force (000)	214	205	201	199	198	194	192
Current terms data							
Total wage bill (LE Mn)	428	420	491	558	610	658	681
Average annual wage (in LE)	1,861	1,909	2305	2,657	2,947	3,254	3,422
TGVP (LE Mn)	1,798	1,916	2,213	2,794	3,509	3,979	4,529
Ratio TVP/TWB	4.2	4.6	4.5	5.0	5.8	6.0	6.7
Constant terms data							
Total wage bill (LE Mn) (constant 1986/87)	477	391	388	364	341	307	280
Average annual wage (in LE) (constant 1986/87)	2,072	1777	1,824	1,733	1,646	1,518	1,405
TGVP (LE Mn) (constant 1965/66)	507	433	343	357	357	337	331
Productivity TGVP/Reg. worker (in LE) (constant terms)	2,372	2,210	1,712	1,,791	1804	1,733	1,721

Source: TIHC. CAPMAS provided data for the CPI (urban) and Wholesale Price Index, as follows:

CPI (urban) (1986/87 = 100)	89.8	107.4	126.4	153.3	179.0	214.3	243.5
Wholesale price index (yarn, textiles, garments) (1965/66 = 100)	354.6	443.0	644.6	783.7	983.[illegible]	82.1	1370.4

Two important factors deserve emphasis in assessing the true performance of the industry over the past few years: (1) impact of inflation and (2) labor productivity.

The Holding Companies' data are recorded in current terms. However, with inflation running at more than 20 percent per year for most of the 1980s, current data blur the true performance of the public sector. When converted to constant terms, all indicators show a dramatic deterioration in industry performance in the recent past. From FY 1986 to FY 1992, real wages declined by 32 percent, the total wage bill by 41 percent, and the TGVP by 35 percent. Productivity per regular worker fell by as much as 27 percent (TGVP/regular worker) (Exhibit I-J). However production is defined, the declining trend is evident.

Data on TNVP estimated for 1990-91 and 1991-92 for the 25 companies provide more accurate measures of labor productivity in the public sector than the time series in Exhibit I-J. These data also allow rough estimates of the total net value added (TNVA). These are shown in Exhibit I-K, where the poor performance of the industry is confirmed by the decline from 1990-91 to 1991-92 in current and constant terms of TNVA per regular worker. Another measure of productivity of the public sector companies is provided by the extremely low ratio of TNVP to the total wage bill (TWB). The value of 1.42 in 1991-92 confirms the trend indicated above on the basis of a longer time series. This means that, on average, 1 unit of wage produced only 1.42 units of value added. For the 25 companies, the ratios ranged for 1991-92 from 2.32 to 0.43; some companies with the worst ratios have been hurt by escalating interest costs. The ratio was less than i for six companies, meaning that their total wage bill was higher than their total value added.

Exhibit I-K
Indicators of Productivity in the Public Sector

	1990/91	1991/92
Current terms data		
TNVP/reg. worker (in LE)	16,140	18,684
TNVA/reg. worker (in LE)	5,376	5,034
Constant terms data*		
TNVP/reg. worker (in LE)	1,365	1,363
TNVA/reg. worker (in LE)	455	367
Ratios		
TNVP/TWB	4.77	5.27
TNVA/TWB	1.59	1.42

Source: TiHC.

* Wholesale Price Index for yarn textiles, and garments: 1965/66 = 100.

E2. Private Sector Companies

No official data exist on levels of wages and productivity in the private sector, so information was obtained through interviews with private entrepreneurs. Exhibit I-L presents fragmentary data collected from four private sector firms. As they are not based on detailed examination of company records, they are rough estimates, not necessarily reliable or consistent. Nor is the information representative, since the sample is too small and the activities vary from firm to firm. Moreover, comparison with public sector companies is highly risky, because of the difference in the composition of output. Nevertheless, these data provide some indication of employment conditions and productivity levels in the private sector.

34

Exhibit I-L
Wages and Productivity for Selected Private Firms
(1992-93 prices)

	Firm (1)	Firm (2)	Firm (3)	Firm (4)
Employment	1,200	840	2,200	1,200
Average annual wage (in LE)	2,160	2,381	1,980	2,083
Approx. value of production (APV) (LE Mn)	27	14	10	25
APV/employment (in LE)	22,500	16,667	4,545	20,833

Source: Interviews conducted in April/May 1993. The following should be noted in interpreting these data:

- One firm produces mostly high value products (made from Egyptian cotton yarn blended with polyester); they are exported to EC markets and sold on the domestic market through several outlets in major Egyptian cities. Two firms produce low-scale products and export virtually all their output to the US market. The forth firm produces only terry products for export.
- While firms (1), (2), and (4) work at full capacity, firm (3) works currently at 50 percent of capacity, which probably explains its low APV/employment ratio.
- It is not entirely certain whether wage data always include social security, amounting to 40 percent of basic wage (26 percent employer/14 percent employee); presumably, they do because private entrepreneurs tend to provide data on the basis of their total wage bill (usually around 10 percent of total costs) divided by the labor force. It is noteworthy that the average annual wage estimates for the private firms are significantly below those estimated for the public sector firms.

Unlike the large public sector companies, private firms concentrate heavily on downstream activities, which are more labor intensive. This was the case of the four firms visited. The following illustrates the difficulty of comparing the two sectors: while the value of production per regular worker was LE 17,455 (applying the discount factor of 26 percent to the "gross" value of production referred to above) in current prices in the public sector in 1991-92 (i.e., more or less at the same level, on average, as that reported by the private firms), the ratio of total value of production to total wage bill was 5.0 (also discounted) in the public sector, compared with a ratio ranging from 10 to 2.3 for the four private sector firms. In one case, the private owner indicated an actual ratio of more than 18 in 1992, probably for a specific activity and product. A meaningful assessment of productivity levels in the public and private sectors would require a comparison of identical or similar product lines.

F. Linkages With Cotton Production and Trading

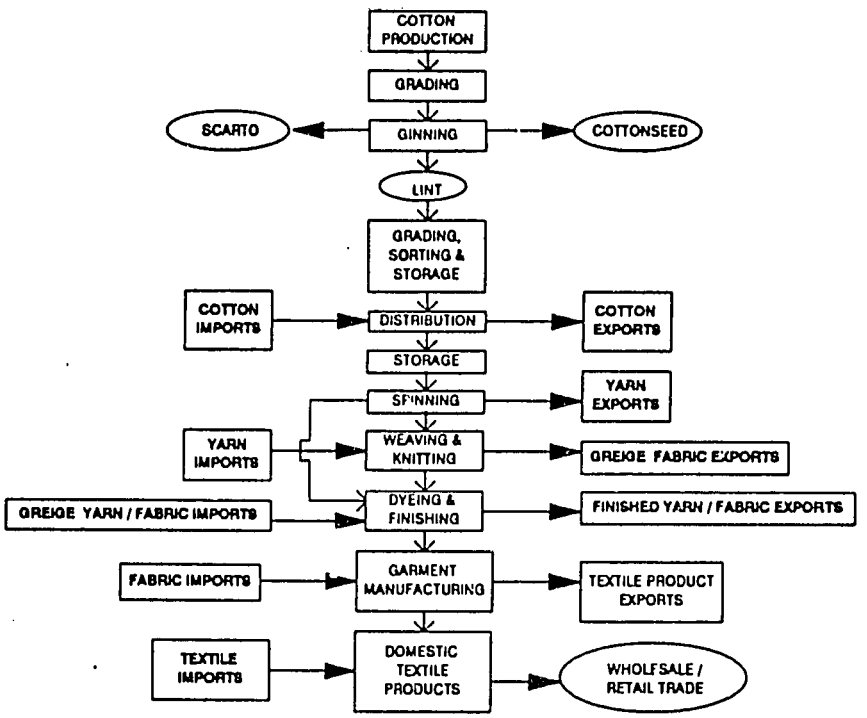
The upstream activities of the cotton textile industry, i.e., cotton production and its related trading, marketing, and export activities, as well as applicable pricing arrangements, have been entirely under the control of the GOE since the land reform that followed the 1952 revolution.

This section does not include details of the cotton subsector, complex in itself, since this assessment is concerned with the textile industry. It is limited to describing the key features of textile industry operations. The consequences of a government-controlled environment in the cotton subsector, specifically the lack of open-market price and trade mechanisms, are covered in Section II.

F1. Institutional Framework

Exhibit I-M provides a flow chart describing the operations of the cotton and cotton textile sector in Egypt, from cotton production to textile manufacturing. The left and right sides of the exhibit depict the areas in which foreign trade occurs or may legally occur. Fabric and textile imports are very limited, authorized on a case-by-case basis.

Exhibit I-M
Cotton Textile Marketing Flows in Egypt



F1a. Cotton Production

The land reform of 1952 severely limited individual land ownership. The majority of farm holdings do not exceed 1-2 feddans (1 feddan = 0.42 hectare), necessitating the current pattern in cotton production. At the production level, each activity or operation is under the aegis and control of a GOE ministry or agency:

- Every year the Ministry of Agriculture and Land Reclamation (MALR) determines areas to be planted, crop rotations, and cotton varieties to be grown for each locality; for instance, in the 1992 planting season (March-November 1992), the total area to be cultivated was set at 900,000 feddans, broken down by specific varieties and geographic areas; the distribution of varieties per area of cultivation was as follows:

  - 193,000 feddans for ELS varieties.
  - 457,000 feddans for Giza 75.
  - 50,000 feddans for Giza 81.
  - 200,000 feddans for Dendera and Giza 80.

- The GOE determines procurement prices to the farmer: they are proposed by MALR and approved by the Higher Policy Committee, composed of representatives of key ministries. Prices are normally announced in December of each year before planting starts in February/March. In past years, when procurement prices were significantly lower than economic prices, the GOE compensated farmers by heavily subsidizing inputs, particularly fertilizers and pesticides. Under the current economic reform program, procurement prices have been gradually raised and subsidies reduced.

- The pest management program is the responsibility of MALR, while the Principal Bank for Development and Agricultural Credit (PBDAC) has until recently had a monopoly over the marketing and distribution of fertilizers.

F1b. Collection, Ginning, Marketing, and Export of Cotton

Since 1963, the GOE has had a monopoly on the collection, ginning, marketing, and export of cotton. Responsibilities are shared among several ministries and entities as follows:

- Following reorganization of the Public Business Sector in accordance with Law 203 of June 1991 (see Section B1 above), the three Holding Companies mentioned above collect, market, and export cotton through some of their Affiliated Companies. Six companies are engaged in collecting, trading, and exporting cotton, and five companies run the ginning operations. There is also a publicly owned cotton press/baling plant in Alexandria.

- Upon collecting cotton from the farmer, the public trading/export companies become the legal owner of the cotton and its by-products until the cotton is exported or sold to the public spinning companies, or until cotton seed is sold to public oil-processing mills. Services such as ginning, classing, and transport are thus performed on a fee basis.

- The Cotton Arbitration and Testing General Organization (CATGO) classes and grades cotton at the designated cooperative collection centers after ginning.

- The Ministry of Economy and Foreign Trade (MEFT), in consultation with the three HCs, allocates cotton lint among the six trading/export companies for export and among the domestic spinning mills for further processing on the basis of crop size, domestic mill requirements, volume of cotton imports, international prices, and the country's need for foreign exchange.

- Cotton export prices are set by MEFT in consultation with the three HCs, particularly the HCITC.

F1c. Comments on Institutional Arrangements and Changes Under Consideration

All decisions affecting cotton production and distribution are made by complex and diverse administrative structures with virtually no reference to market conditions and prices. Such a system, based largely on arbitrary decisions, has inevitably led not only to major distortions in prices, but also to large and inefficient bureaucracies and powerful centers of vested interests.

The large domestic spinning mills depend entirely on this artificial non-market structure for procuring their main input, cotton fiber, in terms of quantities, qualities, and prices. Under such circumstances, they have little or no capacity to feed back to the production sector the demand and price signals coming from the domestic or international textile markets. Nor do they have any incentive to do so. On the other hand, by virtue of their monopolistic power over the industry's downstream activities, the distortions that occur at the spinning stage, the critical stage of the processing chain, are inevitably reflected in the successive segments of the industry.

As part of its economic reform program aimed at moving toward a market-economy and larger private sector role, the GOE is considering more flexible trading and pricing arrangements for the cotton subsector for the 1993-94 marketing season, which will begin in September 1993 (for the crop planted in February/March 1993). Although no GOE announcement had been made at the time of this writing, and decision making still seemed extremely fluid,[4] the authorities are reportedly considering proposals along the following lines:

- Free cotton trade: any party, including the private sector (e.g., dealers), the Law 203 public spinning mills, the so-called Law 230 "Investment Companies," or any other business entity, would be allowed to compete in purchasing cotton from farmers and enter other transactions for ginning, transporting, and selling it. This implies that farmers would be free to sell cotton to anyone they wish, which is illegal under the current legislation.

[4]The situation's fluidity is illustrated by the fact that, as of this writing in May/June 1993, the Government had still not announced the procurement price for cotton for the 1993 planting season (February/March 1993), which should normally have been announced in December 1992.

- Reopen the Alexandria cotton exchange, closed since 1961.

- During a three-year transitional period, starting with the 1993-94 marketing season (i.e., through the 1995-96 season), maintain public purchasing and trading channels presently offered by the six trading/export companies while private channels are developing. The rationale for such a transitional period is the need to offer alternatives to the farmer, especially after the private sector's long absence in the market.

- Although the procurement price to the farmer is to be fully adjusted to its border or economic equivalent for the 1994 planting season, no later than December of each year announce a floor price for lint cotton delivered to the GOE in Alexandria (it is not clear whether this would be only during the transitional period), thus maintaining a GOE guaranteed price.

- Prohibit the private sector from exporting cotton at least through December 1993.

Such proposals, if agreed on and adopted, would require passing a new law by the People's Assembly to abrogate the current legislation prohibiting the sale of cotton other than to the GOE. A bill to that effect has been tabled, but discussion has reportedly been delayed several times. In addition, several ministerial decrees would be needed to implement the new institutional arrangements. It is therefore questionable whether the necessary legislative and administrative steps can be taken in time for the proposed changes to become effective by the end of 1993.

F2. Performance of the Cotton Production Sector

Egypt's cotton production, comprised of the extra-fine ELS and LS varieties, declined substantially over the 1980s, falling from 10.6 million metric kentars in 1980-81 to a low of 5.8 million metric kentars in 1989-90. Production then recovered slightly and was estimated at 7 million metric kentars for the 1992-93 crop (see Annex C). The fall in production was due to a reduction in cultivated areas, accompanied by sharp declines in yield. Both factors resulted mainly from low prices for cotton compared with prices for competing crops, following the lifting of price controls on agricultural commodities in 1986.

Cotton exports fell dramatically during the same period, from 162,000 metric tons in 1980-81 to 16,000 metric tons in 1991-92. They stood at only 2,000 metric tons at end December 1992, under the combined effect of the reduction in production and the unrealistic export price policy of the GOE (see Annex C). The current position of Egypt's cotton industry on the global market and its prospects for the next few years are examined in Section II as they underlie developments in the cotton textile market.

Cotton consumption by domestic mills stands at about 6 million metric kentars (300,000 metric tons) on average per year with, however, a declining share (currently about 80 percent) coming from domestic production. Consumption has been increasingly supplemented by imports from the United States since 1984-85 (see Annex C.)

G. Conclusions

Over the past 30-40 years, the cotton production and textile industries have been largely under public control. Except for the private sector's important presence in the knitting and garment segments of the industry since the mid-1970s, all agricultural, industrial, and commercial activities have been in the hands of public entities and public enterprises.

Over the years, decisions affecting the whole sector have been guided by the priorities of a strong industrial textile sector and by a policy favoring industrial development under a command economy. Industrial development was pursued at the expense of efficiency in cotton production and farmers' welfare and by effectively isolating the industry from international competition. This, in turn, allowed the industry to develop and expand under the protection of subsidization and preferential schemes, including highly subsidized inputs, trade restrictions, preferential exchange rates, and easy access to public credit favoring capital intensive investment and unbridled indebtedness. In addition, relative prices throughout the sector were highly distorted to meet non-economic policy objectives. In such an environment, the management culture of the industry necessarily developed into highly centralized and bureaucratic processes with little room for autonomy and response to market signals.

Observation and analysis of the sector clearly reveal that the above factors have led the sector to be dominated and—so to speak—torn apart by several powerful political and bureaucratic centers, each one prone to protect vested interests that, in the absence of the discipline imposed by the market, have developed in isolation and diverged considerably over the years.

As a result, Egypt's existing textile industry (and the cotton production subsector as well) has evolved in an environment that is no longer compatible with current GOE policies, i.e., moving the country to an open market economy with a larger role for the private sector. The following sections assess the current technical, financial, and economic conditions of the industry, with a view to recommending policy and structural measures to ensure a successful transition to an open market environment.

SECTION II
ECONOMIC EVALUATION

This section evaluates institutional imperatives, the efficiency of price systems, trade restrictions on cotton and textiles, the global reality of cotton/textile supply and demand, and issues of competitiveness and comparative advantage.

A. Institutional Imperatives

Over the past three decades, control of the Egyptian textile industry has become extremely hierarchical. Even low-level decisions are routinely passed up the management channels until they reach the top. Therefore, the "business sense" of a textile manufacturing firm rests with the Chairman and, to the extent that "business issues" are shared, with a small handful of top managers. Based on interviews with owners/managers of private sector firms, no significant sharing of management takes place in the private sector, either. However, since the top management of public sector firms is drawn almost exclusively from lifetime employees of the public sector, it is handicapped by a lack of training or experience in open-market competition.

The same generalization applies to the heads of government Ministries and Holding Companies that have jurisdiction over the textile firms. As a result, almost no institutional affinity exists for embracing the challenges of the open market. Rather, what exists is a desire to fine-tune the "rules" to better accommodate the more overwhelming imperatives of global competition and to eliminate regulatory burdens imposed by competing public sector entities, without changing the structure and procedures of existing textile firms.

Within this hierarchical bias is a strong predisposition to conclude that any regulatory power worth instituting must include a monopoly over production and sale activities. Thus, having authority, for example, to guarantee the integrity of weights and measures is not sufficient; one must have the exclusive authority to weigh and measure. It is not sufficient to assist public sector textile firms in discovering international prices; one must have authority to set minimum export prices for textile products. Nor is it sufficient to provide regulatory oversight of cotton exports; one must have the sole authority to export. Regulation is seen not as a necessary burden, but as an end in itself. All too often, such exclusive authority provides leverage to extract pay-offs, to prevent competition, or to refuse timely service to those trying to conduct business through the marketing system. Such preemptive regulatory power is universally destructive to liberal, open markets. After all, liberalization and deregulation are synonymous.

Discussions with owners of private sector firms revealed a general belief that the greatest barrier to both liberalization and privatization is that commitment to these changes has never been "internalized" by the responsible agencies of the Egyptian government.

41

Therefore, private sector participants would not believe anything had changed until a firm timetable was established and major deadlines for change were met.

This leads to one of the obviously necessary conditions, revealed in numerous ways by numerous sources, that must be met if the transition to liberalization and privatization is to be successful; namely, that the rules by which market participants function must be announced well in advance of implementation. They must be progressive and time-specific, and protected from vested interests that would obstruct timely, market-wide implementation.

A1. Ministry Level

Referring back to Exhibit I-A, it is helpful to review how the ministries have controlled the major functions of the cotton/textile marketing system. All major aspects of cotton production, along with the critical phytosanitary blockage of cotton imports, are under the jurisdiction of the Ministry of Agriculture and Land Reclamation (MALR). The grading of both seed cotton and lint cotton is under the auspices of the Cotton Arbitration and Testing General Organization (CATGO).

Before June 19, 1991, the Cotton Trade Corporation (CTC) within the Ministry of Economy and Foreign Trade (MEFT) held sway over ginning, sorting, storage, domestic sales, and exports of lint cotton. While the MEFT made deals for all imported cotton, the Textile Industries Corporation (TIC) within the Ministry of Industry controlled its distribution to public sector spinning mills. The TIC also had jurisdiction over spinning, weaving, knitting, finishing, and apparel manufacturing in the public sector. Due to the virtual monopoly on spinning in the public sector, the TIC also had monopoly control over the supply of domestic yarns to public and private spinning, knitting, and weaving firms.

Quotas and tariffs for textile imports and exports are overseen by Egyptian Customs. In domestic wholesale and retail trade in textiles, a large public sector presence was managed exclusively by the Corporation for Consumer Goods (CCG) before June 19, 1991.

By Executive Order on June 19, 1991, the TIC, the CTC, and the CCG were re-designated as Holding Companies; i.e., the Textile Industries Holding Company (TIHC), the Holding Company for International Trade and Cotton (HCITC), and the Holding Company for Consumer Goods (HCCG). Then on February 14, 1993, another order divided up the public sector ginning, trading, manufacturing, and retailing firms among the three Holding Companies. Therefore, a single holding company no longer had monopoly control over any category of public sector companies. Also significant was removing these Holding Companies from the control of their respective ministries and placing them under the jurisdiction of the Ministry of Public Enterprises. In the aftermath, the HCCG was again renamed to become the Holding Company for Textile Manufacturing and Trade (HCTMT).

The Chairmen of the three Holding Companies have not changed since 1992 and, because they had substantial experience in the functional area of their Holding Companies, are uncertain how to proceed with the unfamiliar companies now under their jurisdiction. Furthermore, it is unclear to them how intrusive they should be into the management

decisions of their various companies. In the absence of explicit guidance, their control over management has continued to be almost total. Now the ground rules for the autonomy of firm managers need to be made explicit because, without clarification, the Holding Companies are likely to continue micro-managing the old, familiar companies, and the others will try to mimic the operating procedures dictated by their previous Holding Company.

A2. Sub-ministry Level

Controls exerted from within the Ministry/Holding Company structure are pervasive. It was not possible to document some important processes and procedures; nevertheless, they are often critical determinants of industry. In some cases, rules are apparently made up as the year progresses. Examples include the prices that mills are charged for imported cotton assigned to them (though the prices charged appear to be above the total costs of importing in 1992-93) and the prices charged for domestic cotton (which appear to be available only as an annual average cost, after the accounting records are closed at the end of the fiscal year). In other cases, the procedures are arbitrary, such as the practice in recent years of returning to cotton farmers only one Egyptian pound per kentar of cotton lint in payment for the approximately 1.6 kentars of cottonseed associated with the lint.

Minimum export prices are set for yarn and woven fabrics (but not for knitted fabrics or ready-made products) by the Cotton Textile Consolidation Fund (CTCF). Price setting takes place in an overtly collusive fashion by a committee appointed by the Prime Minister and made up of representatives from trading, industry, and consumers. Participants include chairmen from both public and private textile manufacturing firms.

B. Price System

It is an axiom of free-market economies that the efficiency of a marketing system is a direct function of the efficiency of its price signals. As goods and services move forward through the marketing channels, price signals simultaneously move backward. They provide continuous, current feedback and guidance to the producers of goods and services. The proper role of government is to avoid regulations that interfere with these signals and to emphasize programs that improve their efficiency, e.g., unbiased standards for weights, measures, and quality, and preventing monopolies from interfering with free pricing. Unfortunately, much of the price system for cotton and textiles in Egypt is non-functional. Improved price signals are a necessary part of a "liberalization spiral": improved price signals will foster progress in liberalization, while progress in liberalization will foster further improvements in price signals.

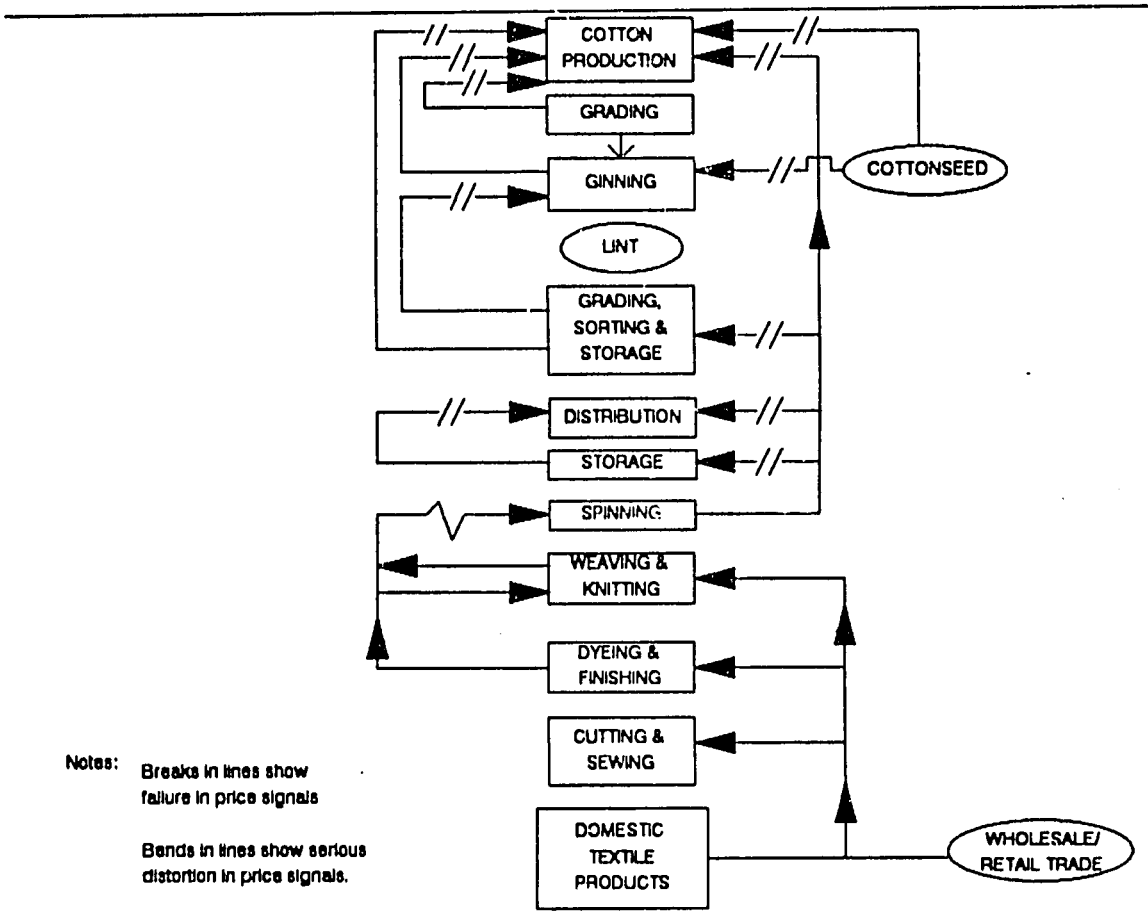
B1. Domestic

Exhibit II-A takes the major functional junctures of domestic marketing channels introduced in Exhibit I-A and shows the major flows of price signals from the wholesale/retail sector of textiles back to the cotton production sector. A double bend in the directional line showing price information flows indicates serious distortion of the signals

needed to guide productive activity; a full break in the line indicates virtual failure in the signals.

Price signals between the weaving and knitting sector and the consumer sector in Egypt are able to function fairly well. Thus, the wholesale/retail trade pays relative prices based on the relative demand for alternative textile products. Cutters and sewers, dyers and finishers, and weavers and knitters are generally paid prices that reflect market demand. This is shown by the uninterrupted lines in the lower right side of Exhibit II-A. A second major loop of textile price information connects dyeing and finishing, weaving and knitting, and spinning; however, the signals are seriously distorted before they reach the spinning sector. Manifestations of this distortion include problems with yarns and fabrics that dye unevenly, yarns that have uneven diameters and undesirable "hand," and weak yarns.

Exhibit II-A
Flows of Price Signals Through Textile Industry



The ineffective price signals at the spinning level are perpetuated by limiting domestic yarn production to public sector firms. This results in unreliable Egyptian yarn supplies to private sector weavers and knitters unless yarn supplies are in surplus, while the preferential pass-through to public sector operations is done outside the price system. It is ultimately a great handicap to the spinners that they cannot pay a rational price that would give them a

choice of raw cotton for spinning. They could still do much to improve yarn quality through sorting and blending the inventories of cotton they are assigned, but they have never acquired expertise in such tasks.

The spinning sector is the only part of the textile industry that must deal with raw cotton; therefore, price signals should flow from the spinning sector back through all cotton marketing functions and eventually into the production sector. As shown in Exhibit II-A, however, the price system is almost completely non-functional throughout this part of the industry.

To understand why there are no meaningful price signals upstream of the spinning sector, one must first understand generally how cotton prices have been determined. A minimum annual export price has been set and other prices loosely derived from it by using dictated margins. Thus, to get a domestic textile mill price, F.O.B. costs are subtracted from the export price. To get a farm-level price, a margin for ginning and all other cotton handling is subtracted from the mill price. As a result, for a given type and grade of cotton, price signals are locked out of all functional junctures in the marketing system. Further discussion of these junctures will clarify this.

- **Storage.** There is a remarkable lack of storage facilities and techniques in Egypt, whether among textile mills or trading companies. Covered storage is used almost only for small quantities of seed cotton on farms. Before nationalizing the industry, enclosed or covered storage facilities were common, but have since disappeared. Put simply, without incentives for adequate storage, no one is willing to pay for it.

- **Ginning and distribution.** These functions have been the exclusive prerogative of the six public sector trading companies. Until now, domestic sales have been almost entirely to what is now the TIHC, which in turn has allocated the stocks among the public sector spinning firms. Market prices do not intervene in either of these processes. Moreover, the domain of the six trading companies extends back through ginning, with the margins taken by these companies dictated at every stage. Thus, the trading companies have had little contact with price information and felt little need for it. Since no price-based rewards or penalties are associated with performance in ginning, sorting, storage, and distribution, these functions have been neglected over time.

- **Grading.** Grading functions for cotton in Egypt are straightforward. CATGO is legally empowered to provide cotton classing services in a disinterested, unbiased fashion. Its structure is similar to those used in the United States and other countries, which have generally found compelling reasons for designating independent agencies to set and oversee quality standards and their application in grading.

CATGO uses grading techniques that rely on subjective measurements by human classers; thus, they are increasingly inadequate for the global textile industry. As the ITMF

Spinners Committee stated in 1987, "The cotton classification system based on staple and grade is outdated as it does not reflect truly the spinning value of cotton. The present system of premiums and penalties paid for variations in grade, staple, and micronaire are out of touch with the industrial realities of today. The classification system requires changing in order to allow for the creation of incentives needed to improve cotton quality; e.g., premiums to producers/ginners for reducing short fibre content." This indictment was aimed primarily at the United States, but would apply with equal force to the Egyptian system.

Nevertheless, CATGO is trying to follow the international trend toward enhancing objective measurements of fiber properties, such as use of high volume instrumentation. It has also recently instituted a fee system for its services (also an international trend), and no longer requires a special allocation from the government to operate.

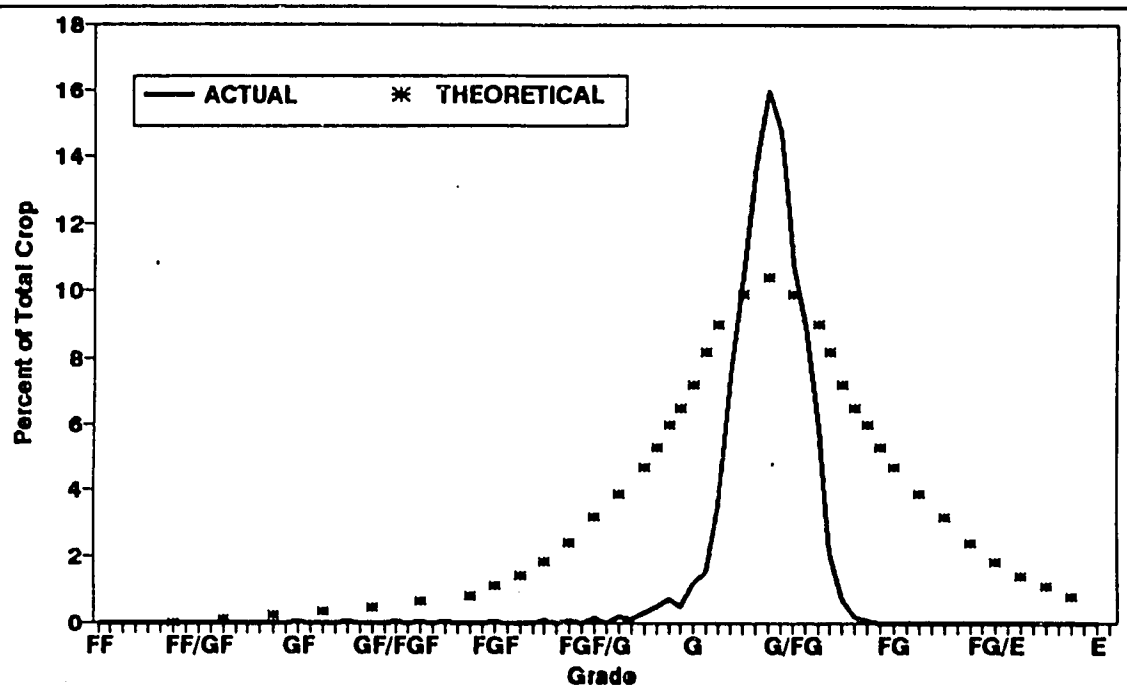
The grades used for Egyptian cotton are from six major classes, the highest being "extra," followed by "fully good," "good," "fully good/fair," "good/fair," and "fully fair." Between each of these major grade classifications are 16 subclasses. In all, there are 81 distinct grades for Egyptian cotton. These are more classes than either man or machine can adequately differentiate, which makes the Egyptian system comparable to most other cotton classing systems in the world.

CATGO typically classes cotton twice, first as seed cotton (before ginning) and then as lint cotton (after ginning). Classification of seed cotton is notoriously inaccurate, but is nevertheless used to make an advance payment to farmers. The class of lint cotton is used to make the final payment. Thus, the grading system seems to provide at least a basis for a meaningful differentiation by prices, thereby performing the time-honored function of directing cotton farmers toward production of high quality fibers.

Unfortunately, the grading system is being undermined by procedures that group classification results within a narrow range. The inaccurate nature of seed cotton classification assures that results will be grouped around a perceived central tendency for the crop. Indeed, evidence suggests that only a dozen or so of the 81 possible grade categories are actually used at any given location for seed cotton classification. This is problematic, especially with about 90 percent of the total price advanced to the farmer on the basis of this classification. The problem would not be critical though, if errors really were rectified in the subsequent lint cotton classification. At ginning, however, the cotton from several producers is mixed into a large "lot" of cotton, which receives the second classification. Therefore, the seed cotton classification is the only classification made on each farmer's cotton while it can be identified as his. Mixing cotton before lint classification must inevitably mask significant variations in quality, again forcing results toward an "average."

The solid line in Exhibit II-B shows classification results of Egyptian cotton for the 1992-93 crop year. The grades are all closely grouped around the "good/fully good" grade, with over 90 percent of cotton falling in nine contiguous categories. This is not a normal distribution for classification results; a typical distribution curve for unbiased classification results is shaped more like the line of asterisks. The actual 1992-93 results are similar to those for the previous two crops, which appear in Annex C of this report.

Exhibit II-B
Distribution of Egyptian Cotton Grades
1992-93 Crop Year



These data verify that Egyptian cotton is priced as if it were almost all the same quality. Price signals about the differing market values of differing qualities are almost obliterated. Producers delivering lower quality cotton are receiving approximately the same price as those delivering higher quality, and potential buyers willing to pay more for the genuinely superior qualities are unable to do so. Therefore, the critically important price incentive of striving for higher quality is lost.

More important from the viewpoint of this study, the spinning industry is denied the chance to interact in the market to select qualities of domestic cotton most appropriate for its operations. While the mills have limited experience in procurement, they will have to learn if they are to compete effectively in the years ahead.

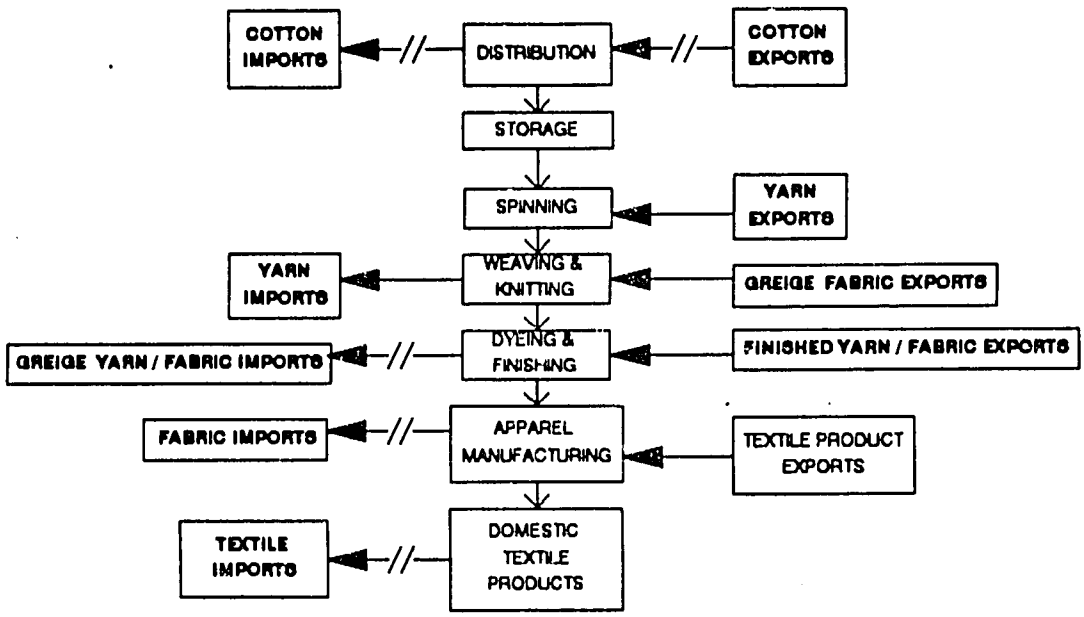
B2. International

Exhibit II-C focuses on the major functional junctures between domestic and international marketing channels, showing by directional lines the major flows of price signals. As before, breaks in the lines indicate critical failures in the price signals.

The price signals from textile export markets to Egyptian textile manufacturers generally function quite well—much to the discomfort of the industry during the current global textile recession. As anyone trying to export textile products knows, prices are based on product specifications. Until the collapse of the USSR and the Eastern Block, significant amounts of Egyptian yarns and fabrics were being exported to these regions outside the

discipline of open markets. These exports have come to a painful halt, however, and Egypt's textile industry now faces across-the-board price competition in global markets.

Exhibit II-C
Flows of Price Signals Between Egyptian and International Textile Industries



Notes: Breaks in lines show failure in price signals.

In contrast with the export markets, price signals from Egypt's textile markets to those who would supply imports are non-functional except for yarns. Imports of cotton textile fabrics and products are currently prohibited; exceptions either require a special exemption or fall outside the law. Yarn imports are allowed, however, with a 30 percent tariff but with no quota restrictions. While the public sector firms are institutionally resistant to using imported yarns, private sector firms readily use them if they are more cost-effective. Yarn imports are typically seen by private sector weavers as their only safeguard against the tendency toward unreliable quantities and qualities of yarns from Egypt's public sector spinners.

The failure of the price system is greater at the fiber level than at the textile levels, and it is at the fiber level that the spinning sector is denied the opportunity to adjust to market forces. As previously stated, a minimum annual export price is set for cotton. In recent years, the minimum levels have been well above market-clearing levels, and they are likely to remain too high throughout the 1993-94 marketing year. A predictable result will be either the forced use of Egyptian cotton by the domestic spinning industry (as happened in 1992-93) or a further build-up of unsold cotton stocks.

Egyptian policy-makers have been encouraged to believe that Egypt's cottons are so "special" that they can persistently manipulate world prices for extra long staple (ELS) and long staple (LS) cottons. This dangerous delusion is more thoroughly examined in Section D below.

Cotton imports are another juncture where the damage from preempting the price system cannot be overemphasized. Under the guise of phytosanitary concerns, the spinning sector is denied its most fundamental condition for successful liberalization; namely, the ability to match its fiber requirements with its product mix in a cost-effective way. Since over half of total costs and over two-thirds of the variable costs for spinning are attributable to fibers, the freedom to manage this raw material on an equal footing with the rest of the global industry is necessary for liberalization.

C. Trade Restrictions

Restrictions on trade provide the foundation for almost all other restrictions that governments place on economic freedom. Thus, if trade restrictions are removed, businesses will eventually find ways to "neutralize" distortions introduced by price controls, quantity and quality controls, etc. It follows that some of the first steps in liberalization must be toward trade liberalization; then private sector participants will at least know that they have access to alternative sources of supplies and market outlets. Since liberalized trade predisposes most other liberalizations in an economy, tactics to delay the removal of trade restrictions are the surest signal that the government will not relinquish control of economic activity.

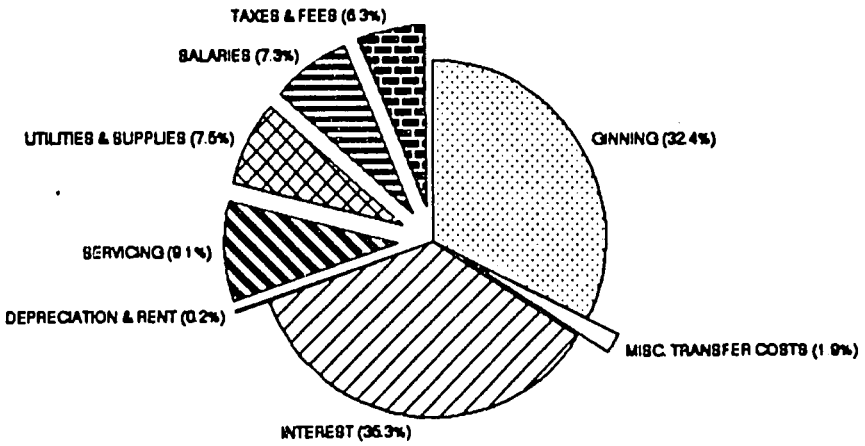
C1. Cotton

All trade channels for raw cotton in Egypt, whether domestic or international, are preempted by government control. As previously noted, five cotton ginning companies and six cotton trading companies have a monopoly on market channels from before ginning until the fiber is sold. The cotton becomes the property of the trading companies even before it is ginned. They buy the cotton only through local branches of the Agricultural Cooperatives Society for Producing and Marketing Field Crops, which receive seed cotton at designated "collection centers." The term "cooperatives" is a misnomer; they are in fact monopolistic government agencies devoid of any ownership or control by farmers.

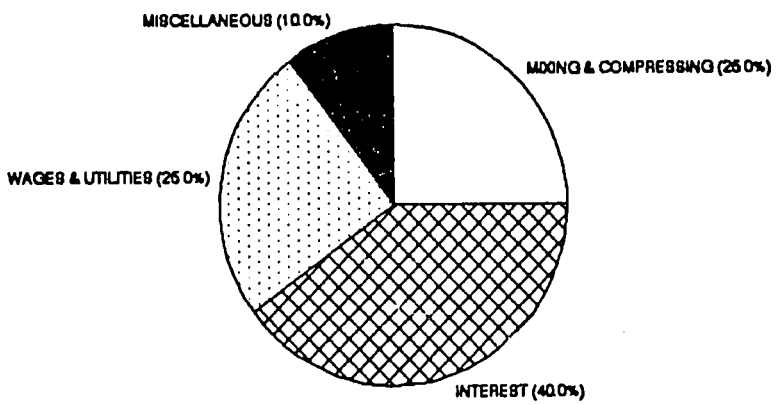
Both the gins and the trading companies receive guaranteed margins for the functions they perform. Therefore, they have not been subjected to market discipline over the years. For the 1992-93 marketing year, marketing expenses are expected to run at least LE 40 per kentar for domestic sales and an additional LE 60 per kentar for export sales. This implies that marketing charges will account for about 13 percent of the domestic price of cotton lint and about 25 percent of the export price—both of which are high. HCITC estimates of percentage shares of the margins taken by the various functions are shown in Exhibit II-D. A startling result is that interest is the largest component of both domestic and export marketing costs; 35 percent and 40 percent, respectively.

Exhibit II-D. Breakdown of Marketing Expenses for Egypt's Cotton Trading Companies

FOR DOMESTIC SALES



ADDITIONAL FOR EXPORT SALES



Only the trading companies can export cotton, and only at or above a predetermined price. The export cotton is specially re-sorted, re-mixed, re-cleaned, and re-compressed. It is standard operating procedure to provide the best quality to export markets and expect the domestic spinning mills to use the rest. Exports have been small this season, so domestic mills have a better chance to get higher quality cotton; however, no special attention is given to cotton delivered domestically.

After cotton is transferred from control of a trading company to a textile holding company, the trading company has no other responsibilities. Even the cost of transportation to mills is paid by the mills, a burden made heavier for those outside the Alexandria area, because most cotton comes to Alexandria and is re-shipped to domestic mills. Furthermore, a mill manager has no right to either inspect or refuse the cotton delivered to his mill—a situation that would be intolerable to any world-class textile industry.

The trading companies also have exclusive authority to import cotton. Again, mills that receive imported cotton have no right of inspection or refusal, nor do they have a choice in the price they pay for it. However, MALR exercises ultimate control over imports using its phytosanitary quarantines authority. Cotton can be imported only from a growing area that is certified to be free of the boll weevil, and then only if the lint bales are fumigated at the port of origin and again at the Egyptian port. These expensive, time-consuming measures should be sufficient against danger of pest infestation; nevertheless, no imported cotton may be delivered to spinning mills located in Egypt's designated cotton growing areas. This means about 50 percent of Egypt's spinning capacity is not allowed access to imported cotton.

As a result of this phytosanitary blockage of imports, only cotton from California and Arizona in the United States has been allowed into Egypt. This is some of the more expensive, longer staple Upland cotton produced in the United States. This cotton is used in the United States and elsewhere to make yarns and fabrics that are nearly as fine as those made from Egypt's extra-fine cottons. Certainly it is not appropriate for making coarse-count yarns.

The GOE has recently proposed a new law, now being presented to Parliament, which deals with cotton trade issues. The apparent intent of the proposed law is to allow private cotton traders, beginning in the 1993-94 marketing year, to buy and sell lint cotton, cottonseed, and scarto in the local market.

Transactions must take place, however, according to specifications yet to be determined in an "implementation statute." Moreover, the proposed law dictates procedures that violate basic open-market criteria and cannot be established before the start of the 1993-94 season. For example:

- MEFT is allowed to take three months after formally issing the law before issuing the implementation statute.

- The General Committee for Organizing Local Cotton Trade (GCOLCT) is to be appointed by MEFT. It is to consist of 20 core members, with only one from the Minister's office and the others from different sectors of the cotton industry. One member is to come from the Cotton Spot Market Exchange, for which enabling legislation has not yet been issued.

- A government representative, also appointed by MEFT, is to be the twenty-first member of the GCOLCT. He is not a voting member, yet he is to have veto power over committee decisions.

- Before becoming active, MEFT must also establish (1) a subgroup of the GCOLCT to examine applications from prospective cotton traders, (2) a "dispute resolution committee," and (3) a "reprimanding council."

After activating the GCOLCT, what appears to be a four- to six-month application process is required for an individual to be certified as a qualified cotton trader—perhaps in time to participate in marketing the 1994-95 crop. It seems obvious that private sector interests need more encouragement than this.

C2. Textiles

Trade in textiles is highly regulated all over the world. In Egypt, however, trade channels for textiles are less distorted by government regulations than for cotton. As previously mentioned, minimum export prices of yarn and fabric are set by the CTCF for both public and private sector sales; while these may interfere seriously with export sales in times of textile recession, ad hoc adjustments apparently can be made in these prices. Prices for export of knitted fabrics and ready-made woven products by the private sector are not regulated, and they are not regulated at all for textile products. Quantity restrictions do not exist on textiles exports.

Not surprisingly, restrictions are much greater on textile imports than exports. With rare exceptions, imports of cotton fabrics and ready-made textile products are prohibited. Even when exceptions to import prohibitions are granted, tariffs are generally 80 to 110 percent.

For cotton yarns, however, there are no quantity quotas on imports, and the tariff is a flat 30 percent. Even with this substantial tariff and an additional 10 percent sales tax, yarn imports clearly exert some painful discipline on Egyptian yarn prices, while enabling the private sector weaving companies to adjust to global price competition for fabrics during the current textile recession. With any selective liberalization in trade such as this, the distortion is shifted to another point in the market system. In this case, it is shifted to the yarn spinning sector, which is still denied any meaningful alternative for meeting global competition. If Egypt had significant private sector involvement in spinning, it would certainly be clamoring for freedom to import appropriate raw materials to compete effectively. Conversely, there will be not significant private sector investment in the Egyptian spinning sector until the freedom exists to import appropriate cotton.

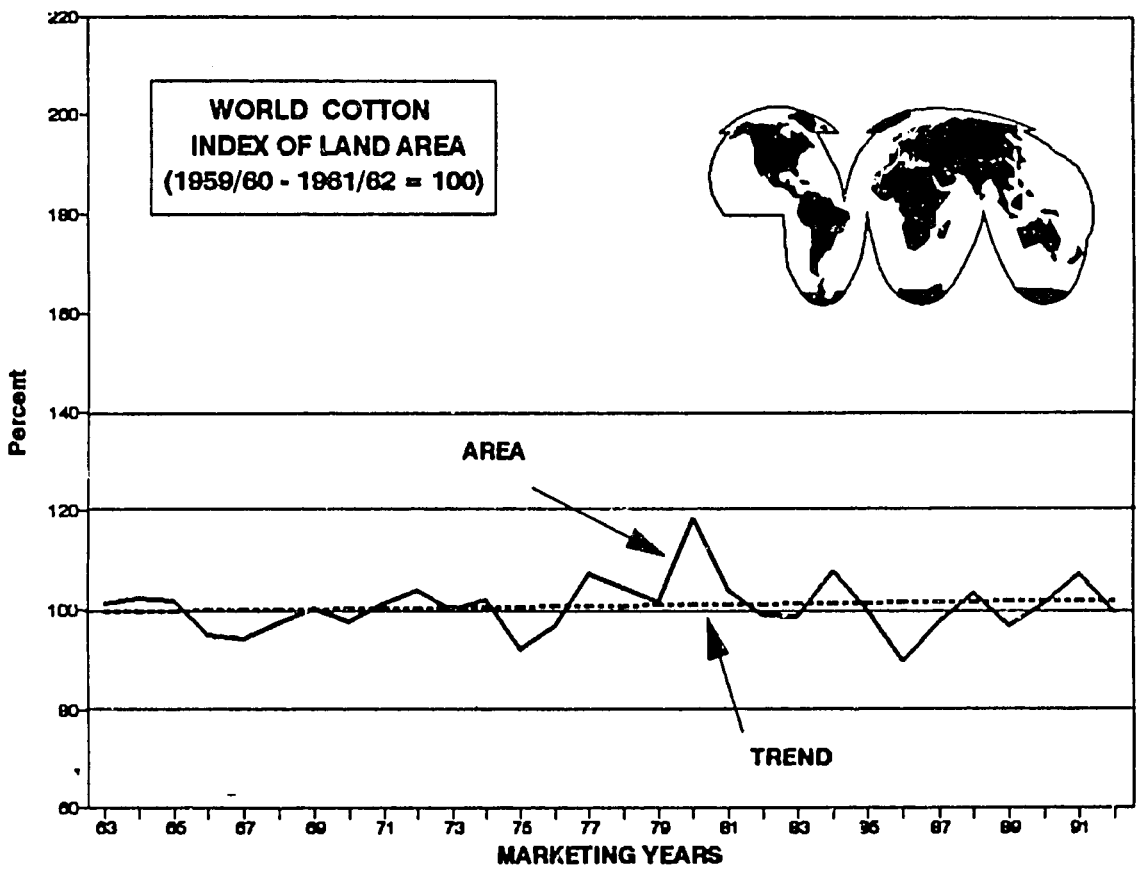
D. Supply/Demand Situation

Understanding is lacking about past, present, and future market realities faced by the cotton/textile complex in Egypt. As a result, cause-and-effect relationships have been misinterpreted and policies have been based on erroneous assumptions. The textile industry in general and the spinning sector in particular are being rapidly undermined by rigid policies related to production and trade in both cotton and textiles.

D1. Cotton

The long-term, global supply/demand picture for cotton should be reviewed as a basis for analyzing the current situation. Using indexes based on the marketing years 1959-60 through 1961-62, some important secular trends may be observed. In the 30 years since 1963-64, total land devoted to cotton production has not changed significantly (Exhibit II-E). Notable fluctuations in land area can be explained by episodic occurrences such as war or in specific regions of the world; e.g., the United States, South America, China, Pakistan, India, and Australia.

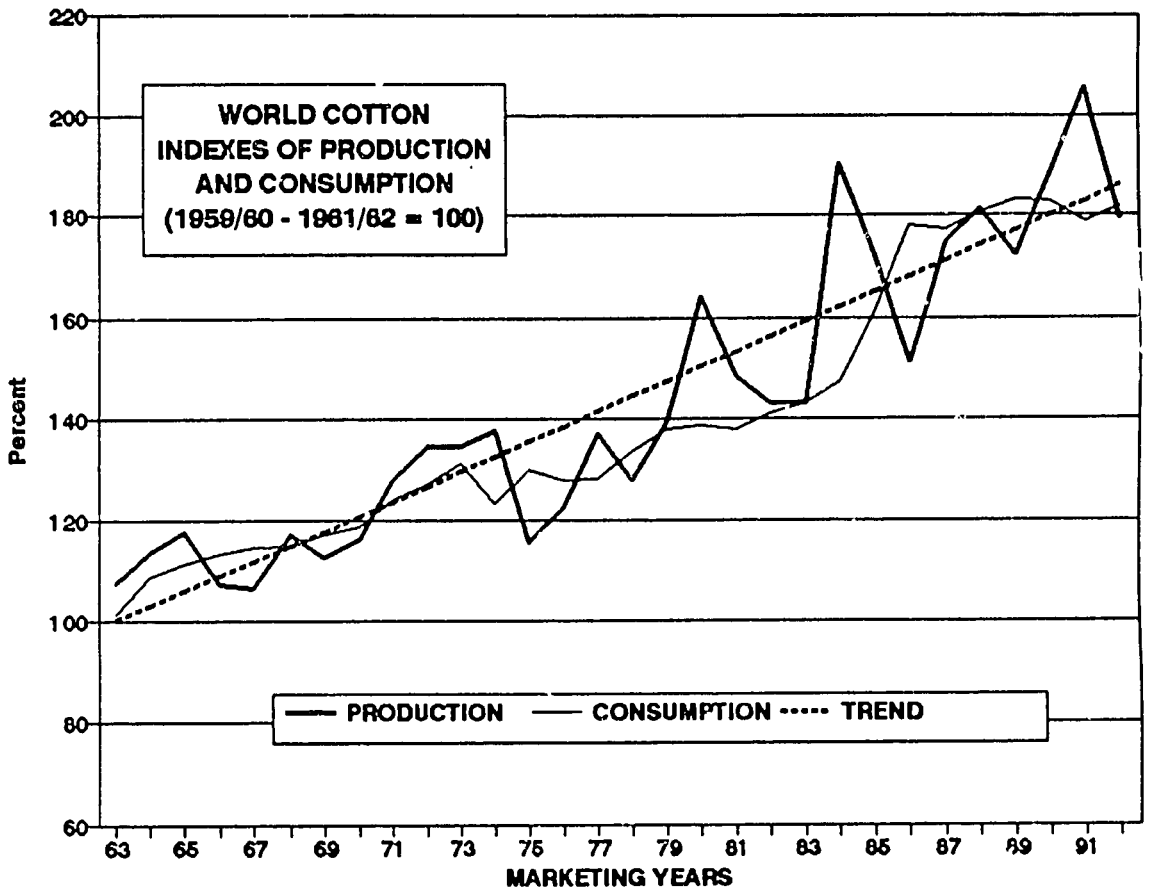
Exhibit II-E



In contrast to land area, global cotton production has almost doubled during the 30-year period due to productivity gains (Exhibit II-F). Indeed, the last five years have been a period of notable productivity gains. Increasing productivity is one of the imperatives that any cotton producing country must satisfy to be a long-term force in world cotton supplies.

Inevitably, world cotton consumption has increased along the same long-term trend line as production. After all, if cotton is not produced, it cannot be consumed (Exhibit II-F). Years when production has "spiked" above the long-term trend are correlated with periods of low (high) prices. Likewise, years when consumption departs significantly from the trend (due to recessions, wars, etc.) are correlated with large price changes. One of the great long-term dilemmas shaping cotton policies in producing countries is that large price movements can occur with relatively small imbalances between production and consumption.

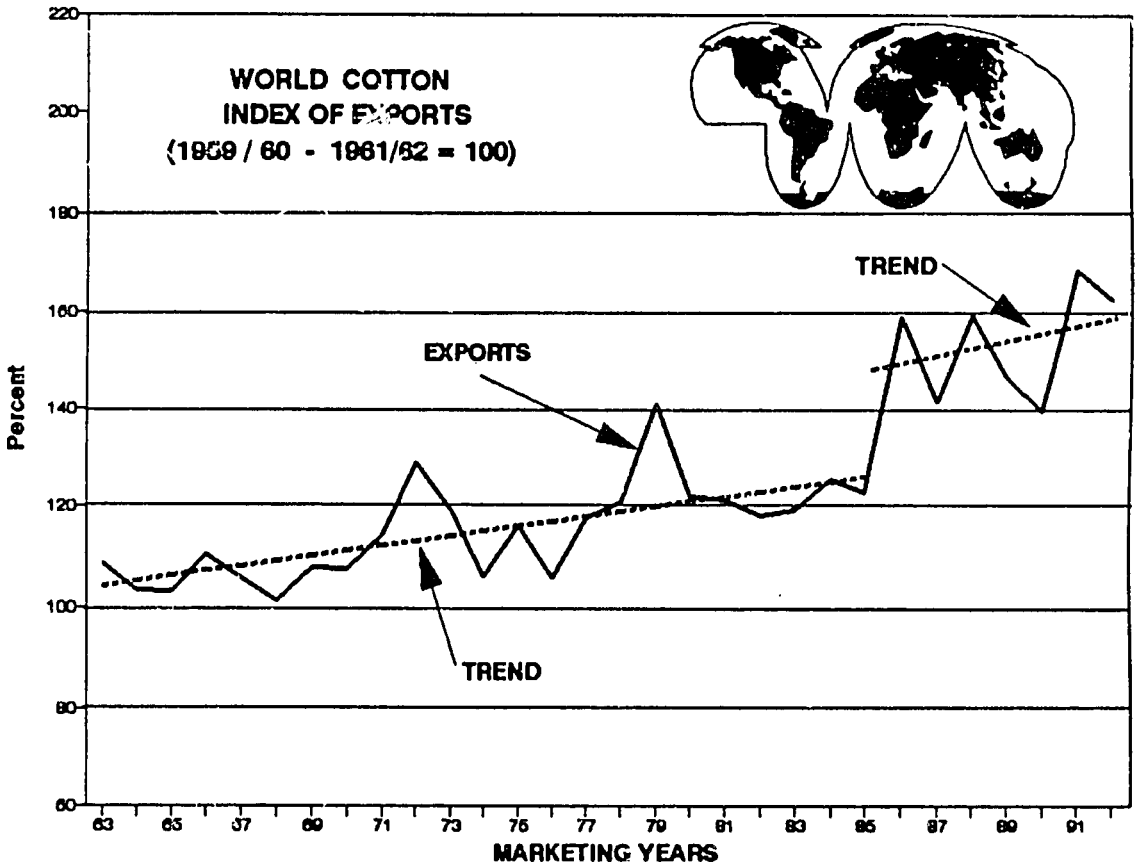
Exhibit II-F



World cotton trade behavior also deserves notice (Exhibit II-G). World exports increased only about 1 percent per year during the first 22 years of the period. After a major policy change by the United States, exports leaped to a new level in 1986-87, but have

since resumed the same trend as before. This is graphic evidence of how the market-oriented policy of a major cotton producing country can shift the level of world trade. Similar behavior by other countries would increase the slope of the trend line. In the case of unimpeded trade, the long-term trend in world exports would be expected to have about the same slope as the long-term trend in world production. The implications of cotton trade behavior will become clearer in later discussions of textile supply and demand.

Exhibit II-G



For many years, Egypt has produced only long staple (LS) and extra-long staple (ELS) cotton varieties, often referred to as "extra-fine cotton" varieties. Since 1984, world production of extra-fine cotton has averaged just over 1 million metric tons annually, or about 5 percent of all world cotton production. Thus, extra-fine cotton is just a remnant of the total cotton market. As a result, its supply/demand balance can change rapidly.

In recent years, only five countries have accounted for about 95 percent of the world's extra-fine cotton production (see data in Annex C). Egypt is the largest, followed in descending order by the CIS, India, the United States, and China. Exhibit II-H on page 16 summarizes the stocks, production, consumption, and exports of extra-fine cotton for Egypt, the United States, and other producing countries. Exhibit II-I on page 17 displays the results in terms of shares among the world's producing countries. Data cover the 1984-85 through 1992-93 marketing years. An inspection of these data reveals that:

Exhibit II-H
Extra-Fine Cotton: Supply/Demand Data for Processing Countries

Thousand Metric Tons

	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92e	1992-93p
Beginning Stocks	116.9	169.4	147.4	231.9	231.9	228.6	241.3	260.6	273
Egypt, ELS	21.3	15.7	13.5	28.8	23.8	18.8	14.2	20.6	26
Egypt, LS	2.8	1.5	15.5	43.7	39.4	21.2	11.5	11.2	8
Egypt, Total	24.1	17.2	29.0	72.5	63.2	40.0	25.7	31.8	34
U.S.	17.9	17.0	12.8	18.3	11.5	14.4	44.0	17.9	26
Others	74.9	135.2	105.6	141.1	157.2	174.2	171.6	210.9	213
Production	1,022.0	977.6	1,027.9	1,101.9	1,078.7	1,064.5	987.7	930.1	970
Egypt, ELS	111.3	90.8	109.3	82.5	80.6	80.8	82.7	89.8	92
Egypt, LS	282.4	339.2	288.3	265.2	226.2	204.2	209.3	197.9	268
Egypt, Total	393.7	430.0	397.6	347.7	306.8	285.0	292.0	287.7	360
U.S.	28.3	33.7	44.9	62.0	72.8	150.7	78.2	66.7	108
Others	600.0	513.9	585.4	692.2	699.1	628.8	617.5	555.7	502
Consumption	734.6	784.3	737.2	830.1	800.9	778.0	765.4	763.0	774
Egypt, ELS	34.4	24.0	50.3	35.4	43.5	51.3	63.2	75.4	76
Egypt, LS	226.4	255.2	231.2	235.1	210.2	196.4	204.6	193.5	229
Egypt, Total	260.8	279.2	281.5	270.5	253.7	247.7	267.8	268.9	305
U.S.	10.7	13.3	14.6	11.3	15.5	15.9	14.2	14.2	13
Others	463.1	491.8	441.1	548.3	531.7	514.4	483.4	479.9	456
Exports	257.6	249.3	335.7	298.2	282.9	284.2	207.3	164.4	149
Egypt, ELS	78.2	68.8	66.0	50.2	38.3	32.4	13.2	8.6	13
Egypt, LS	67.7	75.3	76.2	37.5	21.7	10.6	5.0	[illegible]	4
Egypt, Total	145.9	144.1	142.2	87.7	60.0	43.0	18.2	[illegible]	17
U.S.	19.6	22.9	24.8	51.6	57.7	98.4	90.4	64.9	60
Others	92.1	82.3	168.7	158.9	165.2	142.8	98.7	83.1	72

NOTE: Marketing years begin August 1.

e = Estimated

p = Projected

SOURCE: International Cotton Advisory Committee, "Cotton: World Statistics", selected issues.

Exhibit II-I
Extra-Fine Cotton: Suppy/Demand Data Expressed as Shares

Percent

	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92e	1992-93p
Beginning Stocks	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Egypt, ELS	18.2	9.3	9.2	12.4	10.3	8.2	5.9	7.9	9.5
Egypt, LS	2.4	0.9	10.5	18.8	17.0	9.3	4.8	4.3	2.9
Egypt, Total	20.6	10.2	19.7	31.3	27.3	17.5	10.7	12.2	12.5
U.S.	15.3	10.0	8.7	7.9	5.0	6.3	18.2	6.9	9.5
Others	64.1	79.8	71.6	60.8	67.8	76.2	71.1	80.9	78.0
Production	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Egypt, ELS	10.9	9.3	10.6	7.5	7.5	7.6	8.4	9.7	9.5
Egypt, LS	27.6	34.7	28.0	24.1	21.0	19.2	21.2	21.3	27.6
Egypt, Total	38.5	44.0	38.7	31.6	28.4	26.8	29.6	30.9	37.1
U.S.	2.8	3.4	4.4	5.6	6.7	14.2	7.9	9.3	11.1
Others	58.7	52.6	57.0	62.8	64.8	59.1	62.5	59.7	51.8
Consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Egypt, ELS	4.7	3.1	6.8	4.3	5.4	6.6	8.3	9.9	9.8
Egypt, LS	30.8	32.5	31.4	28.3	26.2	25.2	26.7	25.4	29.6
Egypt, Total	35.5	35.6	38.2	32.6	31.7	31.8	35.0	35.2	39.4
U.S.	1.5	1.7	2.0	1.4	1.9	2.0	1.9	1.9	1.7
Others	63.0	62.7	59.8	66.1	66.4	66.1	63.2	62.9	58.9
Exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Egypt, ELS	30.4	27.6	19.7	16.8	13.5	11.4	6.4	5.2	8.7
Egypt, LS	26.3	30.2	22.7	12.6	7.7	3.7	2.4	4.7	2.7
Egypt, Total	56.6	57.8	42.4	29.4	21.2	15.1	8.8	10.0	11.4
U.S.	7.6	9.2	7.4	17.3	20.4	34.6	43.6	39.5	40.3
Others	35.8	33.0	50.3	53.3	58.4	50.2	47.6	50.5	48.3

NOTE: Marketing years begin August 1.
SOURCE: Exhibit V-8

- Total stocks of Egyptian cotton have fallen from the high levels of 1987-88 and 1988-89, but ELS stocks now account for almost all of the total (Exhibit II-J).

- Egypt's share of world production fell through 1988-89, but has since recovered, while production in the United States has increased throughout the period. Meanwhile, world production has exhibited a slight downtrend (Exhibit II-K on page II-19).

- Consumption of extra-fine cotton by all the producing countries has shown a slight downtrend since 1987-88. Egypt's share has increased in recent years, while shares for the United States and other countries have been flat (Exhibit II-L on page II-19).

- Global exports have shown a distinct downtrend since 1986-87. Egypt's share of exports has decreased drastically over the period, while the U.S. share has increased dramatically (Exhibit II-M on page II-20).

Exhibit II-J. Egyptian Cotton Stocks

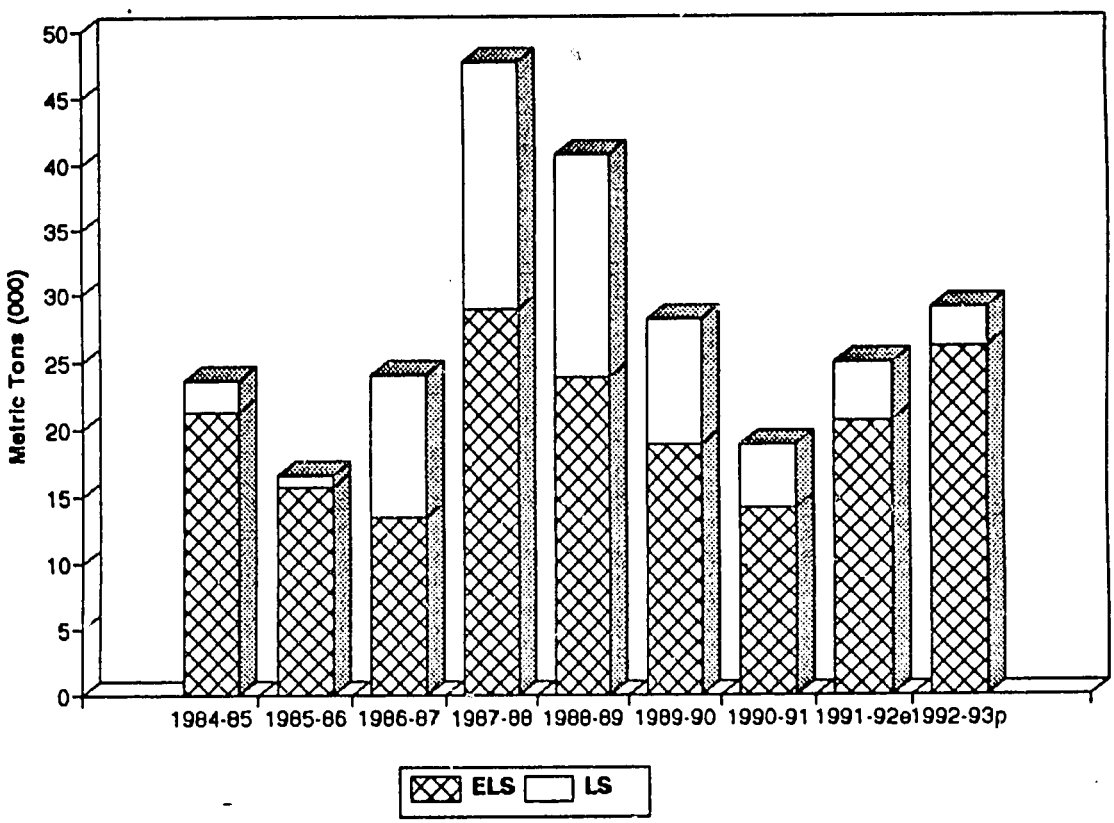


Exhibit II-P. Egypt Exports of Extra-Fine Cotton, By Countries
Thousand Metric Tons

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
ALBANIA	0.10				0.75	0.43				
ALGERIA				0.57	1.21					
ARGENTINA										
AUSTRIA	3.80	3.68	2.78	0.94	0.99	1.02	0.47	0.36	0.12	0.10
BANGLADESH	0.21		0.02	0.02						
BELGIUM	0.16	0.31	0.30	0.12	0.41	0.23	0.13	0.06		0.10
BRAZIL									0.10	
BULGARIA	1.87	2.06	3.27	3.48	3.46	1.25	1.26	0.31		0.04
CANADA										
CHILE										
CHINA	15.87	8.16			3.61	1.73	1.04	1.33		
TAIWAN	0.44	0.57	0.24	0.02						
COLOMBIA										
COSTA RICA										
CUBA										
CZECH & SLOVAK, F.R.	15.47	7.45	14.69	13.38	15.70	9.80	6.53	6.53		
DENMARK										
EGYPT										
EL SALVADOR										
FINLAND	0.16	0.29	0.26	0.27	0.32	0.10	0.09	0.12		
FRANCE	5.17	4.57	3.35	1.97	1.06	1.02	0.87	0.96	0.64	0.66
GERMANY, D.R.	3.86	18.74	3.95	4.77	4.49	2.29	0.65	0.96		
GERMANY, F.R.	11.57	3.11	10.68	7.34	6.15	3.76	2.42	0.38	0.43	0.63
GHANA										
GREECE	5.23	2.59	2.71	3.25	2.31	1.54	1.95	0.71	0.75	0.46
HONG KONG	0.05	0.12			0.31					
HUNGARY	6.45	4.57	4.25	6.03	4.42	2.51	1.57	0.75		
INDIA						0.02				
INDONESIA	0.19	0.26	0.02				0.02			
IRAQ					0.20					
IRELAND							0.07	0.12		
ISRAEL				0.05	0.13					
ITALY	23.97	26.80	26.83	23.71	24.85	16.57	7.62	2.64	0.96	1.41
JAPAN	27.39	30.49	26.04	25.85	29.32	23.46	18.65	9.21	5.26	6.41
KOREA, D.R.			2.98		1.49	1.86	0.78	0.69		
KOREA, REP.	4.05	4.72	3.69	4.24	3.46	2.39	1.71	2.42	1.29	3.53
MALAYSIA										
MEXICO										
MOROCCO										
MYANMAR										
NETHERLANDS										
NEW ZEALAND										
NIGERIA										
NORWAY										
PHILIPPINES	0.02	0.02		0.01	0.04	0.04	0.04			
POLAND	3.25	2.29	3.27	1.65	4.89		0.33			
PORTUGAL	2.38	0.71	1.16	0.76	1.09	0.69	0.44	0.25	0.14	0.15
ROMANIA		6.53	7.99	7.04	8.24	3.48	2.62	0.85	0.39	0.14
SINGAPORE		0.20								
SOUTH AFRICA										
SPAIN	5.17	3.37	2.20	2.57	3.23	1.98	1.05	0.58	0.10	0.12
SRI LANKA										
SWEDEN										
SWITZERLAND	11.29	16.52	10.45	6.77	2.36	1.99	1.59	1.45	1.41	1.64
THAILAND	0.59	0.13	0.29	0.37	0.41	0.40	0.33	0.37	0.02	0.05
TUNISIA										0.05
TURKEY	0.63	0.49	0.58	0.92	0.89	0.78	0.26	0.69	0.42	0.60
UNITED KINGDOM	2.03	1.51	1.99	2.35	2.42	1.54	0.97	0.17		
URUGUAY										
USSR (CIS)	24.97	10.77	10.19	9.07	6.26	9.52	11.36	10.19	5.96	
VENEZUELA										
VIETNAM										
YUGOSLAVIA	2.92	2.15	3.64	6.36	7.48	2.78	1.79	0.87	0.12	0.07
ZAIRE										
OTHERS 1/	1.10	1.70	1.94	13.92	0.00	0.00	0.00	0.00		
TOTAL	180.4	166.7	152.0	148.0	121.3	88.0	60.1	43.0	18.2	16.4

NOTE: Shaded balances were actually recorded as negative.
SOURCE: ICAC, "Cotton: World Statistics", selected issues.

Exhibit II-Q. U.S. Exports of American Pima Cotton, By Countries
Thousand Metric Tons

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
ALBANIA										
ALGERIA							1.10		1.30	0.50
ARGENTINA						0.12		0.16		0.17
AUSTRIA					0.06	0.37	0.34	1.03	0.27	0.15
BANGLADESH		0.21	0.18	0.75	0.84	0.53	0.69	1.55	2.93	3.07
BELGIUM	0.06	0.48	0.78	0.71	1.28	1.18	0.87	2.47	1.03	1.09
BRAZIL								0.82	0.87	0.54
BULGARIA										
CANADA										
CHILE		0.09				0.14	0.18	0.16		
CHINA							0.48	0.02		
TAIWAN		0.14	0.48	0.06	0.09	0.12	0.02	1.21	1.83	1.20
COLOMBIA		0.02	0.32	0.09		0.25				
COSTA RICA					0.05	0.25		0.09		
CUBA										
CZECH & SLOVAK, F.R.							0.41	4.71	0.82	
DENMARK										
EGYPT										
EL SALVADOR										
FINLAND										
FRANCE				0.25	0.27	0.37	0.25	0.21		0.09
GERMANY, D.R.										
GERMANY, F.R.	2.24	3.68	6.56	9.21	9.45	14.69	11.59	18.14	9.10	7.05
GHANA										
GREECE					0.18	0.69	0.05	0.25	1.30	
HONG KONG	0.02					0.21		0.16		
HUNGARY										
INDIA										
INDONESIA		0.16	0.59	0.27	0.50	0.48	0.66	1.26	3.41	2.87
IRAQ					0.39	0.81	1.21	0.50		
IRELAND							0.02	0.09	0.05	0.04
ISRAEL										
ITALY		0.07	0.05	1.99	2.14	6.02	7.79	15.12	16.69	6.88
JAPAN		0.89	0.87	0.64	1.62	11.55	17.71	20.37	25.81	25.80
KOREA, D.R.										
KOREA, REP.		0.05	0.73	0.55	0.96	4.82	4.86	8.82	9.65	6.54
MALAYSIA			0.39	0.53	0.11			0.02		
MEXICO								0.02		0.20
MOROCCO								0.96	0.05	0.07
MYANMAR										
NETHERLANDS				0.16				0.07		
NEW ZEALAND										
NIGERIA										
NORWAY										
PHILIPPINES								0.09		
POLAND						0.07				
PORTUGAL				0.05	0.23	0.71	0.96	2.10	0.96	0.54
ROMANIA								4.20	2.26	
SINGAPORE										
SOUTH AFRICA					0.02	0.28		0.09	0.09	
SPAIN		0.05	0.02	0.09	0.57	0.92	0.89	1.01	0.53	0.39
SRI LANKA										
SWEDEN										
SWITZERLAND	0.30	0.69	2.17	2.74	3.26	3.44	4.40	7.10	6.97	4.82
THIALAND	0.16		0.07		0.11	0.37	0.21	1.03	1.60	0.61
TUNISIA										
TURKEY						0.21	0.16	0.30	0.62	0.76
UNITED KINGDOM					0.16	0.12	0.07	0.39	0.55	
URUGUAY						0.02	0.02			
USSR (CIS)										
VENEZUELA		0.73	0.64	0.16	0.07	0.92				
VIETNAM										
YUGOSLAVIA		0.09	5.62	4.64	1.67	1.41	2.40	2.06	1.26	0.13
ZAIRE										
OTHERS	0.09	0.57			0.59	0.55	0.37	1.26	0.27	1.39
TOTAL	2.9	7.9	19.5	22.9	24.9	51.6	57.7	98.4	90.4	64.8

SOURCE: ICAC, "Cotton: World Statistics", selected issues.

Exhibit II-R
Exports of Extra-Fine Cotton, By Major Market Groups

Thousand Metric Tons

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
TRADITIONAL & STABLE 1/										
EGYPT	125.03	129.06	101.10	86.37	90.25	59.96	39.76	21.46	11.12	15.34
U.S.	2.54	5.43	10.40	15.52	18.89	43.77	49.39	75.16	72.03	52.16
CIS & EAST EUROPE 2/										
EGYPT	51.68	33.51	44.23	45.36	45.58	29.62	25.03	19.50	6.49	0.25
U.S.	0.00	0.09	5.62	4.64	1.87	1.41	2.81	10.97	4.34	0.13
REST OF WORLD										
EGYPT	3.65	4.11	6.65	16.28	0.00	0.00	0.00	2.05	0.54	0.80
U.S.	0.32	2.40	3.45	2.72	4.05	6.44	5.51	12 31	14.05	12.51
TOTAL										
EGYPT	180.4	166.7	152.0	148.0	121.3	88.0	60.1	43.0	18.2	16.4
U.S.	2.9	7.9	19.5	22.9	24.8	51.6	57.7	98.4	90.4	64.8

1/ Includes Austria, China, France, Germany (D.R.), Germany (F.R.), Greece, Italy, Japan, Rep. of Korea, Poland, Portugal, Spain, Switzerland & U.K.

2/ Includes CIS, Bulgaria, Czech & Slovak, Hungary, Romania & Yugoslavia.

- **Traditional and stable.** Countries that have been significant, open-market customers over the years.

- **CIS and Eastern Europe.** Communist-block countries that were significant customers before their economic collapse.

- **Rest of world.** All other small, intermittent customers for Egyptian cotton.

The most important results are for the "traditional and stable" market group. As emphasized in Exhibit II-S on page 27, American Pima cotton from the United States began to seriously erode Egypt's share of this market group after 1984-85. Egypt's share of combined U.S. and Egyptian exports dropped from 91 percent in that marketing year to 13 percent in 1990-91 and 23 percent in 1991-92.

Erosion of Egypt's market share was also great in the "rest of world" market group, going from 66 percent in 1984-85 to 0 percent by 1986-87, to only 6 percent in 1991-92 (Exhibit II-T, page 27). While Egypt's share of the CIS and Eastern Europe markets held up better, the collapse of those non-market economies has reduced their purchases to low levels. When they return to the market they will likely be price-conscious customers, rather than undiscriminating barterers.

While the time series of data is not adequate to produce definitive statistical results, correlations between market shares and price ratios suggest that each 10 percent increase in the Egyptian Giza 70 price above the American Pima price results in a 6-7 percent reduction in Egypt's market share. Since this is the likely impact in a single year, losses would be expected to accumulate over a period of years as, indeed, seems to have happened.

The situation Egypt now faces is illustrated in Exhibit II-U on page 28, which shows hypothetical world demand curves for extra-fine cotton. Dw is the total world demand, while De is the world demand for Egyptian cotton. If Pe is the price for Egyptian cotton, then Qe is the quantity of Egyptian cotton consumed in export markets. The curve De* shows a shift (a decrease, in this case) in the export demand for Egyptian cotton, illustrating what has occurred over the past several years. At the price Pe for Egyptian cotton, only the quantity Qe* will be consumed. In order to now sell the previous quantity Qe, the price would have to be dropped to Pe*.

The shift in demand is due fundamentally to the entry of another large export supplier (i.e., the United States) and to the loss of trading arrangements with former Communist-block countries. But it is also caused by changes in tastes and technologies in global textiles, and by pricing policies that have dared customers to consider other suppliers. A continuing trend toward casual styles in clothing reduces the demand for fine yarns and fabrics, while man-made micro-fibers are filling a larger share of this demand. Also, advances in fiber blending and spinning make it technically and economically advantageous to produce increasingly finer counts of yarn with cotton that is not extra-fine. Finally, using cotton production and exports as a "cash cow" for government revenue has effectively forfeited markets to other suppliers.

Exhibit II-S. Shares of Egypt and U.S. Exports of Extra-Fine Cotton Traditional and Stable Markets

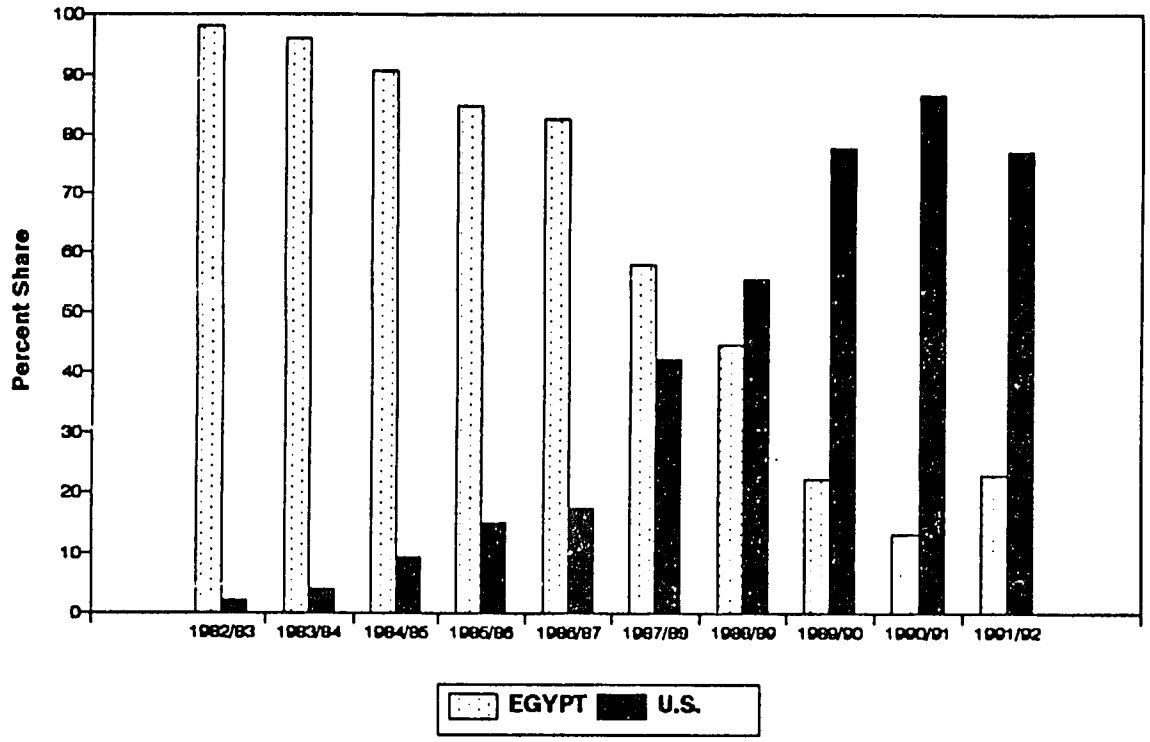


Exhibit II-T. Shares of Egypt and U.S. Exports of Extra-Fine Cotton "Rest of World" Markets

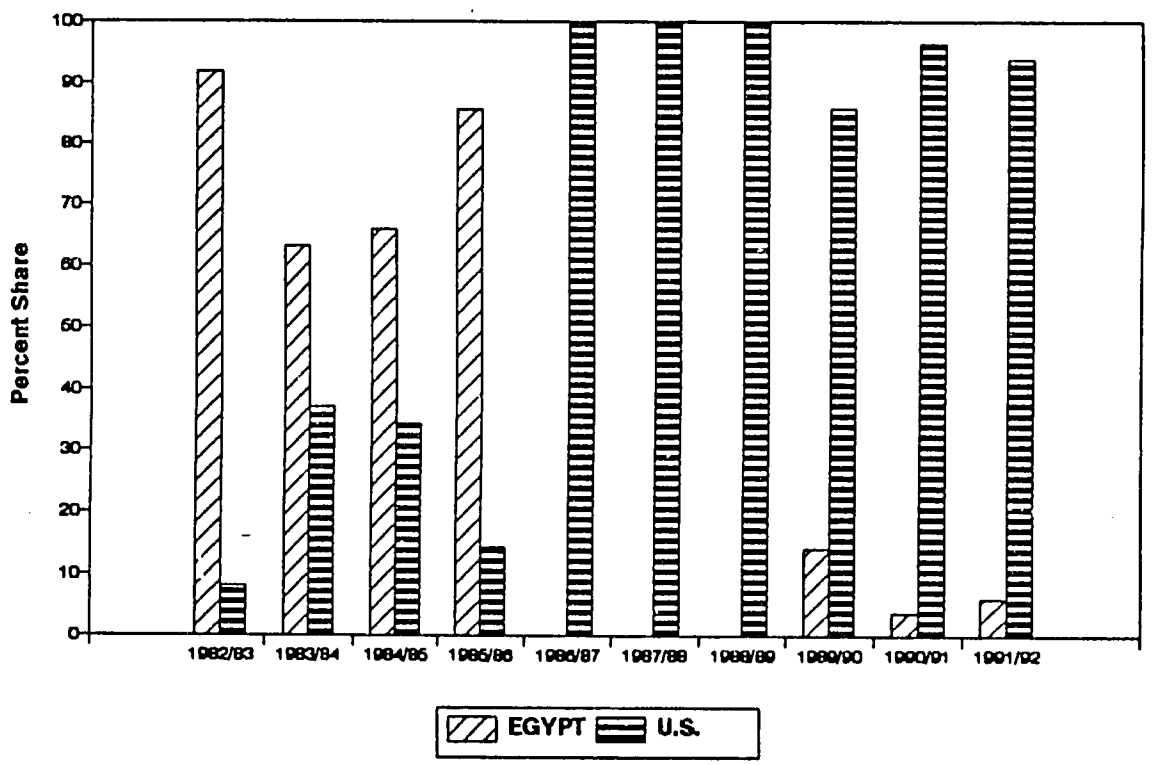
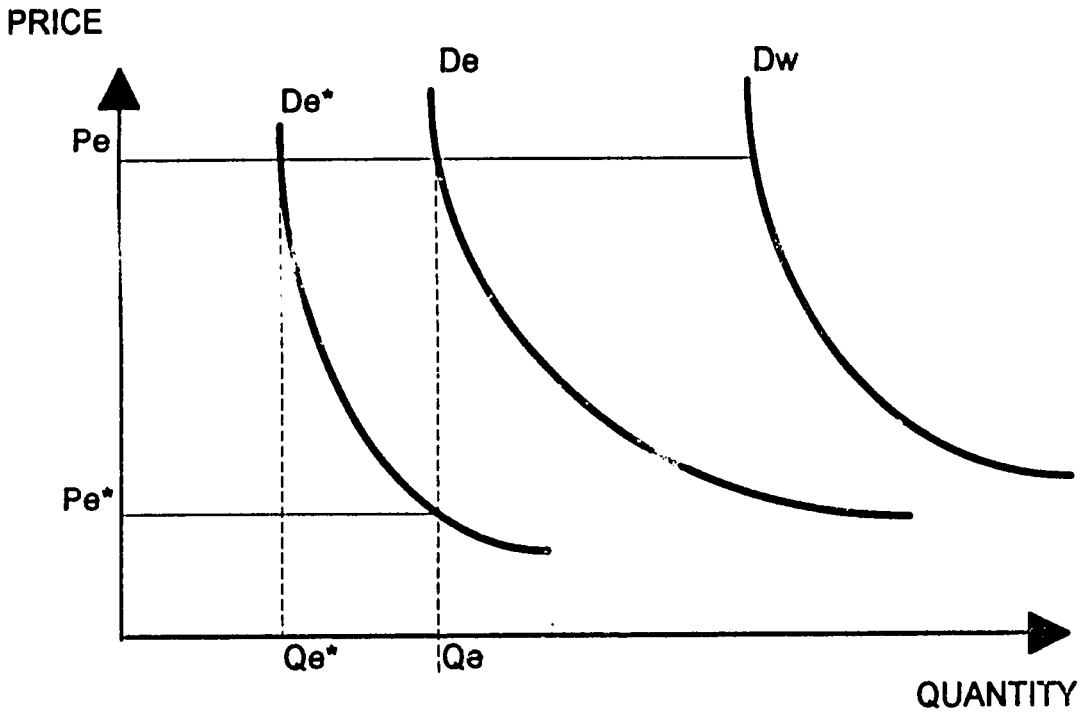


Exhibit II-U. Illustration of Annual Demand Curves for Egyptian Cotton



These conclusions are reminders that historical estimates of the price elasticity of demand for Egyptian cotton (even if accurate) are not reliable for making policy decisions on prices. They also demonstrate that it is past time for Egypt to stop being complacent about world demand for its cotton and to serve markets rather than simply exploit them. Indeed, liberalizing cotton prices may be a way to recover global market share for Egyptian cotton and offer the Egyptian textile spinning sector a chance to be competitive. Finally, the conclusions show that extra-fine cotton does not provide the raw material base needed for a well-rounded textile industry, and that a policy that limits the Egyptian spinning sector largely to extra-fine cotton limits it to a special sector that cannot supply a broad-based Egyptian textile industry.

D2. Textiles

In late 1991, the world entered into a broad-based textile recession that persists. As always, the recessionary damage to global textile industries has been worst for those that are inflexible and lack a market orientation—such as Egypt. The cumulative evidence of the data examined in this subsection will reveal that Egypt's industry has indeed suffered great damage. The data do not fully reveal the extent of the damage, however, because they do not include 1993. Without doubt, the hemorrhaging has accelerated during recent months.

Of course, the textile supply/demand situation confronting Egypt is inextricably linked with that for fibers. Just seven countries—China, the United States, the CIS, Pakistan,

Exhibit II-V
All Cotton: World Production

Million Metric Tons

	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92e	1992-93p
WORLD TOTAL	**19.204**	**17.442**	**15.419**	**17.657**	**18.329**	**17.386**	**19.014**	**20.787**	**18.120**
TOP SEVEN	**15.955**	**14.344**	**12.367**	**14.353**	**14.857**	**14.143**	**15.523**	**17.422**	**15.074**
China	6.253	4.147	3.540	4.246	4.149	3.788	4.508	5.675	4.530
U.S.	2.826	2.924	2.119	3.214	3.356	2.655	3.376	3.835	3.540
CIS	2.597	2.782	2.660	2.469	2.766	2.654	2.640	2.491	2.050
Pakistan	1.008	1.216	1.319	1.468	1.425	1.455	1.638	2.176	1.530
India	1.726	1.964	1.579	1.555	1.802	2.308	1.989	2.023	2.250
Brazil	0.965	0.793	0.633	0.864	0.709	0.666	0.717	0.661	0.570
Turkey	0.580	0.518	0.517	0.537	0.650	0.617	0.655	0.561	0.604
REST OF WORLD	**3.249**	**3.098**	**3.052**	**3.304**	**3.472**	**3.243**	**3.491**	**3.365**	**3.046**

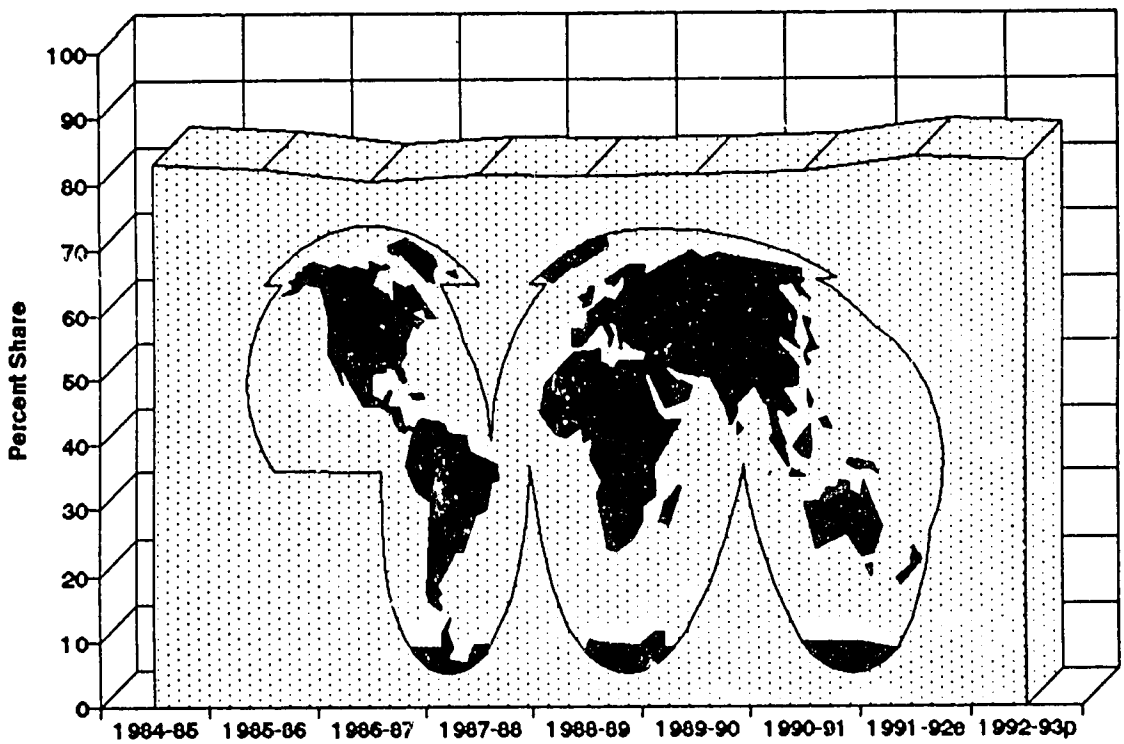
e = Estimated

p = Projected

SOURCE: ICAC, "Cotton: World Statistics", selected issues.

India, Brazil, and Turkey—consistently account for over 80 percent of the world's cotton production (Exhibits II-V on page 29 and II-W below). These "top seven" producing countries also account for about two-thirds of the world's cotton consumption (Exhibits II-X on page 31 and II-Y on page 32). Over the decades, in fact, there has been a long-term trend toward concentrating textile manufacturing in the major cotton producing countries. The trend has slowed in the last three decades only because of aggressive, market-oriented development of textile manufacturing by several Pacific Rim countries.

Exhibit II-W. Share of World Cotton Production Held by Top Seven Producing Countries



Before the former USSR became the CIS, the only top seven country that consistently supplied cotton to textile manufacturing industries throughout the world was the United States. Of course the future situation with the CIS is uncertain, but the United States remains the only top seven country that is structured to provide a reliable supply of a range of cotton fibers to export markets. Some second-tier producers (i.e., Australia) target export markets, but the general tendency is to use export markets as "safety valves" for unpredictable surpluses of domestic cotton production. Certainly Egypt's mix of policies has resulted in such behavior over the years.

Data on yarn imports also reveal a strong tendency for the major cotton producing countries to pursue self sufficiency rather than trade. Over the 1984-1991 period, the share of worldwide yarn imports among the top seven cotton producing countries showed no

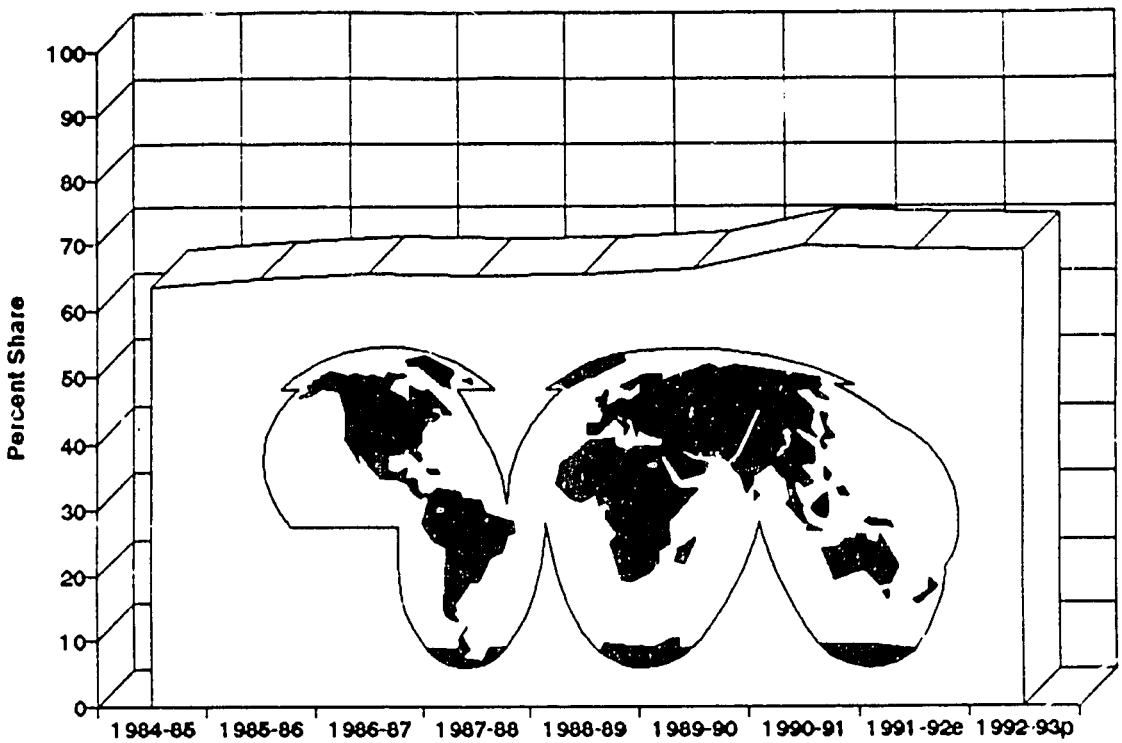
Exhibit II-X
All Cotton: World Consumption

Million Metric Tons

	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92e	1992-93p
WORLD TOTAL	15.237	16.604	18.222	18.180	18.511	18.776	18.722	18.547	18.660
TOP SEVEN	9.684	10.724	11.918	11.824	12.083	12.392	13.018	12.815	12.824
China	3.484	4.117	4.567	4.369	4.376	4.150	4.225	4.242	4.580
U.S.	1.206	1.393	1.622	1.658	1.694	1.907	2.312	2.371	2.250
CIS	1.879	2.003	2.047	1.960	2.003	1.995	1.900	1.566	1.294
Pakistan	0.545	0.533	0.700	0.767	0.874	1.100	1.343	1.440	1.470
India	1.556	1.564	1.702	1.708	1.762	1.876	1.958	1.902	1.900
Brazil	0.599	0.692	0.759	0.811	0.822	0.764	0.723	0.719	0.750
Turkey	0.415	0.422	0.521	0.551	0.552	0.600	0.557	0.575	0.580
REST OF WORLD	5.553	5.880	6.304	6.356	6.428	6.384	5.704	5.732	5.836

e = Estimated
p = Projected
SOURCE: ICAC, "Cotton: World Statistics", selected issues.

Exhibit II-Y. Share of World Cotton Consumption Held by Top Seven Producing Countries



trend fluctuating between 5 and 7 percent. Absolute level of yarn imports in the seven countries grew from 48,000 metric tons in 1984 to 117,000 in 1991, but only three countries (the United States, the CIS, and Turkey) have imported significant amounts of yarn (Exhibit II-Z on page 33). The United States has accounted for more than half of the total. CIS imports have not increased, and Turkey began to import visible amounts only after 1989. Imports averaged less than 5,000 metric tons for the other four countries over the eight-year period.

The record of fabric imports shows an even greater trade restriction. The share of global imports of the top seven cotton producing countries fluctuated between 15 and 20 percent. However, since worldwide imports of fabric did not show an upward trend during the 1984-1991 period, neither did imports of the major cotton producers (Exhibit II-AA on the next page). Moreover, the United States accounted for 85-90 percent of these imports, demonstrating that it is the only major cotton producing country somewhat open to fabric imports. Turkey is the only other contry that has shown an inclination to increase fabric imports in recent years.

World cotton yarn production is summarized in Exhibit II-BB on page 34, which reveals that Egypt's production growth has barely kept pace with the world's, while countries such as Pakistan and the United States have exceeded the pace. Thus, Egypt's share of world yarn production has fluctuated between 1.5 percent and 1.8 percent during the

Exhibit II-Z
Cotton Yarn Imports by Top Seven Cotton Producing Countries

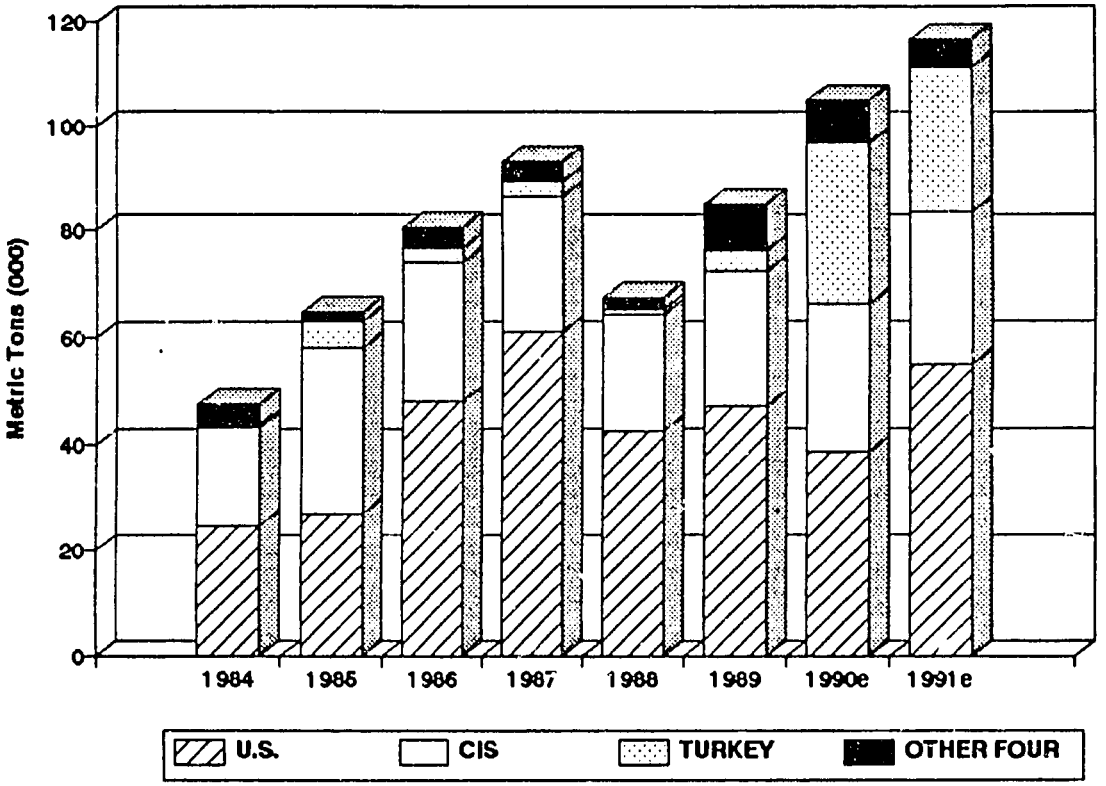


Exhibit II-AA. Fabric Imports by Top Seven Cotton Producing Countries

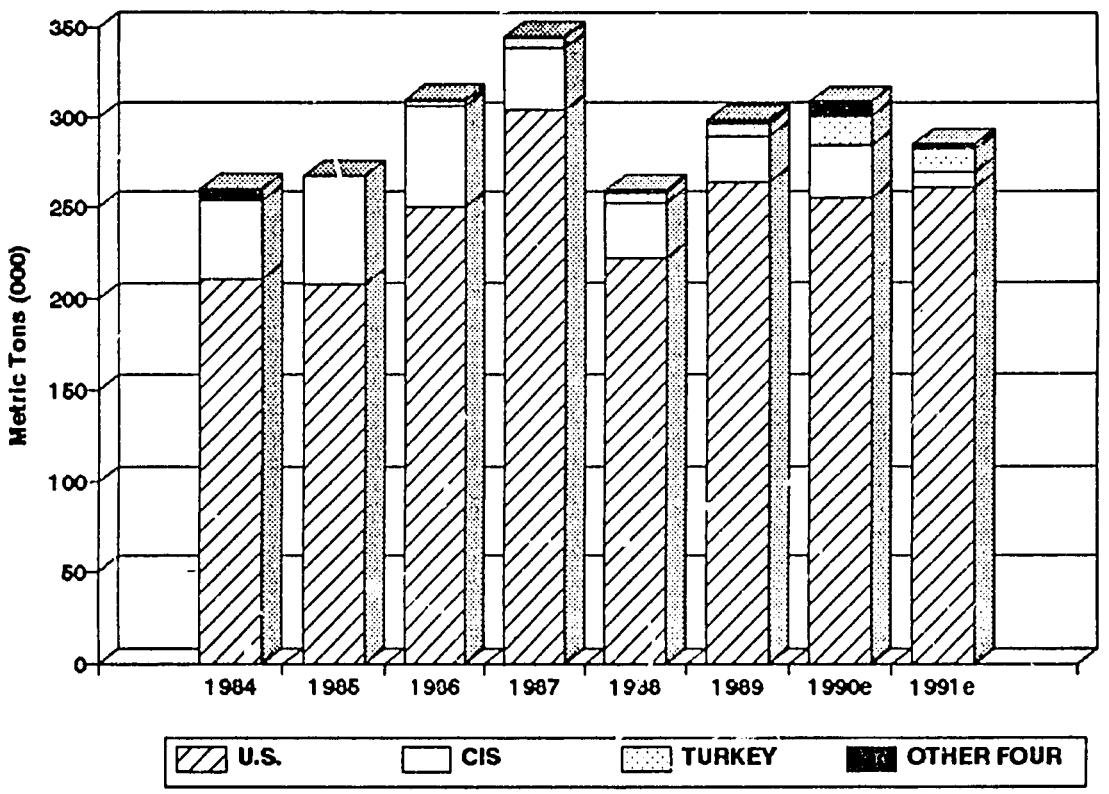


Exhibit II-BB
Production of Cotton Yarn

Thousand Metric Tons

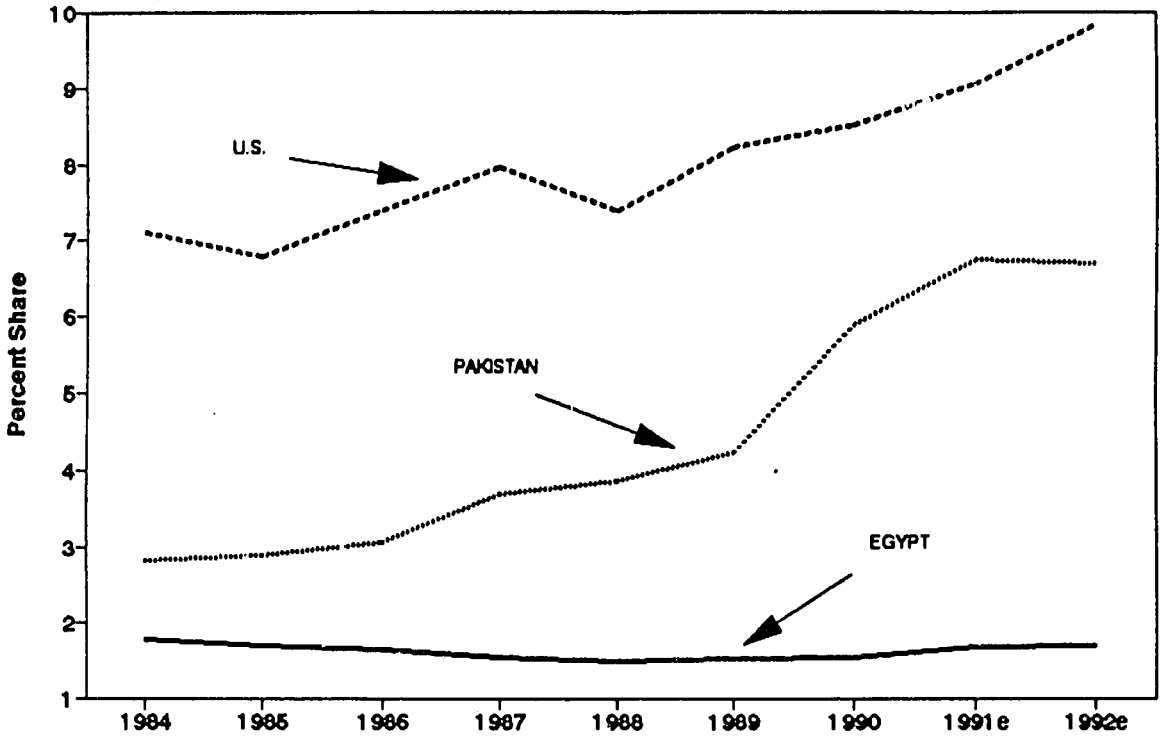
	1984	1985	1986	1987	1988	1989	1990	1991e	1992e
WORLD TOTAL	13,458.63	14,397.90	15,250.01	16,242.30	16,632.31	17,096.28	16,861.30	16,714.25	16,737.46
EGYPT	238.13	242.96	249.76	251.14	248.68	259.04	260.25	278.66	284.50
TOP SEVEN	8,339.34	9,159.32	9,669.43	10,324.21	10,670.26	11,037.55	11,029.14	11,097.83	11,146.91
China	3,225.50	3,506.70	3,956.90	4,370.00	4,656.00	4,740.00	4,497.32	4,541.62	4,757.76
U.S.	956.83	977.25	1,127.02	1,292.31	1,226.92	1,404.14	1,433.74	1,511.69	1,643.36
CIS	1,689.00	1,742.00	1,747.00	1,725.00	1,764.00	1,760.00	1,704.00	1,560.00	1,239.04
Pakistan	381.15	417.29	469.08	599.50	641.10	725.08	990.88	1,125.64	1,117.46
India	1,151.00	1,260.50	1,257.20	1,348.00	1,297.00	1,337.00	1,436.69	1,437.77	1,419.80
Brazil	674.00	963.00	792.90	633.00	697.35	674.05	606.65	582.51	599.16
Turkey	261.89	292.58	319.33	356.40	387.89	397.28	359.86	338.60	370.33
REST OF WORLD	4,881.16	4,995.62	5,330.82	5,666.95	5,713.37	5,799.69	5,571.90	5,337.76	5,306.05

e = Estimated

SOURCE: ICAC, "Cotton World Statistics", selected issues.

1984-1992 period, while the U.S. share increased from 7.1 to 9.8 percent, and the share for Pakistan increased from 2.8 to 6.7 percent (Exhibit II-CC).

Exhibit II-CC. Shares of World Yarn Production



World fabric production is presented in Exhibit II-DD on page 36. Its growth has been in tandem with that of yarn, but shares of production held by various countries have not changed as much. However, the United States and Pakistan made significant gains in 1991 and 1992 (Exhibit II-EE on page 37). Egypt's share of world fabric production fell slightly between 1984 and 1989, but has edged up since 1989.

The stagnation in Egypt's yarn production share has occurred in spite of a policy emphasizing public sector investment in spinning. Refering back to Exhibit I-F reveals that between 1987 and 1992 an average of 74 percent of public sector textile investments were in spinning. This contrasts with an average of only 12 percent invested in weaving. The policy bias toward spinning is also evident in the most recent machinery data reported by the ITMF (Exhibit II-FF, page 38). World shipments (sales) of cotton system spindles in 1992 amounted to 2 percent of spindles installed at the beginning of the year; but shipments to Egypt amounted to 2.5 percent of those already installed. In contrast, global shipments of looms were 2.4 percent of global installations during 1992, while for Egypt they were only 0.4 percent of installed looms.

Exhibit II-DD
Production of Cotton Fabrics

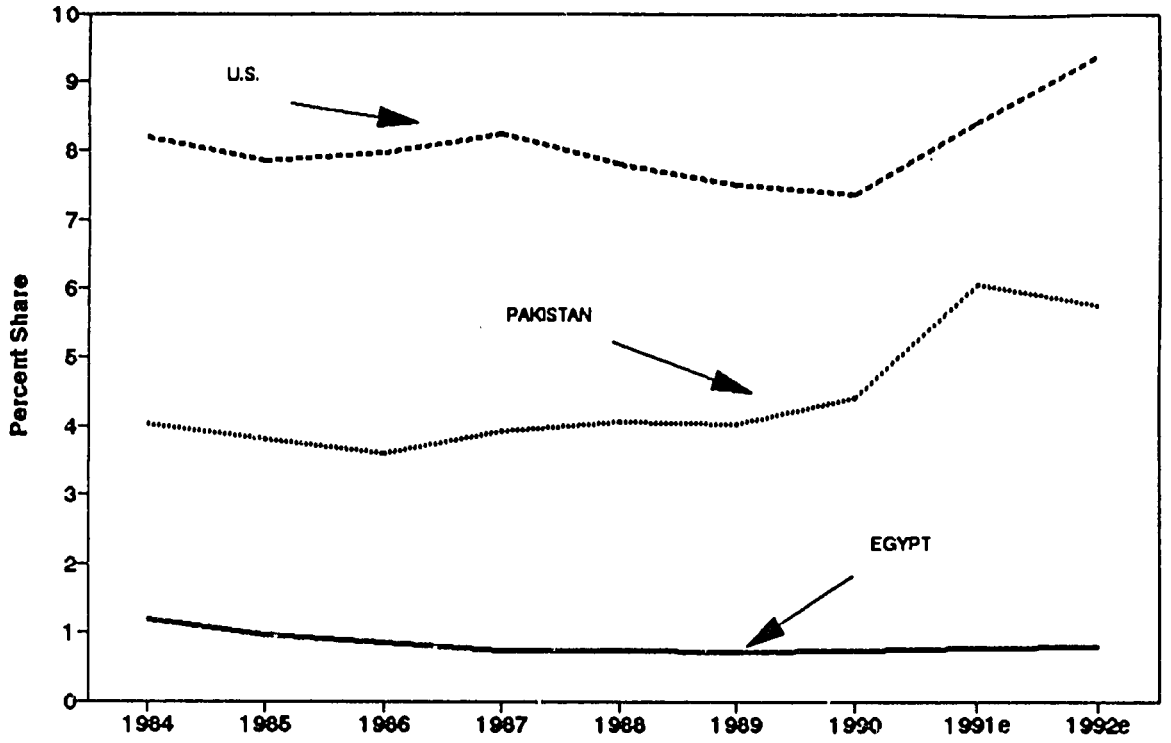
Thousand Metric Tons

	1984	1985	1986	1987	1988	1989	1990	1991e	1992e
WORLD TOTAL	7,699.67	7,883.98	8,651.66	9,138.63	9,395.31	9,673.81	9,527.75	9,644.44	9,564.98
EGYPT	91.42	75.23	73.66	66.37	68.00	68.00	69.10	73.57	75.32
TOP SEVEN	4,882.31	5,007.80	5,465.79	5,805.67	5,931.59	5,970.44	5,936.73	6,057.78	6,066.50
China	1,626.39	1,726.14	1,911.69	2,025.71	2,183.66	2,223.06	2,109.24	2,103.02	2,231.39
U.S.	631.11	618.25	688.20	753.37	731.28	724.56	701.35	810.29	897.31
CIS	1,028.25	1,050.12	1,056.00	1,073.81	1,100.67	1,098.77	1,065.78	947.82	763.89
Pakistan	310.56	299.29	310.69	357.70	379.82	388.69	418.75	582.00	549.57
India	1,006.00	1,034.00	1,232.02	1,277.86	1,209.97	1,229.23	1,320.89	1,321.88	1,305.36
Brazil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turkey	280.00	280.00	267.19	312.22	326.19	306.13	320.72	292.77	318.88
REST OF WORLD	2,725.94	2,800.95	3,112.01	3,266.59	3,395.72	3,635.37	3,521.92	3,513.09	3,423.16

e = Estimated

SOURCE: ICAC, "Cotton World Statistics", selected issues.

Exhibit II-EE. Shares of World Fabric Production



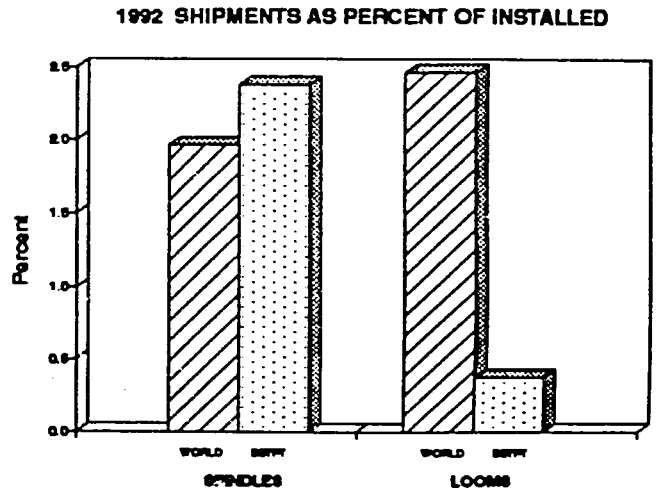
Paradoxically, the Egyptian emphasis on spinning has not resulted in better performance in yarn production. Quarterly indexes of yarn production for the 1990-1992 period reveals that Egypt's production index has stayed well below the world index (Exhibit II-GG on page 39). Compounding the paradox, Egypt's fabric production index has generally been above the world fabric production index.

Egypt's situation has deteriorated most during recent quarters in terms of textile stocks (Exhibit II-HH on page 40). Again using quantity indexes, the Egyptian index of its stocks of unsold yarns has gone from well below to significantly above world levels. This means that Egypt has become increasingly disadvantaged recently competing for yarn sales. The situation has not been as bad for fabrics, but Egypt's fabric stock index also rose above the world index by the last quarter of 1992. Furthermore, there is no doubt that public sector yarn and fabric stocks have continued to increase during 1993.

The prevailing public sector policy in Egypt has encouraged the spinning sector to specialize in fine-count yarns to maximize value added and exploit the extra-fine cottons grown in Egypt. While medium-count yarns are also expected to be produced in significant quantities, this line of reasoning says that coarse-count yarns should generally be left for other countries to produce.

Exhibit II-FF
Cotton System Spinning and Weaving Machinery

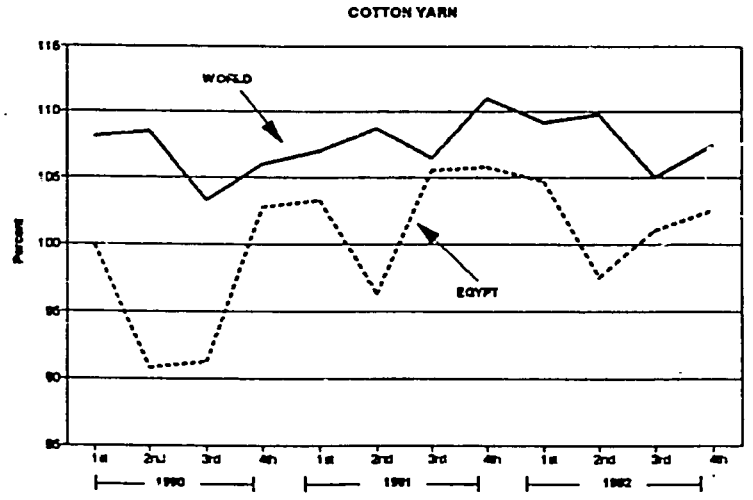
	WORLD	EGYPT
SPINDLES		
INSTALLED AS OF 1991	169,058,000	3,329,000
SHIPMENTS IN 1992	3,323,052	81,972
SHIPMENTS AS SHARE OF INSTALLED (%)	2.0	2.5
LOOMS		
INSTALLED AS OF 1991	2,770,830	49,500
SHIPMENTS IN 1992	65,809	187
SHIPMENTS AS SHARE OF INSTALLED (%)	2.4	0.4



SOURCE: ITMF, "International Textile Machinery Shipment Statistics", Volume 15/1992.

Exhibit II-GG
Quarterly Indexes of Production

(1987 = 100)



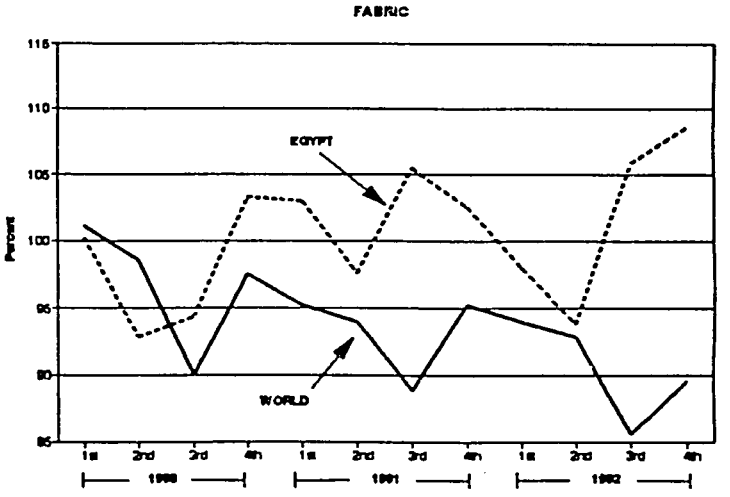
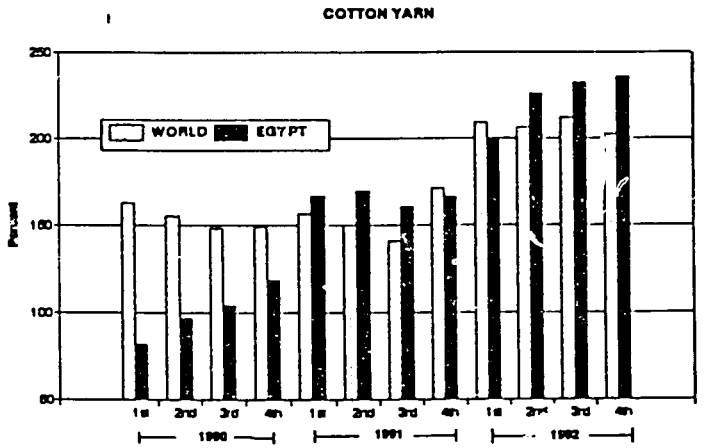
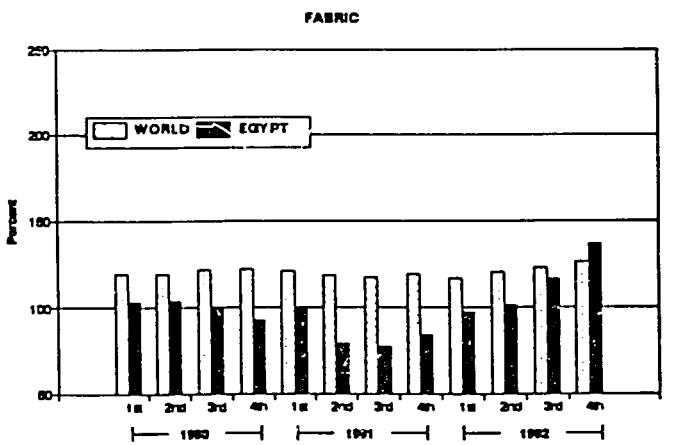


Exhibit II-HH
Quarterly Indexes of Stocks

(1987=100)





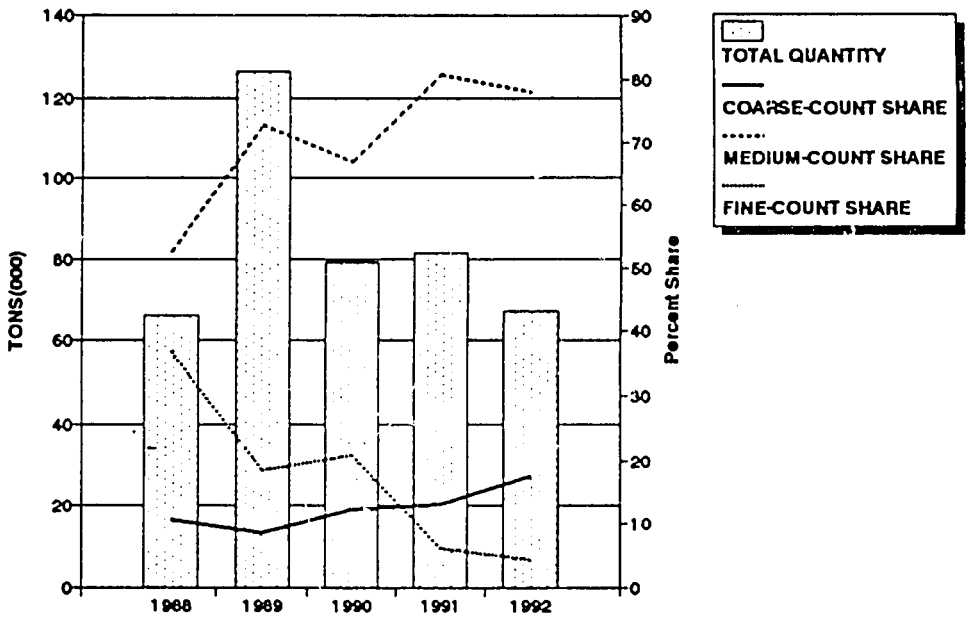
Using the English system for yarn counts (Ne), the following categories may be defined:

- **Coarse-count yarns:** Less than 22 Ne
- **Medium-count yarns:** 22 Ne to less than 60 Ne
- **Fine-count yarns:** 60 Ne and higher

Data are not available on the distribution of Egypt's yarn production by yarn count categories. However, data from the 25 public sector spinning companies reveal that the average count went from 26 Ne in 1983-84 to 29 Ne in 1988-89 to 27 Ne in 1991-92. For individual companies, the average has ranged between 20 and 40 Ne. If the two large "investment" companies that make yarns were included, these averages would drop further. Therefore, the Egyptian spinning sector is producing primarily coarse- and medium-count yarns. Domestic and global market realities persistently refute the "conventional wisdom" reflected in public policy.

Exhibit II-II shows total yarn exports by Egypt during 1988-1992 and the percentage of these exports falling into the three count categories. After a peak of almost 126,000 metric tons of yarn exports in 1989, they declined steeply over the next three years to 67,000 tons in 1992. The decline was due in part to the loss of markets in Eastern Europe and to increased competition during a textile recession. Even more striking are changes in the composition of these exports, with substantial increases in the shares of coarse- and medium-count yarns, as the share of fine-count yarns declined into virtual insignificance by 1992. This scenario persists into 1993, and managers of Egyptian spinning firms are bewildered by the lack of demand for fine-count yarns. They have been forced to shift toward coarser counts to continue producing at all.

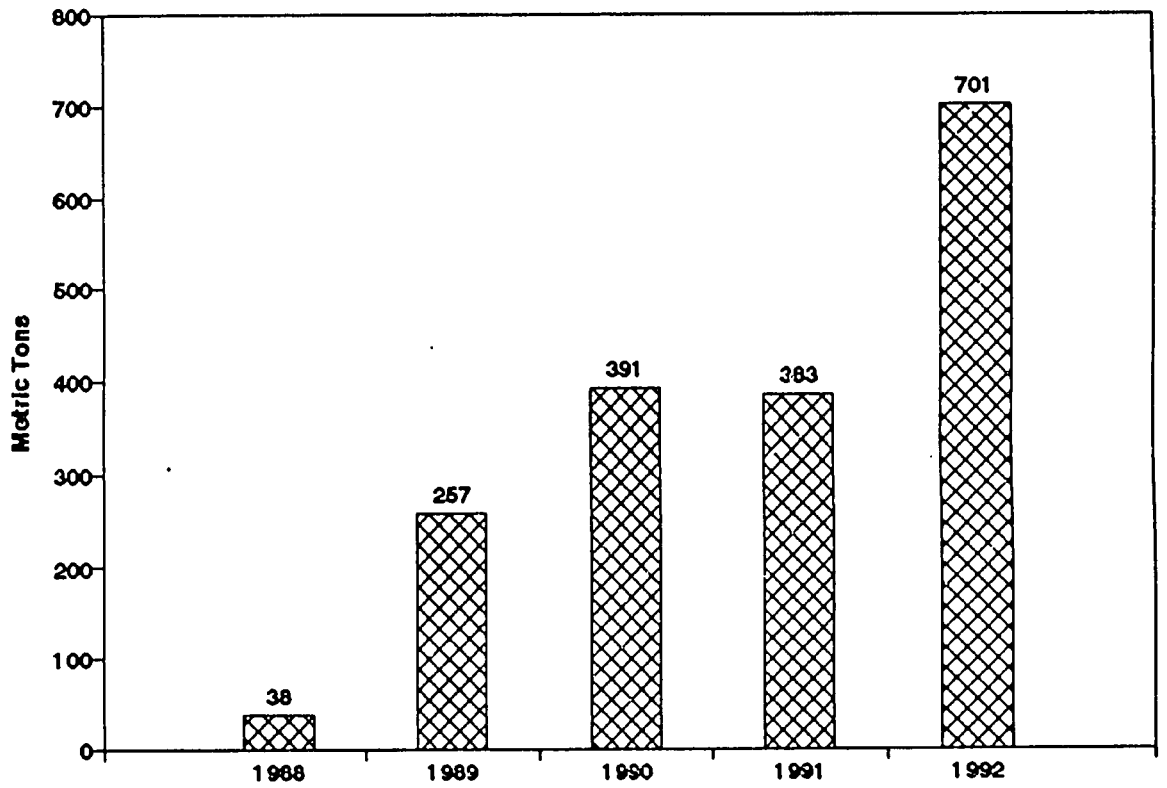
Exhibit II-II. Egypt's Yarn Exports by Count Categories



Unfortunately, since the cotton produced in Egypt is appropriate only for medium- or high-count yarns, and cotton imported into Egypt is only appropriate for medium- and high-count yarns, large-scale production of course-count yarns in Egypt cannot generally be justified economically. If Egypt persisted in restricting availability of appropriate cotton to coarse-count spinning mills, liberalizing the rest of the industry would eventually force most coarse-count yarn production to cease. Weaving coarse-count yarns could continue, but the yarns would have to be imported.

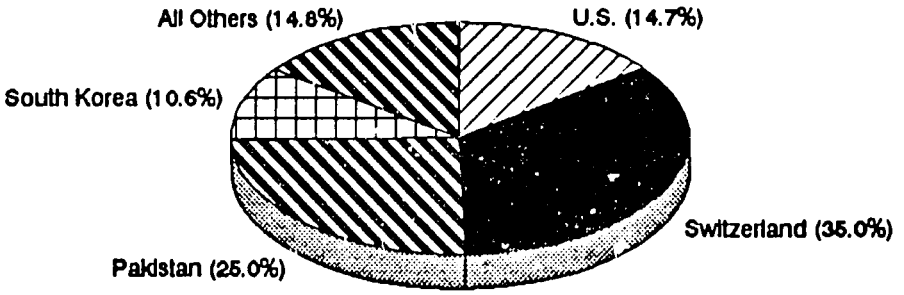
Yarn imports by Egypt have grown from 38 metric tons in 1988 to 701 tons in 1992 (Exhibit II-JJ below). Although the 1992 imports amount to only about 2.5 percent of yarn production, the increase is significant. Because a count number is not specified on much of this yarn, it is not possible to estimate shares by count categories. It is likely, though, that as much as 95 percent of the imported yarns are either coarse or medium counts.

Exhibit II-JJ. Total Cotton Yarn Imports by Egypt



In 1992, 85 percent of the yarn imports to Egypt came from four countries —Switzerland, Pakistan, the United States, and South Korea (Exhibit II-KK on page 43). Thirty-five percent came from Switzerland and 25 percent from Pakistan; however, it is likely that a significant part of the Swiss sales were of yarns that originated in Pakistan. (Another originating source was Israel.) Therefore, it seems likely that Pakistan actually manufactured the largest share of the yarns imported by Egypt.

Exhibit II-KK. Egyptian Imports of Cotton Yarn in 1992 by Country of Origin



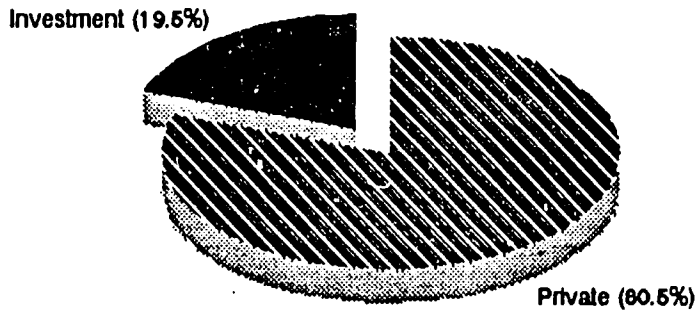
Not surprisingly, over 80 percent of 1992 yarn imports to Egypt went to private sector firms (Exhibit II-LL). The rest went to "investment" firms; i.e., firms owned by banks and/or foreign investors that produce only for export. The public sector weaving firms refrained from purchasing imported yarns; even if they had known how to make such purchases, they were obliged to use the yarns produced by public sector spinning mills.

As also would be expected, the small private sector weaving and knitting firms have targeted a variety of market niches from the low to high end of textile markets in Egypt and worldwide. There is a strong tendency to follow through and make consumer products from their fabrics, and many have focused on casual wear, terry towels, or other products that use yarn counts of 30 Ne or below. They are also likely to target discount retailing giants in the United States, producing to their exact specifications. But they may also produce a similar line of casual wear for sale on the Egyptian market. They have increasingly looked toward countries such as Pakistan for their yarn, to get adequate qualities of cotton yarns at competitive prices.

The accumulated economic evidence on cotton and textiles in Egypt reveals that policies in Egypt have had many unintended consequences. Moreover, they have been based on erroneous assumptions about world markets and global competition. These assumptions were used to justify a policy linking specialty (i.e., extra-fine) cotton production and specialty (i.e., fine-count) yarn and fabric production. This policy placed Egypt in a small segment of the fibers/textile industry requiring a combination of efficiency and excellence to

succeed. This segment also requires a high degree of market development and service appropriate to the high-value end of global textiles. Economic data reflect a deteriorating industry that is handicapped in competing for the high-end global market niche that government policy has vaguely defined for it. Under the pressures of a textile recession, this niche has clearly become inaccessible to most of the industry.

Exhibit II-LL. Egyptian Imports of Cotton Yarn in 1992 by Sector



E. Competitiveness

Since Egypt has assigned to its (public sector) textile industry a market niche that requires world-class technical and marketing capabilities, assessing its competitiveness in this niche is appropriate. Of course, the fact that many firms in both the public and private sectors do not participate in this niche is strong evidence that they are not competitive. So consideration should also be given to issues of competitiveness within the larger framework of the fibers/textiles industry.

This section approaches competitiveness through two avenues: productivity and comparative advantage. Productivity is a narrower concept, focusing primarily on input/output efficiency. A company, region, industry, or country has a productivity advantage for a good or service if it can produce and deliver a product of equal quality at a lower cost, or one of superior quality at the same cost, as its competitor. Comparative advantage encompasses factors that determine specialization and trade within a country, region, or the world. It concerns relative costs and relative values of production; not the absolute levels.

E1. Productivity

The record of productivity in Egypt's public sector textile firms is uniformly poor. The evidence amassed in previous studies and in Sections I, III, and IV of this report is overwhelming. The anecdotal evidence gathered while conducting this study is also impressive; e.g., testimonies that Egyptian cotton spun and woven in other countries results

in fabric that is superior to that made by the domestic industry; an audit report on one company estimating a 60 percent production rate of defective fabrics; observing a fine-count spinning mill that wastes about 25 percent more cotton than is standard for such operations, etc.

Violations of productivity principles—in both cotton production and textile manufacturing—have been so egregious that the public sector textile industry would likely be in crisis by now regardless of the global economic and market conditions of the past decade. The only question is whether the government could continue to find ways to perpetuate the sector without improving productivity.

Nevertheless, the observed phenomenon of negative value added by Egypt's spinning operations is more than an indictment of productivity. It is also an indictment of government policies and programs, institutions, and attitudes that prevent rational adjustment to such absurdities.

E2. Comparative Advantage

For many years, comparative advantage was thought to derive primarily from natural resource endowments. Thus, an area that could grow both grain and cotton would tend to specialize in the more valuable crop. The less valuable crop would then be grown in an area that could not grow the more valuable crop as efficiently, and the two areas would trade with each other for the quantities they needed of each crop.

For example, a country with low-cost labor would specialize in production that is labor intensive, while a country with expensive labor will engage in production that is capital intensive. Again, trade between the two countries could satisfy the needs of each for the different products. With unimpeded trade, such specialization will occur even if one of the areas or countries could produce both products more cheaply than the other. Such specialization and trade generally results in a higher level of income and consumption.

The time-honored, basic concept of comparative advantage is still valid. However, technological changes have increasingly divorced comparative advantage from basic natural resource endowments. Evolving comparative advantages depend increasingly on knowledge, creativity, and innovation. Even in agriculture, superior production systems or new crop varieties may overcome some disadvantages associated with climate and fertility. Certainly in manufacturing, the balance in comparative advantage can be changed by the balance in knowledge and innovation. The cotton and textile industries in Egypt seem to have ignored this basic reality.

A rigid article of faith among Egypt's policy makers is that only LS and ELS varieties of cotton should be grown. Therefore, there is no encouragement to pursue research on shorter season (and shorter staple) cotton varieties, or even to allow the market an opportunity to explore the feasibility of "lesser" cotton varieties. Three fundamental realities suggest that this may be a strategic error:

- The vast majority of clothes (or any other textile products) demanded by Egyptian consumers should not be made with the cotton grown in Egypt; to do so violates fundamental efficiency principles.

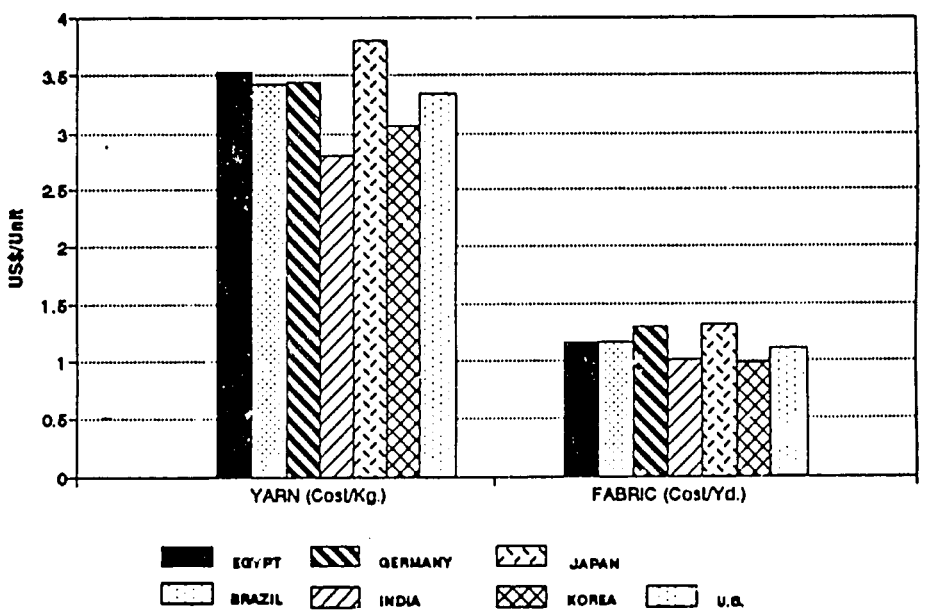
- Since multiple crops are grown on limited arable land in Egypt, a shorter season cotton that does not impose on the growing season of other crops in the rotation may be necessary for cotton to remain a viable alternative to Egyptian farmers. Certainly farmers could afford to take a lower price for such cotton if it did not reduce the revenue obtained from another cash crop.

- A one-dimensional approach to cotton production is risky because of rapid changes in consumer tastes, textile spinning technologies, competition from other long staple cotton producing countries, and man-made fiber alternatives.

Considerations such as these are part of adhering to principles of comparative advantage. The interpretation of comparative advantage reflected in Egypt's cotton varietal regulations are simplistic in the extreme. Of course, research and innovation to increase productivity in LS and ELS cottons should be encouraged, but initiatives on behalf of shorter staple cottons should not be prohibited.

Data on textile manufacturing costs in Egypt relative to other countries are sketchy and inconclusive. As of 1991, the ITMF has estimated average manufacturing costs for yarn and fabric for the countries of Brazil, Germany, India, Japan, Korea, and the United States. These are shown in Exhibit II-MM, with estimates of average costs for public sector companies in Egypt. At US$3.53 per kilogram, the yarn manufacturing cost for Egypt is higher than for the other countries except Japan. At US$1.16 per yard of fabric, Egypt is about in the middle of the group.

Exhibit II-MM. Total Yarn & Fabric Manufacturing Costs for Selected Countries



These costs are broken down into six categories: raw material (cotton), capital (depreciation and interest), labor, energy, auxiliary material, and waste. The percentage of 1991 average total cost allocated to each of these categories is shown for yarn in Exhibit II-NN on page 48 and for fabric in Exhibit II-OO on page 49. For yarns, the striking result for Egypt is that labor costs were almost 16 percent of the total, putting it among the highest percentages estimated. This is ominous for a country that has wage rates among the lowest in the world. For fabric, the striking result is that raw material costs were 57 percent of the total, making it the highest of all the countries. This seems to confirm that yarns coming from Egypt's spinning mills are a cost burden to the weaving sector.

The Egyptian textile industry has missed a revolution in cotton fiber selection, opening, and blending techniques. Combined with the lack of air conditioning and humidity control in Egyptian spinning mills, this is sufficient to exclude the existing industry from the circle of global spinning mills that function at both (1) high rates of output and (2) high levels of quality control. In other words, Egypt's spinning sector does not currently have a comparative advantage in producing fine-count yarns.

Egypt's leaders must confront the reality of its cotton/textile industries to find ways to improve their comparative advantage. Achieving and maintaining comparative advantage in today's global markets requires constant innovation and improvement. It requires persistence in improving cotton quality and yield, as a foundation for achieving the price competitiveness to succeed in exporting both fibers and textiles. Increasingly, it requires flexibility: in sources and handling of raw material, in machine configurations, in labor activities, in product lines, in marketing alternatives, etc. These requirements provide powerful arguments in favor of deregulation, liberalization, and privatization.

Exhibit II-NN. Yarn Manufacturing Cost Shares for Selected Countries

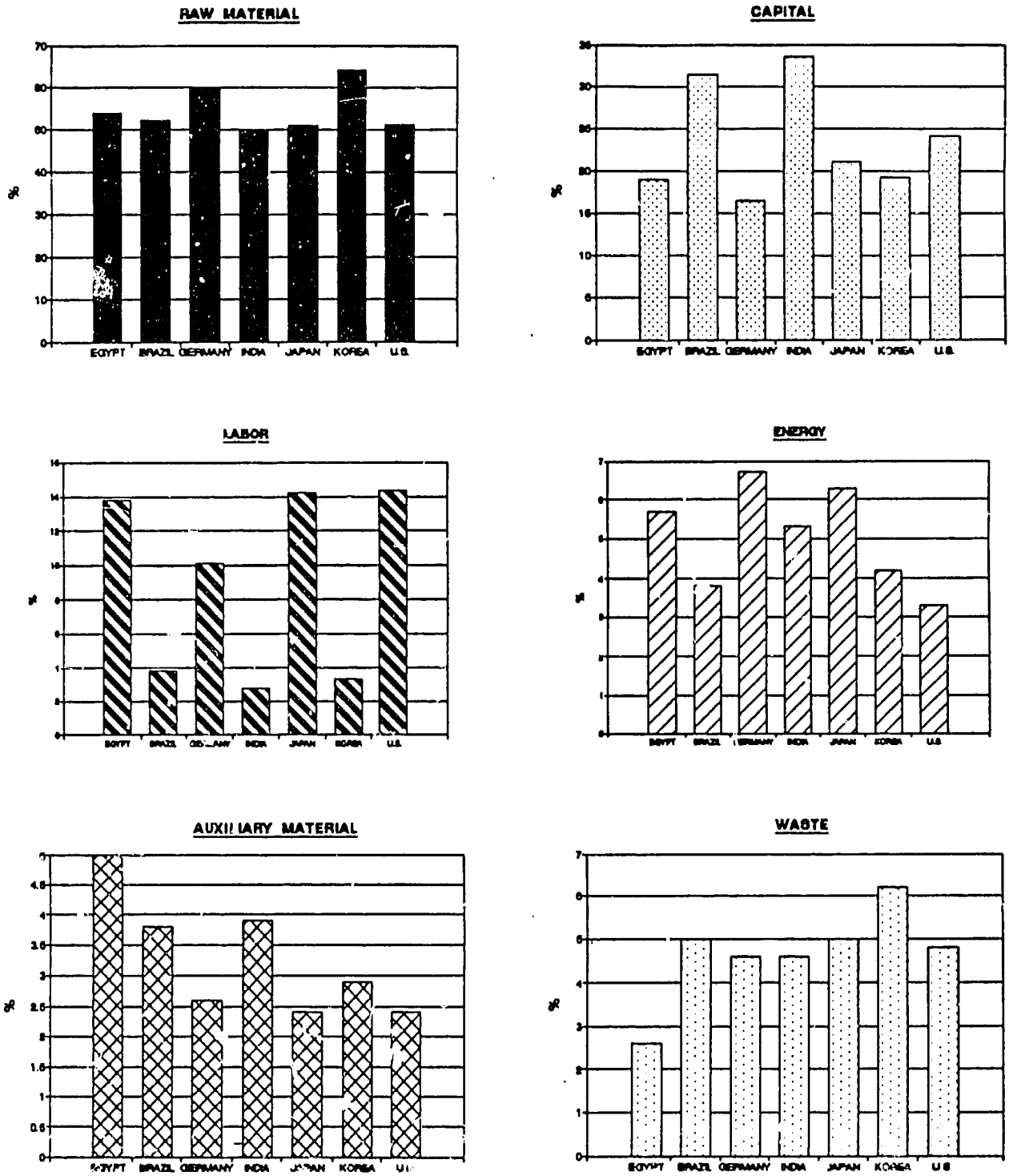
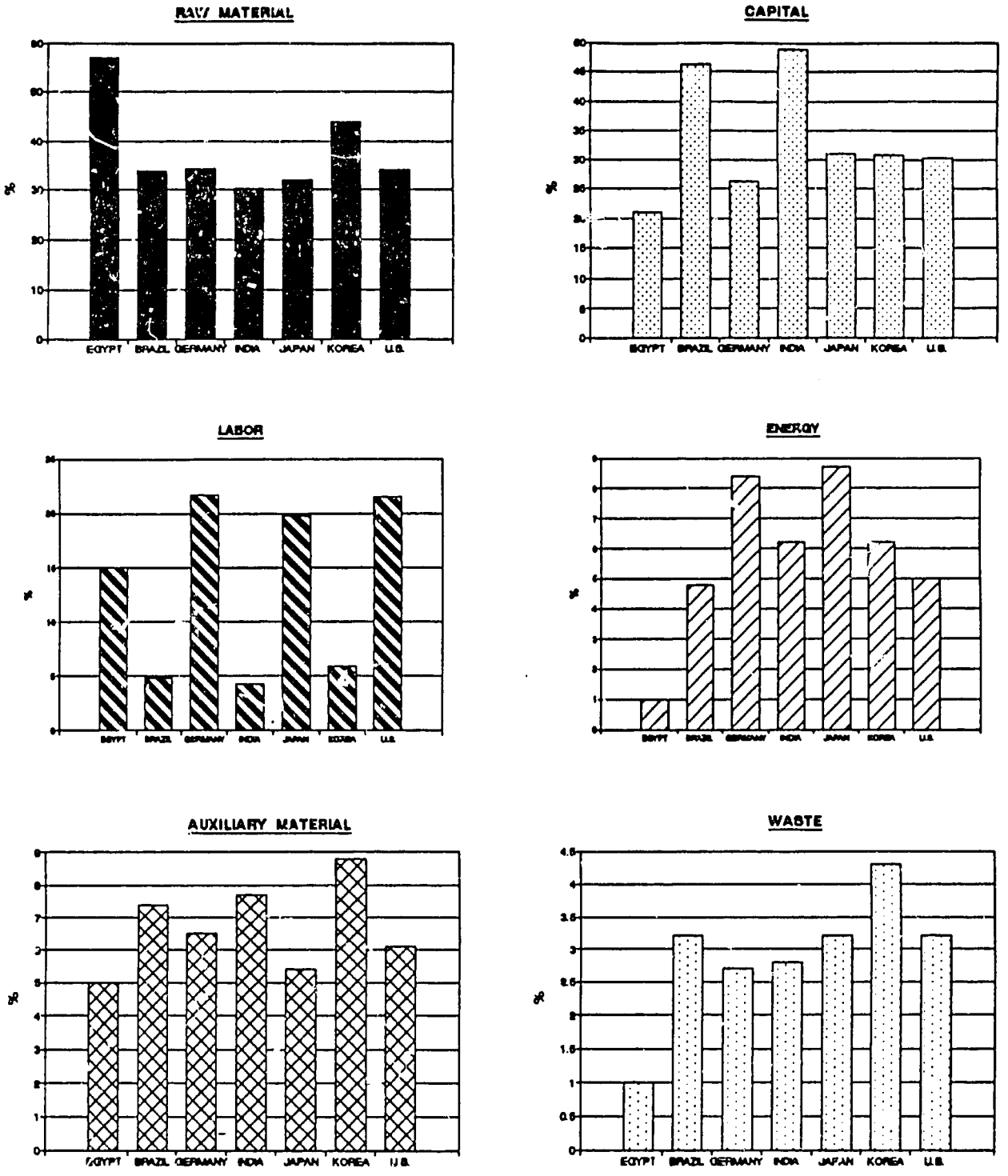


Exhibit II-OO. Fabric Manufacturing Cost Shares for Selected Countries



SECTION III
FINANCIAL EVALUATION

A. Introduction

This section examines the current financial situation of the publicly owned textile sector and the individual enterprises in it. Trend analysis is also used to explain the recent deterioration in sector and individual enterprise finances, and to indicate the need for urgent remedial measures.

Misr Helwan is used as a case study in explaining the downward trend in financial viability. Conclusions drawn from this financial analysis are subsequently addressed in formulating a strategy for sector liberalization and divestiture in Part II of this report.

Financial evaluation of the sector relies heavily on published audited accounts for the 25 companies that comprise it. The latest full year of data is FY 1991-92 (the fiscal year is July 1 to June 30). A full set of financial statements (income statements and balance sheets) for the 25 companies is presented in Annex B. For comparison, the balance sheets also show the position at the end of FY 1990-91.

The company statements presented in Annex B have been reformatted to conform more closely with standard international accounting conventions. It should be noted that public sector enterprise accounting in Egypt follows the "Uniform Accounting System." This system of financial reporting is somewhat opaque. For example, three separate statements of income are produced, each one deriving a different measure of surplus, or profit. Other non-conventional treatments of revenue and capital items include the following:

- The computation of a notional value added in the enterprise income statements. This is derived from a target return on assets employed and indicates the hybrid nature of the accounts, reflecting as they do national income accounting as well as strictly commercial accounting considerations.

- Items included as assets in the balance sheet may not yet be productive. This is because depreciation is computed from the point of purchase rather than commission.

- Cumulative losses (deficits) are shown in the balance sheet as assets in order to maintain the enterprise's capital base.

The above factors are not material to the current analysis. The financial appraisal presented below employs, as the profit figure, the surplus shown for distribution in individual enterprise accounts (i.e., net profit after depreciation, financing costs, and taxes). In

addition, in deriving financial ratios of sector and individual enterprise performance, the balance sheets in Annex B are reworked to remove cumulative deficits.

It is understood that with moves to economic liberalization, the presentation of the accounts of public sector companies will also move towards accepted international practice. This will be welcomed as a step towards greater transparency in financial reporting.

Finally, an assessment of financial performance cannot be based solely on a "snapshot" of one of two years' financial data. Accordingly, the analysis covers 10 years of results for nine of the 25 companies. These nine companies provide a reasonably representative sample of the sector in terms of size (below 2,000 to more than 25,000 employees), degree of integration, and product range (six spinning companies, two weaving companies, and one finishing company), and location (four in Cairo and Giza, two in Alexandria, and one each in Tanta-Gharbiya, Kafr El-Dawar, and Qalubiya).

B. Sector Financial Performance

The sector composition is shown in Exhibit III-A, on the following page, which includes enterprise name, holding company responsibility, location, degree of vertical integration (companies that undertake the full range of activities from spinning through final product are designated with an asterisk), size (number of employees is used as a proxy measure), and productivity (average value of production divided by average salary).

Taking FY 1991-92 (the latest full year of financial data) as indicative of the sector's current financial situation, sectoral performance may be summarized as follows:

- Ten of the 25 companies posted a loss for FY 1991-92. The total loss of these 10 companies (LE 258 million) exceeded the aggregate profits of the other companies in the sector (LE 153.8 million), resulting in a net sectoral loss of LE 104.2 million.

- The loss was only partially offset by the sectoral tax-take of LE 39.8 million, which, at just over 1 percent of aggregate sector net sales, can be considered insignificant.

- After balance sheet adjustments for cumulative deficits, five companies exhibited negative net worth; that is, they were technically bankrupt. The total sectoral net worth of approximately LE 2.5 billion is less than the historic value of fixed assets (slightly more than of LE 3.0 billion), implying negative working capital within the sector.

- The sector is highly indebted. Total indebtedness as of June 30, 1992, amounted to LE 2,409 million, of which LE 1,431 million (almost 60 percent) was short-term debt with the local banking system (often in the form of overdraft finance).

Of the long-term debt of LE 978 million, LE 804 million, or over 80 percent, was with local banks. The sector's overall leverage (measured as total outstanding debts to total net worth) was an extremely high 96 percent.

- As a consequence of the high level of debt, interest payments over FY 1991-92 were equally high at LE 371 million, or an effective rate of just over 15 percent of outstanding loans.

Exhibit III-A. Public Sector Textile Enterprises

No.	Name of Enterprise	Location	Degree of Integration	Employees (000s)	Productivity +
	Textile Industries Holding Company				
1	Misr Spinning and Weaving	Mahalla	•	29.9	5.12
2	Damietta Spinning and Weaving	Damietta	•	4.9	5.13
3	Delta Spinning and Weaving	Tanta-Gharbiya	•	6.3	6.24
4	KABO	Alexandria		5.5	6.14
5	Daqahliya Spinning and Weaving	Daqahliya	•	8.8	8.16
6	Cairo Dyeing and Finishing	Qalubiya		1.8	7.69
7	El-Sharqiya Spinning and Weaving	Zagazig	•	5.8	6.75
8	Orient Linen and Cotton	Alexandria		4.6	4.40
9	Misr Helwan Spinning and Weaving	Helwan	•	12.4	2.46
	Holding Co. for Consumer Goods				
10	Misr Spinning and Weaving	Kafr El-Dawar	•	25.9	5.66
11	UNIRAB	Alexadria	•	7.3	7.30
12	National Spinning and Weaving	Alexandria	•	6.0	6.90
13	El-Siouf Spinning and Weaving	Alexandria	•	7.8	7.11
14	El-Nasr Spinning and Weaving	Mahalla	•	10.4	3.06
15	Alexandria Spinning and Weaving	Alexandria	•	4.4	7.04
16	PORTEX	Port Said	•	1.8	6.51
17	Misr Bida Dyers	Beheira		6.3	5.49
18	STIA	Alexandria		6.2	5.90
19	Misr Shebin El-Kom	Menoufiya	•	8.8	4.68
	HC for International Trade & Cotton				
20	Upper Egypt Spinning and Weaving	Sohag	•	6.7	7.00
21	ESCO	Qalubiya	•	11.0	3.69
22	Chourbagi	Giza	•	4.4	3.09
23	Cairo Silk	Shoubra		3.6	2.52
24	TRICONA	Cairo		2.8	2.01
25	Middle Egypt Spinning and Weaving	Beni Suef	•	6.1	5.15

Legend:

• Vertically integrated spinning companies

\+ Average production value per employee divided by average employee wage (FY 1991/92 data)

Source: Various

In short, the aggregate financial data for the sector point to massive under-capitalization and a chronic imbalance between resource use and return levels generated from operations. With total indebtedness at 77 percent of the total value of fixed assets, the sector has relied on debt, particularly short-term debt, to build up productive resources.

The aggregate return on these resources has been negative and, on the basis of current losses, sectoral net worth would be exhausted in just over 20 years. In practice, this situation is likely to be reached much sooner, given the debt overhang and the exponential increase in losses (see below).

C. Individual Company Financial Performance

The financial performance of individual enterprises for FY 1991-92 is summarized in Exhibit III-B on page III-5. In assessing the financial position of each enterprise, financial ratios have been used to measure enterprise liquidity, debt, profitability, and activity levels. Specifically, the following ratios were computed:

- **Liquidity**. Current ratio (current assets divided by current liabilities).

- **Debt**. Leverage (total debt divided by net worth).

- **Profitability**
  - Net margin (profit after taxes divided by net sales).
  - Return on assets (profit after taxes divided by fixed assets).

- **Activity**
  - Stock levels (closing finished goods value divided by current assets).
  - Stock turnover rate (average stock divided by net sales multiplied by 360).
  - Average credit period (bills receivable plus other debtors divided by average sales per day).

The above ratios broadly encapsulate the criteria proposed by the PEO in selecting enterprises for possible financial restructuring (see *General Procedures and Guidelines for the Government's Program for Privatization, Restructuring and Reward System,* Public Enterprise Office, Arab Republic of Egypt, February 1993, page 38).

As is evident from Exhibit III-B, the companies exhibit great variability in terms of the ratios calculated. However, despite the absence of neat correlations, on an individual enterprise level the various ratios tend to reinforce a clear picture of the enterprise concerned. Thus, for enterprises that may be termed financially sound, the following is generally the case:

- The current ratio is well in excess of one (a ratio of less than one implies negative working capital).

Exhibit III-B. Individual Enterprise Financial Performance: Ratio Analysis (FY 1991-92)

No.	Enterprise	Current Assets/ Current Liabilities	Debt/ Net Worth	Profit/ Net Sales	Profit/ Fixed Assets	Finished Goods/ Current Assets	Average Storage Period (no. of days)	Average Credit Period (no. of days)
1	Misr Mahalla	1.17	0.23	5.10	7.30	0.18	184	97
2	Damietta	0.96	0.71	34.00	3.60	0.31	228	155
3	Delta	1.46	0.59	3.50	5.10	0.22	152	98
4	KABO	3.10	0.00	15.90	62.30	0.27	232	94
5	Daqahliya	1.56	0.67	2.10	2.60	0.42	257	135
6	Cairo Dyeing	1.05	3.64	-ve	-ve	0.21	221	191
7	Zagazig	0.85	1.51	-ve	-ve	0.20	217	189
8	Orient Linen	1.34	0.83	2.80	4.30	0.29	285	139
9	Misr Helwan	0.43	-ve	-ve	-ve	0.41	415	133
10	Kafr El-Dawar	1.35	1.19	2.40	2.10	0.16	185	128
11	UNIRAB	1.39	0.05	9.10	12.90	0.12	132	95
12	National	0.57	-ve	-ve	-ve	0.15	145	173
13	El-Siouf	1.07	0.69	5.90	6.30	0.25	207	147
14	Nasr Mahalla	1.19	0.76	1.00	1.10	0.22	259	112
15	Alexandria	1.10	0.72	4.60	5.30	0.21	178	112
16	PORTEX	1.59	0.51	1.30	1.40	0.30	183	80
17	Bida Dyers	2.68	0.55	1.60	1.20	0.06	167	169
18	STIA	1.49	0.11	10.20	18.40	0.11	130	142
19	Shebin El-Kom	1.68	0.06	8.30	13.50	0.19	179	64
20	Upper Egypt	1.03	1.23	-ve	-ve	0.55	290	87
21	ESCO	0.83	6.36	-ve	-ve	0.43	247	108
22	Chourbagi	0.68	-ve	-ve	-ve	0.35	362	289
23	Cairo Silk	0.36	-ve	-ve	-ve	0.23	309	92
24	TRICONA	0.97	2.92	-ve	-ve	0.55	758	198
25	Middle Egypt	0.64	-ve	-ve	-ve	0.23	210	195

Source: derived from FY 1991/92 enterprise accounts

- The percentage of total debt to net worth is low (20 percent or less. Anything above 100 percent is far too high).

- Net profit as a percentage of net sales is 5 percent or better.

- The return on fixed assets adequately reflects returns available on alternative investments, taking into account return/risk trade-offs (the current low/zero risk return is Egyptian pounds on deposit with the local banks, currently earning 10 percent per annum).

- The value of finished goods is 20 percent, or less, of the value of current assets.

- Stock turnover rates and credit collection periods are not excessive (120 and 90 days respectively, or less).

A financially unsound company would exhibit the converse of the above. On this basis, it is possible to group the 25 companies shown in Exhibit III-B into three broad categories:

- Financially sound.
- Financially unsound.
- An intermediate group of companies that exhibit both favorable and unfavorable ratios and that require additional attention.

The companies are listed below under these three categories, together with general comments on each company. Financial figures, where quoted, are rounded to the nearest million Egyptian pounds.

- **Financially Sound**
  - **KABO** — Liquid, no debt, high return levels.
  - **STIA** — Liquid, low debt, adequate return levels.
  - **UNIRAB** — Liquid, low debt, adequate return levels.
  - **Shebin** — Liquid, low debt, adequate return levels.
  - **Misr Mahalla** — Liquid, controllable debt; low, but acceptable, return levels.

- **Financially Unsound**
  - **Misr Helwan** — Illiquid, highly indebted, negative net worth (LE 84 million), FY 1991-92 loss of LE 95 million.
  - **Cairo Silk** — As above, negative net worth (LE 47 m), FY 1991-92 loss of 12.3 million.
  - **Middle Egypt** — Negative working capital, high level debt, negative net worth (LE 20 m), FY 1991-92, loss of 27 million.

91

- **Chourbagi** — Illiquid, negative net worth (LE 11 m), FY 1991-92 loss of LE 21 million.
- **National** — As above, negative net worth (LE 30 m), FY 1991-92 loss of LE 7.8 million.
- **ESCO** — Negative working capital, astronomical debt, FY 1991-92 loss of LE 58 million.
- **TRICONA** — High debt, disastrously high storage period, FY 1991-92 loss of LE 18 million.
- **Cairo Dyeing** — Barely adequate liquidity, massive debt, FY 1991-92 loss of LE 6 million.
- **Upper Egypt** — Barely adequate liquidity, high debt and stock levels, FY 1991-92 loss of LE 12 million
- **Zagazig** — Illiquid, excessive debt, FY 1991-92 loss of LE 3 million.

• **Financially Intermediate**

- **Damietta** — Marginal liquidity, high level of debt, low return levels (the profit figure for FY 1990-91 is inflated by a prior year adjustment), low stock turnover and high receivables.
- **Delta** — Marginally acceptable liquidity and return level, excessive indebtedness.
- **Daqahliya** — As above, plus low stock turnover and high receivables.
- **Orient Linen** — High debt level, low return levels, excessive stock levels.
- **Kafr El-Dawar** — Potential liquidity problems and low return levels exacerbated by much too high a level of debts.
- **Siouf** — Reasonable return levels, high level of debt.
- **Nasr-Mahalla** — Negligible return levels, low rate stock turnover.
- **Alexandria** — Marginal liquidity, high debt, reasonable return levels.
- **PORTEX** — Reasonable liquidity, negligible return levels.

GV

- **Bida Dyers** Liquid, low stock finished goods, negligible return levels.

Financial ratios are shown over a 10-year period (FY 1982-83 to 1991-92) in Exhibit III-C, on pages III-9 to III-11, for the nine selected companies. The trend analysis broadly reinforces comments made above. For the companies listed above as financially unsound (i.e., Misr Helwan, National, Chourbagi, Cairo Dyeing, TRICONA, and ESCO), all the ratios tend to show a gradual worsening over time. Low and declining (or increasingly negative) profitability feeds indebtedness, which increases liabilities and reduces liquidity. This is exacerbated by lengthening credit periods as well as a low level of stock turnover. As stock levels increase, a larger percentage of short-term debts incurred to purchase raw materials is locked into unsold finished goods.

What are the reasons for the perilous financial state of the sector and the rapid recent deterioration in individual enterprise finances? Key contributing factors are discussed below.

Among the many reasons is the rapid escalation in input costs, particularly cotton fibers. Although losses are not exclusively a recent phenomenon, it is significant that heavy and sustained losses have become more apparent following the move to border pricing for cotton lint, which resulted in a large increase in cotton costs from 1989-90 onwards. For example, the average unit cost of cotton fiber purchased by Misr Helwan increased between FY 1990-91 and 1991-92 from LE 175 to 217 per metric kentars. Cotton fibers represented approximately 43 percent of Misr Helwan's raw material costs for both years.

Donors, such as the World Bank, have recognized that liberalizing cotton prices would severely impact spinners and require a substantial commensurate increase in output prices. The recent World Bank sector study (*Arab Republic of Egypt: Cotton and Textile Sector Study*, World Bank, November 1991) estimated that removing the implicit lint subsidy would require an increase of 84 to 191 percent in the domestic price of yarn for enterprises to achieve the same financial return as before removing the input subsidy.

It was assumed that higher prices would result from a move to better quality and higher value-added products. Generally, this has not happened. Again, using Misr Helwan as an example, the company's exports are still dominated by loom state grey cloth (i.e., no finishing). In practice, the increase in cotton costs has occurred in an increasingly depressed and highly competitive local and international textile market and has exposed poor product quality and limited marketing capabilities.

The lack of a commercial orientation has been aggravated by a lack of enterprise autonomy, evidenced by centralized decision making in areas such as finance, purchasing, and product mix. In addition, the accounting systems in place do not allow for individual product costing and profit/cost centers. As a result, marketing is not informed by the kind of management information that would be standard in a private sector company. The net result has been low product prices and a marked increase in stock levels. In the case of ready-made garments, these stocks are increasingly out of fashion and balance sheets overstate their true worth.

Exhibit III-C. The Nine Selected Companies: 10-Year Ratio Analyses

KAFR EL DAWAR	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	1.53	1.52	1.20	1.26	1.21	1.38	1.41	1.46	1.40	1.35
Debt/ Net Worth	0.95	1.03	0.91	0.81	0.91	0.87	0.88	0.73	0.64	1.19
Profit / Net Sales (%)	0.00	0.00	-ve	0.28	1.71	3.24	2.96	2.68	2.82	2.40
Profit / Fixed Assets (%)	0.00	0.00	-ve	0.17	1.32	2.88	2.79	2.91	2.92	2.10
Finished Goods / Current Assets	0.19	0.14	0.13	0.22	0.16	0.14	0.12	0.15	0.15	0.16
Average Storage Period (days)	n.a.	266	252	257	178	142	151	143	166	185
Average Credit Period (days)	113	120	119	117	111	99	137	102	105	128

MISR HELWAN	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	1.21	1.03	0.85	0.77	0.70	0.61	0.54	0.56	0.51	0.43
Debt/ Net Worth	1.02	1.52	2.03	1.75	3.17	4.23	7.30	26.01	-ve	-ve
Profit / Net Sales (%)	5.36	-ve	-ve	-ve	-ve	-ve	-ve	-ve	-ve	-ve
Profit / Fixed Assets (%)	3.28	-ve	-ve	-ve	-ve	-ve	-ve	-ve	-ve	-ve
Finished Goods / Current Assets	0.08	0.13	0.15	0.08	0.13	0.16	0.16	0.22	0.26	0.41
Average Storage Period (days)	n.a.	353	371	262	258	279	264	250	279	415
Average Credit Period (days)	105	113	138	192	220	142	167	168	164	133

NATIONAL	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	0.57	0.62	0.48	0.48	0.36	0.41	0.52	0.52	0.69	0.57
Debt/ Net Worth	38.36	-ve	-ve	-ve	-ve	-ve	-ve	-ve	-ve	-ve
Profit / Net Sales (%)	-ve	-ve	-ve	-ve	-ve	-ve	0.47	0.86	1.06	-ve
Profit / Fixed Assets (%)	-ve	-ve	-ve	-ve	-ve	-ve	0.50	1.07	1.61	-ve
Finished Goods / Current Assets	0.42	0.30	0.23	0.28	0.21	0.23	0.14	0.15	0.06	0.15
Average Storage Period (days)	391	178	194	206	174	110	140	120	146	173
Average Credit Period (days)	342	160	173	194	167	109	135	110	135	162

Exhibit III-C. The Nine Selected Companies: 10-Year Ratio Analyses (continued)

CHOURBAGI	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	1.26	1.55	1.18	1.08	0.88	0.70	0.66	0.70	0.75	0.68
Debt/ Net Worth	0.84	0.91	0.97	1.51	2.78	6.59	47.32	27.73	17.35	-ve
Profit / Net Sales (%)	1.95	-ve	-ve	-ve	-ve	-ve	-ve	0.23	0.31	-ve
Profit / Fixed Assets (%)	2.82	-ve	-ve	-ve	-ve	-ve	-ve	0.21	0.29	-ve
Finished Goods / Current Assets	0.21	0.29	0.31	0.26	0.26	0.38	0.36	0.32	0.26	0.35
Average Storage Period (days)	n.a.	397	420	361	283	393	354	302	313	362
Average Credit Period (days)	158	216	192	221	241	138	161	211	303	289

CAIRO DYEING	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	1.53	1.29	0.92	0.85	0.71	0.72	0.83	0.89	1.02	1.05
Debt/ Net Worth	0.97	1.27	1.94	2.01	3.20	3.85	3.53	3.78	2.65	3.64
Profit / Net Sales (%)	1.03	-ve	-ve	-ve	-ve	0.22	0.23	0.29	0.24	-ve
Profit / Fixed Assets (%)	0.81	-ve	-ve	-ve	-ve	0.18	0.23	0.40	0.41	-ve
Finished Goods / Current Assets	0.27	0.24	0.15	0.19	0.18	0.17	0.25	0.24	0.19	0.21
Average Storage Period (days)	n.a.	290	401	354	315	234	215	185	175	221
Average Credit Period (days)	125	147	191	181	113	126	149	165	161	210

TRICONA	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	3.34	2.80	1.57	1.59	1.16	1.34	1.30	1.25	1.23	0.92
Debt/ Net Worth	0.43	0.46	0.48	0.55	0.91	0.83	0.88	1.13	1.33	2.92
Profit / Net Sales (%)	0.00	0.00	0.00	-ve	3.09	0.19	0.86	0.35	0.82	-ve
Profit / Fixed Assets (%)	0.00	0.00	0.00	-ve	4.22	0.25	1.00	0.41	0.75	-ve
Finished Goods / Current Assets	0.26	0.29	0.41	0.46	0.39	0.44	0.48	0.55	0.58	0.55
Average Storage Period (days)	n.a.	215	237	325	270	314	394	478	723	758
Average Credit Period (days)	16	23	60	50	40	72	95	143	180	198

Exhibit III-C. The Nine Selected Companies: 10-Year Ratio Analyses (continued)

KABO	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	2.85	2.84	3.14	3.13	3.30	3.01	3.22	3.15	3.21	3.10
Debt/ Net Worth	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Profit / Net Sales (%)	11.94	8.13	6.11	13.98	6.98	16.53	7.32	17.34	16.13	15.86
Profit / Fixed Assets (%)	25.25	16.05	15.36	37.21	18.82	51.88	26.30	62.90	69.18	62.33
Finished Goods / Current Assets	0.13	0.16	0.18	0.20	0.18	0.15	0.16	0.19	0.22	0.27
Average Storage Period (days)	n.a.	153	136	145	158	144	138	170	186	232
Average Credit Period (days)	44	37	37	46	53	73	124	124	136	94

DELTA	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	1.22	1.19	1.46	1.35	1.18	1.35	1.15	1.44	1.56	1.46
Debt/ Net Worth	0.63	1.19	0.73	0.95	0.83	1.26	1.18	0.88	0.54	0.59
Profit / Net Sales (%)	0.00	-ve	-ve	-ve	-ve	1.24	1.09	3.76	3.84	3.50
Profit / Fixed Assets (%)	0.00	-ve	-ve	-ve	-ve	0.87	0.88	4.50	5.36	5.10
Finished Goods / Current Assets	0.27	0.14	0.14	0.14	0.27	0.13	0.16	0.18	0.21	0.22
Average Storage Period (days)	n.a.	462	380	344	332	364	231	132	127	152
Average Credit Period (days)	182	125	112	99	124	131	142	102	87	98

ESCO	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92
Current Assets/ Current Liabilities	1.25	2.20	1.28	1.13	1.02	0.73	0.69	0.73	0.69	0.63
Debt/ Net Worth	0.42	0.53	0.48	0.95	1.02	1.21	1.61	1.55	2.06	6.38
Profit / Net Sales (%)	0.00	0.60	-ve	-ve	-ve	-ve	-ve	0.00	-ve	-ve
Profit / Fixed Assets (%)	0.00	0.40	-ve	-ve	-ve	-ve	-ve	0.00	-ve	-ve
Finished Goods / Current Assets	0.13	0.16	0.17	0.23	0.22	0.25	0.25	0.24	0.26	0.43
Average Storage Period (days)	n.a.	287	299	351	266	237	186	150	169	242
Average Credit Period (days)	72	76	86	182	180	88	92	85	134	108

n.a. = not available (requires previous year's figure to derive average stock value over the years).

Source: derived from company accounts for fiscal years 1982/83 to 1991/92.

The combination of rising input costs and an inability to recoup these increases through higher product prices has inevitably resulted in losses and increased indebtedness. High levels of debt are not new; the World Bank report suggested that sector price distortions had probably led to an over-investment in spinning capacity.

Again using Misr Helwan as an example, the balance sheet value of investment in machinery increased from LE 63 million in 1984-85 to LE 135 million in FY 1991-92, that is, it more than doubled in seven years. Over this period the nominal value of net sales increased by only 60 percent. Much of this capacity expansion was inappropriately financed by short-term debt. In the case of Misr Helwan, the company was denied access to a long-term soft loan from the French government for plant rehabilitation. Instead, it used overdraft finance, which currently costs approximately 20 percent per annum. Thus, although the company posted a record loss of LE 95 million in FY 1991-92, it also paid a record level of interest of LE 61 million.

In essence, the current squeeze on profitability has served to aggravate debt problems, because of the way companies finance losses. This is illustrated below, again using Misr Helwan as an example, in Exhibit III-D.

Exhibit III-D. Misr Helwan: Funds Flow Statement
FY 1991-92

Application	LE '000s	Source	LE '000s
Net addition to fixed assets	6,427	Sale of government bonds	3
Net build-up of inventory	30,588	Decrease in balance of foreign currency	347
Prepayments to suppliers	3,394	Decrease in receivables, other debtor accounts	13,211
Increase in cash balance	6	Decrease in the debt balances	1,068
Increase in bank balance	457	Deferred payments to creditors	12,941
Partial amortisation of long-term loans	4,417	Deferred payment of operating expenses	17,719
Payment to suppliers and other creditors	13,112	Internally generated funds	24,931
Loss for the year	94,963	Post-dated checks	38,410
		Increase in short-term borrowing	44,734
Total	153,364	Total	153,364

As can be seen, the bulk of funds were used to cover the operational loss. The two major sources of this funding were short-term bank borrowing and post-dated checks, which are underwritten by the Holding Company and used to purchase cotton.

Companies therefore find themselves in a vicious downward spiral. The squeeze between rapidly escalating costs and an inability to pass on cost increases manifests itself in declining profitability levels (or increasingly larger losses) and increased stocks of finished goods. Recourse to expensive short-term finance further erodes profitability and undermines product margins. This leads to further accumulations of unsold goods and increasingly higher unit overhead costs.

In the meantime, the cotton sector's aggregate losses have been disguised by absorbing them into the loan portfolios of the state-owned banks or through similar arrangements, such as converting part of Misr Helwan's FY 1991-92 loss into an outstanding debt with the Holding Company for Foreign and Cotton Trades. While this may be possible in the short term, in the long term it involves financial arrangements that are unsustainable and will sooner or later collapse.

D. Conclusions

What are the implications of the above for formulating a divestiture strategy for the sector?

First, on strictly financial grounds (i.e., ignoring the wider economic and policy environment), the five companies that are financially sound appear suitable for privatization in their current state. In terms of their potential value, the preferred approach to an indicative valuation of the five companies would be on a discounted profit basis. This approach takes into consideration the companies' future, which is then discounted at a suitable rate to reflect risk and the degree of return required by investors to justify investing in the companies.

Accordingly, the valuations below assume a continuation of current (FY 1991-92) real trends in profit over a 30-year time horizon. It applies a discount rate of 10 percent to the resultant profit flows. This infers a required real rate of return of 10 percent, which is probably the minimum a potential investor would require.

Valuation of the Five Financially Sound Companies

Company	FY 1991-92 Profits (LE million)	Net Present Value (30 yr annuity, 10% discount rate)	GOE Ownership (%)	Indicative Sales Realization (LE million)
KABO	17.5	165.0	78	128.7
STIA	19.7	185.7	100	185.7
UNIRAB	22.6	213.0	64	136.3
Shebin	16.9	159.3	100	159.3
Mahalla	35.2	331.8	100	331.8
Total	**111.9**	**1,054.8**		**941.8**

The above analysis should be viewed as highly preliminary. It indicates a FY 1991-92 value for the five companies of just short of LE 1 billion. Assuming that profits have kept in line with intervening inflation, the FY 1992-93 valuation would be slightly in excess of LE 1 billion.

It is instructive to compare the above list with that prepared by the PEO for privatization over the next five years. The PEO concurs with the analysis in preparing

KABO as a second batch privatization candidate in FY 1992-93. However, for FY 1993-94 (third batch privatization candidates), it proposes the following enterprises: Delta, UNIRAB, Daqahliya, Damietta, and Alexandria.

Only UNIRAB appears in the above list. The other four companies were classified in the analysis as "financially intermediate," that is, companies that have one or more problems with liquidity, debt, profitability, and stock or receivables turnover. These companies would consequently require some level of financial restructuring. As argued below, this process may take two or more years. It is therefore recommended that the PEO review companies to be privatized over FY 1993-94 in the context of the above analysis.

Second, the 10 companies designated as financially unsound require immediate attention. Any continuation of "business as usual" would impose an increasing drain on sectoral and national finances. At the end of June 1992, cumulative deficits of the 10 companies amounted to LE 700 million. Clearly, one option would be to recommend immediate liquidation. There are two objections to such a course of action:

- The majority of the 10 companies are large, vertically integrated operations. As such, parts of their businesses may be profitable, even though the whole business does not promise sustainable financial viability. Financial data are reported at the aggregate company level. The absence of individual cost and profit centers and product costing precludes the level of analysis required to ascertain the viability of their constituent parts.

- Liquidation would subject the companies to a "fire sale" valuation. There is thus the danger of understating the potential value of the companies that a sale on a "going concern" basis would avoid.

It is therefore recommended that the 10 companies be subjected to a detailed analysis of financial viability. Such an analysis would examine the future viability of the whole and constituent parts of each company, including:

- Costs and revenues of each mill and company operation.

- Costs incurred and prices received for the current product line.

- The potential for introducing higher value-added products in line with anticipated local and international demand.

- The effect on future financial viability of proposed liquidation measures.

- The likely investment costs of rehabilitating parts of the companies to secure enhanced efficiency levels and requisite product quality and marketability.

- The need for financial restructuring.

It is recommended that the above investigations be heavily market-driven to realistically assess the marketability of current and potential products and prices that might be realized in a freely competitive environment. The investigations would make firm recommendations on companies or components that should be kept or liquidated, together with appropriate financial projections and valuations of assets and operations. If undertaken concurrently, such studies could be completed in six weeks.

Third, at a minimum, companies designated as "financially intermediate" will require substantial financial restructuring to be attractive to potential investors. The proceeds from the sale of the five financially sound companies could be used to clean up the balance sheets of the intermediate companies, particularly in the area of short-term debt. This approach would confer the added advantage of cleaning up the balance sheets of the state-owned banking system, since many of the debts owed by the textile companies are in arrears and interest outstanding is being capitalized. This has obvious implications for future loan portfolio performance of the banks.

Given what appears to be the preferred approach to privatization (i.e., sale of shares to the public and/or company management and employees), it is unlikely that financial restructuring alone will be sufficient to ensure future financial viability. Comments above concern the lack of commercial orientation of senior management, especially in the area of product marketing. If privatization is to be successful, the current management needs to demonstrate greater marketing [illegible]ility or access to such expertise.

It is therefore recommended that, concurrent with financial restructuring, performance contracts be negotiated with each of the 10 companies. The performance contracts would specify agreed-upon targets in areas such as profitability, cost control, technical efficiency, etc. Management would be required to adhere to these targets. Regular reporting on progress in meeting the targets would provide accountability to the government. It would in turn allow for a greater degree of autonomy in day-to-day management decision making. This is essential if the targets are to be met.

At the same time, management contracts should be actively pursued with international textile companies. Such contracts would provide much needed expertise (particularly in product marketing) and should be negotiated on a contingency fee basis (i.e., fees related to profitability turnaround). The contracts may also include a future option to buy or lease the company. It is also essential that reporting under such management contracts be timely so that early decisions can be made about rationalizing the companies operated under such contracts.

Thus, the strategy that emerges from the financial analysis has three dimensions:

- **Immediate to short-term:** Investigate the financial viability of the 10 financially unsound companies and act upon recommendations.

- **Short- to medium-term:** Prepare the five financially sound companies for privatization and begin privatizing them.

- **Medium- to long-term:** Financially restructure the 10 financially intermediate companies, introduce performance and management contracts, and restructure the companies for eventual privatization.

10

SECTION IV
TECHNICAL ASSESSMENT

This section provides a technical overview of public sector spinning and weaving in Egypt. Where possible, conclusions are drawn regarding existing physical productivity and ways to improve it. The primary focus is on spinning and weaving.

A representative sample of nine public sector companies was examined in detail. Explanation of procedures and results are given for each firm in Annex A of this report, with only a summary of the technical recommendations for each company included at the end of this section.

A. Introduction

Throughout much of the twentieth century, Egypt has had a reputation for high quality cotton yarns and fabrics. The first enterprise in modern times was established by a Swiss group of investors in Alexandria in 1889 for spinning and weaving long staple Egyptian cottons. This company (National) is still operating, but it now produces medium and coarse count yarns that are used in domestic channels to meet the needs of the domestic market.

Contradicting Egypt's reputation for extra-fine yarns is the fact that its capacity to produce combed yarns reaches only 20 percent of that for carded yarns. Twenty percent of the cotton yarns are plied. The average annual production per spindle is 98.7 kg with an average count of Ne 28/1. About 25 percent of yarns produced go into export markets.

After nationalization in the early 1960s, the textile sector was restructured by gathering small units into a few large companies, often without due consideration for the nature of each company. The textile public sector now directs 30 large, mostly vertically integrated companies, 25 of which emphasize cotton textiles. The sector has over 3 million ring spindles and 25,000 rotors, about 19,000 looms, and about 600 knitting machines. Eighteen of the companies also have dyeing and finishing facilities. Twenty of the companies have spinning operations and 17 have weaving operations. Only four of the companies do not engage in either spinning and weaving; of these, two do only dyeing and finishing and two are involved in knitting and finishing.

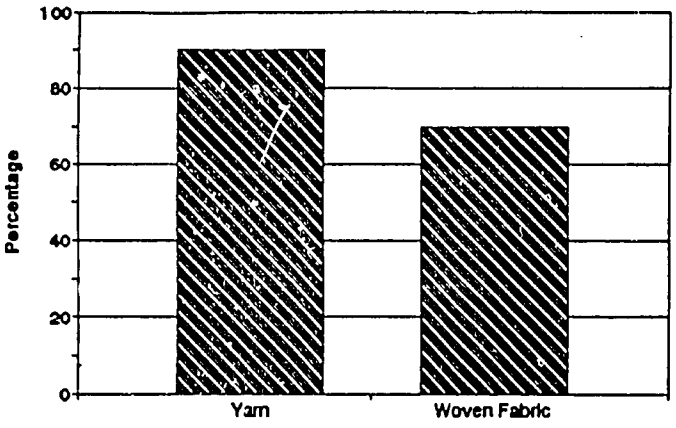
The production of yarns, fabrics, and garments by Egypt's public sector companies in 1991-92 is shown in Exhibit IV-A on the following page. The yarn production of 273,000 metric tons accounts for about 90 percent of total Egyptian production, while the fabric production of 550,000 linear meters accounts for about 70 percent of the domestic total.

102

Exhibit IV-A. Cotton Textile Production by Public Enterprises

TYPE OF PRODUCT	UNIT	QUANTITY
Cotton & cotton blended yarns	Tons	273,355
Cotton & cotton blended fabrics (woven)	Meters (000)	550,058
Knitted products	Pieces (000)	342,000
Woven ready-made garments	Pieces (000)	11,000

Shares of Production by Public Enterprises



Exhibits IV-B and IV-C on page IV-3 show the number of spindles and their production of each of the 20 public sector spinning companies. The two largest spinning companies, Misr Kafr El-Dawar and Misr Mehalla, have 24 percent of total public sector spindles and account for about 30 percent of yarn production. The five largest spinning companies have 46 percent of the spindles and account for about 47 percent of yarn production.

Exhibits IV-D and IV-E on page IV-4 show the number of looms and their production of the 17 public sector weaving companies. The two largest companies are again Misr Kafr El-Dawar and Misr Mehalla, which have 39 percent of total public sector looms and account for about 49 percent of fabric production. The five largest weaving companies have 65 percent of the looms and account for about 64 percent of fabric production.

B. Spinning

It is estimated that the average operating efficiency for spinning in Egypt, based on contract specification of maximum output, is no greater than 60 percent. This is far below the 85-90 percent level that it must reach to be on par with its global competitors. It also implies that the occurrence of "ends-down" (yarn breaks) is quite frequent, which leads to inferior quality in the yarns and fabrics ultimately produced.

Exhibit IV-B. Spinning Machines, 1991-92

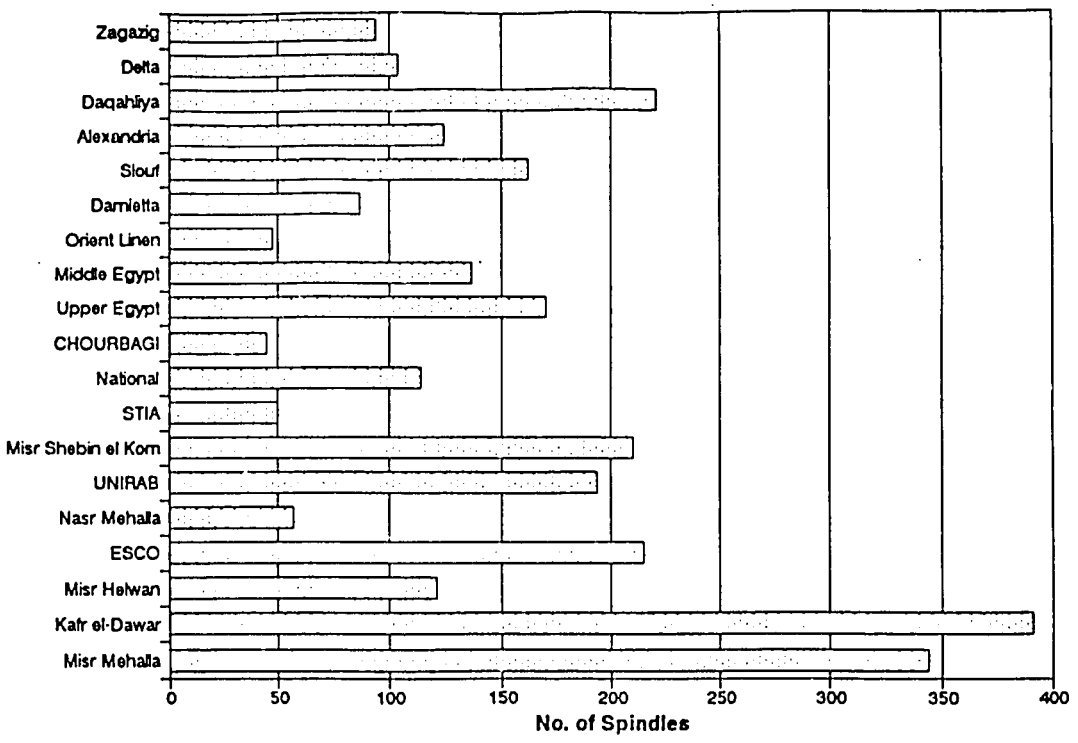
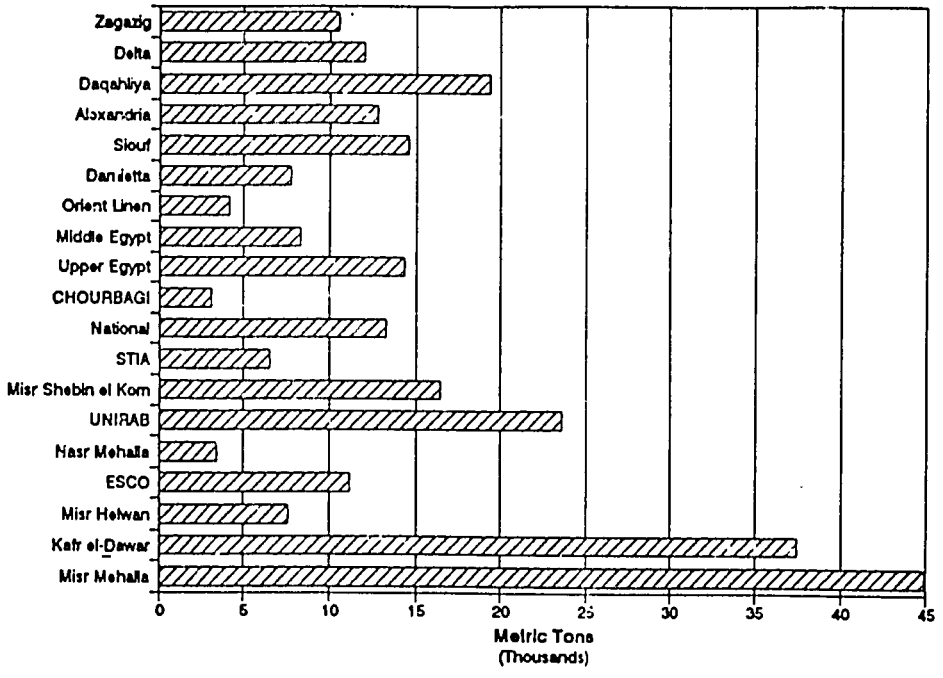


Exhibit IV-C. Production of Spinning Machines, 1991-92



104

Exhibit IV-D. Weaving Machines, 1991-92

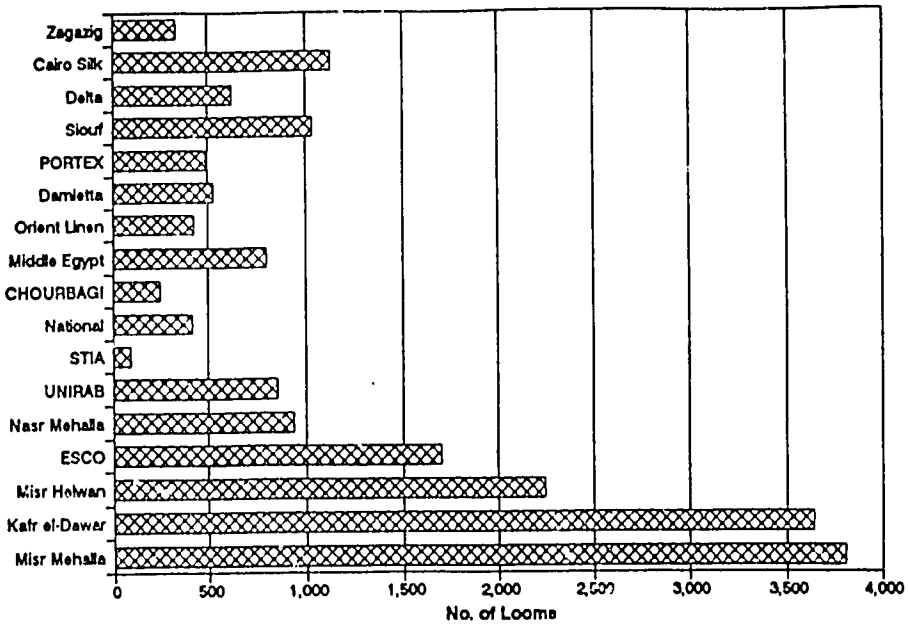
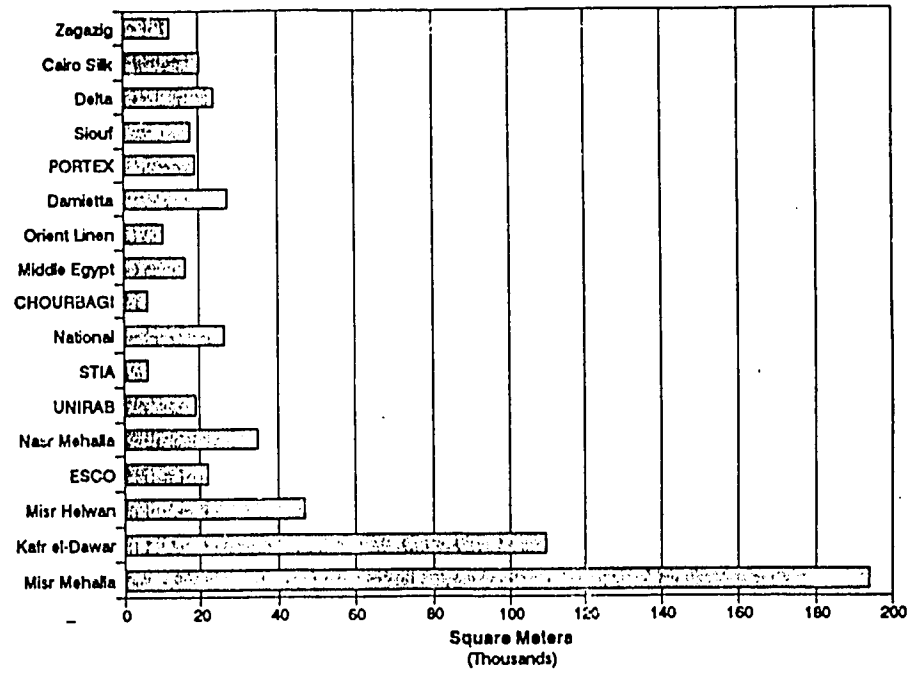
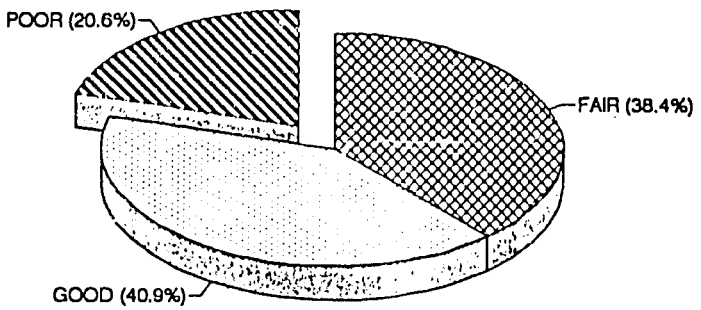


Exhibit IV-E. Production of Weaving Machines, 1991-92



Over the past five years, about 1.3 million new spindles were installed in public sector companies; these are still running at 90-95 percent efficiency. Most of the other 1.7 million spindles were installed between 1959 and 1978; these generally produce yarns that are used by domestic weavers and knitters. A portion of these old spindles are well maintained and are producing high quality yarns. However, many should be taken out of production due to obsolescence and/or low productivity. Exhibit IV-F shows results of on-site assessments of the technical condition of spindles for the six spinning companies included in the nine-company sample. On balance, 20.6 percent of the spindles were assessed as "poor," meaning they exert an unacceptable drag on productivity. Based on these results and on knowledge about machinery existing in the 14 other public sector spinning companies, it is conservatively estimated that about 850,000 public sector spindles should cease production.

Exhibit IV-F. Condition of Public Sector Cotton Spindles Under Current Structure



It is estimated that the average operating efficiency for the "poor" spindles, again based on contract specifications of maximum output, is only about 50 percent. Therefore, just removing these spindles from production would be expected to raise the average operating efficiency of the remaining spindles to 64 percent. The reassignment of production laborers to adequately cover the remaining spindles would enable a further increase in average efficiency, to 80 percent or more. This would greatly improve the competitiveness of public sector spinning.

These "poor" spindles not only produce smaller quantities at lower rates of efficiency, they also require about 20 percent more labor to keep them running. Based upon three work shifts per day and an average of 1,200 spindles per person per shift to monitor and care for the production on the poor spindles, shutting down these 850,000 spindles would make available for redeployment about 2,100 production workers, or about 40 percent of the labor force manning the spindles in the public sector companies under consideration. Removing spindles would also stop production in other parts of the textile production line, which would free up about half again as many workers as the spindle operators. This implies a total redeployment of about 3,150 workers.

There has been a persistent occurrence observed over the past several years of a chronic excess production of about 30,000 metric tons (i.e., the inability to move production into the market, apparently due to quality or other problems) rather than to temporary demand problems. Since a single "poor" spindle will generally produce about 65 kilograms of yarn per year, it takes about 450,000 such spindles to produce 30,000 metric tons in a year. Therefore, it follows that at least 450,000 poor spindles should be removed from production with no intention of replacing them with new spindles in the near future. Given the depressed condition of global textile markets, the 850,000 spindles should be replaced naturally as part of a liberalization and restructuring process.

C. Weaving

Of the 19,300 weaving looms in the public sector textile industry, 89 percent are shuttle looms and 11 percent are newer, shuttle-less looms. Exhibit IV-G records for each company the total number of looms, along with a separate accounting of the shuttle-less looms. One company, STIA, stands out for having a high percentage, 79 percent, of shuttle-less looms. National is second with 50 percent, followed by Damietta and PORTEX with 32 and 31 percent, respectively. All the others have fewer than 20 percent shuttle-less looms, and 10 of the companies have fewer than 10 percent.

Exhibit IV-G. Weaving Looms in Egypt's Public Sector Companies, 1991-92

COMPANY	TOTAL LOOMS	Shuttle-less	
		No.	%
Misr Mehalla	3,808	544	14
Kafr el-Dawar	3,642	332	9
Misr Helwan	2,253	414	18
ESCO	1,700	0	0
Nasr Mehalla	937	80	9
UNIRAB	858	64	7
STIA	91	72	79
National	414	208	50
CHOURBAGI	250	40	16
Middle Egypt	804	0	0
Orient Linen	423	35	8
Damietta	524	168	32
PORTEX	486	152	31
Siouf	1,032	48	5
Delta	628	0	0
Cairo Silk	1,126	46	4
Zagazig	335	13	4
TOTAL	19,311	2,216	11

The shuttle-less looms generally produce fabrics four to 10 times faster than the shuttle looms, as reflected in the loom output data given in Exhibit IV-H on the following page. Thus, STIA stands out from the other the public sector weaving companies, and the higher loom outputs are generally associated with higher percentages of shuttle-less looms.

Exhibit IV-H. Loom Output Under Current Structure

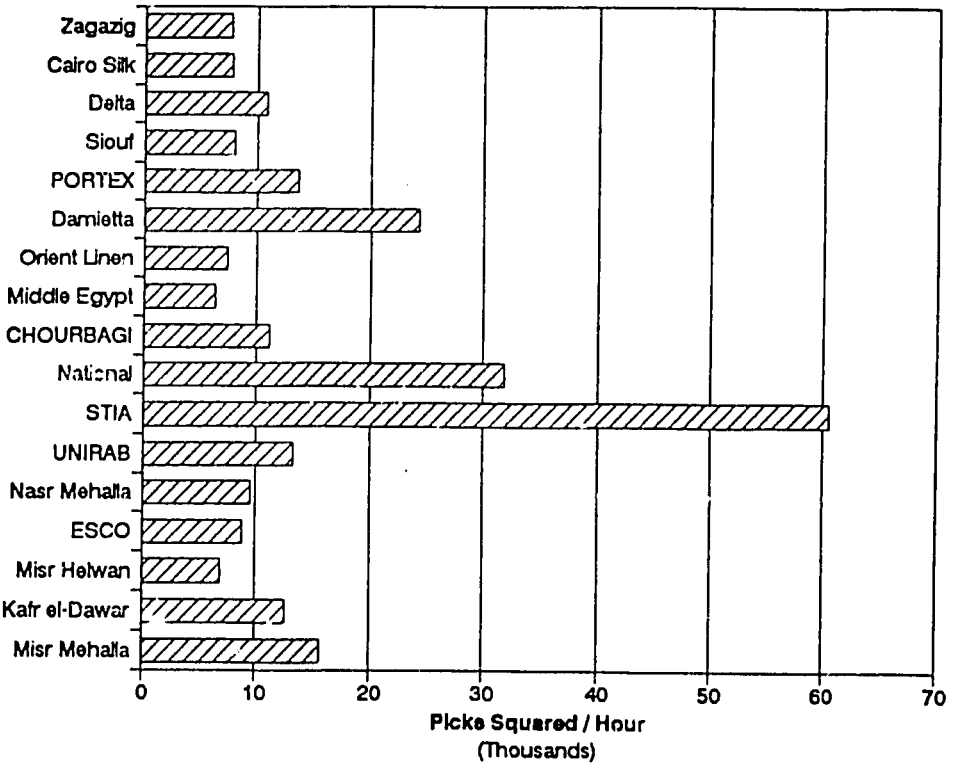


Exhibit IV-I on the following page completes the story with estimates of the efficiency of weaving machinery in each company relative to its theoretical maximum. The efficiency of any given loom is determined relative to the output (in terms of thousand picks squared per hour) that is technically possible for that loom; therefore, it is quite possible for an older, slower loom to score a higher efficiency than a newer, faster loom. Three companies —STIA, Misr Mehalla, and National—have weaving efficiencies of 85-90 percent, putting them in the group of internationally competitive weaving companies. Companies with efficiency percentages below 75 percent are not competitive; unfortunately, most other companies in Egypt are in this group. Five of the companies have efficiency ratings below 60 percent. The average efficiency for the entire public sector is about 72 percent, reflecting higher productivity than for spinning, but not nearly high enough in today's global market.

Based on a sector-wide assessment of the condition of weaving machinery, 17 percent are rated in excellent condition (Exhibit IV-J on the following page). These would include all of the 11 percent that are shuttle-less looms. Twenty percent of the weaving machinery is rated as poor, meaning that 3,900 looms should be removed from production on technical grounds alone. Twenty-two percent are rated in fair condition; some may be candidates for removal, depending on circumstances in the companies. Given the dynamics of private sector involvement in weaving, discarded weaving machines should not be replaced unless as part of restructuring and privatization.

Exhibit IV-I. Weaving Efficiency Under Current Structure

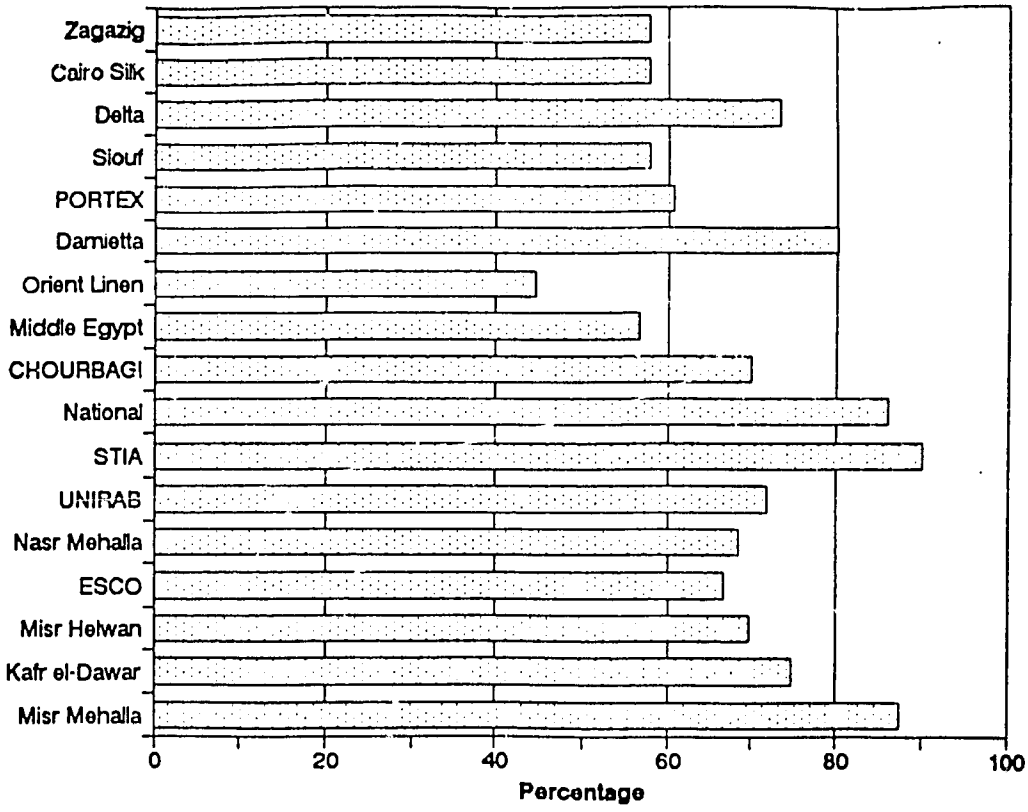
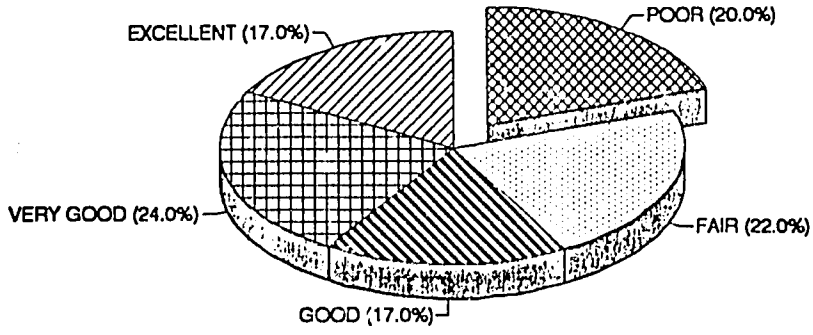


Exhibit IV-J. Condition of Public Sector Weaving Machines Under Current Structure



About 18 production workers are required to operate 100 of the "poor" looms. Therefore, removing 3,900 looms from production implies a redeployment of about 2,000 loom operators and 350 other workers.

101

D. Other Operations

In general, the dyeing and finishing facilities of public sector enterprises are using technology that is two decades old. In their current state of technology and management, they are clearly unable to compete effectively in global markets. In the context of ongoing liberalization and privatization, state-of-the-art dyeing and finishing facilities should be developed as private sector ownership becomes a reality.

The garment facilities at public sector companies have generally been "added-on" to existing facilities, sometimes using production floor space that has been vacated. Nevertheless, the facilities and equipment are among the best in Egypt; the investment required to construct and equip a garment manufacturing plant is small relative to spinning and weaving operations.

In recent years, floor space has actually been leased to private sector operators, with the garment operations being managed autonomously. This is another manifestation of private sector initiative in this part of the textile industry.

Most of the garment manufacturing operations target markets for lower cost and casual clothing. But the public sector is leading efforts to make higher value, tailored products for export to discriminating markets in the European Community and North America. In some cases, the fabric is shipped from these markets, made into garments, and shipped back.

E. Critical Technical Issues

The rate of technological change and innovation has increased in the past three decades. The insular textile industry in Egypt has missed much; success will depend on rapid progress in these areas. Many of the necessary technical changes in manufacturing are related to marketing changes (e.g., "quick response" and "just-in-time" inventory methods, emphasis on product variety and smaller production runs).

Some key issues for Egypt's textile industry are discussed below.

E1. Raw Material

A fiber's performance in processing and end-use is increasingly controlled with sophisticated measurement and monitoring of diverse characteristics (e.g., fineness, length, length uniformity, short fiber content, diameter variability, maturity, mechanical properties, crimp, color, neps, trash content and size, stickiness). Quality control depends on getting these properties within acceptable ranges, which increasingly requires purchasing fibers on the basis of objective measurements.

Egypt has missed out on a revolution in techniques of fiber selection, handling, opening, and blending. Ignoring these techniques has been justified by the assumption that Egyptian cotton is uniform and clean. However, it does have a high degree of variability,

both among bales and within bales of the same grade. Reasons for variability include (1) variable harvest practices and mixing of varieties at the farm level, (2) variable processing and mixing of cottons at the ginning level, and (3) inadequacy of grading methods.

Problems with Egyptian cotton notwithstanding, significant quantities of imported cotton are used by the public sector, which has also experienced serious quality problems with such cotton. Since the survival of a liberalized spinning sector will depend on increased imports, verifying fiber properties for imported cotton should become standard operating procedure.

Both domestic and imported polyester used by spinners has exhibited unacceptable variation in diameter, length, crimp, and finish. Thus, there is a general need for adequate verification of fiber properties—as textile industries all over the world have learned.

Adequately evaluating cotton fiber properties should be the basis for determining the appropriate mix for a mill's "lay-down" of cotton, which should include a minimum of 17 bales. Proper opening and blending techniques should then be used to ensure uniformity of the lay-down, to remove contamination, and to normalize the moisture content.

E2. Labor

The direct production laborers in public sector textile companies are generally unaware of the impact of production procedures and sequences on product quality. Neither do supervisors provide adequate monitoring to ensure specified procedures. Training and upgrading are the only solution for such problems.

Although the direct production laborers in the public sector are not in excess and are correctly allocated, a high rate of absenteeism (about 15 percent on the average) results in a chronic shortage of direct labor. This shortage contrasts with an obvious excess of labor outside direct production activities. The work force in administration, finance, marketing, legal issues, maintenance, transportation, and other areas is approximately 50 percent as large as the direct production work force. Moreover, the salary structure in the public sector results in non-production workers being paid more and having a lower turnover rate than production workers.

Due to the combination of (1) a strict policy over the last seven years of reducing the number of employees in public sector textile companies, and (2) the prevention of hiring and firing according to labor requirements of these companies, the loss of employees has been greater in direct production areas of textile companies, and the average age of employees has increased significantly. Both of these outcomes have contributed toward decreased labor productivity. Such rigidity is common in public sector companies, as are its results. Given such rigidities, the few solutions available include retraining and redeploying workers for production jobs.

In spite of a large number of employees in the non-production areas, the marketing departments in public sector textile companies are either understaffed or non-existent. The

lack of marketing expertise is a great disadvantage in today's global markets and is integral to developing adequate inventory control systems. This disadvantage should be remedied by hiring qualified people and by aggressive training programs.

It should also be noted that the number of highly qualified engineers in all sectors of textile enterprises is insufficient. Again, hiring and training is the only solution.

E3. Ambient Conditions

The technical procedures in fiber processing require the mill to maintain air values within certain parameters in the production departments of textile plants. With unsuitable air values, the technical process may be considerably disturbed. Thus:

- Unsuitable relative humidity levels and air temperature in spinning results in irregular yarn, with increased hidden defects that affect the yarn quality as well as the efficiency of subsequent processes. The ambient condition in the spinning room will affect the rate of end breakage on the ring spinning, thereby increasing labor required and cotton wasted.

- In weaving, variable humidity of the air causes fluctuation in the stresses and extensions of the weft and warp, which in turn increases breakage and fluctuation in the fabric widths. Quality deteriorates, the proportion of waste rises, and labor productivity falls.

Textile mills in Egypt, even those that have state-of-the-art spinning and weaving machines, have typically not invested in air conditioning facilities capable of controlling humidity, air cleaning, and air movement. The resulting sub-standard ambient conditions not only lower the quality of processed products, but also increase mechanical wear of machinery and the rate of spare parts consumption.

E4. Quality Auditing

Modern methods of quality control and quality assurance in the textile plants involve new technologies of instrumentation and computerization. Off-line methods are increasingly augmented by on-line monitoring as a means of ensuring continuous control at each stage of processing and early identification of specific production units that are outside quality tolerance levels. The Egyptian textiles public sector has not invested in such quality control technology; if it does, it must also invest in training its personnel to use it effectively.

The public sector applies off-line methods for quality control, generally using mill laboratory equipment that is sufficient only to detect large random variations, periodic variations, or deviations from nominal values. Such techniques cannot easily detect problems with specific production units, however, and detection often lags behind the onset of problems by at least a few hours.

All of the public sector textile mills lack ability to test incoming raw material, due in part to many years of closed pricing and marketing (see Sections I and II). Investment and training in this area of quality control is probably essential to compete effectively in an open market. It is increasingly necessary to design procedures for raw material management that minimize the probability of wrong decisions (i.e., that combine measurement technology with appropriate statistical techniques).

F. Private Enterprise

The technical team visited several privately owned textile firms and made the following observations:

- In weaving, knitting, dyeing and finishing, and garment manufacturing, privately owned firms are in no better technical condition than the public companies. Indeed, privately owned firms often contract with technicians from the ranks of public sector employees for special assignments.

- Direct labor distribution is similar, but the administrative and support work force is much smaller.

- Marketing receives more attention from top management; however, it typically is not staffed as a separate department. In fact, it is usually done by the owner.

- Privately-owned firms generally do a better job with product designs and product mixes.

- Wages in privately owned firms generally average less than those in the public sector, but have a wider range between low and high levels.

G. General Technical Recommendations

The following changes deserve special consideration by the public sector textile companies.

- Take inventory and remove from production all "poor" spindles and looms in public sector companies, conservatively estimated at 850,000 spindles and 3,900 looms.

- Retrain and redeploy existing workers toward direct production jobs. Upgrade and increase marketing and engineering personnel through both training programs and hiring.

- Organize the companies so that each plant has autonomy of operation; at a minimum, this implies management has significant leeway in buying raw materials, selling manufactured products, and managing major inventories. Separate financial records and accounts would be necessary.

- Explore available and potential techniques for improving fiber selection, handling, opening, and blending.

- Examine approaches (1) to better control humidity, air cleaning, and air movement in processing areas of plants, and (2) to alleviate impacts of sub-standard ambient conditions.

- Explore approaches to waste treatment and disposal; there is an obvious need for this throughout the textile industry.

H. Technical Recommendations for Specific Companies

As a result of consultations with the Chairmen of TIHC, HCCG, and HCITC, a sample of nine public sector companies was chosen for on-site visits and more specific technical recommendations. Detailed reports on each of these are presented in Annex A. A summary of recommendations is included here.

Misr Helwan

- Arrange for each of the 13 mills to operate more autonomously, with each free to acquire inputs and sell outputs inside or outside the Misr Helwan organization.

- Reconfigure machinery and redesign the ventilation system in Weaving Mill No. 4.

- Discard 108 Kovo shuttle looms in Weaving Mill No. 2 and 336 Kovo shuttle looms at El-Waily.

- Transfer 500 Picanol shuttle looms from Weaving Mill No. 3 to El-Waily.

- Transfer 200 Picanol shuttle looms from Weaving Mill No. 6 to Weaving Mill No. 2.

- Cease the frequent rewinding of cones from Spinning Mill No. 1; instead, focus on proper adjustment of winding machines in the mill.

- Reallocate carding machines; transfer some of the polyester cards to the cotton line.

- Stop using excess draw frames, since they add unnecessarily to production costs. Concentrate on producing a high quality carded silver and increase doubling at each stage.

- Because of the age of the draw frames, service them at closer intervals. Check settings and roller conditions at least once a shift.

- Optimize ratch settings on each sectional draft of the draw frames.

- Replace the Textima silver lap, due to its inability to produce a lap from more than 16 silvers. The minimum acceptable number is 22 silvers.

- Overhaul or replace the combing machines. High-production combers are needed.

- Improve transportation of warp beams from the weaving preparation area to sizing and weaving rooms to reduce damage to the yarn.

- Upgrade maintenance of both spinning and weaving mills, in order to reach higher production rates and meet higher product quality standards.

- Rationalize the distribution of production on looms, devoting the better looms to producing higher quality fabrics. Use old looms only as necessary to produce low-cost items that are not quality-sensitive.

- Improve maintenance and increase spare parts inventory if dyeing and finishing operations are to continue. Successfully exporting dyed fabrics requires an upgraded dyeing and finishing testing lab. However, reduce the level of employment in the dyeing and finishing area.

- Establish a quality auditing program that controls parameters on key fiber properties and on machinery settings required to efficiently process the fibers.

- Arrange for improved storage of cotton bales that will protect the fiber from the unacceptable environment at Helwan.

- Remedy the insufficient blending of raw materials. It is recommended that each "sandwich blend" consist of at least 3,400 kilograms and be spread out enough to enable a worker to cut vertically through the entire blend during feeding.

National

- Completely reorganize production lines in all spinning, finishing, and ready-made garment plants to achieve efficient machine configurations.

- Determine the feasibility of installing air conditioning and improving ventilation.

- Improve material handling to prevent package damage and contamination.

- Develop more sophisticated blending and mixing processes to achieve the necessary yarn qualities.

- Use more sophisticated instrumentation for quality control, organize a quality control program, and hire and train qualified technical personnel.

Kafr El-Dawar

- Devote more resources to blending and mixing before feeding fibers to the opening line; develop a system of bale classification to facilitate this.

- Improve handling of materials between production stages in and between mills.

- Adjust winding machines more frequently.

- Examine ways to improve relative humidity and temperature; increase the hourly rate of air circulation in production areas.

- Reactivate the research and development department.

- Establish quality auditing at each mill.

- Take 256 Polish looms and 56 Northrop looms in Weaving Mills No. 2 and No. 3 out of production to increase overall efficiency and loom productivity.

- Hire a qualified designer.

- In Mahmoudia, reclothe cards and replace winding equipment.

- In Kom Hamada, restructure combing, roving, and winding processes.

ESCO

- At the new spinning mill, increase maintenance on all machinery, systematically set all machines, improve quality control program, and improve ambient conditions.

- At the Kaloub spinning mill, improve quality control and build storage to serve yarn facilities.

- Close down the Bahteem spinning mill and take salvageable equipment to the Gazal spinning mill; discontinue the existing ring spinning facility at Gazal.

- Dispose of obsolete weaving machines and reduce fabric production accordingly.

- Plan and execute a strong maintenance program that ensures a sufficient spare parts inventory.

Chourbagi

- Combine the knitting department at TRICONA with that of Chourbagi to have a range of knitting machines covering all major fabric sizes.
- Completely overhaul the spinning and winding operations.
- Replace all cards and combers.
- Dispose of 84 looms without replacing them.
- Develop a workable system for spare parts inventories and repairs.
- Start a quality auditing program for all phases of production.

TRICONA

- Combine knitting machines of TRICONA and Chourbagi, as mentioned above, to enable significant economies of scale.
- Use the dye house at TRICONA at full capacity to finish knitted fabrics for both companies; continue providing commission dyeing services for private firms.
- Transfer the socks mill of TRICONA to Chourbagi.
- Focus the accessory unit of TRICONA on supplying the needs of both public and private garment manufacturers.

Delta

- Improve quality auditing procedures.
- Initiate a rigorous training program for production workers.
- Institute a maintenance program for weaving looms.

KABO

- Develop a quality control lab backed up by a research and development center; emphasize ability to check incoming yarn for dyeability.

Cairo Dyeing Company

- Dismantle the Shoubra mill and the accompanying yarn dyeing plant, which are obsolete.

- Move the Shoubra mill finishing facility and an Alma cone dyeing machine from the accompanying yarn dyeing plant to the nearby El-Aliaf mill.

PART II

ACTION PROGRAM FOR LIBERALIZATION AND PRIVATIZATION

INTRODUCTION

As described in Part I, the cotton textile industry is dominated by 25 public sector companies. They tend to be large, vertically integrated companies engaged in spinning, weaving, knitting, dyeing, finishing, and ready-made garments. Private sector participation is significant only in knitting, garments, and other ready-made goods, with a large number of small firms and household shops.

The economic evidence on cotton textiles in Egypt shows that policies have had many unintended consequences and have been based on erroneous assumptions about world markets and global competition. Such assumptions led to a policy linking specialty (i.e., extra-fine) cotton production and specialty (i.e., fine-count) yarn and fabric production.

This policy has placed Egypt in a global market niche that requires a combination of efficiency and excellence to succeed. It also requires a high degree of market development and market service, constant innovation, and flexibility in sources and handling of raw material, in machine configurations, in labor activities, and in product lines. The Egyptian industry is handicapped in all of these areas for the market that government policy has targeted.

At present, the sector cannot meet many preconditions for successful liberalization or privatization. The following is presently the case:

- Government rules and regulations governing the cotton textile market are not announced well in advance of implementation, are not progressive or time-specific, and fail to protect market participants from vested and special interests.

- The price system for cotton and textiles in Egypt is non-functional. Improved price signals are a necessary part of a "liberalization spiral."

- The spinning sector cannot match its fiber requirements with its product mix in a cost-effective way because of regulations and trade barriers.

- All trade channels for raw cotton in Egypt, whether domestic or international, are preempted by government control.

- Imports of fabrics and garments are prohibited. There is a 30 percent tariff on cotton yarn imports. Private sector interest in the spinning sector will not be significant without the freedom to import appropriate cotton.

Part II proposes a strategy for liberalizing and privatizing Egypt's cotton textile industry to ensure its transition from a protected and subsidized environment to an open market economy. Section V draws on the analysis of Part I to recommend a phased

approach to policy actions, institutional measures, and asset sales. Section VI analyzes the recommendations in terms of their implications for a program of policy reform benchmarks, technical assistance to the sector, and training initiatives.

The plan focuses where possible on a strategy for specific companies or groups of companies. This focus follows from Part I's recommendations based on the specific financial and technical status of particular companies. These include the following:

Financial. Sectoral financial data point to massive under-capitalization and a chronic imbalance between resource use and the rate of return on operations. Of the 25 companies in the assessment, five were financially sound, 10 were financially unsound, and 10 were in an intermediate group that had significant financial problems requiring additional attention.

- **Financially Sound (good candidates for privatization)**
  - KABO
  - STIA
  - UNIRAB
  - Shebin
  - Misr Mahalla

- **Financially Intermediate (restructuring is required)**
  - Damietta
  - Delta
  - Daqahliya
  - Orient Linen
  - Kafr El-Dawar
  - Siouf
  - Nasr Mahalla
  - Alexandria
  - PORTEX
  - Bida Dyers

Financially Unsound (candidates for liquidation)

- Misr Helwan
- Cairo Silk
- Middle Egypt
- Chourbagi
- National
- ESCO
- TRICONA
- Cairo Dyeing
- Upper Egypt
- Zagazig

Technical. On-site technical visits to nine firms revealed the following parallels between technical and financial results:

- Only KABO was classified as financially sound. The technical assessment corroborated the financial assessment; machinery and equipment were relatively new and efficient. Better quality control in both raw materials and finished products was the major technical imperative.

- Delta and Kafr El-Dawar were classified as financially intermediate. Likewise, the technical picture was mixed for each of these companies, with significant areas of obsolescence and low productivity.

- The remaining six companies (Misr Helwan, Chourbagi, National, ESCO, TRICONA, and Cairo Dyeing) were classified as financially unsound. Again, the thrust of technical evidence is consistent; all of them will require large capital investments and/or substantial down-sizing to achieve threshold levels of efficiency. Of the six, Misr Helwan probably has the best technical base for restructuring, but its location in an area of severe air pollution is a complicating factor.

- The four financially unsound firms that were not subjected to on-site visits—Cairo Silk, Middle Egypt, Upper Egypt, and Zagazig—have pervasive problems with technical obsolescence. Therefore, they are also "technical candidates" for liquidation rather than restructuring.

- The four financially sound firms that were not visited—STIA, UNIRAB, Shebin, and Misr Mehalla—are also known to be among the best technically equipped companies. The evidence collected on weaving efficiency certainly supports that conclusion (see Section IV.C).

SECTION V
LIBERALIZATION AND PRIVATIZATION STRATEGY

A. Objectives

Liberalization. The objective of liberalization is to put in place a free market system whereby investment, production, domestic sales, and export decisions respond to market signals and prices. By correcting price distortions and reducing or eliminating existing trade restrictions, Egypt's cotton textile industry can specialize in its areas of strength in the global market. In general, this will require the following:

- Maintain a presence in the export market for extra-fine cotton varieties within the size and price parameters imposed by the market.

- Develop the downstream segments of the industry, because they are most responsive to shifts in demand, market size, qualities, prices, and features within the global market.

- Maximize employment by expanding the more labor intensive and flexible segments of the industry (i.e., the downstream activities).

- Maximize foreign exchange earnings by producing and exporting high-value products commanding a premium in the international market or filling a market niche (e.g., extra-fine cotton varieties).

- Eliminate the financial burden of the cotton textile sector on the GOE by phasing out remaining price subsidies and eliminating preferential tax or credit terms and large loan arrears with public sector banks.

To be fully effective, policy reforms must be accompanied by parallel institutional measures. New organizations should be created or existing ones strengthened to sustain a higher level of private sector activity.

Privatization. The objective of privatization is to divest public sector assets to reduce economic inefficiencies and eliminate the financial burden posed by the sector. GOE privatization efforts should enable a shift of productive resources in the following areas:

- From the less profitable stages of yarn and fabric formation to more profitable downstream segments of the industry, that is, garments and ready-made fabrics, where value added and profit margins are widest.

123

- From capital intensive to labor intensive production to take advantage of Egypt's low labor costs. This would also place the focus on downstream activities, which are highly labor intensive and represent a strong export market.

- To areas where the private sector is well established and financially viable. This shift favors privatizing the knitting and garment-making facilities as a first priority.

- To industry segments where the initial investment (i.e., entry cost) is not high. This gives higher priority to privatizing the cotton trading and export companies and the ginning companies.

Beyond the shift in resources, the GOE's privatization program should accomplish the following:

- Downsize spinning activities where overcapacity prevails and obsolete equipment represents an important percentage of installed capacity.

- Reduce financial losses as soon as feasible, thereby limiting the burden on the economy and on the GOE's consolidated public finances.

B. Phased Approach

The recommended liberalization and privatization program is divided into two phases. Phase 1 emphasizes liberalization, immediate privatization of financially sound companies, and possible liquidation of financially unsound companies (depending on the outcome of in-depth studies). Phase 2 focuses on restructuring financially intermediate companies for eventual sale. The two phases together will require about seven years.

Phase 1 will start immediately and last three years through 1996. Liberalization measures will be implemented with respect to both policies and institutions. Companies or operating divisions attractive to the private sector will be privatized, the spinning segment of the industry downsized, and loss-making companies or divisions liquidated.

Phase 1 should also allow for the following:

- The GOE will prepare recommended policy reforms and the institutional mechanisms to implement them.

- The Public Enterprise Office (PEO) will supervise and monitor the privatization program, adjusting as required to sectoral structural changes as liberalization measures take effect.

- The cotton textile holding and affiliated companies will implement privatization, restructuring, or liquidation activities.

124

Phase 2 will extend four years beyond Phase 1 to complete the process of restructuring and divesting companies less attractive to the private sector. In this way, ongoing restructuring will benefit from Phase 1 experience. Other circumstances may also improve the prospects of marginal companies for successful privatization, including a better investment climate as the GOE's economic reform program progresses, higher confidence among private sector textile firms, and possibly better global markets for cotton textile products.

A two-pronged approach is proposed to support the eventual privatization of companies slated for restructuring:

- Negotiate cotton textile company management contracts for four or five years with domestic or foreign technical partners. Negotiation may lead to the sale of the company to the technical partner.

- Alternatively, negotiate performance contracts between the GOE and textile company managers with the objective of raising company performance and increasing chances for eventual privatization.

C. Liberalization Measures

C1. Policy Actions

The major recommendations for Phase 1 liberalization-oriented policy actions are as follows:

Cotton production and trading

- Repeal the present law prohibiting the sale of cotton to any party other than the GOE.

- Introduce in 1993 measures presently under consideration by the GOE for liberalizing cotton trading.

- Abolish the system for allocating lint cotton production between exports and domestic spinning mills so that mills are free to buy or not to buy from whomever they choose, in the quantities and qualities they see fit.

- Form a task force to set conditions for importing cotton by Egyptian textile mills before the 1994 95 marketing year begins. Specifically, phytosanitary measures should be determined for importing cotton grown in areas where the boll weevil is a pest.

- Abolish the GOE's monopoly on importing cotton by 1994.

125

- Free the export price of cotton by 1994 so that cotton traders can set prices with foreign firms without reference to price formulas.

- Free the procurement price of cotton to farmers by 1994, so that this price will automatically derive from the export price.

- Free cotton prices to the mills by 1994.

- Free all cotton exports by 1994.

Cotton textiles

- Abolish public sector systems for allocating cotton yarn production to internal use, exports, and domestic sales, so that mills can sell their production as they see fit in response to prices and market signals.

- Abolish the power of the Cotton Textile Consolidation Fund (CTCF) to set minimum export prices for sale of yarn and woven fabrics by the public and private sectors. This will enable a strategy of allocating resources to the downstream labor-intensive activities of the industry.

- Reduce the tariff on cotton yarn imports from 30 to 20 percent by 1994, 15 percent by 1995, and 10 percent by 1996.

- Abolish the prohibition on importing cotton fabrics by 1995.

- Reduce the tariff on imports of cotton fabrics from 80 to 35 percent by 1996. The tariff is expected to be reduced to 55 percent soon as part of the GOE's trade liberalization program under Economic Reform and Structural Adjustment Program (ERSAP).

- Abolish the prohibition on importing garments by 1996.

- Reduce the tariff on importing garments from 100 to 50 percent by 1996. The tariff is expected to be reduced to 80 percent soon as part of the GOE's trade liberalization program under ERSAP.

C2. Institutional Measures

Several institutional measures are recommended in conjunction with policy reforms to promote private sector expansion in the sector. In general, the GOE should grant to private investors acquiring public companies the same financial incentives available under other investment mechanisms. The GOE should not deny incentives because public sector companies are not located in the Industrial Zones or New Communities benefiting from the existing tax advantages.

The Phase 1 institutional changes are designed to foster (1) private control of critical marketing functions and (2) procurement and delivery of appropriate raw materials. The following is recommended:

Cotton production and trading

- Start private collection centers for farmers to deliver seed cotton by 1993. Cotton Arbitration and Testing General Organization (CATGO) is already organized to serve these private collection centers without additional cost. The centers should not be connected to existing public sector collection centers.

- Officially encourage domestic textile mills or their trading agents to buy cotton from the private sector. The mills could buy from private collection centers or directly from farmers. Since private traders are prohibited from selling outside the domestic market during 1993, the textile mills must take the initiative.

- Officially encourage domestic textile mill involvement in cotton ginning. This would foster (1) private control of a critical marketing function and (2) procurement and delivery of appropriate raw materials from the gins to the mills.

- Reassess CATGO's functions and capabilities. CATGO's fundamental priority must be to improve the accuracy and utility of cotton grades. Attention should be focused on ways to classify an individual farmer's lint cotton. Plans for action and funding should be finalized by late 1993.

- Document the benefits of covered storage for cotton bales, then disseminate the information throughout the marketing system. This will facilitate development of a warehouse sector to serve Egypt's cotton industry.

Cotton textiles

- Immediately abolish CTCF's price setting function and eventually abolish the CTCF as a public body. CTCF's other functions (e.g., quality control) should be transferred to private bodies. Industry representation and data collection functions can be transferred to the Egyptian Textile Manufacturing Federation (ETMF) as normal functions of a trade association. The ETMF may also take over the quality control function.

- Incorporate ETMF as a legal private entity on the model of trade or professional associations in market economies. It is further recommended that ETMF appoint a committee to study the means to achieve this objective.

127

D. The Privatization Program

D1. Phase 1

The following actions are recommended:

- Privatize the five companies identified as financially sound (see Section III). This step should include converting their financial accounts to generally accepted financial standards. The financially sound companies include KABO, STIA, UNIRAB, Shebin, and Misr Mahalla.

- Analyze the 10 financially unsound companies for future viability. The studies should result in specific recommendations for restructuring or liquidation. The financially unsound companies include Misr Helwan, Cairo Silk, Middle Egypt, Chourbagi, National, ESCO, TRICONA, Cairo Dyeing, Upper Egypt, and Zagazig.

- Study restructuring possibilities for the 10 financially intermediate companies. The studies will require six to 12 months and should identify optimum privatization scenarios. Studies should include assessing technical conditions, financial requirements, market prospects, and legal aspects. Since the PEO has already slated some of these companies for privatization, it may consider revising its timetable based upon restructuring plans. The financially intermediate companies include Damietta, Delta, Daqahliya, Orient Linen, Kafr El-Dawar, Siouf, Nasr Mahalla, Alexandria, PORTEX, and Bida Dyers.

D2. Phase 2

The following actions are recommended:

- Complete the divestiture, whether through privatization or liquidation, of all remaining companies, based on results of Phase 1 studies. Restructuring, if undertaken, is expected to take at least two years.

- For companies being restructured, negotiate management contracts on a contingency fee basis with international textile companies. Alternatively, develop performance contracts between the public companies and the GOE. The GOE should initiate a search for technical partners during Phase 1. Such contracts could provide critical expertise in marketing and product development and may include a purchase option.

E. Labor Redeployment

It is generally estimated that 50,000 to 100,000 employees could be laid off or redeployed during the program. To minimize the negative effects of this situation, emphasis

128

should be placed on expanding the labor-intensive downstream (i.e., garment-making) activities of the industry. Specific recommendations include the following:

- Maintain the present hiring freeze in public sector companies.

- Evaluate the modalities and incentives by which employees entitled to early retirement can be encouraged to take advantage of this opportunity.

- Explore with the Social Fund for Development (SFD) the ways in which its members can use SFD facilities to expand their activities and create new jobs under SFD's "Enterprise Development" program. These facilities include integrated packages of technical assistance, training, and credit. The ETMF should take a lead role in this effort by disseminating information to its membership and facilitating contacts with the sponsoring agencies. However, the ETMF is not equipped at present, because of its limited resources, to assume such a task.

- Use the "Labor Mobility" program established under the SFD. The program aims to facilitate the redeployment of labor displaced by the GOE's public enterprise reform. Under this component, SFD can provide counseling, retraining, and placement assistance. SFD bears the cost. This facility should be the main vehicle for redeploying labor that cannot be absorbed by the private sector under the privatization program.

F. Training Recommendations

Education and training needs pervade all levels of the fiber/textile industry in Egypt. Moreover, the need for training is felt strongly by almost all top-level and mid-level managers in the textile industry. Such strongly felt needs imply that training assistance can be a strong incentive for the industry to enter into liberalization and restructuring. The following measures are recommended:

- Develop short-term international training programs aimed at mid-level managers in textile mills. The programs should be designed to provide students with intensive training that enables them to successfully integrate the requirements of (1) raw material selection, handling and processing, (2) cost and quality control, (3) product design and promotion, (4) developing and maintaining export markets, and (5) risk management within global cotton and textile markets.

- Arrange visits by international textile processing experts to selected textile mills in Egypt to diagnose problems that concern management, recommend marginal alterations in machinery and equipment that will significantly improve processing performance, and train production workers to improve processing performance within existing constraints.

- Assess the suitability of the Shoubra Vocational Training Center for Machinery in Cairo as a foundation to build on or as a model to be used elsewhere in Egypt.

SECTION VI
PROGRAMMATIC IMPLICATIONS

A. Benchmarks

The recommendations listed above encompass a wide spectrum of initiatives, policy decisions, and institutional changes. Developing an action program based upon these recommendations requires reformulating them as benchmarks for GOE action, technical assistance, and training. The following benchmarks are recommended for GOE action with respect to the cotton textile sector:

1993

- Determine whether the 10 financially unsound companies will be liquidated or restructured. Downsizing (liquidating parts of a company) may be an integral part of restructuring.

- Initiate restructuring for four "financially intermediate" companies designated by the PEO for privatization in 1993-94; proceed with privatization based upon the restructuring timetable.

- Initiate restructuring of the remaining six "financially intermediate" companies.

- Abolish cotton price controls, including export prices, procurement prices to farmers, prices to mills, and all export pricing and allocation systems currently in use.

- Abolish CTCF's price setting function; and incorporate the ETMF as a legal private entity.

- Abolish the lint cotton allocation system controlling mill purchases.

- Start private collection centers for farmers to deliver seed cotton.

- Enact cotton trading liberalization measures now being considered by the GOE.

1993-94

- Liquidate all or parts of the 10 financially unsound companies designated for liquidation.

- Initiate restructuring of all or parts of firms in the financially unsound group that were designated for restructuring.

130

- Revise phytosanitary regulations for importing cotton.

- Privatize the five financially sound cotton textile companies.

- Repeal the present law prohibiting the sale of cotton to any party other than the GOE and abolish GOE's monopoly on importing cotton.

- Reduce the tariff on cotton yarn imports from 30 to 20 percent.

1994-95

- Abolish the prohibition on importing cotton fabrics.

- Reduce the tariff on cotton yarn imports from 20 to 15 percent.

- Complete the transfer of CTCF's functions to a private body.

1995-96

- Abolish controls on cotton garment imports; reduce the tariff from 80 to 53 percent on fabric imports and from 100 to 50 percent on garments.

- Reduce the tariff on cotton yarn imports from 15 to 10 percent.

B. Technical Assistance

The sector will require technical assistance to facilitate liberalization and prepare companies for privatization. The following measures are recommended for implementation by the GOE or with the assistance of an international donor agency:

- Provide technical assistance to meet the above benchmarks.

- Analyze the 10 financially unsound companies with respect to possible liquidation, and begin restructuring the 10 financially intermediate companies. The financially unsound companies include Misr Helwan, Cairo Silk, Middle Egypt, Chourbagi, National, ESCO, TRICONA, Cairo Dyeing, Upper Egypt, and Zagazig.

- Assist the Social Fund for Development (SFD) in enhancing and expanding its job creation programs for redeployed employees.

- Assist the PEO in designing and implementing (1) management contracts with international textile companies and (2) performance contracts for current management.

- Assist CATGO in improving technology and procedures for classing cotton.

- Form collaborative research programs between Egyptian and international textile centers to enable Egyptians to develop greater expertise. Since existing domestic universities and research centers do not appear to be good candidates for collaborative efforts, alternatives may be organizations with strong connections to the commercial sectors of the cotton textile industry (such as CATGO).

- Document and publicize the benefits of covered storage for cotton bales. This will facilitate incorporating its value into contract prices for cotton, thereby enabling the development of a warehouse sector to serve Egypt's cotton industry.

C. Training

The sector will require training as well as technical assistance to implement the above program. The following measures are recommended for implementation by the GOE or with the assistance of an international donor agency:

- Develop short-term international training programs for mid-level managers of textile mills. The programs should emphasize raw material selection and processing, cost and quality control, product design and promotion, export marketing, and risk management within the global cotton and textile markets.

- Arrange visits by international experts to selected textile mills in Egypt to diagnose problems, recommend improvements in processing performance, and instruct employees in improved production methods.

- Assess the suitability of the Shoubra Vocational Training Center for Machinery in Cairo as a foundation to build on or as a model to be used elsewhere in Egypt.

D. Roles and Responsibilities

The responsibility for implementing a liberalization and privatization strategy rests with the following actors:

- The GOE and its ministries and other public agencies are responsible for implementing the liberalization component and for supervising and monitoring the privatization program through the PEO.

- The holding companies and associated companies are responsible for implementing the privatization program and required restructuring.

The experience of other countries with public enterprise reform and privatization has demonstrated the critical importance of developing consensus between the public sector and the private sector on their objectives, implementation plan, and schedule. To achieve consensus, the following steps are proposed as prerequisites to launching the program:

132

For the GOE

- Establish a high-level committee to finalize the proposed strategy. The strategy should be internally consistent, comprehensive, and coherent with respect to (1) the respective sectors involved in the program and (2) the policy and institutional measures to be adopted.

- Issue a decree stating the reform objectives, the main policy actions and institutional measures planned by the GOE, the roles and responsibilities of implementing bodies, and the timetable for key actions. Both the public sector companies and the private sector must understand these measures to adjust their operating plans and make the appropriate business decisions.

- Make PEO responsible for overseeing the privatization program.

For the Associated Companies

- Create a high-level ad hoc committee to gather background information on the privatization process and collect the company data (e.g., technical, financial, commercial, and legal data) required to prepare a privatization program. Once the program is launched, the committee will formulate privatization scenarios, conduct restructuring studies, and prepare labor redeployment plans.

For the Holding Companies

- Shift the staff focus from managing day-to-day operations to preparing for privatization. The holding companies should provide information that will assist the associated companies in formulating and implementing a privatization program.

E. Financing

The liberalization and privatization program proposed in this assessment will lead to financial costs in addition to the social costs inevitably associated with structural adjustment. It was not the purpose of this assessment to prepare a detailed estimate of those costs. This section is therefore limited to some preliminary estimates and suggestions.

In general, maximum use should be made of presently available resources to cover the costs associated with the first stages of the program. These are essentially the resources now available under the SFD. However, there are numerous competing claims for these resources, and some costs would not be eligible for SFD support (e.g., debt settlement for liquidated companies).

Annual claims on the resources of the SFD during Phase 1 are estimated as follows (in 1993 prices):

• **Compensation**	12,500 workers x LE 12,500 =	LE 156,250,000
• **Retraining**	4,200 workers x LE 1,000 =	4,200,000
• **Loans**	500 workers x LE 25,000 =	12,500,000
• **Total**		LE 172,950,000

The total over three years would amount to about LE 520 million. The textile industry alone could probably not claim such an amount, given current SFD resource levels. At best, SFD could support this level of claims for one to two years, giving the GOE time to prepare and present a plan to international donor agencies for further support.

Furthermore, a more detailed analysis may modify the above assumptions to arrive at an adjusted estimate. The above analysis is based on SFD estimates (in contrast to Agricultural Production Credit project estimates, which are significantly higher) using the following assumptions:

- During Phase 1, 12,500 workers would be laid off each year, for a total of 37,500 workers over three years.

- Some 4,200 workers would need retraining for each year of Phase 1.

- About 500 workers per year would take advantage in Phase 1 of SFD's "Enterprise Development" component.

- Average annual compensation for redundant workers is LE 12,500, average retraining costs per worker are LE 1,000, and the average loan per worker is LE 25,000.

In addition to labor redeployment costs, the GOE is likely to require assistance from international donor agencies in conducting the technical assistance and training programs described above. This study did not include the objective of estimating such programmatic expenses, nor is it assumed that USAID will be responsible for supporting the proposed technical assistance and training initiatives. Preparing such funding estimates should incorporate the following factors:

- For a policy-based program, donor agencies may disburse funds against GOE's progress in achieving policy reform benchmarks described above.

- The funding required to carry out restructuring studies and other technical assistance efforts would come during Phase 1. During Phase 2, technical partners under management contracts should assume the burden of such funding.

- Existing technical assistance and training programs may offer an opportunity for absorbing some of the technical assistance and training costs (e.g., USAID's Agricultural Policy Reform Program as well as new USAID initiatives in privatization).

- Debt settlement for companies in liquidation would lag behind other funding requirements, assuming that the GOE and the banking sector can agree to this measure.

ANNEX A

TECHNICAL ANALYSIS

MISR HELWAN FOR SPINNING AND WEAVING

A. Introduction

Misr Helwan was first established as a private enterprise dealing mainly with twisting, weaving, and finishing of silk goods. In 1962, the company was nationalized and expanded to process cotton and man-made fibers into yarns used to produce high quality goods. The company has gone through a number of expansions during the 1970s and the 1980s to update its facilities to the present state.

In general, Helwan has a large number of old textile machines and a number of machines that are fairly new. The combined machinery is sound. It produces yarns and fabrics that can be dyed in the company's dyeing and finishing facilities, which are considered the fifth largest in the Egyptian public sector.

This year (1992-93), Helwan aims to produce 31 tons/day of different yarn counts from 100 percent cotton and cotton/polyester blends. The cotton varieties to be used are Giza 70, Giza 80, Denture, and American Upland. The raw materials required for Helwan's goal are 10,000 tons of cotton, 156 tons of cotton waste, and 2,372 tons of polyester. For its special fabrics, Helwan will acquire 146 tons of acrylic yarns, 492 tons of blended yarns, and 99 tons of continuous filament polyester yarns.

Exhibit 1 shows the current production of yarns at Helwan in tons/day. The raw materials listed above are used to produce a total of 55,398,000 running meters of different fabrics to be dyed, printed, and finished in Helwan's dye house. Exhibit 2 shows fabric production at different weaving mills, while Exhibit 3 shows finished goods production.

Exhibit 1
MISR Helwan Yarn Production
(tons/day)

Mill No.	Type of Yarn	Ne	Raw Material Used	Production tons/day	Spinning Equipment
Mill No. 1	100% Cotton	40	Giza 70	1.200	Ring Spinning
		60	Giza 70	0.800	Ring Spinning
		80	Giza 70	0.250	Ring Spinning
		20	Giza 80/Amer.	5.500	Ring Spinning
		30	Giza 80/Amer.	1.500	Ring Spinning
	Cotton/Poly.	70	Giza 70/Poly. or Dandara/Poly.	1.200	
Mill No. 2	Cotton/Poly.	20	Giza 80/Poly.	4.500	Ring Spinning
		30		4.500	
		35		2.300	
	100% Cotton	10	Cotton/Waste	6.500	O.E. Spinning
		10			

131

Exhibit 2. Misr Helwan Fabric Production (tons/day)

Mill No.	Type of Loom	Production meters/day
1	Air-jet	0
	Shuttle	3,109
2	Shuttle	5,638
3	Shuttle	38,044
4	Projectile	46,103
5	Shuttle Jacquard	730
6	Shuttle Rapier	27,262
7	Rapier Velvet	2,990
8	Shuttle	5,976
Waily	Shuttle	15,894
TOTAL		145,746

Exhibit 3. Misr Helwan Finished Goods Production (thousands of meters/day)

Mill No.	Type of Fabric	Actual Capacity
1	Raw	24.720
	Bleached	16.671
	Dyed	39.680
	Printed	28.850
TOTAL		109.921

B. Plant Structure

Helwan is structured as an integrated facility consisting of 14 mills. All but one of these mills are located at Helwan city. The other mill is located at El-Waily, a suburb of Cairo. These 14 mills are designated as follows:

- Mill No. 1 Spinning No. 1
- Mill No. 2 Spinning No. 2
- Mill No. 3 Weaving No. 1

- Mill No. 4 Weaving No .2
- Mill No. 5 Weaving No. 3
- Mill No. 6 Weaving No. 4
- Mill No. 7 Weaving No. 5
- Mill No. 8 Weaving No. 6
- Mill No. 9 Weaving No. 7
- Mill No. 10 Weaving No. 8
- Mill No. 11 Weaving No. 9, located at El-Waily
- Mill No. 12 Dyeing and finishing
- Mill No. 13 Garments
- Mill No. 14 Embroidery

The sections below address the state of the art of these mills.

C. Spinning Operations

The spinning facility at Helwan consists of two mills. It has 121,228 spindles (4 percent of total spinning in the public sector). Current production is 28.25 tons per day with an average count of 27/1.

- **Spinning Mill No. 1.** Spinning Mill No. 1 is a ring spinning facility and has 75,420 spindles. This facility produces both carded and combed yarns. It also has 1,648 winding spindles and 132 singing units. The mill's current production is 10.45 tons/day, at an average count of 34. Details on the machinery are provided in Exhibit 4 on the next page. For Mill No. 1, the old low production machines, such as draw frames, must be removed and existing machines in poor condition run at their optimum speed. Combing and roving facilities should be provided as follows:

  - Two combers
  - One lap forming
  - Four roving frames

- **Spinning Mill No. 2.** Spinning Mill No. 2 has 43,488 spindles and 2,320 rotors. Exhibit 5 on page A-5 provides details on the machinery. The mill produces carded yarns. Daily current production is 11.3 tons of ring and 6.5 tons of long open end yarns. After restructuring the carding rooms and installing four roving machines, this mill is capable of producing 14 tons per day of average count 27, plus 6.5 tons per day of open end yarns with an average count of 16. The total production of Mill No. 2 can reach 20.5 tons/day. The combined production in both Spinning No. 1 and Spinning No. 2 is 35.5 tons/day.

Spinning Mills No. 1 and 2 require higher quality maintenance procedures to reach the quality level of 5 percent Uster. However, the greatest yarn damage occurs in winding. The winding machines should be extensively maintained and spare parts made available as soon as possible.

139

Exhibit 4. Misr Helwan Spinning Mill No. 1

No.	Operation	No. of Machines	Production Units/ Machines	Date of Install.	Production Rate	Machine *** Mechanical Condition	Restructuring
1	Opening Line	5		1987/88	80-114 *	Good	Keep
2	Carding	42		1987/88	50 *	Good	
3	Drawing	46	4	1959	200 *	Obsolete	
		6	2	1982	200 *	Good	Keep
		2	1	1982	200 *	Good	Keep
4	Combing	8	2	1982	200 *	Good	
		8	1	1975	120 **	Obsolete	
5	Lap forming	8	1	1975	120 **	Fair	
		2	1	1975	120 *	Fair	
		2	1	1970	120 *	Good	
		4	1	1971	170 *	Good	
6	Roving	17	108	1959	800 ***	Obsolete	
		4	116	1981	950 ***	Fair	
7	Ring Spinning	138	440	1959	10000 ***	Obsolete	
		35	420	1971	10000 ***	Obsolete	
8	Winding	20	50	1982	900 *	Good	
		6	108	1958	600 *	Obsolete	
9	Singing	1	60	1958	500 *	Fair	
		21	60	1972	500 *	Good	

LEGEND

*** Good m/cs: means well-maintained and in a very good production condition
Fair m/cs: requires a modest upgrading and overhalting and work saving.
Obsolete m/ds: are rundown equipment and not worthy of saving.
* m/min
** nip/min
*** r.p.m.

The mechanical and physical properties of the yarn suffer from badly adjusted winding machines and will affect the efficiency of subsequent processes (warping, sizing, and weaving). It is also evident that the lack of spare parts and maintenance severely handicap Spinning Mill No. 2. An open end spinning machine, seven twisters, and a doubler were observed that were not producing because spare parts were not available.

D. Weaving Operations

The weaving facility at Helwan consists of nine production units, seven of which include 1,714 looms at Helwan and produce cotton and synthetic fabrics. The eighth has 74 looms located also at Helwan and produces velvets, and the last unit has 336 looms located at El-Waily and produces cotton fabric. Exhibit 6 indicates the machine description in the nine mills.

Exhibit 5. Misr Helwan Spinning Mill No. 2

No.	Operation	No. of Machines	Production Units/ Machines	Date of Install.	Production Rate	Machine *** Mechanical Condition
1	Opening Line	3		1970		Fair
2	Carding	21		1993	130 *	Very Good
3	Drawing	8	1	1984	210 *	Good
		4	2	1981	170 *	Good
		11	4	1971	170 *	Fair
4	Roving	9	116	1971	800 ***	Fair
5	Ring Spinning	31	420	1971	10000 ***	Fair
		73	416	1971	10000 ***	Fair
6	O.E. Spinning	10	200	1981	45000 ***	Good
		2	160	1983	60000 ***	Good
7	Winding	12	96	1972	600 *	Obsolete
		1	42	1977	600 *	Obsolete
		2	108	1958	500 *	Obsolete
		3	100	1972	500 *	Obsolete
		1	128	1977	500 *	Obsolete
		3	128	1977	500 *	Obsolete
		11	50	1982	900 *	Good
		1	50	1982	900 *	Good
8	Doubling	30	96	1983	4000 *	Good
		1	40	1983	400 *	Good
		6	100	1983	400 *	Good
		2	36	1983	400 *	Good
		1	16	1983	400 *	Good
9	Ring Twisting	20	380	1971	9000 ***	Obsolete
		16	324	1971	9000 ***	Obsolete
		7	352	1959	9000 ***	Obsolete
		2	120	1960	9000 ***	Obsolete
10	Two for-one Twisters	7	144	1984	6000 ***	Good
		4	372	1983	8000 ***	Good
		1	310	1983	8000 ***	Good
		1	160	1985	8000 ***	Good

LEGEND

*** Good m/cs: means well-maintained and in a very good production condition
Fair m/cs: requires a modest upgrading and overhalting and work saving.
Obsolete m/ds: are rundown equipment and not worthy of saving.

* m/min

** nip/min

*** r.p.m.

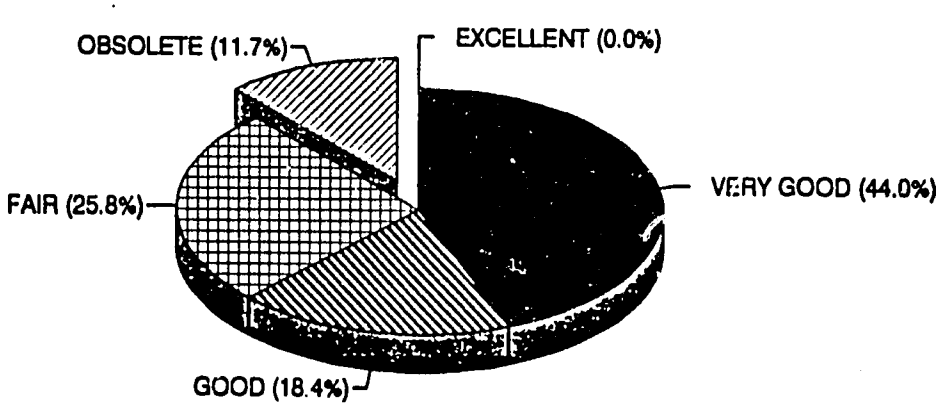
Exhibit 6. Weaving Machines at Misr Helwan

Mills	No. OF M / cs.	Starting Year	Brand	Type	Reed width cm.	Speed ppm
1	56	1981	Tsudako	Shuttle d	125	140
	97	1981	Investa	Air jet	110	350
2	108	1959	Kovo	Shuttle	110	160
	72	1959	,,	Shuttle d	110	160
3	724	1958	Picanol	,,	110	176
	48	1958	,,	,,	160	176
4	159	1982	Sulzer	Projec.	334	285
	21	1982	,,	,,	392	270
5	56	1940	Different	Shuttle	140	180
6	180	1974	Picanol	,, c	174	180
	40	1974	,,	,, j	174	110
	73	1980	,,	Rapier	230	190
7	10	1981	Jusken	,,	150	140
	54	1981	,,	,,	170	140
	10	1959	,,	shuttle	100	110
8	80	1959	Kovo	,,	110	160
Waily	336	1959	,,	,,	110	160

Total No. of Machines	2124

The condition of the looms is classified according to their productivity as follows:

Classification of Loom Condition As Related to Output



- **Weaving No. 1.** Weaving Mill No. 1 consists of 56 Tsudakoma shuttle looms, erected in 1981, which are well maintained. Its current efficiency is 75 percent. With a proper setting, this efficiency can be increased to 85 percent, and will reach 95 percent with a decent yarn quality. The mill also has 97 air-jet looms, erected in 1981, which are out of production due to the lack of spare parts. The layout and ambient condition are sound.

- **Weaving No. 2.** Weaving Mill No. 2 consists of 108 Kovo narrow width looms erected in 1959 (these looms are out of production due to the lack of raw material) and 72 dobby looms. These looms are mechanically in such bad condition that it is impossible for them to produce high quality fabrics. The percentage of first grade fabric produced on these looms reaches only 30 percent.

- **Weaving No. 3.** Weaving Mill No. 3 has 724 Picanol looms erected in 1958. Their efficiency reaches 70 percent. These looms are in fair condition, and their production is only 10 percent for first quality goods. To improve overall production and quality, these looms should undergo a rigorous maintenance program. The product line should be chosen to match the condition of the looms to maximize first quality production.

- **Weaving No. 4.** Weaving Mill No. 4 has 180 Sulzer weaving machines, erected in 1982, and represents 33 percent of Helwan fabric production. The efficiency of these looms reaches only 70 percent, indicating a production loss of about 15 percent. Due to the lack of spare parts, 34 of these looms are out of production. The ambient condition and layout inside this weaving room are unsuitable for high speed production. The ventilation system needs to be redesigned and a number of looms should be moved to another weaving room to achieve a better and more efficient layout. The type of fabrics produced on these looms should be better chosen to maximize profitability of the production unit. However, timely maintenance, availability of spare parts, and better yarn quality are the only ways to increase the production of this mill.

- **Weaving No. 5.** Weaving Mill No. 5 consists of 56 old, unique Jacquard shuttle looms, erected in 1940, working for only one shift to produce bed covers and upholstery fabrics. The mill, although very old, is one of the most profitable units at Helwan because of its unique products. There is no reason for the mill not to continue production.

- **Weaving No. 6.** Weaving Mill No. 6 has 220 Picanol Shuttle looms, which were erected in 1974 and have a current efficiency of 70 percent, and 73 Picanol rapier looms equipped with Jacquard heads. This weaving mill is considered the second most productive weaving mill, producing 20-25 percent of the total fabric produced at Helwan. However, the mill's efficiency is considerably low, and special efforts should be taken to increase the efficiency through good maintenance, use of high quality yarn, and choice of proper fabric design.

- **Weaving No. 7.** Weaving Mill No. 7 has 64 Gusken velvet looms, erected in 1981, as well as 10 Gusken shuttle looms, erected in 1985, for producing the most expensive fabric, velvet. The profit margin for such fabric is high. Most of these looms were not working during the visit, since the company cannot compete either in the local or export markets. This mill suffers from unavailability of spare parts.

- **Weaving No. 8.** Weaving Mill No. 8 has 80 Kovo shuttle looms, erected in 1959, which produce narrow fabric (110 cm). The looms are in good mechanical condition, and produce 80 percent first grade fabrics. However, the variety of the products is limited.

- **El-Waily.** El-Waily Mill has 336 Kovo looms, erected in 1959, and represents 10 percent of Helwan's production. Most of the machines are not in good mechanical condition because of a lack of spare parts, and they produce a low percentage of first quality greige goods. If El-Waily Mill continues to operate, it is recommended that the present looms be replaced with the same number of Picanol looms from Mill No. 3. The balance between preparation and weaving should be taken into consideration.

E. Other Operations

Other operations at Misr Helwan include the following:

- **Mill No. 12, garment manufacturing.** The garment manufacturing facility has eight production lines operating in a well-designed material flow pattern with adequate space for expansion. However, there is no air conditioning and insufficient lighting. The total planned production is 492,000 pieces per year, requiring 2,040,800 meters of different types of fabrics. Planned outputs include articles such as army suits, work suits, pajamas, and shirts. There are 164 sewing machines of different types. The total labor force is 512 people working one shift per day. The rate of absenteeism is 15 percent. No designer or artist is employed. Garment manufacturing is a fashion-oriented industry, and its profitability depends greatly on the dynamics of the working staff as well as the capabilities of the marketing staff. The articles currently produced are considered low-profit margin articles.

- **Mill No. 13, dyeing and finishing.** The Helwan facility for dyeing and finishing is the fourth largest in Egypt. It is capable of processing about 80 mill meters per year. The visit led to the following conclusions:

  - In the area of dyeing and finishing, the lack of spare parts causes the machines to go out of production for long periods of time.

  - The dyeing and finishing mill runs below capacity and should be used as a commission dyeing facility for private firms.

- A lack of dye stuff is evident.

- Helwan's color selection should be revised to meet consumer tastes.

- For Helwan to export dyed fabrics, it should establish a good dyeing and finishing testing laboratory. The function of this laboratory would be to work on color matching and cost effective application of dye.

- Employment in dyeing and finishing is high because this mill runs only one shift per day with a three-shift labor force. This situation cannot continue for long and the labor force should be reduced.

- **Mill No. 14, embroidery.** Embroidery is a unique operation taking place only at Helwan. The machinery, which includes a number of lace machines, is old and requires a large stock of spare parts. With continuous change in product design, this department can be very profitable.

F. Labor Force

The total number of employees at Helwan is about 12,208, with an absentee rate of about 15 percent. The current cost of the labor force at Helwan represents 20 percent of total sales. This is high compared to the private sector in Egypt and by world standards. The cost should be trimmed to about 8-10 percent of sales, which can be easily accomplished by increasing production, increasing sale prices (if feasible), and trimming excess labor through an incentive retirement and no replacement program.

About 40 percent of the work force is engaged in administrative activities. However, there is no excess direct labor at the production level.

The labor force in Helwan should receive intensive training to perform their jobs and gain understanding of the importance of their specific jobs to total product quality (see Annex G). The labor force currently emphasizes quantity rather than quality in their performance. For example, the individual who makes the blend does not understand how his or her job contributes to the quality of the final product (yarn or finished fabrics).

Helwan suffers from a lack of well trained and qualified engineers to run the mill efficiently at an acceptable quality level. It is not enough to have a qualified mill manager. More engineers with hands-on experience are needed to supervise each process in the mill.

G. Recommendations

G1. General Recommendations

General recommendations include the following:

- Establish a well-designed training program in each department.
- Establish a program to audit quality and detect and solve problems.
- Develop the capability to select, purchase, and manage raw material.
- Develop the capability to assess market demand and to design and finish product lines that meet the demand.
- Improve inventory control on spare parts.
- Develop better cotton storage.
- Take measures to improve the air cleaning system, including upgraded air conditioning.
- Take steps to rationalize and increase efficiency of employees.
- Continue to enforce the non-replacement rule for white collar employees (retirees)
- Replace blue collar workers (production) upon retirement.
- Hire young aggressive engineers.
- Follow the quality control auditing guidelines outlined in Annex E.

G2. Technical Recommendations

The following are more specific technical recommendations:

- The raw material types and quality are key to producing high quality products. Helwan should establish a quality auditing program to determine property, processing, and quality of the acquired raw material. For example, for a given raw material such as American cotton, Helwan should establish its spinning limits, processing conditions, speeds, settings, etc. It should also determine the optimum properties suitable for each process such as yarn evenness and twist multiples.

- For Helwan to function as a world class organization, it is recommended that all of its 13 mills operate independently of each other. Each mill should have the power to acquire what it needs from any source within or outside of the Helwan organization. For example, if Weaving Mill No. 3 decides to acquire a quality yarn that cannot be produced by Helwan's Spinning Mill No. 1, the weaving manager has to have the authority to get this yarn from any outside source. Each mill should have the goal of selling what is produced, and each mill should have its own design and marketing staff.

- It is evident that the mills are running at best at 60 percent of their maximum capability due to lack of raw material, unavailability of spare parts, and lack of sales. These problems should be seriously addressed.

- In more than one case, the mill has found Egyptian cotton bales contaminated with rags of synthetic fibers. The cotton suppliers should be notified.

- Raw material (cotton bales) storage should be addressed to protect the fiber from the unacceptable environment at Helwan.

- Blending of raw material is insufficient. Insufficient blending leads to production of uneven yarn, dye streaks, and low quality. It is recommended that the sandwich blend consist of at least 3,400 kilograms, made in an area large enough to enable a worker to cut through the blend during feeding.

- The mill has an imbalance between cards for polyester and for cotton, with the cotton cards overworked while the polyester cards are underworked. This deficiency should be revisited, and some of the polyester cards should be transferred to the cotton line.

- The mill has excess draw frames capability. As a result, it tends to use three passages of drawing in producing carded yarn, which is against all commercial practices and adds to production costs. This can be prevented by producing a high quality carded silver and increasing doubling at each stage.

- Because of the age of the draw frames, maintenance should take place at closer intervals. Settings and roller conditions should be checked at least once a shift.

- Helwan should optimize ratch settings, sectional drafts of their draw frames.

- The Textima silver lap is unacceptable and should be changed, because it produces a lap from 16 silvers. This is a small number and should be at least 22 silvers.

- The combing machines at Helwan should be completely overhauled. The overhaul may be insufficient, however, because the machines cannot handle heavier laps. They should be replaced with high production combers.

- The spinning is ill maintained, and frequent maintenance should be undertaken (see Annex F). Helwan should carry a supply of required accessories and spare parts (cots, aprons, travelers, etc.). Helwan should strive to reach higher speed and production rates at higher yarn quality standards.

- Weaving is running at unacceptable efficiency level. Helwan should address measures to improve these conditions.

- Helwan should clean its weaving facilities and keep them in good mechanical condition.

- Weaving should establish the means by which the yarn received is processed as well as the type of loom on which certain yarns can be efficiently processed. Helwan should manage its yarn and looms capabilities.

- Helwan should find a better way to transport warp beams from the weaving preparation area to sizing and weaving rooms to minimize damage to the yarn.

- Helwan should revise production distribution on its most productive looms so that they are used to produce the most profitable and quality sensitive fabrics. Old looms should be used only for low cost items that are not quality sensitive.

- It is not advisable that Sulzer looms produce inexpensive fabrics from low quality yarn.

- Helwan should use its weaving capabilities better than at present.

- Weavers should be in continuous discussion with the spinners to achieve yarn quality that can be processed efficiently on their looms.

- It is not acceptable to rewind cones delivered by Spinning Mill No. 1 because of packaging conditions.

- In the area of dyeing and finishing, the lack of spare parts causes the machines to be out of production for long durations.

- For Helwan to export dyed fabrics, it should establish a good dyeing and finishing testing lab. The function of this lab would be to work on color matching and cost effective application of dye.

- Employment in dyeing and finishing is high and should be reduced.

G3. Restructuring

To function at its best, Helwan should be restructured as follows:

- **Spinning**

- Restructure and run Mill No. 1 according to Exhibit 7 (see page A-13).

- Helwan has already restructured Mill No. 2 by adding four roving frames and 21 carding machines. The mill makes it possible to increase the productivity of ring frame by 30 percent.

Exhibit 7. Restructuring of Spinning Mill No. 1

No.	Operation	Production Unit	Speed mt/min	Production After Restructuring	Remarks
1	Opening Line	5			Redistributed on production typ
2	Carding	42	100		
3	Drawing	30	300		
4	Combing	4 8	240 120	New	To replace 8 combers Textima
5	Lap forming	1 4	170 170	New	To replace 2 lapformings
6	Roving	4 4 8	1000 950 800	New	Already under erection
7	Ring Spinning	35/420 138/440	10000 10000		Average count Ne 34

- **Weaving.** The main features of this restructuring include the following:

- Restructure the weaving mills as follows:

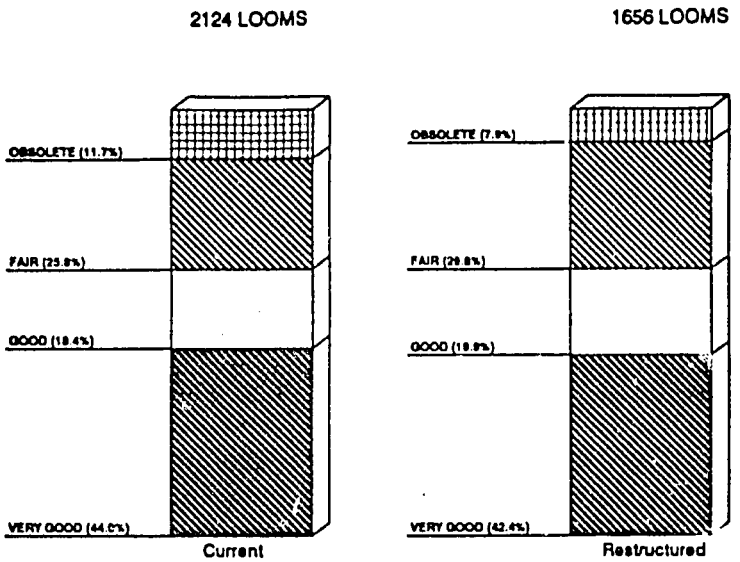
  - Run 65 looms at Mill No. 7 for velvet at full capacity, that is, three shifts per day with fashion fabrics that are in demand.
  - Modify the layout of Mill No. 4 as mentioned before.
  - Get rid of the following old and inefficient looms: 108 Kovo shuttles looms in Mill No. 2, 336 Kovo shuttle looms at El-Waily, and one velvet shuttle loom.
  - Transfer 500 Picanol shuttle looms from Mill No. 3 to El-Waily.
  - Transfer 200 Picanol shuttle looms from Mill No. 6 to Mill No. 2.

This reconstruction would increase overall weaving efficiency by 15 percent and double loom output. Exhibit 8 below describes this scenario.

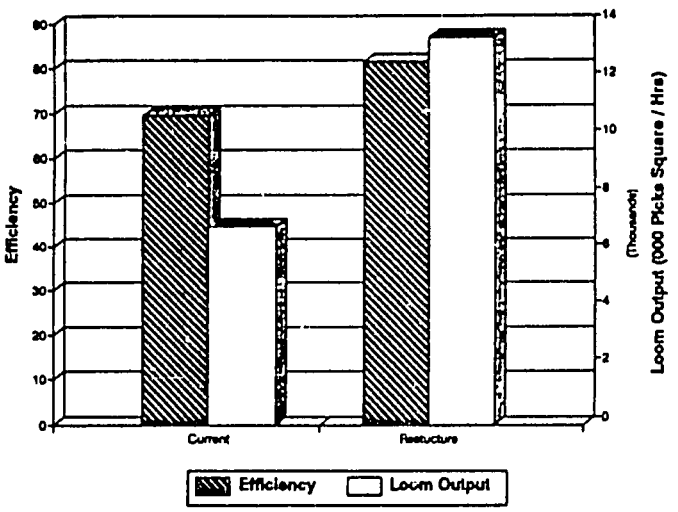
141

Exhibit 8. Current and Restructure Comparison

Loom Condition



Weaving Efficiency and Loom Output



A. Introduction

The National Company was the first textile enterprise in Egypt, established in 1898. It is an integrated organization since it includes spinning, weaving, dyeing, and finishing and garment manufacturing. The annual production from the spinning sector reaches 9,756 tons and 68 tons of sewing threads. The weaving sector is capable of producing 19.6 million meters of different types of cotton fabrics. The annual production of the garment mill reaches 1 million pieces of different articles. The enterprise consumes 12,388 tons of raw cotton as well as 36 tons of polyester. The average count is 21/1. Most of the produced yarn is used by the organization, and only 800 tons per year are exported. Eight million meters of fabric are usually exported, while one third of the garment articles are targeted for export. The total number of employees running the mills is 5,383.

B. Spinning Operations

The spinning sector consists of four separate mills located in the Karmouz district of Alexandria. The total number of spindles is 82,944 ring and 672 open end spindles.

- **Spinning Mill No. 1.** Spinning Mill No. 1 is a ring spinning facility with 16/18 spindles. This mill produces yarns with a count ranging from 16 to 30. Exhibit 9 shows the different machinery in Mill No. 1. This mill is in good mechanical condition and can process yarns less than 25 percent Uster level. However, the mixing techniques in the opening line are unsatisfactory, and great effort should be taken to improve fiber blending by providing the areas required for proper bale mixing. The ambient condition in this mill, as well as in most of the spinning mills, is unsuitable for producing high quality yarns. Measures should be taken to control temperature, relative humidity, and flies.

Exhibit 9. Spinning Machines in National Mill No. 1

Type of machine	Date of Installation	Speed meters/ minute	Total No. of Production Units	Condition
Opening line	1985	8	2	Good
Card	1985	100	20	Good
drawing	1981	250 - 300	10	Good
Roving	1985	1000 r.p.m.	720	Good
Spinning	1985	11000 r.p.m.	16128	Good
Winding	1990 - 1991	900	300	Good

151

- **Spinning Mill No. 2.** This is the oldest mill in the enterprise and has very old machinery. Some obsolete machines that will be discarded are still in the production line, producing bad quality yarn. In this mill are ring spinning machines as well as open end spinning machines. The total number of spindles is 42,000 ring spindles and 672 open end spindles. Exhibit 10 shows the machinery in Mill No. 2.

Exhibit 10. Spinning Machinery in National Mill No. 2

Type of machine	Date of Install.	Speed meters/ minute	Total No. of Production Units	Condition
Opening line	1980	88	6	Fair
Card	1938	12 kg/hr	30	Poor
Drawing	1981	200	10	Fair
Roving	1981	800 r.p.m.	928	Fair
Spinning	1969	5000 r.p.m.	40416	Very Poor
Open End	1973	30000 r.p.m.	672	Fair
Winding	1982	800	500	Fair

- **Spinning Mills No. 3 and 4.** These mills operate together, and there is no way to separate them. Excess sub-products from one mill are transferred to the other production line. The handling of the material as well as the layout of the machinery should be reconsidered. Due to the irrational allocation of the spinning machines, the temperature of the working area rises drastically. Technical staff claimed that it reaches 55 degrees Celsius. This condition affects both the performance of workers and life cycles of machinery. Exhibit 11 shows the different machinery in these two mills.

Exhibit 11. Spinning Machinery in National Mills No. 3 and 4

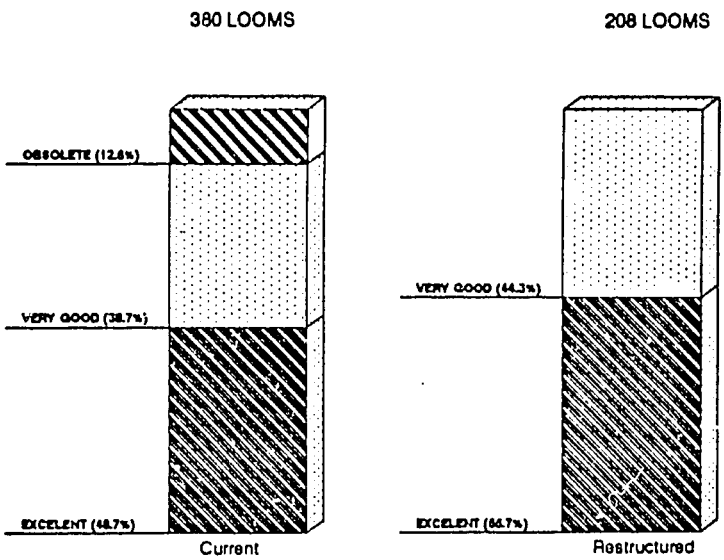
Type of machine	Date of Install.	Speed meters/ minute	Total No. of Production Units	Condition
Opening line	1983		1	Good
Card Hength	1970	8	2	Fair
Reiter C-3	1980	20 kg/hr	22	Good
Textima	1969	10 kg/hr	60	Poor
Drawing	1981	250 - 300	52	Good
Roving	1983	1000 r.p.m.	1800	good
Spinning				
Zencer	1983	11000 r.p.m.	29952	Good
Toyoda	1974	11000 r.p.m.	12240	Good
Reiter	1960	7500 r.p.m.	15200	Poor
Toyoda	1991	11000 r.p.m.	9504	Very Good
Winding	1985	900	700	Fair

C. Weaving Operations

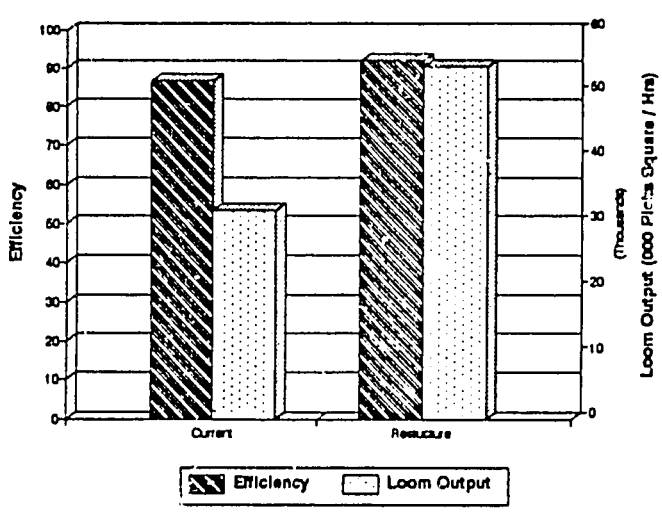
The weaving sector of National Company is located in the Moharam Beik district, which is about 10 kilometers from the center of Alexandria. The facility has a total of 380 looms: 160 Sulzer looms (representing 65 percent of current capacity) of different widths located in two different rooms. Forty-eight new air-jet weaving machines, representing 28 percent of current capacity, have been erected in the weaving room. The 172 shuttle looms, (which represent the balance of the capacity) will be discarded at the end of this year. This will increase the overall efficiency by 6 percent and loom output by 70 percent, as shown in Exhibit 12.

Exhibit 12. Current and Restructure Comparison

Loom Condition



Weaving Efficiency and Loom Output



The total planned production at the end of this year will reach 37 million meters. The preparation sector is in good mechanical condition. The ambient condition in the weaving mill is up to international standards. This is reflected in the overall high efficiency of the weaving facility. Exhibit 13 below describes the weaving machinery.

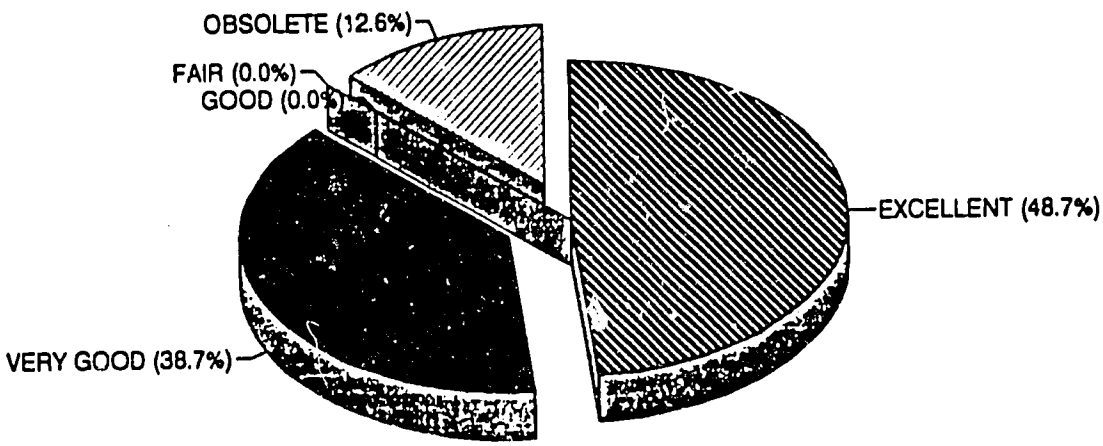
Exhibit 13. Weaving Machines at National

Mills	No. OF M / cs.	Starting Year	Brand	Type	Reed width cm.	Speed ppm
1	108	1956	Skamoto	Shuttle	112	160
	64	1958	Ruti	,,	127	174
A	18	1983	Sulzer	Projec.	283	270
	14	1983	,,	,,	334	270
	28	1983	,,	,,	334	270
	52	1983	,,	,,	392	250
B	48	1991	,,	,,	390	320
C	48	1992	Picanol	Airjet	190	760

Total No. of Machines	380

Loom condition is classified as follows:

Classification of Loom Condition as Related to Output



D. Other Operations

D1. Dyeing and Finishing

National Company has a small dyeing and finishing house capable of producing bleached fabrics as well as printed and dyed fabrics. Bleached and dyed yarns can also be processed. National's total dyeing and finishing capacity is 22 million meters of 100 percent

cotton and blended yarns. Most of this production is for National's own consump-tion in the ready-made garment mill. The rest is sold locally. The condition of the machinery varies from good to bad. Because of its age, the dyeing and finishing equipment requires a high degree of maintenance.

D2. Garment Mill

The garment mill has three production lines, each of which consists of 64 different sewing machines, which are very old. There are 48 Textima sewing machines and Pfaff sewing machines per line. The total annual production is 1 million pieces. The main items are pajamas, night dresses, bathrobes, and bed sheets.

The absentee rate reaches 20 percent. Labor efficiency is good, but there is a lack of technical personnel capable of designing fashionable articles. Marketing its products is this mill's main problem.

E. Labor Force

The distribution of the labor force in National's different sectors is shown in Exhibit 14, below. The total number of direct labor is 4,569, while administrative and other employees number 994, that is, only 22 percent of the total work force.

Exhibit 14. Labor Force Distribution at National

Department	Number
Spinning Production	2,061
Maintenance	297
Weaving	918
Dyeing and Finishing	363
Inspection	74
Garment	377
Engineering	328
Sewing threads	110
Quality control	41
Legal	12
Storage	54
Commercial	200
Security	228
Financial	240
Administration	209
Purchasing	48
Chairman Secretariat	3
TOTAL	5,563

F. Recommendations

National should function as a world class organization, i.e., each mill should have the power to run independently. The company has good machinery in all sectors of production. However, at some stages of production in the different spinning mills, obsolete or inferior machinery should receive better maintenance and repair with new spare parts. Otherwise, this equipment should be removed from the production line.

Specific recommendations include the following:

- The production line should be redone in all mills, taking into consideration the technical rules for machine layout.
- The ambient conditions should be carefully studied. Air conditioning and ventilation systems are required.
- The handling of material during different processes should be carefully designed to prevent package damage and contamination.
- Good mixing is a must for a high quality yarn. Measures should be taken to provide a sufficient area for proper bale mixing.
- Instrumentation needed for quality control is lacking. A good quality control and trouble shooting program should be designed.
- In all sectors, the demand for technical personnel is high, especially in the quality control department.
- Waste treatment should be investigated and begun.

KAFR EL-DAWAR

A. Introduction

Kafr El-Dawar is the second largest public textile enterprise in Egypt, with a total production of about LE 600 million. It was founded in 1938 for producing fine yarns and high quality fabrics.

Kafr El-Dawar consists of six ring spinning production units with a total annual production of 32,770 tons. Four of these production facilities are located in the city of Kafr El-Dawar, one is in Mahmoudia, and one in Kom Hamada. At Kafr El-Dawar there is also an open end spinning facility with an annual production of 3,500 tons. The company also produces sewing and pearl threads.

At Kafr El-Dawar, the yarn count ranges from 8/1 to 120/1. For its annual production, Kafr El-Dawar uses 650,000 kentars of cotton, 720 tons of viscose rayon, and 3,200 tons of polyester. The company's weaving facilities are divided into four weaving units at Kafr El-Dawar and produce 104 million meters of different fabrics.

In 1982, Kafr El-Dawar established ready-made garment facilities producing 1.75 million pieces.

B. Spinning Operations

The spinning sector located in the city of Kafr El-Dawar consists of four mills with a daily production of about 110 tons of different counts of 100 percent cotton, cotton-polyester blends, and viscose-rayon blended yarns. About 55 percent of the total yarn produced is exported, and the balance is locally used. The quality of the yarns produced by the different mills ranges between 5 and 25 percent Uster level. The machinery of the different mills is continuously being partly or completely updated. This is clearly visible in the mix of machines at different stages of production. Exhibit 15 on the following page shows the machinery of Kafr El-Dawar's four different mills:

- **Spinning Mill No. 1.** This is the oldest unit, which has 48,384 spindles running at an average spindle speed of 8,913 rpm. The mill's average count is 26.5/1, with a quality rating of 25 percent Uster level.

- **Spinning Mill No. 2.** It started its production in 1946 and was refitted with new equipment about 10 years ago. The total number of spindles in this mill is 65,160. Although the average spindle speed is 10,895 rpm, its new frame runs at a speed of 14,500 rpm. Mill No. 2 yarn counts are in the range of 30/1 to 60/1, with an average count of 38/1 and yarn quality at 5 percent Uster level.

Exhibit 15. Spinning Machinery at Kafr El-Dawar

Stage	Spinning Mill (1)				Spinning Mill (2)				Spinning Mill (3-A)				Spinning Mill (3-B)				Spinning Mill (4)			
	M/C Maker	No. of Product. Units	Erection Date	Mech. Condit'n	M/C Maker	No. of Product. Units	Erection Date	Mech. Condit'n	M/C Maker	No. of Product. Units	Erection Date	Mech. Condit'n	M/C Maker	No. of Product. Units	Erection Date	Mech. Condit'n	M/C Maker	No. of Product. Units	Erection Date	Mech. Condit'n
Opening Line	Trusch.	3	1976	Good	Trusch.	3	1977	Good	Trusch.	3	1981	Good	Trusch.	3	1967-77	Good	Trusch.	4	1979	Good
Card	Tyoda	70	1977	Fair	Reiter	30	1985-88	Good	Reiter	40	1981	Good	Reiter	30	1981-85	Good	Reiter	48	1979-85	Good
					Trusch.	8	1991	Good												
Drawing					Zenser	10	1977	Good					Marzaly	2	1989	Good				
Lap forming					Reiter	1	1991	Good					Reiter	2	1970	Good	Reiter	4	1979	Good
Ribbon lap					Toyda	8	1974	Good					Marzaly	2	1988	Good	Reiter	4	1979	Good
							1991	Good					Reiter	2	1970	Good				
Combing					Toyda	84	1971	Good					Reiter	10	1970	Good	Reiter	24	1979	Good
					Reiter	5	1991						Marzaly	10	1988	Good				
Drawing Passage	Zenser	24	1977	Fair	Zenser	16	1977		Zenser	16	1980	Good	Zenser	20	1986	Good	Reiter	20	1979	Good
					Reiter	2	1992						Vock	2	1988	Good				
Roving	Ttida	24	1977	Fair	Reiter	14	1994		Tyoda	14	1980	Good	Reiter	6	1984	Good	Reiter	14	1979	Good
					Toyda	2	1991						Tyoda	6	1980-86	Good	Howa	2	1990	Good
Spinning	India	53	1969	Fair	Platt	6	1946		Tyoda	24	1985	Good	Reiter	27	1955	Fair	Reiter	180	1979	Good
	Howa	16	1977	Fair	Platt	60	1948		Tyoda	20	1986	Good	Reiter	64	1986	Fair				
Spinning	Tyoda	36	1977	Fair	Reiter	64	1991		Howa	16	1992	Good	Reiter	12	1993	Good				
	China	1	1991	Good					Reiter	3	1954	Fair								

- **Spinning Mills No. 3-A and 3-B.** This unit started early in 1957 and has been continuously updated. The total number of spindles is 67,000. The mill produces 100 percent cotton, cotton polyester, and viscose-polyester blended yarns. The average count of Mill No. 3-A is 20/1, and of Mill No. 3-B 40/1. The quality rating for both is 5 percent Uster level.

- **Spinning Mill No. 4.** This mill was constructed to process fine cotton, cotton polyester and 100 percent polyester yarns. It began production in 1982 with a total of 84,240 spindles. Average count in Mill No. 4 is 44/1, with a quality rating averaging 25 percent Uster level.

- **Spinning Mill at Mahmoudia.** The Mahmoudia spinning mill was a private mill that was added to Kafr El-Dawar in 1963. It has a capacity of 36,096 spindles. It is capable of producing combed and carded yarns for a wide range of counts from 20/1 to 74/1, with a quality rating of 25-50 percent Uster. Types of machines and other details are presented in Exhibit 16.

Exhibit 16. Machinery in Mahmoudia Spinning Mill

Type of Machine	Date of Install.	Speed meters/ minute	Total No. of Production Units	Mechanical Condition
Opening Line	1978	8.33	2	Good
Card				
Reiter CI	1959	7 *	24	Obsolete
Tyoda CK7C	1975	20 *	200	Fair
Crossrol MK4	1991	100	10	Very Good
Combing	1970	120 **	12	Good
Ribbon Lab.	1970	55	2	Good
Silver Lab.	1970	50	2	Good
Drawing				
Reiter	1961	53	10	Obsolete
Zenser	1977	215	10	Good
Roving	1983	1800 ***	1056	Good
Final Roving	1961	800 ***	1008	Fair
Spinning				
Reiter	1961	8500 ***	149976	Fair
Laxmear	1970	8500 ***	21120	Fair
Winding				
Shclaforst	1980	800	150	Good
Schwider	1938	450	1296	Obsolete
Doubling				
Shwiter	1961	400	336	Obsolete
Ring Twisting				
Reiter	1961	8500	5936	Fair
Textima	1971	6500	4320	Fair

LEGEND:

* Dofferseed rpm
** nips/min
*** spindle speed rpm

- **Spinning Mill at Kom Hamada.** Kom Hamada was founded in 1972 and has a capacity of 82,500 spindles producing an average count of 28/1, with a quality level of 25-50 percent Uster. The mill is well designed, and the machine layout is extremely good. This mill has one of the few storage facilities for raw material and final product in Egypt and is fully air conditioned. The machinery came from different sources, however, even at the same processing stage. Exhibit 17 shows the equipment utilized at Kom Hamada.

Exhibit 17. Machinery in Kom Hamada Spinning Mill

Type of Machine	Date of Install.	Speed meters/ minute	Total No. of Production Units	Mechanical Condition
Opening Line	1973	8.3	3 X 2	Good
Card				
Tyoda	1973	18 *	60	Fair
Crossol	1991	100	10	Very Good
Combing				
Textima	1973	130 **	32	Fair
Lab. forming	1989	85	3	Good
Drawing				
Zenser	1990	340	5 X 2	Very Good
	1986	300	5 X 2	Good
Roving				
Textima	1973	750 ***	16	Obsolete
Reiter	1982	1000 ***	4	Fair
Spinning				
Textima	1973	7000 ***	125 X 428	Fair
Textima	1982	9500 ***	57 X 500	Fair
Winding				
Automatic	1982	800 ***	18 X 50	Fair
Manual	1973	600 ***	12 X 96	Obsolete
Doubling	1973	400	4 X 78	Fair
Ring Twisting	1973	6000	24 X 360	Fair

LEGEND:

* Dofferseed rpm
** nips/min
*** spindle speed rpm

- **Winding at Kafr El-Dawar.** Exhibit 18 on the following page shows the twisting and winding equipment used at the city of Kafr El-Dawar:

  - Mill No. 1, erected between 1987 and 1989, has 800 winding spindles provided with splicing units.

  - Mill No. 2 was established between 1982 and 1987 and has 950 winding spindles with splicing units.

Exhibit 18
Twisting and Winding Machinery at Kafr El-Dawar

Spinning Mill No.	Equipment	No.	Date of Installation	Type of Spinning
1	Winding Spindles	800	1987 - 1989	Auto
2	Winding Spindles	950	1982 - 1987	Auto
3	Winding Spindles	1,300	1987 - 1993	Auto
	Winding Spindles	1,800	1955 - 1972	Hand
	Skein Winding	330	1955 - 1972	Hand
	Ring Twister	42,972	1955 - 1972	Hand
4	Winding	1,450	1992	Auto
	Two-for-one twister	8,556	1983	Hand

- Mill No. 3 has automatic winding heads of 1,300 spindles provided with automatic splicers. This mill was erected between 1987 and 1990. Hand-knotting winding machines with a total number of 1,800 spindles were erected during the period 1955-1972 for winding plied yarns. Besides winding machines, there are 42,972 ring twisting spindles and 11 skein winding machines.

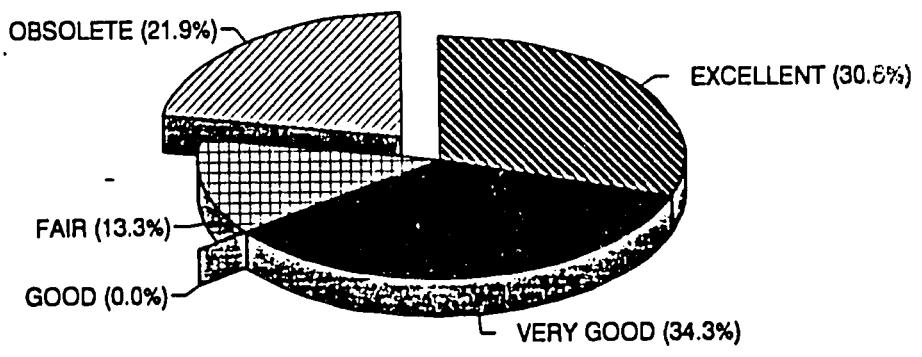
- Mill No. 4 has 1,450 automatic cone-winding machines that were erected in 1992. It has 46 two-for-one twisting machines.

C. Weaving Operations

The weaving facilities at Kafr El-Dawar were designed to use their fine yarn counts to produce different fabrics. Kafr El-Dawar exports about 50 percent of its fabric, mostly in greige form. The daily production in Kafr El-Dawar is 340,000 linear meters, or 412,000 square meters, produced on 3,688 looms.

The percentage of first quality fabrics is 87.8, produced at a waste level of 3.7 percent of yarns and 0.8 percent of fabrics. The looms used in the different mills are a mixture of the oldest and newest weaving technologies. Their condition as related to productivity is classified as follows:

Classification of Loom Condition as Related to Output



The weaving looms are distributed among four different mills with air conditioning and ventilation systems. Exhibit 19 gives details on the looms in the mills at Kafr El-Dawar. Each mill has its own preparation section, warping, sizing, and denting. The overall efficiency is 80-85 percent for shuttle looms and 90-95 percent for high speed projectile, air-jet, and rapier weaving machines. This is in line with world standards and speaks well for yarn quality.

Exhibit 19. Weaving Machines at Kafr El-Dawar

Mills	No. OF M / cs.	Starting Year	Brand	Type	Reed width cm.	Speed ppm
1	648	1940	Northrop	Shuttle	100	176
	558	1940	"	"	100	176
2	450	1950	Ruti	"	120	180
	260	1946	Northrop	"	107	172
3	256	1962	Pulish	"	140	170
	303	1980	Picanol	"	188	180
	100	1980	"	"	270	180
4	509	1980	Ruti	"	130	250
	184	1980	"	"	130	240
	88	1980	"	"	180	210
	80	1990	Novo.	Rapier	190	370
	48	1992	"	"	190	370
3a	96	1992	Picanol	Air jet	190	760
3b	108	1992	Sulzer	Projec.	390	320

Total No. of Machines	3688

The profitability of the weaving sector can be increased by producing more profitable fabrics. There is no question that the technical engineers are capable of supporting the production of such difficult articles. Generally, the looms in different rooms are well-maintained.

D. Other Operations

Dyeing and finishing for Kafr El-Dawar fabrics takes place at El-Beida Dyers, and the majority of the production is used in the ready-made garment facilities.

In 1985, the garment factory at Kafr El-Dawar started three different production activities, as shown in Exhibit 20 on the following page. These three mills are well equipped, and their machines well maintained. The layout of the mills is optimum. The discipline of the workers is proper. However, the percentage of absenteeism is high, reaching 40 percent, which is alarming.

Exhibit 20. Garment Machinery at Kafr El-Dawar

PLANT No. 1	
Total no. of different sewing machines	440
Annual production:	
Lady nightdress	450,000
Pajamas	450,000
Bed sheets	420,000
Annual consumption of fabric	70,000,000
Work force	470
PLANT No. 2	
Total no. of different sewing machines	178
Annual production:	
Men's shirts	630,000
Children's shirts	270,000
Annual consumption of fabric	2,600,000
Work force	340
PLANT No. 3	
Total no. of different sewing machines	232
Annual production:	
Men's trousers	100,000
Shirts	100,000
Jackets	100,000
Annual consumption of fabric	792,000
Work force	320

E. Labor Force

Exhibit 21, on the following page, shows an analysis of the labor force in the different small sectors. The distribution of the labor force in ring spinning is reasonable, and there is no excess labor at the production level.

The performance of the labor force, as well as the number of looms per weaver, is highest in the textile weaving sector in Egypt (up to 16 looms per weaver). The size of the labor force in the different weaving mills depends greatly on the technology used. The total direct labor is 12,395 workers, which is reasonable for Kafr El-Dawar's size. This is about 50 percent of the total work force at Kafr El-Dawar, indicating that indirect labor is extremely inflated.

16

Exhibit 21. Labor Force in Spinning Mills at Kafr El-Dawar

Blue Collar Area:

Department	Direct Labor	Supervisor	Administration	Service	Total
Spinning (1)	544	109	2	138	793
Spinning (2)	592	104	2	143	841
Spinning (3)	919	164	1	229	1,313
Spinning (4)	563	99	3	130	795
Spinning Administration & Workshop	0	143	13	15	171
Sewing Threads Mill	599	57	5	132	793
Weaving (1)	762	356	16	168	1,302
Weaving (2)	474	263	4	141	882
Weaving (3)	772	330	8	265	1,375
Weaving (4)	760	308	9	175	1,252
Winding (1)	158	26	0	32	216
Winding (2)	201	34	0	32	267
Winding (3)	1,179	132	4	86	1,401
Winding (4)	598	75	0	40	713
TOTAL	8,121	2,200	67	1,726	12,114

White Collar Area:

Department	Direct Labor	Supervisor	Administration	Service	Total
Electrical Station	0	627	8	17	652
Power Station	0	597	5	90	692
Security	0	255	39	870	1,164
Buying	0	321	247	12	580
Financial	0	23	275	0	298
Juridical	0	0	56	2	58
Purchase & Storage	0	397	255	2	654
Medical	0	127	37	22	186
Building	0	472	6	0	478
Administration	0	257	740	47	1,044
Spinning Mahmoudia	821	171	4	102	1,098
Workshop & Administration Mahmoudia	0	101	69	211	381
Spinning Kom Hamada	1,316	226	5	234	1,781
Workshop & Administration Kom Hama	0	178	177	289	644
TOTAL	2,137	3,752	1,923	1,898	9,710

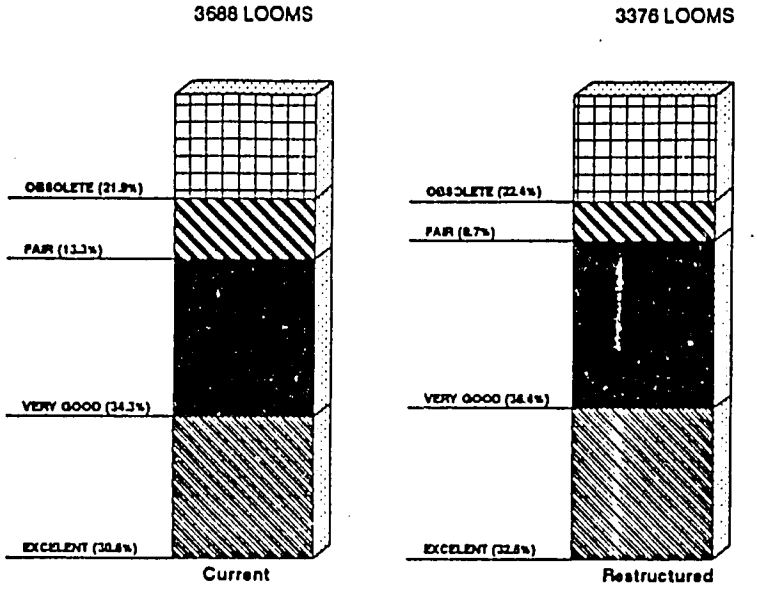
F. Recommendations

Recommendations include the following:

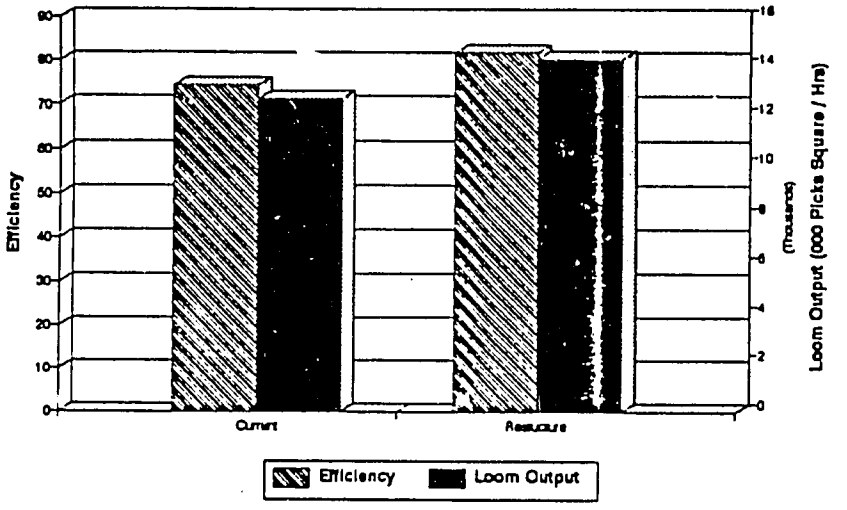
- Increase the inspection of bales in each spinning mill. Each bale should be well classified.
- Use bale classification for proper mix of raw materials.
- Take extreme care with bale mixing before feeding fibers to the opening line.
- Take extra care in handling the material between the different stages within and between mills.
- Apply quick response techniques for troubleshooting to ensure high quality products.
- Adjust winding machines frequently to get proper winding cones.
- Give special attention to improving the relative humidity, temperature, and number of air circulations per hour in each department of the mill.
- Reactivate the research and development department to keep up with rapid technological advances and changes taking place in the industry.
- Establish quality auditing at each mill (see Annex E).
- Get rid of the Polish looms and 56 Northrop looms in Weaving No. 2 and 3. This should increase average overall efficiency and loom output, as described in Exhibit 22 on the following page.
- Design and produce more profitable, high-in-demand fabrics and garments.
- Hire a qualified designer.
- In Mahmoudia, reclothe the cards and acquire winding equipment.
- In Kom Hamada, restructure combing, roving, and winding.

Exhibit 22. Current and Restructure Comparison

Loom Condition



Weaving Efficiency and Loom Output



ESCO

A. Introduction

ESCO was founded in 1940 with a capital of LE 15,000. It was nationalized in 1963. A number of small production units were connected to ESCO, and its capital was increased to LE 25.6 million, then reduced to 15 million in 1987-88.

ESCO's production varies from viscose-rayon continuous filament yarn and wool fabrics to cotton yarns and fabrics. ESCO consists of several mills at different sites in and around Cairo. It has four cotton spinning mills, with a total of 167,160 spindles for producing combed, carded, blended, and ply yarns and 672 open end spindles. One viscose-rayon plant of 1,248 spindles produces continuous filament yarn, and a weaving mill of 1,200 looms produces cotton fabrics.

ESCO has a small spinning unit for processing wool and wool-blended yarns. The unit has 2,640 spindles and 66 looms. A finishing unit for processing woolen fabrics is also available.

A complete dye-house was built at ESCO for finishing and dyeing cotton fabrics. The planned annual production is 9,697 tons of cotton yarns, 440 tons of viscose-rayon, 27 million meters of cotton fabric, and 570,000 meters of wool and wool-blend fabrics. Only 1,000 tons of cotton yarns are targeted for export. ESCO consumes 330 tons of American and Egyptian cotton fibers, 330 tons of viscose-rayon fibers, and 1,021 tons of polyester fibers. For wool fabric, 1,280 tons of wool and synthetic fiber are required. The total number of employees at ESCO is 10,579.

B. Spinning Operations

ESCO has a total of 166,488 ring spindles and 672 open end rotors distributed at different mills. The oldest machinery was erected in 1971 and the newest in 1987. However, most of these machines are poorly maintained and not properly set. Spare parts required for producing high quality yarn are lacking.

The efficiency of the mills is far below international standards and in turn affects the cost of production. The personnel in charge of production in most of the mills require intensive training in both technology and quality control. The ambient condition in some mills has to be improved. Efforts should be made to improve the working conditions in the spinning facilities, which consist of the following:

- **Kaloub Spinning Mill.** The spinning mill at Kaloub is well organized, and the personnel are material and quality conscious. The mechanical condition of the

machinery is good, but quality control must be restructured to produce high quality yarns.

- **Bahteem Spinning Mill.** The spinning mill at Bahteem was erected during 1974-78 and consists of 66,168 spindles. Due to the lack of maintenance and spare parts in this mill, the mechanical condition of the machinery in some sectors of the production line requires immediate action. A trained maintenance team should be formed or hired from any other spinning company. Machines should be reset to suit the fiber properties of the processed cotton. Fiber should be properly mixed before processing. Quality control auditing and troubleshooting is required, and technical personnel with production and quality control responsibilities should receive training in these areas.

- **Gazal Spinning Mill.** This mill has both ring spinning and open end spinning machines. The overall condition of the machinery is poor. Moreover, mill management should continue to run open end machines because of the demand for this type of yarn, and discard the ring facility and move the spinning frames from Bahteem to this location. ESCO will be able to upgrade the Bahteem spinning facilities before this restructuring.

A new spinning mill with 53,184 spindles was established in 1986. It contains the most up-to-date machinery for producing carded and combed yarns. The layout of this mill is very good; however, there are some difficulties in controlling the air conditioning.

The settings of the machines and their speed should be adjusted for processing various types of cotton. The analysis of yarn quality indicates that there are eccentricities in the different types of machines. Measures should be taken to remedy this. During the site visit, it was evident that the mill floor has settled in some areas. This will affect shafts, drafting rollers, bearings, etc. Leveling of machines should be rechecked. Through the improvements mentioned above, ESCO will be able to direct the new unit's production to the export market.

C. Weaving Operations

The ESCO weaving facility has four rooms, with 1,200 looms producing 40 million square meters per year. Exhibit 23 on the following page shows the available weaving machines.

During the visit, the following observations were made:

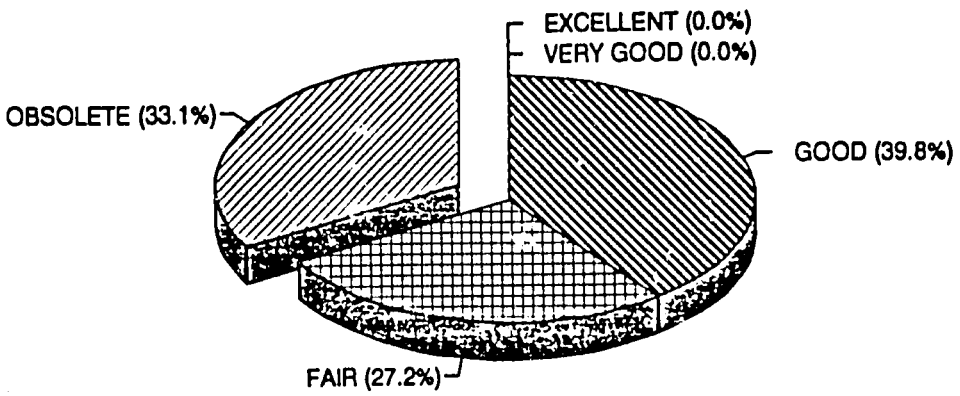
- All running looms suffer from lack of spare parts and maintenance.
- All looms are running under bad technical conditions and are badly managed.
- Fabrics are low quality, especially those produced on the obsolete machines.
- Laborers are distributed badly among the four rooms.

Exhibit 23. Weaving Machines at ESCO

Mills	No. OF M / cs.	Starting Year	Brand	Type	Reed width cm.	Speed ppm
A	156	1981	Toyoda	Shuttle	130	180
	276	1952	Herano	,,	110	170
	60	1961	Skamoto	,,	107	160
	8	1961	Skamoto	,,	163	140
B	124	1973	Pulish	,,	130	165
	36	1973	,,	,,	130	155
	30	1973	Polish	,,	170	150
	36	1973	,,	,,	270	106
	72	1977	Saurer	,,	280	170
C	72	1956	Dedrech	,,	130	170
	80	1950	,,	,,	110	140
	60	1960	Ruti	,,	130	175
	0	1948	Toyoda	,,	105	170
	70	1945	,,	,,	130	160
	0	1948	Toyoda	,,	105	175
H	120	1980	Picanol	,,	230	155
			1959	,,	,,	110

Total No. of Machines	1200

Loom condition is classified as follows:



D. Other Operations

ESCO's other operations include the following:

- **Dyeing and finishing house.** ESCO has a dyeing and finishing house for bleaching, mercerizing, and dyeing cotton fabrics. The capacity of the dye-house is as follows:

Bleaching	36	million meters
Mercerizing	18	million meters
Dyeing	21.9	million meters
Printing	14.7	million meters
Finishing	40	million meters

  Recently, the dye-house has not been working at full capacity due to lack of spare parts and lack of fabrics.

- **Wool spinning and weaving mill.** ESCO also has a small spinning mill for wool and wool blends. It contains 204 spindles capable of producing 84 tons per year. This unit was erected in 1954. The condition of the machinery is very poor, and yarn produced is of low grade. Thus, produced fabrics often need to be repaired, which in turn requires a large number of laborers.

  The spinning mill's production is transferred to the weaving room, which contains 36 wide looms, erected in 1956, and 24 looms, erected in 1961. The looms are not in better condition than the machinery in the spinning mill. The fabrics are finished in the finishing house without any special fabric treatment.

- **Viscose-rayon plant.** This plant was erected in 1980 and contains 1,248 spindles, but their general condition is poor. The cost of production at this facility is double international costs. Its yearly production is 719 tons.

E. Labor Force

Distribution of ESCO's labor force is given in Exhibit 24 on the following page. The analysis of the labor structure shows that direct labor numbers 6,684, while service labor numbers 2,088. The number of service employees in marketing and finance, and administration is 273 and 1,491, respectively. The number of employees who have university degrees is only 275. The majority of employees, 80 percent, have no education at all, emphasizing the importance of training for this company.

F. Recommendations

ESCO is mainly a spinning mill although there are some other activities. So, the restructuring of ESCO should be directed towards improving the spinning sector to improve

170

Exhibit 24. Labor Force at ESCO

Department	Number
Cotton Spinning	3,207
Weaving	1,996
Wool Spinning and Weaving	380
Dyeing and finishing	434
Viscose-rayon	350
Quality control	384
Financial	602
Administration	447
Commercial	436
Security	552
Legal	33
Engineering	542
Transportation	512
Medical	163
Chairman's Office	7
Technical Office	7
TOTAL	10,052

the quality of spun yarns. The following measures should be taken:

- **New spinning mill**
  - Maintenance for all machinery.
  - Setting of all machines.
  - Increase production rate to guaranteed figures level.
  - Strengthen quality control program.
  - Design a troubleshooting program.
  - Train all personnel in production and quality control sectors.
  - Pay close attention to ambient condition.

- **Spinning mill at Kaloub**
  - Stress quality auditing.
  - Storage facilities for yarn are needed.

- **Spinning mill at Bahteem**
  - The same measures as applied to new spinning mill
  - Shut off machines that are not capable of producing high quality products
  - Hire a new technical staff that can change the factors responsible for producing low quality yarn.

- **Gazal spinning.** The ring spinning facility should be shut off and replaced with the Bahteem ring facility after its upgrading.

- **Weaving.** ESCO should dispose of the obsolete machines and reduce production to first quality products that can be sold. Maintenance of fair and good machines should be performed through a concerted program and sufficient spare parts.

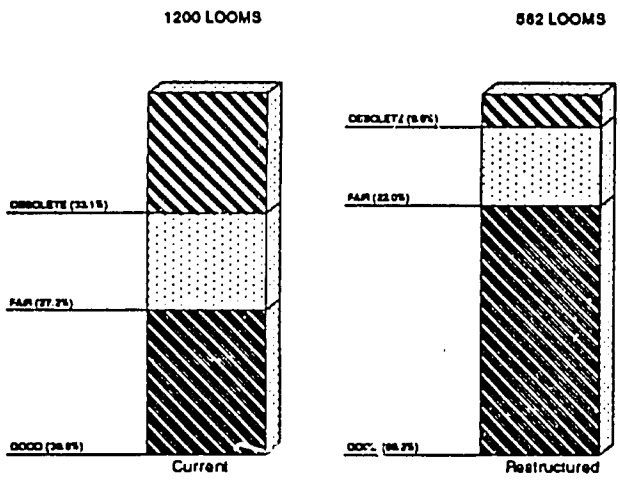
The restructuring plan for ESCO should be as follows:

- Move the spinning facilities at Bahteem to the Gazal location.
- Shut down the facility at Bahteem.
- Privatize three short staple spinning mills: Kaloub, new spinning, and Gazal.
- Privatize the long staple spinning, weaving, and finishing facilities at Mostrod.
- Shut down obsolete weaving facilities and keep the fair and good looms. This will increase overall efficiency and loom output, as shown in Exhibit 25.

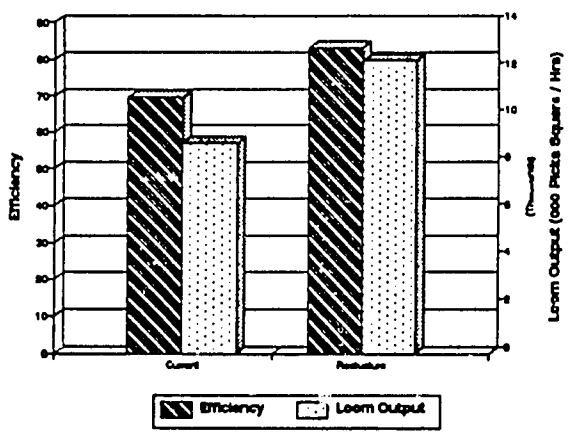
These measures will increase overall efficiency and loom productivity. It is estimated that this mill should produce yarns of 5 percent Uster level on its 53,184 spindles at 95 percent efficiency.

Exhibit 25. Current and Restructure Comparison

Loom Condition



Weaving Efficiency and Loom Output



EL-NASR FOR SPINNING, WEAVING, AND KNITTING (CHOURBAGI)

A. Introduction

Chourbagi is located in Cairo and can be considered integrated, since it consists of spinning, weaving, knitting, dyeing and finishing, and garment and socks manufacturing. Most of the facilities are at one location.

B. Spinning Operations

The spinning mill at Chourbagi has a small spinning unit with 44,520 spindles. Half of these frames are the oldest spinning frames in Egypt, erected in 1955-56. The carding and combing section in the mill is in bad working condition, which reflects directly on the quality of the produced yarns.

The production plan of this mill is 4 tons of combed (30/1-40/1) yarns, 1 ton of 80/1 to 100/1 count yarn, as well as 1 ton of 20/1 to 40/1 carded yarns. All the yarns produced in this facility have an Uster quality level of 50-95 percent. Chourbagi has some frames in such bad condition that they should never be used to process yarn. Exhibit 26 on the following page shows the machinery of the spinning mill.

Most of the machines require a large number of spare parts. The carding room should be replaced with a new high production room. Yarn preparation should also be replaced. The opening, drafting, spinning, and yarn preparation should undergo a rigorous overhauling and be maintained properly for Chourbagi to continue to exist.

C. Weaving Operations

Weaving in Chourbagi is divided into two rooms, with 250 looms producing about 9 million square meters per year. The first room has 84 shuttle narrow looms erected in 1952-56, representing 19 percent of current capacity, and 126 narrow looms, erected in 1970-72, representing 31 percent of current capacity.

These looms are in bad mechanical condition, which affects both productivity and fabric quality. Moreover, the looms produce fabrics with widths that are no longer in demand.

The second room has 40 Sulzer looms, erected in 1992, representing 50 percent of current capacity. These looms are capable of producing high quality goods, if they are fed with a quality yarn. However, these looms are running at very low efficiency because of the low quality yarns they process. Consequently, this increases the consumption of spare parts

Exhibit 26. Spinning Machinery at Chourbagi

Machines	No. of Units	Date of Installation	Production Rate	Mechanical Condition
Opening and Picking Line	3	1975	up to 8 tons/day	Fair
Carding				
Crossroll	4	1975	not working	Very Poor
Platt	17	1964-75	20-25 kg/hr	Very Poor
Platt	16	1974	4 kg/hr	Very Poor
Drawing				
Zencer	8	1983	200 mt/min	Good
Zencer	8	1984	200 mt/min	Good
Roving				
Toyoda	3	1975	900 r.p.m	Good
Toyoda	4	1985	1000 r.p.m.	Good
Sanic	2	1984	800 r.p.m.	Good
Combing Preparation				
Lap forming whiter	3	1959		Obsolete
Whiter silver lap	3	1959		Obsolete
Draw frame	2	1984	200 mt/min	Good
Lap forming	2		150 mt/min	Good
Combing				
Whiter comber	4	1955	120 nip/min	Obsolete
Whiter comber	8	1956	120 nip/min	Obsolete
Toyoda	4	1984	200 nip/min	Good
Spinning				
Platt	12/440	1952 - 84	8200 r.p.m.	Obsolete
Esh.	10/400	1959 - 84	8200 r.p.m.	Obsolete
Inglostadt	7/344	1955	7000 r.p.m	Obsolete
Inglostadt	14/420	1956	7300 r.p.m.	Obsolete
Inglostadt	10/460	1961-1984	9700 r.p.m.	Obsolete
Toyoda	16/480	1974	8750 r.p.m.	Good
Hespano	20/480	1978	9600 r.p.m.	Obsolete
Toyoda	14/456	1984	9500 r.p.m.	Good
Winding				
Mittler	4/84	1961	400 mt/min	Obsolete
Savio	1/92		500 mt/min	Obsolete
Savio	4/48	1980	800 mt/min	Obsolete
Schlaforst	4/50		800 mt/min	Obsolete
Schlaforst	2/96	1977	500 mt/min	Obsolete
Singing				
Mittler	2/96	1979	500 mt/min	Good
Savio	2/120	1957	500 mt/min	Obsolete
Twisting				
Hamel	2/480	1957	5000 r.p.m.	Obsolete
Savio	4/364	19611	6600 r.p.m.	Fair
Zencer	4/364	1952	7300 r.p.m.	Obsolete
Inglostadt	8/368	1952	7800 r.p.m.	Obsolete
Toyoda	6/400	1974	7800 r.p.m.	Fair

144

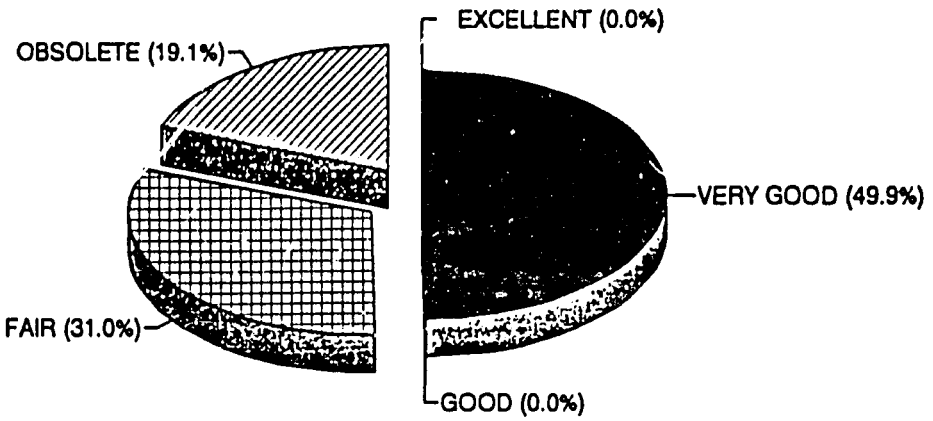
Exhibit 27. Weaving Machines at Chourbagi

Mills	No. OF M / cs.	Starting Year	Brand	Type	Reed width cm.	Speed ppm
A	55	53/56	Northrop	Shuttle	112	160
	29	53/56	"	"	112	140
B	94	1970	Polish	"	120	160
	32	1970	"	"	120	140
C	40	1982	Sulzer	Projec.	393	240

Total No. of Machines	250

and lowers the percentage of first grade fabrics. Exhibit 27 above shows the weaving machines at Chourbagi. Loom condition is classified according to output as follows:

Classification of Loom Condition as Related to Output



D. Other Operations

D1. Knitting

Chourbagi has a small knitting facility containing 31 machines, erected in 1984-86, of different gauges and diameters. The mechanical condition of these machines is fair. However, 20 percent of these machines were in stand-still condition due to the unavailability of spare parts. The diameters and gauges of this equipment are not suitable for producing fabrics now in demand.

The production speeds of these machines are intentionally lowered to 50-60 percent of normal speed because of the low quality yarns used, which is reflected in the fabric's bad appearance. No quality control program exists to assure fabric grade. The percentage of defective fabrics reaches 20-30 percent.

Chourbagi also has eight warp knitting machines of different gauges, erected in 1972, which are used for producing lingerie. Their condition is fair and they produce 250 kilograms over three shifts.

D2. Dyeing and Finishing

The dyeing and finishing room at Chourbagi has an old unit erected in 1952 and a new one erected in 1983. Many machines are stopped due to a lack of spare parts. The dye-house is designed for dyeing and finishing woven and knitted fabrics. In theory, it can process 40,000 meters per day, but current production is about 12,000 meters per day, of which 7,000 meters are bleached, and 5,000 meters are dyed.

D3. Garments

Chourbagi has a well organized garment mill that operates for one shift. The garment department has two production rooms. Each room has seven production lines. The total number of sewing machines is 236. Daily production is 8,110 pieces. The mill has good in-line and off-line quality. It also has a fashion design department responsible for developing new models.

D4. Socks

Chourbagi has a good new socks mill located near Kobba in Cairo. Its production includes men's, women's, children's, and sports socks as well as women's stockings of different types. There are 38 machines in this unit, the first of which were erected in 1933, but most as late as 1989. The unit's annual production reaches 715,000 pairs of men's socks and 270,000 pairs of women's hose.

All steps of the production line are inside the mill. The unit runs well, producing 90 to 95 percent first grade. It has 161 employees. Absenteeism is about 10 percent. This unit could run successfully and profitably if supplied with high quality yarns, and if it establishes a department for design and quality control of the finished product.

E. Labor Force

Chourbagi has 4,120 employees, distributed as shown in Exhibit 28 on the following page. Only 2,123 employees are involved in the production, representing 51 percent of the total work force.

Absenteeism is 25 percent, the highest percentage in Egypt's spinning mills. About 64 percent of the labor force is involved in production, 12 percent in service positions, and 7 percent in supervision. This ratio is reasonable and within world standards.

The circular knitting department has a labor force of 93 for three shifts, 10 percent of whom are usually absent. There are 23 employees in warp knitting, which has an absenteeism rate of 8 to 25 percent. Labor turnover is rapid in this department.

Exhibit 28. Chourbagi Labor Force

Department	Number
Chairman's Office	6
Administration	414
Financial	304
Commercial	382
Legal	22
Engineering Workshop	210
Quality Control	55
Production Control	65
General Manager	1
Weaving	667
Spinning	795
Dyeing and Finishing	275
Garment & Socks Administration	1
Garment (1)	655
Weaving Administration	53
Knitting Administration	54
Socks	161
Garment (2)	87
TOTAL	4,120

Chourbagi suffers from a lack of technical employees and is over staffed with non-technical specialists. Labor costs at Chourbagi represent 35 percent of total production, which is too high for Chourbagi to be profitable.

F. Recommendations

General recommendations include the following:

- Combine the knitting department at TRICONA with that of Chourbagi to enhance and increase the range of knitting at Chourbagi. By doing so, the combined inventory of knitting machines will be able to produce fabric sizes that are in demand, helping to make Chourbagi a strong and viable competitor in both the export and local markets.

- Overhaul the spinning and winding operations.

- Replace cards and combers.

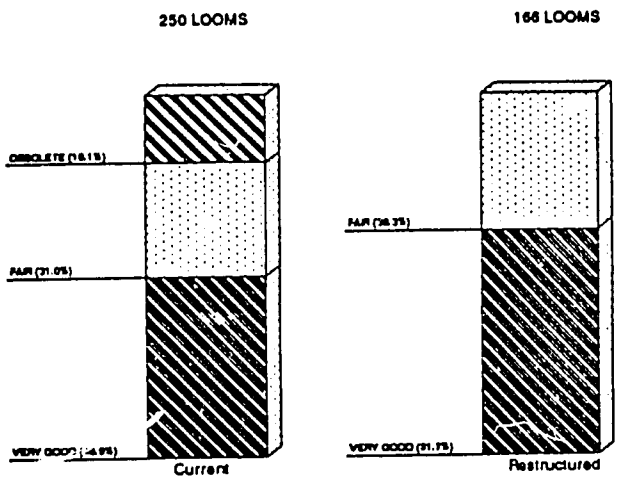
- Dispose of 84 looms to improve overall efficiency and loom productivity as described in Exhibit 29 on the following page.

- Make spare parts available for all departments and develop a quick-response system for emergency repairs requiring spare parts.

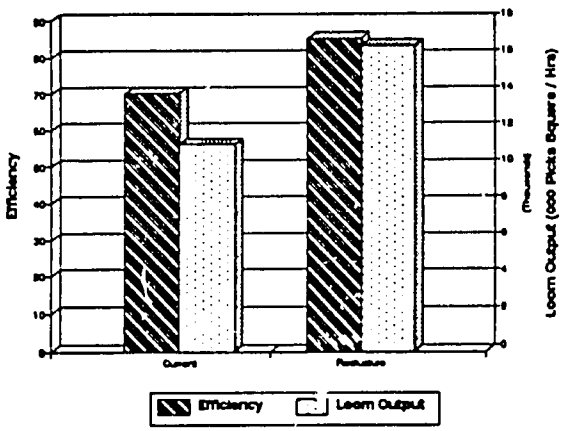
- Start a quality auditing program for all phases of production.
- Start a training program for the work force.
- Work with a foreign manufacturer and carry a known trade mark similar to that of GIL.

Exhibit 29. Current and Restructure Comparison

Loom Condition



Weaving Efficiency and Loom Output



DELTA COMPANY FOR SPINNING AND WEAVING

A. Introduction

Delta is located in Tanta and consists of two facilities: the Tanta spinning facility and the Zefta weaving facility. The spinning facility has 100,024 ring spindles and 3,600 open end spindles distributed among three mills located at Tanta. The Zefta weaving facility has 628 shuttle looms of different widths.

Delta's annual yarn production is 8,370 tons/year with an average count of 31.2 percent from ring spinning frames, and 3,000 tons with an average count of 13.3 percent from open end frames. All open end yarns, as well as 25 percent of ring spun yarns, supply the weaving mills. The weaving production reaches 24.5 x 106 meters annually, plus 350 tons of pileaterry and 90,000 bed covers.

Each location has a small sewing room designed to produce a total of 187,000 garments pieces and 26.5 X 106 kitchen towels. The total production value is 160 X 106 LE. Income from exporting is about LE 104 million, the highest percentage of the textile companies in Egypt.

B. Spinning Operations

The spinning sector of Delta consists of three mills. Exhibits 30, 31, and 32 on the following pages detail the machinery at different mills:

- Mill No. 1 produces yarns of 100 percent Egyptian Giza 70 and Giza 76 cotton on 60,000 spindles. The maximum production at the mill is 13,326 tons/day with an average count of 38 percent at 5-25 percent Uster level. About half this yarn is twisted on ring twisters or two for one twisters. Mill No. 1 has a sewing threads unit with a production of about 3.67 tons. It also has mercerizing and cone dyeing facilities.

- Mill No. 2 is an open end spinning facility with 3,600 rotors. This mill has a waste opening unit using hard or soft waste. The total theoretical production is 9.4 tons/day.

- Mill No. 3 is the most up-to-date mill at Delta. There are 40,000 spindles for processing combed or carded yarns. The theoretical production of this mill is 18.5 tons/day at 5 percent Uster level. Cotton used in this mill is Giza 70 and Giza 75. This mill has the most recent technology. The machinery is well maintained, and the layout is reasonable. This is reflected in the level of yarn produced, which is about 5 percent Uster with an average count of 30 percent. Because of the

Exhibit 30. Machinery in Delta Spinning Mill No. 1

Stage	Main MK Specification	Number of Machines	Manufacturer	Model	Year of Manufacturing	Mechanical Condition
Blow Room	Two Scutchers	One line	Trutzschler - Germany	SME	1971	Fair
	Two Scutchers	One line	Trutzschler - Germany	SME	1975	Fair
Carding	40	20	Toyoda - Japan	CK - 7C	1976	Fair
	1000 mm	24	Textima - DDK	1452	1971	Fair
	40	10	Platt - England	HP 600	1979	Fair
	40	24	Toyoda - Japan	CE	1963	Fair
Drawing	One Head	6	Reiter - Ingolstadt	RSB 51	1992	Good
	Two heads 4/3	3	Zinser - Germany	720/2	1985	Good
	Two heads 5/3	6	Zinser - Germany	720/2	1980	Good
Combing	Comber 8 heads	7	Toyoda Japan	CM8	1976	Good
	Super lap	2	Toyoda Japan	SK 4A	1976	Good
	Comber - 8 heads	6	Reiter - Switzerland	E 7/4	1982	Good
	Ribbon lap	1	Reiter - Switzerland	E 4/1	1982	Good
	Silver lap	1	Reiter - Switzerland	E 2/4	1982	Good
	Comber - 8 heads	5	Marzali - Italy	P 2/A	1989	Good
	Lap winder	1	Marzali - Italy	SR 34	1989	Good
	Silver drawing	1	Voak - Italy	SH 2	1989	Good
Roving	96 sp/machine	9	Toyoda - Japan	FL6	1979	Good
	108 sp/machine	4	Toyoda - Japan	FL/6	1992	Good
	160 sp/machine	2	Textima - DDK	1502/5	1971	Good
Spinning	432 sp/mc	58	Toyoda - Japan	Ry	1979	Good
	468 sp/mc	40	Toyoda - Japan	RR	1960	Fair
	428 sp/mc	38	Textima - DDR	2110 B	1971	Fair
Twisting	424 sp/mc	20	Toyoda - Japan	RG	1960	Fair
	240 sp/mc	8	Textima - DDR	2110 Z	1971	Fair
	168 sp/mc	10	Saurer Allma - Germany	TM - 140	1979	Good
Winding	48 sp/mc	2	Schwiter - Switzerland	KM	1968	Fair
	60 sp/mc	2	Mettler - Switzerland		1960	Fair
Automatic Winding	10 sp/mc	37	Schwiter - Switzerland	CA - 11	1978	Good
	80 sp/mc	12	Murata - Japan	7 - II	1989	Good
Doubling	100 sp/mc	2	Murata - Japan	NJS	1960	Fair
	108 sp/mc	3	PS - India	FMK	1992	Good
Singing	48 sp/mc	4	Mettler - Switzerland	GSE	1963	Fair
Reeling	50 sp doulbe swift	5	Kyoritsu - Japan	—	1978	Good
	40 sp doulbe swift	4	Groon & Lucke - Germany	—	1963	Good

condition of bales and their contamination with foreign matter, great effort is taken to open each bale manually before mixing, which increases the labor force in the opening line section.

C. Weaving Operations

The weaving sector is located at Zefta, and is oriented to consume most of the yarns produced by Spinning Mill No. 2 and part of the yarns produced by the other spinning mills. The weaving mill is well maintained and organized. Loom condition is classified as good

Exhibit 31. Machinery in Delta Spinning Mill No. 2

Stage	Main MK Specification	Number of Machines	Manufacturer	Model	Year of Manufacturing	Mechanical Condition
Waste Opening	Two lines each including the following:		Trutzchler - Germany		1979	Good Good
	Bale opener m/c	1	Trutzchler - Germany			Good
	Willomat m/c	1	Trutzchler - Germany	RMS		Good
	Double - Colonia	1	Trutzchler - Germany	NCZ - NCM		Good
	Bale press	1	Autela - Germany			Good
	Duomat filter	1	Trutzchler - Germany	SF 123		Good
	Roving waster opener	1	Laroche - France			Good
	Hard waste opener including	1				Good
	Cutter m/c	1	Laroche - France	CR - 300	1979	Good
	Waste opener	1	Laroche - France	JONIER 800	1979	Good
Blow Room	Lines each include:	3	Ingolstudt - Germany		1979	Good
	Blending Grab	1	Ingolstudt - Germany	MG 20		Good
	Hoper Leader	1	Ingolstudt - Germany	KA - 31		Good
	Duo - cleaner	1	Ingolstudt - Germany	DC 10		Good
	Step-wise cleaner	1	Ingolstudt - Germany	SR 12		Good
	Automatic blender	1		MX 12		Good
	Reserve bbx	2		RX 11		Good
	Chute feed	46		FL 12		Good
	Individual Filter	2		EF 12		Good
	Line for Synthetics	1	Trutzchlre - Germany		1986	Good

Exhibit 32. Machinery in Delta Spinning Mill No. 3

Stage	Main MK Specification	Number of Machines	Manufacturer	Model	Year of Manufacturing	Mechanical Condition
Blow Room	Line for cotton with chute feed system	two lines	Trutzschler - Germany		1986	Good
Carding	40" cards with leveling system Automatic cleaning and central waste collection	36	Rieter - Switzerland	C4	1986	Good
Combing	Comber - 8 head	10	Marzali - Italy	P2/A	1989	Good
	Lap winder	2	Marzali - Italy	SR 34	1989	
	Silver drawing	2	Vouk - Italy	SH2	1989	
Drawing	4/3 2 heads/mc	14	Zinser - Germany	720 / 2	1985	Good
	Silver blending	2	Hispano - Switzerland	Hiper blender	1981	
Roving	108 sp/mc	12	Toyoda - Japan	FL 16	1985	Good
Spinning	476 sp/mc	84	Zinser - Germany	3119	1985	Good
Winding	50 sp/mc with splicers	16	Murata - Japan	7 - II	1985	Good

related to output. The ambient condition is satisfactory. Labor force distribution also appears appropriate. The efficiency of this mill reaches 73 percent, and the mill produces 80 percent first grade. Exhibit 33 on the next page shows the weaving facility.

D. Other Operations

The weaving mill has a small dyeing and finishing unit. Delta also has two small garment departments, one in Tanta and the other in Zefta. Both units are designed to produce 187,000 different articles and consume 722,000 meters of fabric, in addition to the 26.57 million pieces of different items that require 3.7 million meters of fabric. Exhibit 34 on the following page details the sewing equipment in Delta. A large amount of the production is exported.

E. Labor Force

The total number of employees in Delta Company is 6,229, of which 4,011 are engaged in spinning, with the remaining 2,218 working at Zefta in weaving. The number of direct labor in spinning is 2,680 with the remaining 1,331 working in administration and quality control. In the weaving sector, 1,429 are direct labor, with the remaining 789 in administration. Exhibit 35 (see next page) gives an analysis of the labor force in Delta Company. The absentee rate is 14 percent at both the Tanta and Zefta locations. No excess labor was noticed during the site visit.

F. Recommendations

General recommendations include the following:

- Improve quality auditing procedures.
- Initiate troubleshooting system.
- Develop more rigorous technology.
- Start a research and development program.
- Design fabrics in demand in the market.
- Initiate a rigorous training program.
- Take measures to improve the efficiency of the looms through a well-designed maintenance program.

Exhibit 33. Weaving Machines at Delta

Mills	No. OF M / cs.	Starting Year	Brand	Type	Reed width cm.	Speed ppm
	168					
	96	1980	Picanol	Shuttle	122	190
	134	1980	,,	,,	127	180
	42	1980	Picanol	Shuttle	176	170
	12	1980	,,	,,	176	150
	128	1980	,,	,,	237	130
	24	1980	,,	,,	320	120
Terry	24	1979	Investa	,,	265	90
					122	190

Total No. of Machines	628

Exhibit 34. Sewing Equipment in the Delta Mill

Serial No.	Type of Machine	No. of Machines	No. of Units/Machines	Machine Condition
1	Embrodry	7	6	Good
2	Embrodry	1	11	Good
3	Sewing M/755	45	1	Good
4	Sewing M/491	20	1	Good
5	Sewing M /L	15	1	Good
6	Sewing M /L	4	1	Good
7	Two Needle Sewing M / L	2	1	Good
8	Two Needle Sewing M / L	1	1	Good
9				
10	Button M / L	1	1	Good
11	Overlock M / L	4	1	Good
12	Overlock M / L	1	1	Good
13	Electrical Cutter	1	1	Good
14	Electrical Cutter	2	1	Good
15	Electrical Cutter	1	1	Good

Fxhibit 35. Delta Labor Force

LABOR	SPINNING MILL (1)	SPINNING MILL (2)	SPINNING MILL (3)	WEAVING MILL	GARMENT (1)	GARMENT (2)
DIRECT	1183	216	522	955	192	139
MAINTENECE	216	65	75	126		
SUPERVISOR	124	23	52	11	5	6

EL-NASR CLOTHING AND TEXTILE COMPANY

A. Introduction

The El Nasr Clothing and Textile Company at KABO has a unique structure compared with other public enterprises, since it starts with acquiring yarns on the local market, converts them to knitted fabrics, dyes and finishes the fabric at its mill, and produces KABO underwear and outerwear garments. It also has a small unit to produce socks.

KABO uses a variety of high quality yarns having counts of 30/1, 33/1, 50/1, 60/1, and 80/2. The total consumption of yarns is 18 tons per day. Production at KABO is distributed as 2.34 million dozen underwear, 260,000 dozen outerwear, and 95,000 dozen different types of socks. KABO sells about 20 tons/year of its knitted fabrics.

KABO is working in a highly competitive market, since there are many private mills in the same line of production. KABO established its trade name (GIL) in cooperation with a French company that provided KABO with expertise and training for high quality production.

KABO is currently capable of exporting 325,000 dozen different types of underwear and 165,000 dozen outerwear. Exports represent about 22 percent of the LE 120 million total production value.

B. Spinning Operations

None.

C. Weaving Operations

None.

D. Other Operations

D1. Knitting

KABO has a knitting mill that consists of five different sectors (Derby, Interlock, Jersy, Accessories, and Wrap). In each sector, there are various machines of different types, gauges, and diameters.

Exhibit 36 on the following page shows the different types of machines. The mechanical condition of all operating machines is good. KABO has a proper maintenance

Exhibit 36. KABO Knitting Machinery

		Machine Diameter - Inches											Total	Notes
M/C	Gauge	15	16	17	18	19	20	21	22	24	26	30		
Derby	12X12			2									2	
	16X16	1	2	3	3	2	2	2					15	
	18X18												56	
	20X20												1	
Interlock	18X18											2	2	
	20X20	4	2	2	3	4	3	2	2	2	1	3	28	
	28X28											6	6	
Jersy	18											10	10	
	24		1	2	2	2	2				4	3	16	
	28	1	2	2	2	2	2					4	15	
	32	3	5	3	1						1		12	
	18											1	2	
	20											4	4	
	20										1		1	
Warp	28												9	
Accessories	12												8	
	10/14												4	
Total		15	19	23	26	22	17	4	2	2	7	33	191	

program that keeps the machinery running at high efficiency. Correct measures are taken to control defects due to incorrect machine settings, worn needles, etc. Most of the machines in Derby are fine rib 18 X 18 gauge, with an 18-inch diameter. In the Interlock Division, machines are 20 X 20 gauge with various diameters.

The layout and technology of the knitted sector are close to international standard. The running speeds are chosen with consideration of the yarn quality. The ambient condition is reasonable.

D2. Sewing

The sewing facility at KABO is divided into six sectors (men's underwear, ladies' underwear, etc.). The machines in each sector are in good condition, and the flow of material is well organized. However, the available areas are too small and the handling between the machines is manual, which increases the number of workers required in transportation. A great number of laborers are involved in inspection after sewing. The stand-by labor in this mill is about 13 percent.

The total number of sewing machines is 1,300. The annual working hours are 3.12 million, and the annual production is 34.2 million pieces. Because KABO strives to increase its exports, a great number of inspectors are required on line and at the final stage for 100 percent inspection. Consequently, this increases production costs. KABO's philosophy for quality control should include input material (yarn, fabric, finished fabrics) to ensure that defects in the finished products are mainly due to sewing, which can be easily detected and controlled.

D3. Dyeing and Finishing

All KABO's produced knitted fabrics are dyed, printed, and finished in its own dye-house. The fabric may be bleached, mercerized, dyed, printed, or finished. There is a small unit for dyeing and finishing of yarns with an annual capacity of 220 tons.

The percentage of second quality fabrics reaches 5 percent. Cut offs of power and water supplies increase the percentage, which in return increases production costs.

Quality control in finishing is not satisfactory. During finishing, the knitted fabric is subjected to a series of chemical and physical processes designed to give it the needed properties for a particular end use. Those processes should be carried out in a way that maintains quality at low cost. This will reduce the number of finished products of inferior quality and reduce the percentage of waste.

Quality control at the finishing stage should involve a number of different functions:

- Control of raw material
- Selection of finished sequence and control of process parameters
- Control of fabric specification
- Inspection of fabrics (before, during, and after processing)

E. Labor Force

KABO's labor force is 5,617. Of this number, 3,917 are engaged in production units, while 1,698 are in administration, which represents 30 percent of the total. This percentage in KABO is among the highest in the textile sector.

The absentee rate reaches 9 percent in sewing and 4 percent in knitting. Thus, the stand-by labor force is 10-12 percent. In our opinion, 10 percent of the production work force, as well as 10 percent of the administrative work force, can be retrained to work in the underemployed sectors. Exhibit 37 shows the KABO labor force.

Exhibit 37. Labor Distribution in KABO

Department	Number
Preparation	112
Knitting	536
Sewing	2,762
Stock	148
Dye-house	258
Training Center	101
Production service	956
Marketing	317
Administration	425
Financial	
M. Service	2
Total	**5,617**

F. Recommendations

A quality control lab should be designed to verify the above mentioned requirements. Initial inspection tends to be infrequent since KABO processes a large variety of yarns supplied by different spinning mills. A portion of the yarn should be checked for its dyeability. A fault analysis is a vital feature at KABO; charts and graphs should be constructed to keep a continuous record of trends.

A research and development center is a vital requirement for a successful mill such as KABO. The center should fulfill the following objectives:

- Quality control and testing for different sectors
- Troubleshooting
- Providing assistance in new product development
- Evaluating new products
- Advising the export department on the latest international standards

KABO should also test the dyeability of each cone knitted and treat its dyeing and finishing waste before dumping it into the public sewage system.

CAIRO CLOTHING AND HOSIERY COMPANY (TRICONA)

A. Introduction

The Cairo Clothing and Hosiery Company at TRICONA was established as a result of nationalizing several private mills. Most specialized in producing knitted fabrics and manufacturing socks and garments. Some of these mills had their own dyeing, finishing, and garment accessories facilities at different locations around Cairo. At present, the production units are at three locations, leaving others closed or in use for storage. The closed mills occupy about 44,000 square meters in densely populated areas.

TRICONA produces underwear, outerwear, socks, and garment accessories. The average mill production is 560,000 dozen underwear, 450,000 outerwear pieces, 10,000 dozen socks, and 6 million meters of garment accessories.

The dyeing and finishing facility is working in part as a commission dyeing enterprise. TRICONA consumes about 1,000 tons of yarn, most of which is 100 percent cotton (combed or carded). Of this total, 880 tons per year are count 33/1 carded. The remaining 180 tons are 10/1, 22/1, 24/1, 30/1, 60/1, 60/2, 70/2, 80/2, and 24/2 combed. Different quantities of acrylic, polyester, and viscose-rayon are also used.

Statements during the site visits indicated that part of the mill was completely stopped, while the other was working at 50 percent capacity, mainly due to financial troubles. A large inventory of out-of-fashion products exists that is unlikely to be absorbed by the market. Furthermore, many successful and well-organized private and public mills work in the same areas as TRICONA. In spite of these factors, TRICONA exported 60 tons (worth LE 886,000) during 1991-92.

B. Spinning Operations. None.

C. Weaving Operations. None.

D. Other Operations

D1. Knitting

TRICONA has a knitting mill equipped with 65 circular knitting machines of different diameters and gauges, capable of producing 837 tons of knitted fabrics annually. The company also has 23 flat knitting machines and four warp knitting machines, with a total annual production of 37 tons. Exhibit 38 on the following page shows the different types of machines that are running at 60 percent of their maximum permissible speed. Some of them require spare parts and replacement of worn needles.

Exhibit 38. TRICONA Knitting Machinery

No. of Machines	Date of install.	Diameter	Gauge	No. of Feeders	Speed r.p.m.	Condition
Regular Knitting m/c for outer-wear						
3	1970	30	18	36		Fair
1	1975	13	15	8		Fair
1	1975	33	18	24		Fair
3	1962	30	20	44		Fair
1	1962	28	12	12		Fair
1	1977	33	10	12		Fair
1	1977	32	14	24		Fair
1	1377	32	26	72		Fair
Interlook m/c for under-wear						
3	1976	15	20	22	50	Fair
3	1976	17	20	24	46	Fair
3	1976	19	20	28	42	Fair
2	1976	30	20	44	12	Fair
2	1977	18	20	26	42	Good
TOTAL 15						
Derby and Endmable						
2	1976	16	14	24	56	Fair
2	1976	17	14	24	52	Fair
5	1976	19	14	28	34	Good
4	1981	84	28		80	Good
180	1974	5	4		50	Fair
181	1974	10	8			Fair
182	1974	7	14			Fair
183	1974	9	18			Fair
Fine rib and fine Interlock under-wear						
6/1	1981	14	18	20	30	Good
7/1	1981	15	18	22	40	Good
3	1981	16	18	24	35	Good
2	1981	17	18	26	32	Good
13/1	1981	18	18	28	31	Good
2	1981	30	18	44	17	Good
17	1976	32	28	48	15	Good
3	1977	30	28	48	15	Good
25	1980	30	32	48	14	Good
2	1977	30	28	48	21	Good
17	1970	30	28	48	11	Fair
Single Jersey under-wear						
1/3	1987	14	28	45	40	Good
2/3	1987	15	28	48	35	Good
3/3	1987	16	28	52	35	Good
4/3	1987	17	28	54	35	Good
5/3	1987	18	28	58	31	Good
6/3	1987	19	28	60	30	Good
7/3	1987	20	28	64	25	Good
27	1981	15	24	48	28	Good
28	1981	16	24	50	29	Good
30	1981	18	24	56	28	Good
2	1981	26	20	84	18	Good
18/1	1981	26	24	84	18	Good
2	1992	26	24	84	30	Good

During the site visit, all the machines in this sector were stopped due to the lack of raw material. The maximum production of this sector is 5 tons per day. Although a department for quality control exists, neither the equipment nor the program can ensure adequate inspection of the supplied yarns as required for producing high quality knitted fabrics.

The flat knitting department contains 23 machines for producing military pullovers (jumpers). Most of these machines are in fair condition, but stopped due to the lack of yarns.

D2. Socks

TRICONA has a well-equipped socks mill. It has 62 machines, some very old (1932) and some modern. Exhibit 39 below, shows the machine specifications. The socks department is running at only 30 percent capacity.

Exhibit 39. TRICONA Socks Mill Machinery

Machine No.	Diameter (inches)	Number of Needles	Gauge	Production sock/shift
1	3.5	144	12	45
1	3.5	120	12	45
1	3.5	144	12	45
1	3.5	160	12	45
2	4	200	18	45
1	3.5	160	22	45
2	3.5	240	22	45
8	4.5	84	6	144
3	3.5	200	18	144
1	3 3/4	142	12	144
1	3.5	132	12	144
1	3.5	124	12	144
1	3 3/4	214	18	144
1	3 1/4	172	18	144
2	3.5	186	18	144
6	3.5	186	18	144
1	2 3/4	156	18	144
1	3	172	16	144
1	3.5	188	18	144
1	2 3/4	146	18	50
1	3	162	18	50
1	2 3/4	146	18	50
2	3 1/2	200	18	50
1	3 1/4	168	18	50
1	3 1/2	188	18	50
2	3 1/2	200	18	50
1	3 3/4	200	18	50
1	3 3/4	92	9	60
4	3 3/4	108	9	60

D3. Accessories

TRICONA has a unique set of braiding machines and tape looms for producing accessories required for the garment industry. Although some machines are old, they are kept in good working condition.

D4. Garments

TRICONA has a well-organized garment mill at its main location, which contains 428 machines. The garment mill is divided into six departments. During the site visits, the production lines were organized for producing T-shirts, women's underwear, shirts, mini-shorts, poly-shirts, pajamas, etc. One of the lines is used for producing samples. A large percentage of the articles is targeted for export. Total production reaches 560,000 dozen underwear and 450,000 pieces of outerwear.

D5. Dyeing and Finishing

TRICONA has a dyeing and finishing house capable of producing bleached, printed, and dyed knitted fabrics. The maximum capacity is 4.5 tons of fabrics per day, and 39 tons of yarns annually.

The dye-house contains dyeing facilities, a continuous bleaching line, a printing machine, calendaring machines, a mercerizing machine, and also different types of dryers. All these facilities are specialized for knitted fabrics. The dye-house also has cone dyeing facilities. The mechanical condition of equipment and technical know how in the dye-house are at the level of any well managed enterprise. However, the laboratory facilities are not sufficient for executing a good quality control program.

E. Labor Force

The total labor force is about 2,500. Exhibit 40 shows the distribution of the labor force at TRICONA.

Exhibit 40. TRICONA Labor Force

Type	Knitting Unit	Socks Unit	Garment Unit	Dyeing Unit
Direct labor	85	25	392	85
Assistance labor	0	0	209	0
Service	4	2	9	2
Preparation	5	0	235	4
Maintenance	7	2	19	3
Supervisors	6	1	43	2
TOTAL	107	30	907	96

F. Recommendations

TRICONA will continue to be uncompetitive unless its financial problems are resolved. In the meantime, the possibility of merging TRICONA and Chourbagi should be studied. This solution has many advantages, such as:

- TRICONA's knitting machines will supplement the limited knitting facilities at Chourbagi with different sizes and gauges, achieving all size ranges, thus increasing the number of working machines to 103. This would make the knitting section large enough to compete with similar mills.

- The dye-house at TRICONA should operate at full capacity to finish knitted fabrics for both mills, and should also serve as a commission dyer for private firms.

- The transfer of TRICONA's socks mill to Chourbagi will strengthen its competitiveness in the market.

- The accessory unit of TRICONA will be capable of supplying the needs of the garment sectors.

- TRICONA's huge unused area can be sold to help improve the company's financial situation.

- Special measures should be taken to test the dyeability of yarns before their processing, to reduce the number of second quality finished garments.

CAIRO DYEING COMPANY

A. Introduction

After nationalization, the Cairo Dyeing Company was composed of two kinds of plants:

- Shoubra plants for finishing cotton and cotton blended fabrics
- Plants for dyeing all kinds of yarns

These plants are located in the textile area in Cairo. A finishing mill for cotton and cotton blended fabrics was added at the Shoubra plant and is called El-Aliaf.

Cairo Dyeing Company works for both public and private textile mills on commission. Sometimes it buys grey fabrics to finish them and market them locally.

B. Spinning Operations

None.

C. Weaving Operations

None.

D. Other Operations

Mill conditions for dyeing, finishing, and other operations are described below.

- Shoubra Mill No. 1
  - Total production is 20 million meters a year.
  - The main line of this mill (rope bleaching line) suffers from lack of spare parts and maintenance and control devices, which results in low efficiency, low quality, and high chemical consumption. The cylinder dryer after bleaching is in good condition.
  - The dyeing facility in this mill is 25 percent of total production. Its machines are not bad, and rearranging them can increase their productivity.

- The printing facility has three machines in fair condition. It can print 75 percent of the total production of narrow width fabrics. There are two flat screen printing machines, which are obsolete and costly.

- The finishing facility is the mill's best operation.

Exhibit 41 details the mill's machinery:

Exhibit 41. Shoubra Mill Machinery (Cairo Dyeing)

Machine Type	No.	Width	Starting Date	Manu-facturer	Daily Production
Bleaching:					
Lab forming line	1	Rope	1962	Broyman	70,000
Dyeing:					
Wide gagers	2	150 cm		Textima	18,000
Narrow gagers	6	100 cm			
Printing:					
Cylinder Printing	2	90 cm		Komerio	54,000
Finishing:					
Oil heated	1	150 cm		Brockner	79,000
Oil heated	1	120 cm		Artos	

- **El-Aliaf Mill.** Exhibit 42 shows the mill machinery:

Exhibit 42. El-Aliaf Mill Machinery (Cairo Dyeing)

Machine Type	No.	Width	Starting Date	Manu-facturer	Daily Production
Bleaching:					
Open Width	1	160 cm	1983	Koyota	65,000
Dyeing:					
Thermozol	1	140 cm	1972	Monfarts	16,000
Jet	2	rope	1982	Conclose	3,000
Jet	1	rope	1987	Ober Mayer	
Wide grager	3	240 cm	1982	Henrexon	
Narrow Grager	4	90 cm	Nationalization	Kmoeria	18,000
Printing					
Rotary	1	150 cm	1983	Shtork	55,000
Finishing:					
Oil heater	1	150 cm	1977	Brokness	84,000
Oil heater	1	150 cm	1983		

- Total production is 24 million meters a year. Fifty percent of it is dyed and 70 percent is printed.

- This mill is in good condition and is a versatile facility; i.e, it can handle narrow and wide fabrics, cotton and cotton blended fabrics, and other fashion requirements.

- The production quality is not bad.

- Most of the machines require maintenance to increase their efficiency over time.

- **Yarn Dyeing Mill.** This mill has a production capacity of 700 tons a year of all types of yarns. Most of the machines are obsolete, however, and the dyed yarn quality is very low (Exhibit 43).

Exhibit 43. Yarn Dyeing Machinery (Cairo Dyeing)

Machine Type	No.	Starting Date	Manu-facturer	Daily Production
Con dyeing:				1,740
(1) P	2	1977		
Ober Mayer	1	1952		
Sholl	1	1963		
Alma	1	1988		
Hang Dyeing				530
Matgera	1	1963		
Matgera	1	1964		
French	1	1977		
Local	2	Nationalization		

E. Labor Force

The labor force* is distributed in the following way:

	Direct	Administrative
Shoubra	269	65
Aliaf	278	82
Yarn dyeing	83	25
Total	630	172

* The total labor force is 1,518, with 50 percent not needed.

F. Recommendations

- Dispose of the Shoubra mill, since total sales are less than a million meters and the mill is obsolete and cannot match market demand from the technical, fashion, production amount, and cost point of views. The finishing facility of the mill can be transferred to the neighboring El-Aliaf mill to balance its productivity.

- Dispose of all machines at the yarn dyeing mill, except an Alma cone dyeing machine, which can be transferred to the El-Aliaf mill.

- Devote attention to maintenance programs, ground leveling, and handling care.

- Raise cost consciousness of technical staff and encourage them to maximize results using minimum chemicals.

- Address waste treatment issues at the mill and other dyeing and finishing facilities.

ANNEX B

FINANCIAL ANALYSIS

ALEXANDRIA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	417,077	417,077
Buildings	10,805,369	10,794,443
Machinery for production	46,245,663	56,952,298
Other technical equipment	2,257,173	2,888,181
Office / Plant fruniture	605,211	610,441
Establishment costs		
Ongoing projects	24,622,876	30,547,167
Total fixed assets	**84,953,369**	**102,209,607**
CURRENT ASSETS		
Stock	48,216,786	66,692,809
Sundry debtors	28,162,585	41,983,015
Financial investments	1,666,289	2,053,290
Cash and bank balances	8,758,196	4,254,197
Total current assets	**86,803,856**	**114,983,311**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	58,568,673	60,495,593
Bank overdraft		43,712,316
Total current liabilities	**58,568,673**	**104,207,909**
NET CURRENT ASSETS / (LIABILITIES)	28,235,183	10,775,402
	113,188,552	**112,985,009**
REPRESENTED BY :		
Equity participation	1,916,634	1,916,634
Reserves	36,906,554	40,214,173
Provisions	46,056,263	48,583,332
Long term loans payable	28,309,101	22,270,870
	113,188,552	**112,985,009**

BIDA DYERS
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	250,256	250,256
Buildings	21,093,879	21,095,814
Machinery for production	95,794,604	95,690,299
Other technical equipment	5,583,634	5,400,664
Office / Plant fruniture	2,310,984	2,322,578
Establishment costs	25,673	25,673
Ongoing projects	783,437	6,193,336
Total fixed assets	**125,842,467**	**130,978,620**
CURRENT ASSETS		
Stock	61,313,390	62,144,257
Sundry debtors	63,203,907	71,610,268
Financial investment	3,057,146	3,054,147
Cash and bank balances	12,096,789	6,627,044
Total current assets	**139,671,232**	**143,435,716**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	21,974,033	27,419,477
Bank overdraft	24,588,973	26,215,600
Total current liabilities	**46,563,006**	**53,635,077**
NET CURRENT ASSETS / (LIABILITIES)	93,108,226	89,800,639
	218,950,693	**220,779,259**
REPRESENTED BY :		
Equity participation	39,329,651	39,329,700
Reserves	35,111,385	36,614,315
Provisions	77,039,138	83,484,272
Long term loans payable	67,470,519	61,350,972
	218,950,693	**220,779,259**

CAIRO DYEING
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	136,047	132,797
Buildings	5,436,107	5,406,406
Machinery for production	14,872,153	14,794,369
Other technical equipment	858,872	1,571,991
Office / Plant furniture	168,242	189,238
Establishment costs		
Ongoing projects	165,863	157,859
Total fixed assets	**21,637,284**	**22,252,660**
CURRENT ASSETS		
Stock	18,694,732	23,835,898
Sundry debtors	20,209,824	24,848,140
Financial investments	155,155	155,155
Cash and bank balances	115,074	157,635
Deficit	7,997,168	13,693,029
Total current assets	**47,171,953**	**62,689,857**
CURRENT LIABILITIES		
Short-term loans payable	23,584,080	24,453,608
Creditors and accrued charges	14,732,807	22,196,377
Bank overdraft		
Total current liabilities	**38,316,887**	**46,649,985**
NET CURRENT ASSETS / (LIABILITIES)	8,855,066	16,039,872
	30,492,350	**38,292,532**
REPRESENTED BY :		
Equity participation	500,000	500,000
Reserves	8,563,374	9,995,823
Provisions	11,547,429	13,701,614
Long term loans payable	9,881,547	14,095,095
	30,492,350	**38,292,532**

70

CAIRO SILK
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	535,753	535,753
Buildings	18,565,999	19,024,415
Machinery for production	29,352,346	29,122,939
Other technical equipment	1,000,283	983,581
Office / Plant fruniture	170,050	166,525
Establishment costs		
Ongoing projects	122,360	115,095
Total fixed assets	**49,746,791**	**49,948,308**
CURRENT ASSETS		
Stock	15,566,450	26,008,220
Sundry debtors	11,596,979	8,318,004
Financial investment	35,424	32,425
Cash and bank balances	6,165,938	1,586,159
Deficit	87,374,095	99,684,545
Total current assets	**120,738,886**	**135,629,353**
CURRENT LIABILITIES		
Short-term loans payable	85,491,050	85,944,740
Creditors and accrued charges	8,631,888	14,455,018
Bank overdraft		
Total current liabilities	**94,122,938**	**100,399,758**
NET CURRENT ASSETS / (LIABILITIES)	26,615,948	35,229,595
	76,362,739	**85,177,903**
REPRESENTED BY :		
Equity participation	10,000,000	10,000,000
Reserves	15,850,311	16,086,891
Provisions	20,073,045	26,354,329
Long term loans payable	30,439,383	32,736,683
	76,362,739	**85,177,903**

201

CHOURBAGI
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	462,724	462,724
Buildings	2,670,279	2,669,322
Machinery for production	29,187,832	29,487,391
Other technical equipment	1,046,553	1,063,828
Office / Plant furniture	1,161,170	1,173,711
Establishment costs		
Ongoing projects	323,532	356,161
Total fixed assets	**34,852,090**	**35,213,137**
CURRENT ASSETS		
Stock	29,123,844	35,472,664
Sundry debtors	31,256,031	27,570,958
Financial investments	427,322	424,322
Cash and bank balances	500,892	270,127
Deficit	27,098,226	48,354,760
Total current assets	**88,406,315**	**112,092,831**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	24,440,634	24,386,794
Bank overdraft	57,371,265	68,907,399
Total current liabilities	**81,811,899**	**93,294,193**
NET CURRENT ASSETS / (LIABILITIES)	6,594,416	18,798,638
	41,446,506	**54,011,775**
REPRESENTED BY :		
Equity participation	5,000,000	5,000,000
Reserves	5,733,996	5,827,759
Provisions	20,272,786	27,011,886
Long term loans payable	10,439,724	16,172,130
	41,446,506	**54,011,775**

202

DAMIETTA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	552,847	552,847
Buildings	10,341,111	10,341,061
Machinery for production	55,801,327	106,840,197
Other technical equipment	3,144,429	3,309,242
Office / Plant frunture	813,682	841,606
Establishment costs		
Ongoing projects	3,978,131	22,525,892
Total fixed assets	**74,631,527**	**144,410,845**
CURRENT ASSETS		
Stock	52,827,207	58,447,384
Sundary debtors	29,963,435	45,206,550
Finanical investment	3,090,003	3,652,503
Cash and bank balances	16,685,665	2,912,567
Total current assets	**102,566,310**	**110,219,004**
CURRENT LIABILITIES		
Short-term loans payable		52,290,220
Creditors and accrued charges	54,294,460	62,027,255
Bank overdraft		
Total current liabilities	**54,294,460**	**114,317,475**
NET CURRENT ASSETS / (LIABILITIES)	48,271,850	(4,098,471)
	122,903,377	**140,312,374**
REPRESENTED BY :		
Equity participation	1,590,835	1,590,835
Reserves	47,992,933	50,560,125
Provisions	57,251,694	61,335,163
Long term loans payable	16,067,915	26,826,251
	122,903,377	**140,312,374**

203

DAQAHLIYA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	253,044	253,044
Buildings	20,462,125	20,462,125
Machinery for production	94,597,606	98,396,995
Other technical equipment	4,139,702	4,137,926
Office / Plant fruniture	1,166,286	1,199,893
Establishment costs		
Ongoing projects	1,408,789	10,198,495
Total fixed assets	**122,027,552**	**134,648,478**
CURRENT ASSETS		
Stock	94,215,973	137,523,092
Sundry debtors	55,829,406	66,198,630
Financial investment	2,431,666	3,606,666
Cash and bank balances	6,098,994	4,892,213
Total current assets	**158,576,039**	**212,220,601**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	101,445,191	122,426,873
Bank overdraft		40,539,569
Total current liabilities	**101,445,191**	**162,966,442**
NET CURRENT ASSETS / (LIABILITIES)	57,130 848	49,254,159
	179,158,400	**183,902,637**
REPRESENTED BY :		
Equity participation	1,128,300	1,128,300
Reserves	51,793,971	54,407,857
Provisions	75,385,431	78,996,996
Long term loans payable	50,850,698	49,369,484
	179,158,400	**183,902,637**

DELTA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	226,167	226,167
Buildings	17,641,107	17,641,107
Machinery for production	71,997,082	75,375,118
Other technical equipment	1,707,135	1,815,403
Office / Plant furniture	537,830	642,486
Establishment costs		
Ongoing projects	425,649	756,968
Total fixed assets	**92,534,970**	**96,457,249**
CURRENT ASSETS		
Stock	49,311,177	68,947,171
Sundry debtors	38,012,187	42,058,757
Financial investments	461,344	461,344
Cash and bank balances	13,031,628	8,438,863
Deficit		
Total current assets	**100,816,336**	**119,906,135**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	57,754,068	62,218,533
Bank overdraft	7,032,954	19,903,188
Total current liabilities	**64,787,022**	**82,121,721**
NET CURRENT ASSETS / (LIABILITIES)	36,029,314	37,784,414
	128,564,284	**134,241,663**
REPRESENTED BY :		
Equity participation	25,000,000	25,000,000
Reserves	8,148,949	9,805,732
Provisions	54,920,949	61,941,545
Long term loans payable	40,494,386	37,494,386
	128,564,284	**134,241,663**

206

ESCO
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	1,024,228	1,004,513
Buildings	18,930,620	18,981,969
Machinery for production	97,876,973	100,572,902
Other technical equipment	3,837,567	4,194,198
Office / Plant furniture	598,537	600,433
Establishment costs		
Ongoing projects	11,283,875	8,496,525
Total fixed assets	**133,551,800**	**133,850,540**
CURRENT ASSETS		
Stock	59,697,566	82,737,460
Sundry debtors	57,188,833	37,797,067
Financial investments	1,602,005	1,599,009
Cash and bank balances	1,151,443	2,080,557
Deficit	32,796,709	91,134,092
Total current assets	**152,436,556**	**215,348,185**
CURRENT LIABILITIES		
Short-term loans payable	121,712,393	114,549,382
Creditors and accrued charges	50,761,352	83,630,009
Bank overdraft		
Total current liabilities	**172,473,745**	**198,179,391**
NET CURRENT ASSETS / (LIABILITIES)	(20,037,189)	17,168,794
	113,514,611	**151,019,334**
REPRESENTED BY :		
Equity participation	15,000,000	15,000,000
Reserves	25,821,134	19,612,543
Provisions	58,160,915	80,180,665
Long term loans payable	14,532,562	36,226,126
	113,514,611	**151,019,334**

206

KABO
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	1,107,330	164,480
Buildings	4,044,706	4,127,821
Machinery for production	16,453,968	20,476,715
Other technical equipment	1,909,862	2,060,068
Office / Plant furniture	1,042,432	1,014,265
Establishment costs		
Ongoing projects	291,093	225,147
Total fixed assets	**24,849,391**	**28,068,496**
CURRENT ASSETS		
Stock	58,993,167	81,911,809
Sundry debtors	47,386,120	37,539,405
Financial investments	5,559,067	6,472,107
Cash and bank balances	18,783,795	29,983,305
Total current assets	**130,722,149**	**155,906,626**
CURRENT LIABILITIES		
Short term loans payable		
Creditors and accrued charges	40,691,217	50,039,380
Bank overdraft		
Total current liabilities	**40,691,217**	**50,039,380**
NET CURRENT ASSETS / (LIABILITIES)	90,030,932	105,867,246
	114,880,323	**133,935,742**
REPRESENTED BY :		
Equity participation	765,500	1,531,000
Reserves	86,350,191	99,287,039
Provisions	27,764,632	33,117,703
Long term loans payable		
	114,880,323	**133,935,742**

201

KAFR EL DAWAR
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	264,694	264,619
Buildings	65,980,854	66,673,172
Machinery for production	241,688,783	289,965,106
Other technical equipment	5,278,926	6,905,623
Office / Plant furniture	1,921,337	2,104,856
Establishment costs	0	0
Ongoing projects	30,129,548	104,054,631
Total fixed assets	**345,264,142**	**469,968,007**
CURRENT ASSETS		
Stock	179,209,154	237,566,576
Sundry debtors	134,657,894	165,262,658
Financial investment	8,774,717	8,770,717
Cash and bank balances	7,018,895	8,811,547
Total current assets	**329,660,660**	**420,411,498**
CURRENT LIABILITIES		
Short-term loans payable	0	0
Creditors and accrued charges	197,221,217	180,949,324
Bank overdraft	38,817,038	131,122,667
Total current liabilities	**236,038,255**	**312,071,991**
NET CURRENT ASSETS / (LIABILITIES)	93,622,405	108,339,507
	438,886,547	**578,307,514**
REPRESENTED BY :		
Equity participation	72,773,248	72,773,250
Reserves	45,093,006	59,696,278
Provisions	172,613,936	190,961,022
Long term loans payable	148,406,357	254,876,964
	438,886,547	**578,307,514**
	0	0

205

MIDDLE EGYPT
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	183,356	183,356
Buildings	8,093,526	8,189,067
Machinery for production	58,344,690	60,926,615
Other technical equipment	2,773,375	3,222,585
Office / Plant fruniture	439,955	470,537
Establishment costs		
Ongoing projects	1,528,689	456,248
Total fixed assets	**71,363,591**	**73,448,408**
CURRENT ASSETS		
Stock	36,184,479	50,974,030
Sundry debtors	40,685,848	47,167,377
Financial investment	333,400	333,400
Cash and bank balances	277,235	325,732
Deficit	33,128,199	62,055,627
Total current assets	**110,609,161**	**160,854,166**
CURRENT LIABILITIES		
Short-term loans payable	81,542,518	116,746,476
Creditors and accrued charges	32,359,843	38,753,324
Bank overdraft		
Total current liabilities	**113,902,361**	**155,499,800**
NET CURRENT ASSETS / (LIABILITIES)	(3,293,200)	5,354,366
	68,070,391	**78,802,774**
REPRESENTED BY :		
Equity participation	5,000,000	5,000,000
Reserves	4,568,087	4,870,623
Provisions	26,192,011	32,694,265
Long term loans payable	32,310,293	36,237,885
	68,070,391	**78,802,774**

201

MISR HELWAN
BALANCE SHEET

	EGYPTIAN POUND	
	90-91	91-92
FIXED ASSETS		
Land	270,894	263,909
Buildings	18,369,091	18,364,331
Machinery for production	134,257,237	135,128,280
Other technical equipment	7,580,456	7,594,225
Office / Plant furniture	1,466,652	1,482,548
Establishment costs		
Ongoing projects	8,933,353	13,784,070
Total fixed assets	**170,877,683**	**176,617,363**
CURRENT ASSETS		
Stock	81,014,371	112,289,796
Sundry debtors	53,838,157	42,953,192
Financial investments	1,231,747	1,228,748
Cash and bank balances	3,003,537	3,119,243
Deficit	148,295,304	243,258,173
Total current assets	**287,383,116**	**402,849,152**
CURRENT LIABILITIES		
Short-term loans payable	191,405,663	236,139,506
Creditors and accrued charges	81,497,602	137,455,315
Bank overdraft		
Total current liabilities	**272,903,265**	**373,594,821**
NET CURRENT ASSETS / (LIABILITIES)	14,479,851	29,254,331
	185,357,534	**205,871,694**
REPRESENTED BY :		
Equity participation	34,085,426	34,085,426
Reserves	15,855,195	17,873,588
Provisions	84,231,534	107,144,589
Long term loans payable	51,185,279	46,768,091
	185,357,534	**205,871,694**

210

MISR EL MAHLLA Co.
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	1,003,680	1,003,680
Buildings	56,827,320	57,096,996
Machinery for production	299,108,012	343,121,837
Other technical equipment	10,116,708	10,879,347
Office / Plant furniture	2,840,484	3,044,676
Establishment costs		
Ongoing projects	21,814,479	69,962,763
Total fixed assets	391,710,683	485,109,299
CURRENT ASSETS		
Stock	313,247,642	359,258,714
Sundry debtors	169,220,604	221,438,845
Financial investment	13,328,559	13,325,559
Cash and bank balances	13,175,038	58,748
Total current assets	508,971,843	594,081,866
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	342,612,875	398,428,142
Bank overdraft	13,993,824	107,455,582
Total current liabilities	356.606,699	505,883,724
NET CURRENT ASSETS / (LIABILITIES)	152,365,144	88,198,142
	544,075,827	573,307,441
REPRESENTED BY :		
Equity participation	26,006,419	26,006,419
Reserves	185,201,473	198,982,918
Provisions	300,853,233	329,807,385
Long term loans payable	32,014,702	18,510,719
	544,075,827	573,307,441

211

MISR SHEBIN EL KOM
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	1,229,647	1,229,647
Buildings	21,120,714	25,174,520
Machinery for production	74,280,976	89,024,048
Other technical equipment	3,876,878	4,125,145
Office / Plant fruniture	1,157,336	1,203,220
Establishment costs		
Ongoing projects	11,889,979	4,889,076
Total fixed assets	113,555,530	125,645,656
CURRENT ASSETS		
Stock	88,214,640	113,855,553
Sundry debtors	49,706,793	65,855,692
Financial investment	20,487,707	16,487,707
Cash and bank balances	73,672,305	64,134,643
Total current assets	232,081,445	260,333,595
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	131,872,514	155,087,549
Bank overdraft		
Total current liabilities	131,872,514	155,087,549
NET CURRENT ASSETS / (LIABILITIES)	100,208,931	105,246,046
	213,764,461	230,891,702
REPRESENTED BY :		
Equity participation	18,810,103	18,810,103
Reserves	67,835,118	75,086,103
Provisions	111,205,023	124,122,474
Long term loans payable	15,914,217	12,873,022
	213,764,461	230,891,702

NASR MEHALLA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	518,979	518,979
Buildings	19,579,031	19,623,607
Machinery for production	43,152,120	43,795,614
Other technical equipment	2,439,010	2,448,951
Office / Plant fruniture	812,067	820,456
Establishment costs	336,750	336,750
Ongoing projects	8,132,204	11,344,918
Total fixed assets	**74,970,161**	**78,889,275**
CURRENT ASSETS		
Stock	61,061,344	80,142,820
Sundry debtors	33,343,500	33,876,088
Financial investment	2,933,187	2,933,187
Cash and bank balances	4,824,307	5,016,339
Total current assets	**102,162,338**	**121,968,434**
CURRENT LIABILITIES		
Short-term loans payable	44,982,666	64,616,423
Creditors and accrued charges	30,204,695	37,867,625
Bank overdraft		
Total current liabilities	**75,187,361**	**102,484,048**
NET CURRENT ASSETS / (LIABILITIES)	26,974,977	19,484,386
	101,945,138	**98,373,661**
REPRESENTED BY :		
Equity participation	18,938,295	18,938,295
Reserves	26,553,166	28,079,474
Provisions	49,672,687	45,332,675
Long term loans payable	6,780,990	6,023,217
	101,945,138	**98,373,661**

NATIONAL BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	157,230	157,230
Buildings	5,611,937	5,611,937
Machinery for production	54,426,703	69,338,370
Other technical equipment	1,353,451	1,459,858
Office / Plant furniture	385,252	396,575
Establishment costs		
Ongoing projects	8,587,203	15,580,275
Total fixed assets	**70,521,776**	**92,544,245**
CURRENT ASSETS		
Stock	35,028,384	49,954,682
Sundry debtors	47,682,229	55,489,026
Financial investments	47,821	47,821
Cash and bank balances	11,848,010	7,713,423
Deficit	99,809,392	107,651,932
Total current assets	**194,415,836**	**220,856,884**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	96,597,487	135,721,289
Bank overdraft	41,292,085	61,176,750
Total current liabilities	**137,889,572**	**196,898,039**
NET CURRENT ASSETS / (LIABILITIES)	56,526,264	23,958,845
	127,048,040	**116,503,090**
REPRESENTED BY :		
Equity participation	26,415,038	26,415,038
Reserves	10,104,236	10,546,490
Provisions	59,892,461	40,716,786
Long term loans payable	30,636,305	38,824,776
	127,048,040	**116,503,090**

ORIENT LINEN
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	124,735	124,735
Buildings	7,720,907	7,886,632
Machinery for production	23,247,654	23,236,892
Other technical equipment	1,538,277	1,580,332
Office / Plant fruniture	456,449	462,228
Establishment costs		
Ongoing projects	390,413	1,380,799
Total fixed assets	**33,478,435**	**34,672,118**
CURRENT ASSETS		
Stock	34,692,257	49,129,439
Sundry debtors	23,172,202	22,447,355
Financial investment	662,965	673,916
Cash and bank balances	407,629	92,798
Total current assets	**58,935,053**	**72,343,508**
CURRENT LIABILITIES		
Short-term loans payable	14,941,819	23,177,189
Creditors and accrued charges	24,640,255	30,649,454
Bank overdraft		
Total current liabilities	**39,582,074**	**53,826,643**
NET CURRENT ASSETS / (LIABILITIES)	19,352,979	18,516,865
	52,831,414	**53,188,983**
REPRESENTED BY :		
Equity participation	1,905,657	1,905,657
Reserves	10,600,962	11,368,587
Provisions	27,866,989	28,485,345
Long term loans payable	12,457,806	11,429,394
	52,831,414	**53,188,983**

215

PORTEX
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	304,047	305,642
Buildings	6,435,822	7,186,860
Machinery for production	25,773,188	25,389,999
Other technical equipment	1,174,260	1,195,985
Office / Plant fruniture	327,064	339,943
Establishment costs		
Ongoing projects	170,145	240,441
Total fixed assets	**34,184,526**	**34,658,870**
CURRENT ASSETS		
Stock	16,669,929	21,122,830
Sundry debtors	9,745,208	9,028,856
Financial investment	158,257	158,257
Cash and bank balances	13,391	13,218
Deficit	14,917,247	14,407,096
Total current assets	**41,504,032**	**44,730,257**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	14,356,347	14,958,073
Bank overdraft	4,238,573	4,051,057
Total current liabilities	**18,594,920**	**19,009,130**
NET CURRENT ASSETS / (LIABILITIES)	22,909,112	25,721,127
	57,093,638	**60,379,997**
REPRESENTED BY :		
Equity participation	17,726,472	17,726,472
Reserves	3,737,158	3,880,127
Provisions	22,773,331	25,916,721
Long term loans payable	12,856,677	12,856,677
	57,093,638	**60,379,997**

216

SIOUF
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	398,675	390,244
Buildings	13,694,248	13,851,208
Machinery for production	100,017,781	101,639,994
Other technical equipment	2,659,305	3,113,653
Office / Plant fruniture	430,486	444,563
Establishment costs		
Ongoing projects	1,914,336	18,466,628
Total fixed assets	**119,114,831**	**137,906,290**
CURRENT ASSETS		
Stock	76,814,607	94,917,014
Sundry debtors	61,615,530	65,421,939
Financial investment	204,858	2,453,105
Cash and bank balances	23,248,122	15,339,924
Total current assets	**161,883,117**	**178,131,982**
CURRENT LIABILITIES		
Short-term loans payable	63,771,211	77,079,547
Creditors and accrued charges	79,393,283	89,392,604
Bank overdraft		
Total current liabilities	**143,164,494**	**166,472,151**
NET CURRENT ASSETS / (LIABILITIES)	18,718,623	11,659,831
	137,833,454	**149,566,121**
REPRESENTED BY :		
Equity participation	22,829,872	22,830,000
Reserves	30,163,956	34,390,346
Provisions	57,454,932	62,862,607
Long term loans payable	27,384,694	29,483,168
	137,833,454	**149,566,121**

247

STIA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 90/91	FY 91/92
FIXED ASSETS		
Land	507,565	507,565
Buildings	6,067,567	6,320,541
Machinery for production	64,665,156	74,340,260
Other technical equipment	2,929,201	3,299,007
Office / Plant fruniture	1,838,075	2,172,498
Establishment costs		
Ongoing projects	10,229,005	19,932,004
Total fixed assets	**86,236,569**	**106,571,875**
CURRENT ASSETS		
Stock	64,925,958	75,123,944
Sundry debtors	77,919,001	84,839,570
Financial investments	6,847,630	6,889,631
Cash and bank balances	18,782,536	18,243,825
Total current assets	**168,475.125**	**185,096,970**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	103,346,054	124,474,879
Bank overdraft		
Total current liabilities	**103,346,054**	**124,474,879**
NET CURRENT ASSETS / (LIABILITIES)	65,129,071	60,622,091
	151,365,640	**167,193,966**
REPRESENTED BY :		
Equity participation	5,478,369	5,478,369
Reserves	54,334,761	61,530,802
Provisions	73,084,912	84,005,486
Long term loans payable	18,467,598	16,179,309
	151,365,640	**167,193,966**

TRICONA
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	185,313	185,313
Buildings	2,807,056	2,809,675
Machinery for production	9,157,318	9,372,666
Other technical equipment	595,395	697,400
Office / Plant furniture	637,376	751,258
Establishment costs		
Ongoing projects	54,309	408,263
Total fixed assets	**13,437,267**	**14,224,575**
CURRENT ASSETS		
Stock	27,420,327	31,203,672
Sundry debtors	8,033,949	10,877,845
Financial investments	189,989	189,989
Cash and bank balances	128,741	46,609
Deficit		17,897,976
Total current assets	**35,773,006**	**60,216,091**
CURRENT LIABILITIES		
Short-term loans payable	15,589,970	21,085,656
Creditors and accrued charges	10,742,816	20,748,614
Bank overdraft	2,689,606	1,951,450
Total current liabilities	**29,022,392**	**43,785,720**
NET CURRENT ASSETS / (LIABILITIES)	6,750,614	16,430,371
	20,187,881	**30,654,946**
REPRESENTED BY :		
Equity participation	5,543,097	5,543,097
Reserves	1,932,092	2,059,336
Provisions	9,068,969	19,426,606
Long term loans payable	3,643,723	3,625,907
	20,187,881	**30,654,946**

219

UNIRAB
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	174,035	174,035
Buildings	15,580,562	15,766,598
Machinery for production	111,686,085	116,794,550
Other technical equipment	2,419,150	2,730,519
Office / Plant fruniture	882,648	1,138,405
Establishment costs		
Ongoing projects	4,093,868	38,019,571
Total fixed assets	**134,836,348**	**174,623,678**
CURRENT ASSETS		
Stock	73,903,045	107,656,873
Sundry debtors	109,289,471	88,996,563
Financial investment	7,349,823	7,346,823
Cash and bank balances	92,729,654	79,409,433
Total current assets	**283,271,993**	**283,409,692**
CURRENT LIABILITIES		
Short-term loans payable		
Creditors and accrued charges	190,900,656	204,434,406
Bank overdraft		10,102
Total current liabilities	**190,900,656**	**204,444,508**
NET CURRENT ASSETS / (LIABILITIES)	92,371,337	78,965,184
	227,207,685	**253,588,862**
REPRESENTED BY :		
Equity participation	2,852,000	2,852,000
Reserves	107,562,431	125,110,907
Provisions	104,273,905	114,595,291
Long term loans payable	12,519,349	11,030,664
	227,207,685	**253,588,862**

220

UPPER EGYPT
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	429,364	439,446
Buildings	21,149,609	21,867,524
Machinery for production	56,882,552	60,064,296
Other technical equipment	3,297,967	3,218,479
Office / Plant fruniture	522,619	425,482
Establishment costs		
Ongoing projects	2,767,118	8,563,882
Total fixed assets	**85,049,229**	**94,579,109**
CURRENT ASSETS		
Stock	66,743,636	91,800,637
Sundry debtors	25,631,114	26,418,825
Financial investment	2,569	2,569
Cash and bank balances	3,379,380	2,216,503
Deficit	(4,240,000)	7,594,869
Total current assets	**91,516,699**	**128,033,403**
CURRENT LIABILITIES		
Short term loans payable	659,381	48,929,479
Creditors and accrued charges	41,692,317	53,132,353
Bank overdraft	31,932,041	14,653,590
Total current liabilities	**74,283,739**	**116,715,422**
NET CURRENT ASSETS / (LIABILITIES)	17,232,960	11,317,981
	102,282,189	**105,897,090**
REPRESENTED BY :		
Equity participation	25,000,000	25,000,000
Reserves	6,100,047	6,472,289
Provisions	44,047,091	48,657,120
Long term loans payable	27,135,051	25,767,681
	102,282,189	**105,897,090**

ZAGAZIG
BALANCE SHEET

	EGYPTIAN POUND	
	FY 1991	FY 1992
FIXED ASSETS		
Land	223,399	223,399
Buildings	36,690,195	49,541,624
Machinery for production	39,655,282	59,388,574
Other technical equipment	2,328,896	3,055,018
Office / Plant fruniture	394,268	413,409
Establishment costs		
Ongoing projects	27,314,258	20,010,255
Total fixed assets	**106,606,298**	**132,632,279**
CURRENT ASSETS		
Stock	41,678,773	62,694,923
Sundry debtors	46,843,619	49,599,475
Financial investment		
Cash and bank balances	15,767,567	10,440,801
Deficit	2,460,329	5,720,399
Total current assets	**106,750,288**	**128,455,598**
CURRENT LIABILITIES		
Short-term loans payable	1,923,335	3,061,673
Creditors and accrued charges	58,842,350	55,832,996
Bank overdraft	53,630,024	85,899,983
Total current liabilities	**114,395,709**	**144,794,652**
NET CURRENT ASSETS / (LIABILITIES)	(7,645,421)	(16,339,054)
	98,960,877	**116,293,225**
REPRESENTED BY :		
Equity participation	25,000,000	25,000,000
Reserves	1,990,389	2,167,106
Provisions	33,013,284	41,658,471
Long term loans payable	38,957,204	47,467.648
	98,960,877	**116,293,225**

INCOME STATEMENT
ALEXANDRIA

LE (000)

	FY 1991/92	
SALES		118,049
(-) COST OF SALES		
Goods in progress cost	(491)	
Production and services salaries	11,875	
Goods requirements	97,119	
Services equirements	361	
Industrial depreciation	3,663	
Custom charges	277	
Other	85	
Finished goods scrap, waste	(5,761)	
Parts and equipment made for internal use	(408)	
Change in inventory cost	(3,448)	
		103,272
Gross Production surplus (deficit)		14,777
(-) MARKETING COST		1,821
Total trading surplus (deficit)		12,956
(-) ADMINISTRATION & FINANCING COST		9,169
Net profit (loss) from current transactions		3,787
Revenues & Expenses not related to rent activity		208
Net profit from year transactions		3,995
Previous adjustments		1,370
Net profit before taxes		5,365
(-) Internal taxes		297
Surplus (deficit) to be distributed		5,068

223

INCOME STATEMENT
BIDA DYERS

LE (000)

	FY 1991/92	
SALES		**134,265**
(-) COST OF SALES		
Goods in progress cost	1,426	
Production and services salaries	18,162	
Goods requirements	86,367	
Services requirements	920	
Industrial depreciation	8,768	
Custom charges	4,296	
Other		
Finished goods scrap, waste	(632)	
Parts and equipment made for internal use		
Change in inventory cost	(1,795)	
		117,512
Gross Production surplus (deficit)		**16,753**
(-) MARKETING COST		1,350
Total trading surplus (deficit)		**15,403**
(-) ADMINISTRATION & FINANCING COST		17,993
Net profit (loss) from current transaction		(2,590)
Revenues and expenses not related to rent activity		4,207
Net profit from year transactions		**1,617**
Previous adjustments		7
Net profit before taxes		**1,624**
(-) Internal taxes		1
Surplus (deficit) to be distributed		**1,623**

234

INCOME STATEMENT

CAIRO DYEING

LE (000)

	FY 1991/92	
SALES		35,142
(-) COST OF SALES		
Goods in progress cost	(320)	
Production and services salaries	4,064	
Goods requirements	34,520	
Services requirements	85	
Industrial depreciation	1,059	
Custom charges	10	
Other		
Finished goods scrap, waste	(255)	
Parts and equipment made for internal use		
Change in inventory cost	(7,423)	
		31,740
Gross Production surplus (deficit)		3,402
(-) MARKETING COST		247
Total trading surplus (deficit)		3,155
(-) ADMINISTRATION & FINANCING COST		7,757
Net profit (loss) from current transaction		(4,602)
Revenues and expenses not related to rent activity		(1,280)
Net profit from year transactions		(5,882)
Previous adjustments		186
Net profit before taxes		(5,696)
(-) Internal taxes		
Surplus (deficit) to be distributed		(5,696)

INCOME STATEMENT

CAIRO SILK

LE (000)

	FY 1991/92	
SALES		283,229
(-) COST OF SALES		
Goods in progress cost	(325)	
Production and services salaries	37,286	
Goods requirements	202,008	
Services requirements	2,510	
Industrial depreciation	9,352	
Custom charges	16,373	
Other	154	
Finished goods scrap, waste	(10,555)	
Parts and equipment made for internal use		
Change in inventory cost	(9,141)	
		247,662
Gross Production surplus (deficit)		35,567
(-) MARKETING COST		1,462
Total trading surplus (deficit)		34,105
(-) ADMINISTRATION & FINANCING COST		21,574
Net profit (loss) from current transaction		12,531
Revenues and expenses not related to rent activity		(308)
Net profit from year transactions		12,223
Previous adjustments		166
Net profit before taxes		12,389
(-) Internal taxes		2,951
Surplus (deficit) to be distributed		9,438

226

INCOME STATEMENT
CHOURBAGI

LE (000)

	FY 1991/92	
SALES		32,742
(-) COST OF SALES		
Goods in progress cost	1,439	
Production and services salaries	11,026	
Goods requirements	20,452	
Services requirements	1,541	
Industrial depreciation	2,320	
Custom charges	240	
Other		
Finished goods scrap, waste	(932)	
Parts and equipment made for internal use		
Change in inventory cost	(5,569)	
		30,517
Gross Production surplus (deficit)		**2,225**
(-) MARKETING COST		1,071
Total trading surplus (deficit)		**1,154**
(-) ADMINISTRATION & FINANCING COST		18,477
Net profit (loss) from current transaction		(17,323)
Revenues and expenses not related to rent activity		(4,457)
Net profit from year transactions		**(21,780)**
Previous adjustments		549
Net profit before taxes		**(21,231)**
(-) Internal taxes		25
Surplus (deficit) to be distributed		**(21,256)**

121

INCOME STATEMENT
DAMIETTA

LE (000)

	FY 1991/92	
SALES		**89,448**
(-) COST OF SALES		
Goods in progress cost	(16)	
Production and services salaries	12,816	
Goods requirements	64,712	
Services requirements	3,334	
Industrial depreciation	4,100	
Custom charges	203	
Other	1,207	
Finished goods scrap, waste	(2,254)	
Parts and equipment made for internal use		
Change in inventory cost	(6,440)	
		77,662
Gross Production surplus (deficit)		**11,786**
(-) MARKETING COST		2,620
Total trading surplus (deficit)		**9,166**
(-) ADMINISTRATION & FINANCING COST		9,804
Net profit (loss) from current transaction		(638)
Revenues and expenses not related to rent activity		(516)
Net profit from year transactions		**(1,154)**
Previous adjustments		6,404
Net profit before taxes		**5,250**
(-) Internal taxes		26
Surplus (deficit) to be distributed		**5,224**

INCOME STATEMENT
DAQAHLIYA

LE (000)

	FY 1991/92	
SALES		164,074
(-) COST OF SALES		
Goods in progress cost	(135)	
Production and services salaries	18,533	
Goods requirements	154,313	
Services requirements	4,358	
Industrial depreciation	7,159	
Custom charges	216	
Other		
Finished goods scrap, waste	(4,845)	
Parts and equipment made for internal use		
Change in inventory cost	(35,550)	
		144,049
Gross Production surplus (deficit)		**20,025**
(-) MARKETING COST		2,795
Total trading surplus (deficit)		**17,230**
(-) ADMINISTRATION & FINANCING COST		20,276
Net profit (loss) from current transaction		(3,046)
Revenues and expenses not related to rent activity		4,420
Net profit from year transactions		**1,374**
Previous adjustments		2,143
Net profit before taxes		3,517
(-) Internal taxes		19
Surplus (deficit) to be distributed		**3,498**

INCOME STATEMENT
DELTA

LE (000)

	FY 1991/92	
SALES		142,055
(-) COST OF SALES		
Goods in progress cost	(1,102)	
Production and services salaries	16,358	
Goods requirements	95,461	
Services requirements	7,290	
Industrial depreciation	7,105	
Custom charges	403	
Other	38	
Finished goods scrap, waste	(1,863)	
Parts and equipment made for internal use		
Change in inventory cost	(4,828)	
		118,862
Gross Production surplus (deficit)		**23,193**
(-) MARKETING COST		3,004
Total trading surplus (deficit)		**20,189**
(-) ADMINISTRATION & FINANCING COST		18,128
Net profit (loss) from current transaction		2,061
Revenues and expenses not related to rent activity		3,206
Net profit from year transactions		**5,267**
Previous adjustments		(207)
Net profit before taxes		5,060
(-) Internal taxes		148
Surplus (deficit) to be distributed		**4,912**

INCOME STATEMENT
ESCO

LE (000)

	FY 1991/92	
SALES		105,397
(-) COST OF SALES		
Goods in progress cost	(2,061)	
Production and services salaries	27,201	
Goods requirements	89,098	
Services requirements	2,843	
Industrial depreciation	8,082	
Custom charges	79	
Other	5,670	
Finished goods scrap, waste	(3,012)	
Parts and equipment made for internal use		
Change in inventory cost	(22,193)	
		105,707
Gross Production surplus (deficit)		**(310)**
(-) MARKETING COST		3,018
Total trading surplus (deficit)		**(3,328)**
(-) ADMINISTRATION & FINANCING COST		40,271
Net profit (loss) from current transaction		(43,599)
Revenues and expenses not related to rent activity		(14,297)
Net profit from year transactions		**(57,896)**
Previous adjustments		(439)
Net profit before taxes		**(58,335)**
(-) Internal taxes		2
Surplus (deficit) to be distributed		**(58,337)**

231

INCOME STATEMENT
KABO

LE (000)

	FY 1991/92	
SALES		**110,296**
(-) COST OF SALES		
Goods in progress cost	(4,920)	
Production and services salaries	15,980	
Goods requirements	74,176	
Services requirements	1,067	
Industrial depreciation	2,471	
Custom charges	654	
Other	39	
Finished goods scrap, waste	(4,293)	
Parts and equipment made for internal use	(71)	
Change in inventory cost	(12,230)	
		72,873
Gross Production surplus (deficit)		**37,423**
(-) MARKETING COST		7,429
Total trading surplus (deficit)		**29,994**
(-) ADMINISTRATION & FINANCING COST		5,728
Net profit (loss) from current transaction		24,266
Revenues and expenses not related to rent activity		492
Net profit from year transactions		**24,758**
Previous adjustments		2,012
Net profit before taxes		**26,770**
(-) Internal taxes		9,276
Surplus (deficit) to be distributed		**17,494**

INCOME STATEMENT
KAFR EL-DAWAR

LE (000)

	FY 1991/92	
SALES		410,027
(-) COST OF SALES		
Goods in progress cost	(22,789)	
Production and services salaries	64,798	
Goods requirements	265,084	
Services requirements	35,564	
Industrial depreciation	1,159	
Custom charges	19,606	
Other	4,764	
Finished goods scrap, waste	(14,539)	
Parts and equipment made for internal use		
Change in inventory cost	(15,103)	
		338,544
Gross Production surplus (deficit)		71,483
(-) MARKETING COST		8,948
Total trading surplus (deficit)		62,535
(-) ADMINISTRATION & FINANCING COST		46,239
Net profit (loss) from current transaction		16,296
Revenues and expenses not related to rent activity		(13,645)
Net profit from year transactions		2,651
Previous adjustments		7,493
Net profit before taxes		10,144
(-) Internal taxes		
Surplus (deficit) to be distributed		10,144

INCOME STATEMENT
MIDDLE EGYPT

LE (000)

	FY 1991/92	
SALES		75,883
(-) COST OF SALES		
Goods in progress cost	(1,266)	
Production and services salaries	13,410	
Goods requirements	62,677	
Services requirements	2,017	
Industrial depreciation	5,249	
Custom charges	623	
Other	22	
Finished goods scrap, waste	(1,866)	
Parts and equipment made for internal use		
Change in inventory cost	(8,164)	
		72,702
Gross Production surplus (deficit)		**3,181**
(-) MARKETING COST		1,580
Total trading surplus (deficit)		**1,601**
(-) ADMINISTRATION & FINANCING COST		27,440
Net profit (loss) from current transaction		(25,839)
Revenues and expenses not related to rent activity		(1,866)
Net profit from year transactions		**(27,705)**
Previous adjustments		(1,220)
Net profit before taxes		**(28,925)**
(-) Internal taxes		
Surplus (deficit) to be distributed		**(28,925)**

INCOME STATEMENT

MISR HELWAN

LE (000)

	FY 1991/92	
SALES		84,797
(-) COST OF SALES		
Goods in progress cost	(1,479)	
Production and services salaries	40,043	
Goods requirements	70,021	
Services requirements	491	
Industrial depreciation	13,212	
Custom charges		
Other	34	
Finished goods scrap, waste	(2,122)	
Parts and equipment made for internal use	(2,027)	
Change in inventory cost	(29,648)	
		88,525
Gross Production surplus (deficit)		(3,728)
(-) MARKETING COST		2,511
Total trading surplus (deficit)		(6,239)
(-) ADMINISTRATION & FINANCING COST		71,361
Net profit (loss) from current transaction		(77,600)
Revenues and expenses not related to rent activity		(13,445)
Net profit from year transactions		(91,045)
Previous adjustments		(3,910)
Net profit before taxes		(94,955)
(-) Internal taxes		8
Surplus (deficit) to be distributed		(94,963)

INCOME STATEMENT
MISR MEHALLA

LE (000)

	FY 1991/92	
SALES		695,433
(-) COST OF SALES		
Goods in progress cost	(422)	
Production and services salaries	107,215	
Goods requirements	444,378	
Services requirements	19,304	
Industrial depreciation	35,083	
Custom charges	8,675	
Other	1,700	
Finished goods scrap, waste	(5,179)	
Parts and equipment made for internal use	(4,523)	
Change in inventory cost	(9,717)	
		596,514
Gross Production surplus (deficit)		**98,919**
(-) MARKETING COST		20,344
Total trading surplus (deficit)		**78,575**
(-) ADMINISTRATION & FINANCING COST		42,380
Net profit (loss) from current transaction		36,195
Revenues and expenses not related to rent activity		8,224
Net profit from year transactions		**44,419**
Previous adjustments		6,114
Net profit before taxes		**50,533**
(-) Internal taxes		15,322
Surplus (deficit) to be distributed		**35,211**

INCOME STATEMENT
MISR SHEBIN EL KOM

LE (000)

	FY 1991/92	
SALES		206,230
(-) COST OF SALES		
Goods in progress cost	(624)	
Production and services salaries	31,853	
Goods requirements	140,797	
Services requirements	423	
Industrial depreciation	6,592	
Custom charges	3,678	
Other	233	
Finished goods scrap, waste	(4,866)	
Parts and equipment made for internal use		
Change in inventory cost	(5,439)	
		172,647
Gross Production surplus (deficit)		33,583
(-) MARKETING COST		2,488
Total trading surplus (deficit)		31,095
(-) ADMINISTRATION & FINANCING COST		17,544
Net profit (loss) from current transaction		13,551
Revenues and expenses not related to rent activity		5,470
Net profit from year transactions		19,021
Previous adjustments		2,471
Net profit before taxes		21,492
(-) Internal taxes & Capital provision		4,653
Surplus (deficit) to be distributed		16,839

231

INCOME STATEMENT

NASR MEHALLA

LE (000)

	FY 1991/92	
SALES		99,331
(-) COST OF SALES		
Goods in progress cost	(11,201)	
Production and services salaries	28,818	
Goods requirements	75,678	
Services requirements	436	
Industrial depreciation	3,605	
Custom charges	606	
Other	104	
Finished goods scra, waste	(2,263)	
Parts and equipment made for internal use		
Change in inventory cost	(6,218)	
		89,565
Gross Production surplus (deficit)		**9,766**
(-) MARKETING COST		1,959
Total trading surplus (deficit)		**7,807**
(-) ADMINISTRATION & FINANCING COST		17,536
Net profit (loss) from current transactions		(9,729)
Revenues and expenses not related to rent activity		2,196
Net profit from year transactions		**(7,533)**
Previous adjustments		8,463
Net profit before taxes		930
(-) Internal taxes		17
Surplus (deficit) to be distributed		**913**

235

INCOME STATEMENT
NATIONAL

LE (000)

	FY 1991/92	
SALES		106,600
(-) COST OF SALES		
Goods in progress cost	(1,138)	
Production and services salaries	14,039	
Goods requirements	79,958	
Services requirements	849	
Industrial depreciation	4,385	
Custom charges	209	
Other		
Finished goods scrap, waste	(1,859)	
Parts and equipment made for internal use		
Change in inventory cost	(11,025)	
		85,418
Gross Production surplus (deficit)		**21,182**
(-) MARKETING COST		950
Total trading surplus (deficit)		**20,232**
(-) ADMINISTRATION & FINANCING COST		29,439
Net profit (loss) from current transaction		(9,207)
Revenues and expenses not related to rent activity		2,440
Net profit from year transactions		**(6,767)**
Previous adjustments		(1,075)
Net profit before taxes		**(7,842)**
(-) Internal taxes		
Surplus (deficit) to be distributed		**(7,842)**

INCOME STATEMENT
ORIENT LINEN

LE (000)

	FY 1991/92	
SALES		53,794
(-) COST OF SALES		
Goods in progress cost	(1,475)	
Production and services salaries	12,087	
Goods requirements	37,013	
Services requirements	847	
Industrial depreciation	1,800	
Custom charges	298	
Other		
Finished goods scrap, waste	(533)	
Parts and equipment made for internal use	(238)	
Change in inventory cost	(7,132)	
		42,667
Gross Production surplus (deficit)		**11,127**
(-) MARKETING COST		1,087
Total trading surplus (deficit)		**10,040**
(-) ADMINISTRATION & FINANCING COST		8,931
Net profit (loss) from current transaction		1,109
Revenues and expenses not related to rent activity		(793)
Net profit from year transactions		**316**
Previous adjustments		1,708
Net profit before taxes		**2,024**
(-) Internal taxes		565
Surplus (deficit) to be distributed		**1,459**

INCOME STATEMENT
PORTEX

LE (000)

	FY 1991/92	
SALES		37,849
(-) COST OF SALES		
Goods in progress cost	(481)	
Production and services salaries	4,914	
Goods requirements	27,399	
Services requirements	742	
Industrial depreciation	2,342	
Custom charges	68	
Other		
Finished goods scrap, waste	(278)	
Parts and equipment made for internal use		
Change in inventory cost	(3,443)	
		31,263
Gross Production surplus (deficit)		**6,586**
(-) MARKETING COST		675
Total trading surplus (deficit)		**5,912**
(-) ADMINISTRATION & FINANCING COST		3,652
Net profit (loss) from current transaction		2,260
Revenues and expenses not related to rent activity		(1,716)
Net profit from year transactions		**544**
Previous adjustments		(24,158)
Net profit before taxes		**(23,614)**
(-) Internal taxes or capital provision		9,285
Surplus (deficit) to be distributed		**(32,899)**

INCOME STATEMENT
SIOUF

LE (000)

	FY 1991/92	
SALES		**151,174**
(-) COST OF SALES		
Goods in progress cost	2,339	
Production and services salaries	17,919	
Goods requirements	110,438	
Services requirements	2,676	
Industrial depreciation	6,964	
Custom charges	419	
Other		
Finished goods scrap, waste	(1,530)	
Parts and equipment made for internal use		
Change in inventory cost	(17,962)	
		121,263
Gross Production surplus (deficit)		**29,911**
(-) MARKETING COST		1,836
Total trading surplus (deficit)		**28,075**
(-) ADMINISTRATION & FINANCING COST		22,597
Net profit (loss) from current transaction		5,478
Revenues and expenses not related to rent activity		3,870
Net profit from year transactions		**9,348**
Previous adjustments		1,088
Net profit before taxes		**10,436**
(-) Internal taxes		1,768
Surplus (deficit) to be distributed		**8,668**

INCOME STATEMENT

STIA

LE (000)

	FY 1991/92	
SALES		**196,685**
(-) COST OF SALES		
Goods in progress cost	559	
Production and services salaries	22,971	
Goods requirements	122,460	
Services requirements	2,374	
Industrial depreciation	7,917	
Custom charges	2,638	
Other		
Finished goods scrap, waste	(3,080)	
Parts and equipment made for internal use		
Change in inventory cost	(3,623)	
		152,216
Gross Production surplus (deficit)		**44,469**
(-) MARKETING COST		6,073
Total trading surplus (deficit)		**38,396**
(-) ADMINISTRATION & FINANCING COST		10,475
Net profit (loss) from current transaction		27,921
Revenues and expenses not related to rent activity		(433)
Net profit from year transactions		**27,488**
Previous adjustments		209
Net profit before taxes		**27,697**
(-) Internal taxes		7,957
Surplus (deficit) to be distributed		**19,740**

INCOME STATEMENT
TRICONA

LE (000)

	FY 1991/92	
SALES		**14,114**
(-) COST OF SALES		
Goods in progress cost	(2,195)	
Production and services salaries	5,931	
Goods requirements	11,900	
Services requirements	205	
Industrial depreciation	626	
Custom charges	25	
Other	59	
Finished goods scrap, waste	(175)	
Parts and equipment made for internal use		
Change in inventory cost	(3,116)	
		13,261
Gross Production surplus (deficit)		**853**
(-) MARKETING COST		1,195
Total trading surplus (deficit)		**(342)**
(-) ADMINISTRATION & FINANCING COST		7,460
Net profit (loss) from current transaction		(7,802)
Revenues and expenses not related to rent activity		(8,926)
Net profit from year transactions		**(16,728)**
Previous adjustments		(1,169)
Net profit before taxes		**(17,898)**
(-) Internal taxes		0
Surplus (deficit) to be distributed		**(17,898)**

INCOME STATEMENT
UNIRAB

LE (000)

	FY 1991/92	
SALES		**250,475**
(-) COST OF SALES		
Goods in progress cost	3,001	
Production and services salaries	26,791	
Goods requirements	184,570	
Services requirements	6,757	
Industrial depreciation	10,173	
Custom charges	2,042	
Other	348	
Finished goods scrap, waste	(3,232)	
Parts and equipment made for internal use		
Change in inventory cost	(17,269)	
		213,181
Gross Production surplus (deficit)		**37,294**
(-) MARKETING COST		1,337
Total trading surplus (deficit)		**35,957**
(-) ADMINISTRATION & FINANCING COST		26,642
Net profit (loss) from current transaction		9,315
Revenues and expenses not related to rent activity		16,924
Net profit from year transactions		**26,239**
Previous adjustments		2,161
Net profit before taxes		**28,400**
(-) Internal taxes		5,809
Surplus (deficit) to be distributed		**22,591**

24

INCOME STATEMENT
UPPER EGYPT

LE (000)

	FY 1991/92	
SALES		99,582
(-) COST OF SALES		
Goods in progress cost	(250)	
Production and services salaries	15,734	
Goods requirements	103,045	
Services requirements	1,560	
Industrial depreciation	5,190	
Custom charges	266	
Other	46	
Finished goods scrap, waste	(1,917)	
Parts and equipment made for internal use		
Change in inventory cost	(33,196)	
		90,478
Gross Production surplus (deficit)		**9,104**
(-) MARKETING COST		837
Total trading surplus (deficit)		**8,267**
(-) ADMINISTRATION & FINANCING COST		17,421
Net profit (loss) from current transaction		(9,154)
Revenues and expenses not related to rent activity		(2,597)
Net profit from year transactions		**(11,751)**
Previous adjustments		(84)
Net profit before taxes		**(11,835)**
(-) Internal taxes		
Surplus (deficit) to be distributed		**(11,835)**

24

INCOME STATEMENT
ZAGAZIG

LE (000)

	FY 1991/92	
SALES		87,627
(-) COST OF SALES		
Goods in progress cost	(825)	
Production and services salaries	11,828	
Goods requirements	69,032	
Services requirements	608	
Industrial depreciation	4,419	
Custom charges		
Other	368	
Finished goods scrap, waste	(1,432)	
Parts and equipment made for internal use		
Change in inventory cost	(10,370)	
		73,628
Gross Production surplus (deficit)		13,999
(-) MARKETING COST		1,500
Total trading surplus (deficit)		12,499
(-) ADMINISTRATION & FINANCING COST		21,655
Net profit (loss) from current transaction		(9,156)
Revenues and expenses not related to rent activity		(1,019)
Net profit from year transactions		(10,175)
Previous adjustments		1,530
Net profit before taxes		(8,645)
(-) Internal taxes		
Surplus (deficit) to be distributed		(8,645)

ANNEX C

ECONOMIC AND STRUCTURAL ANALYSIS

EGYPTIAN EXPORTS OF COTTON TEXTILE PRODUCTS

($ 000)

Year	COTTON YARN		COTTON FABRICS		KNITTING		TERRY FABRICS		READY. GARMENTS		READYMADE FABRICS		TOTAL VALUE
	Value	% Share of Total Exports	Value	% Share of Total Exports	Value	% Share of Total Exports	Value	% Share of Total Exports	Value	% Share of Total Exports	Value	% Share of Total Exports	
1975	88,656	56.7	26,454	16.9	19,701	12.6	3,760	2.4	14,057	9.0	3,679	2.4	156,307
1980	180,782	68.3	52,994	20.0	14,975	5.7	2,921	1.1	8,008	3.0	4,948	1.9	264,628
1985	196,846	73.3	52,221	19.5	9,371	3.5	1,716	0.6	5,488	2.0	2,844	1.1	268,486
1986	212,110	73.8	62,476	21.7	4,495	1.6	1,315	0.5	4,288	1.5	2,719	0.9	287,403
1987	405,408	77.7	96,134	18.4	8,099	1.6	3,540	0.7	6,357	1.2	1,926	0.4	521,464
1988	302,874	68.9	71,648	16.3	44,879	10.2	3,101	0.7	13,886	3.2	3,023	0.7	439,411
1989	395,523	69.2	76,525	13.4	60,158	10.5	6,371	1.1	24,297	4.3	8,664	1.5	571,538
1990	339,763	62.5	79,067	14.6	64,974	12.0	3,789	0.7	38,996	7.2	16,811	3.1	543,400
1991	271,299	53.3	88,437	17.4	73,162	14.4	5,398	1.1	52,246	10.3	18,060	3.6	508,602
1992	245,123	51.2	64,925	13.6	77,093	16.1	6,139	1.3	70,539	14.7	15,166	3.2	478,985

Source: Cotton Textile Consolidation Fund. Data provided in Egyptian pounds converted to US$ at the following exchange rates (LE / US$):

1980 LE 0.77	1987 LE 1.50	1990 LE 2.70
1985 LE 1.29	1988 LE 2.20	1991 LE 3.34
1986 LE 1.42	1989 LE 2.50	1992 LE 3.32

COTTON TEXTILE PRODUCT EXPORTS BY PUBLIC, PRIVATE AND INVESTMENT SECTORS

	1989			1990			1991			1992		
	Tons	$ '000	%	Tons	$ '000	%	Tons	$ '000	%	Tons	$ '000	%
Yarn												
Public	82,480	349,821	88.45	61,373	290,127	85.39	62,099	230,780	85.06	51,175	206,361	84.19
Private	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
Investment	9,843	45,702	11.55	10,252	49,635	14.61	9,874	40,520	14.94	8,725	38,761	15.81
Sub-Total	92,323	395,523	100.00	71,625	339,762	100.00	71,973	271,300	100.00	59,900	245,122	100.00
Fabrics												
Public	16,380	56,316	73.59	16,068	63,989	80.93	19,453	72,395	81.86	14,397	57,163	88.05
Private	647	2,864	3.74	59	320	0.40	460	2,581	2.92	49	418	0.64
Investment	4,787	17,345	22.67	4,291	14,757	18.66	3,797	13,459	15.22	1,937	7,342	11.31
Sub-Total	21,814	76,525	100.00	20,418	79,066	100.00	23,710	88,436	100.00	16,383	64,923	100.00
Knitting												
Public	950	10,334	17.18	890	10,105	15.55	717	7,834	10.71	1,192	13,348	17.31
Private	4,555	45,740	76.03	4,153	46,623	71.76	4,537	49,651	67.86	4,487	53,306	69.14
Investment	594	4,084	6.79	808	8,245	12.69	1,466	15,679	21.43	1,097	10,440	13.54
Sub-Total	6,099	60,158	100.00	5,851	64,972	100.00	6,720	73,163	100.00	6,776	77,095	100.00
Terry												
Public	1,014	5,916	92.87	590	3,217	84.90	927	4,396	81.44	759	3,971	64.68
Private	18	71	1.11	110	572	15.10	147	1,002	18.56	311	2,168	35.32
Investment	68	384	6.02	0	0	0.00	0	0	0.00	0	0	0.00
Sub-Total	1,100	6,371	100.00	700	3,789	100.00	1,074	5,398	100.00	1,070	6,139	100.00
Woven Garments												
Public	864	7,894	32.49	1,121	11,933	30.60	1,069	10,554	20.20	1,079	10,470	14.84
Private	579	5,953	24.50	835	9,117	23.38	1,256	18,634	35.67	2,094	21,102	29.92
Investment	981	10,450	43.01	1,767	17,946	46.02	1,681	23,058	44.13	2,989	38,968	55.24
Sub-Total	2,424	24,297	100.00	3,723	38,995	100.00	4,006	52,246	100.00	6,162	70,540	100.00
Ready-Made Fabrics												
Public	1,792	7,852	90.63	3,373	14,956	88.97	3,768	15,675	86.80	3,082	12,788	84.32
Private	33	164	1.90	82	534	3.17	154	1,320	7.31	297	1,853	12.22
Investment	185	648	7.47	307	1,320	7.85	132	1,064	5.89	102	525	3.46
Sub-Total	2,010	8,664	100.00	3,762	16,810	100.00	4,054	18,060	100.00	3,481	15,166	100.00
Total	**125,770**	**571,538**		**106,079**	**543,394**		**111,537**	**508,603**		**93,772**	**478,985**	

Source: Cotton Textile Consolidation Fund. Data provided in Egyptian pounds converted to US$ at the following exchange rates (LE / US$):

1989	3	1991	$3.34
1990	3	1992	$3.32

COTTON FARMGATE PROCUREMENT PRICES

(LE Per Metric Kentar for Grade Good + 1/4*)

Variety	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
ELS													
Giza 45	57.30	72.30	84.30	86.30	93.30	127.54	127.54	165.16	222.00	300.00	380.00	480.00	563.00
Giza 76	57.30	63.45	70.45	74.45	81.45	103.14	103.14	117.57	148.00	217.00	267.00	317.00	455.00
Giza 70	44.60	54.60	56.60	62.60	69.60	96.74	96.74	117.09	147.00	216.00	256.00	306.00	426.00
Giza 77	45.65	55.65	57.65	59.65	66.65	91.74	91.74	104.03	142.00	203.00	251.00	301.00	388.00
LS													
Giza 69	43.00	53.00	55.00	61.00	68.00	89.46	89.46	104.53	136.00	193.00			
Giza 75 Bahri	43.00	53.00	55.00	57.00	64.00	84.46	84.46	99.71	131.00	191.00	237.00	277.00	298.00
Giza 75 Qibli			55.00	65.00	72.00	89.46	89.46	119.15	141.00	197.00	252.00	282.00	298.00
Dendera	37.75	47.75	49.75	59.75	66.75	84.31	84.31	114.58	141.00	197.00	252.00	282.00	291.00
Giza 80	44.20	54.20	56.20	58.20	65.20	86.31	86.31	111.71	141.00	197.00	252.00	282.00	291.00
Giza 81	43.00	53.00	55.00	61.00	68.00	86.46	86.46	92.10	129.00	185.00	230.00	270.00	287.00

* According to HCITC, this series represents the purchasing price for lint cotton. To obtain the farmgate price, one should add the value of seeds plus ginning outturns minus the farmer's share in marketing costs.

Source: Holding Company for International Trade and Cotton (HCITC)

COTTON PRICES PAID BY DOMESTIC MILLS

(LE Per Metric Kentar for Good+1/4)

Variety	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
ELS													
Giza 45	57.30	72.30	84.30	106.30	113.30	127.54	137.54	152.54	152.00	235.00	270.00	390.00	
Giza 76	51.24	63.45	59.80	68.00	75.00	90.50	100.50	115.50	152.00	235.00	270.00	277.00	430.00
Giza 70	45.18	55.18	59.80	68.00	75.00	80.50	90.50	105.50	152.00	235.00	270.00	266.00	401.00
Giza 77	45.18	55.65	59.80	68.00	75.00	90.50	100.50	115.50	152.00	235.00	270.00	261.00	363.00
LS													
Giza 69	43.00	53.00	55.20	61.15	68.15	80.40	90.40	105.40	137.00	208.00			
Giza 75 Bahri	[illegible]00	53.00	55.20	61.15	68.15	80.40	90.40	105.40	137.00	208.00	258.00	247.00	273.00
Giza 75 Qibli			53.18	58.30	65.30	77.40	87.40	102.40	137.00	208.00	248.00	262.00	273.00
Dendera	41.10	51.10	48.25	54.15	61.15	69.75	79.75	94.75	117.00	182.00	222.00	262.00	266.00
Giza 80	41.10	54.20	48.25	54.15	61.15	73.25	83.25	98.25	117.00	182.00	222.00	262.00	266.00
Giza 81	43.00	53.00	55.00	61.15	68.15	80.40	90.40	105.40	137.00	208.00	248.00	240.00	262.00

Source: Holding Company for International Trade and Cotton (HCITC)

COTTON EXPORTS IN EGYPTIAN BALES

(000 Bales, 6.53 Metric Kentars, or 326.50 Kilograms)

Variety	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93 *
ELS													
Giza 45	17	14	31	9	12	12	9	8	6	4	4	3	
Giza 76		4	2	4	7	14	26	21	15	10	4	3	1
Giza 70	285	207	177	159	121	51	19	37	26	27	11	14	2
Giza 68	18	5	3										
Giza 77		13	32	61	114	129	130	87	70	57	22	6	1
Sub-Total	320	243	245	233	254	206	184	153	117	98	41	26	4
LS													
Giza 69	54	73	114	77	48	45	38	21	10	3			
Giza 67	40	20	8										
Giza 75	79	193	185	190	162	203	149	91	56	30	15	24	3
Dendera				8	1	0							
Giza 81						0	0	1	0				
Others	3	3		1	1			3	0				
Sub-Total	176	289	307	276	212	248	187	116	66	33	15	24	3
Total	**496**	**532**	**552**	**509**	**466**	**454**	**371**	**269**	**183**	**131**	**56**	**50**	**7**
Total (000 mt)	**162**	**174**	**180**	**166**	**152**	**148**	**121**	**88**	**60**	**43**	**18**	**16**	**2**

* Till end of December 1992

Source: Egyptian Cotton Gazette January 1993 and Egptian Holding Company for International Trade and Cotton

COTTON PRODUCTION IN EGYPT
(000 Metric Kentars of Lint)

Variety	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
ELS													
Giza 45	158	147	114	76	69	72	81	50	43	34	33	32	43
Giza 76	29	32	30	25	54	92	235	165	161	167	154	223	250
Giza 70	2,621	1,960	1,835	1,539	1,036	751	627	568	592	585	693	748	924
Giza 68	261												
Giza 77	30	221	256	495	1,069	899	1,242	864	815	829	773	794	559
Sub-Total	3,099	2,360	2,235	2,135	2,228	1,814	2,185	1,647	1,611	1,615	1,653	1,797	1,776
LS													
Giza 69	1,131	808	862	614	381	386	375	355	213	180			
Giza 67	645	595											
Giza 75	3,572	4,669	4,643	3,968	4,061	4,657	3,822	3,197	2,964	2,622	2,840	2,627	3,671
Dendera	1,423	1,337	1,232	962	728	1,142	928	824	444	468	486	529	464
Giza 82	43												
Giza 80		10	62	180	408	480	541	476	435	504	554	498	726
Giza 81				21	68	115	101	443	467	308	301	295	245
Giza 83											5	11	42
Sub-Total	6,814	7,419	6,799	5,745	5,646	6,780	5,767	5,295	4,523	4,082	4,186	3,960	5,148
MLS													
Giza 66	456												
Giza 72													
U.S. type		15	2										
Other	2	3	7	2	2	4				1			17
Sub-Total	458	18	9	2	2	4	0	0	0	1	0	0	17
Total	**10,371**	**9,797**	**9,043**	**7,882**	**7,876**	**8,598**	**7,952**	**6,942**	**6,134**	**5,698**	**5,839**	**5,757**	**6,941**
Scarto	203	189	164	121	109	108	103	78	76	67	79	71	80
Total	**10,574**	**9,986**	**9,207**	**8,003**	**7,985**	**8,706**	**8,055**	**7,020**	**6,210**	**5,765**	**5,918**	**5,828**	**7,021**

Source: Egyptian Cotton Gazette January 1993 and previous issues.

COTTON CONSUMPTION BY DOMESTIC MILLS IN EGYPT

(000 Metric Kentars)

Variety	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93 *
ELS													
Giza 45	3	2	4	4		0	23	8	3	10	5	4	1
Giza 76		5	33	4	2	6	48	59	62	100	56	170	72
Giza 70	663	584	587	570	359	394	539	339	434	418	477	605	248
Giza 63	34	68											
Giza 77		88	63	76	330	121	395	302	370	496	431	741	161
Sub-Total	700	747	687	654	691	521	1,005	708	869	1,024	969	1,520	482
LS													
Giza 69	606	221	188	136	131	85	160	253	174	188	9		
Giza 67	421	334	45										
Giza 75	2,877	3,210	3,059	3,185	3,188	3,328	2,819	2,706	2,677	2,470	2,695	2,416	2,187
Dendera	1,420	1,325	1,112	1,112	737	1,170	934	815	446	472	491	531	325
Giza 80		1	71	201	410	487	542	489	439	506	551	510	441
Giza 81					63	119	99	439	469	291	301	298	145
Other												3	29
Sub-Total	5,324	5,091	4,475	4,634	4,529	5,189	4,554	4,702	4,205	3,927	4,047	3,758	3,127
MLS													
Giza 66	457	0											
Other	43			19									
Sub-Total	500	0	0	19	0	0	0	0	0	0	0	0	0
Total	**6,524**	**5,838**	**5,162**	**5,307**	**5,220**	**5,710**	**5,559**	**5,410**	**5,074**	**4,951**	**5,016**	**5,278**	**3,609**
US Cotton					616	591	296	609	613	1,138	1,030	1,260	730
Grand total	**6,524**	**5,838**	**5,162**	**5,307**	**5,836**	**6,301**	**5,855**	**6,019**	**5,687**	**6,089**	**6,046**	**6,538**	**4,339**

* Till end of December 1992

Source: Egyptian Cotton Gazette January 1993 and Holding Company for International Trade and Cotton

GENERAL TEXTILE COMPANY STATISTICS (1990)

(LE 000)

	1990	Raw Materials	Fuel	Spare Parts	Packing Material	Wasting	Goods in Process	Finished Goods	Unpaid Goods	Goods To Be Sold	Prepaid Goods
1	Misr Mehalla	62,294	1,420	44,496	2,824	1,539	72,536	79,772			5,838
2	Misr Kafr El Dawar	38,423	691	29,585	1,139	1,802	27,127	45,565	87		1,813
3	Misr Helwan	11,395	131	13,977	630	1,640	13,778	26,949			319
4	ESCO	5,998	417	12,367	248	883	8,420	24,129	13	31	73
5	Nasr Mehalla	9,196	110	7,322	592	529	12,441	16,242	3		63
6	UNIRAB	25,155	109	14,730	2,085	630	8,944	12,729			102
7	Misr Shebin el Kom	13,471	75	16,495	876	1,297	2,554	19,880	25		1,990
8	STIA	18,586	15	3,865	427	488	9,578	26,428			2,253
9	National	9,728	89	4,638	698	656	6,288	10,460		115	4
10	Bida Dyers	36,423	403	13,713	597	67	4,050	11,897	25		4,929
11	Wooltex	7,306	60	6,446	441	93	11,151	21,274	921		132
12	Chourbagi	4,262	15	3,262	207	143	2,791	15,847	1,129	2	327
13	El-Harer El Senaiee	28,981	646	18,803	2,228	4,652	3,293	20,127	14		26,752
14	Upper Egypt	16,942	90	8,092	1,827	1,653	1,283	16,731	8		159
15	Middle Egypt	8,387	37	6,606	625	1,305	2,027	8,857		316	390
16	El-Kettan	8,708	24	4,180	142	283	4,915	12,253		6	1
17	Damietta	9,702	49	4,899	870	647	5,138	15,128		1,115	98
18	PORTEX	2,443	36	2,093	54	95	2,416	5,439	5	13	131
19	Arab Carpets	4,185	9	3,431	120	201	4,391	12,260			306
20	Siouf	15,855	120	10,979	321	190	5,910	18,657		63	144
21	Alexandria	17,564	27	4,769	1,622	746	1,786	9,149	373		141
22	Dahaqliya	20,127	59	10,957	1,355	2,386	3,696	24,179	33	12	220
23	Delta	11,891	69	7,234	362	712	6,079	16,783	5	86	28
24	KABO	12,601	23	3,794	1,343	871	8,282	20,512			1,449
25	TRICONA	1,787	6	1,361	143	77	2,164	16,963			
26	Cairo Dyeing	6,315	164	1,738	45	8	1,582	7,678		37	10
27	El-Haririya	1,824	61	2,881	18	93	5,187	5,408	1		130
28	El-Haditha	1,587	1	893	1	7	1,205	3,054			429
29	El-Gout	6,668	38	3,828		187	716	1,480			1,228
30	El-Moodat	3,287	6	897	71	12	106	769			308
31	Zagazig	12,142	37	5,404	1,019	1,168	5,913	10,593	5	30	8

GENERAL TEXTILE COMPANY STATISTICS (1991)
(LE 000)

	1991	Raw Materials	Fuel	Spare Parts	Packing Material	Wasting	Goods in Process	Finished Goods	Unpaid Goods	Goods To Be Sold	Prepaid Goods
1	Misr Mehalla	77,356	1,325	52,717	2,633	1,017	76,886	95,927			5,387
2	Misr Kafr El Dawar	46,732	592	37,050	1,188	723	40,516	50,165	7		2,536
3	Misr Helwan	12,900	249	16,560	544	1,434	12,520	36,262			545
4	ESCO	3,974	388	13,714	450	1,112	9,078	30,850	60	20	112
5	Nasr Mehalla	13,347	64	8,822	309	806	16,507	21,190			16
6	UNIRAB	26,886	91	15,261	1,688	1,032	1,123	17,372			341
7	Misr Shebin el Kom	20,004	113	17,957	544	493	3,317	43,065	112		2,610
8	STIA	28,594	11	43,334	557	467	13,461	17,432		26	43
9	National	16,446	200	5,922	673	588	5,741	5,883		72	3
10	Bida Dyers	31,634	538	15,233	567	168	4,129	6,493	99		2,452
11	Wooltex	6,845	94	7,899	366	117	1,736	19,366	25		144
12	Chourbagi	3,668	17	3,811	131	207	4,937	16,235	379	155	117
13	El-Harer El Senaiee	31,326	294	20,403	1,408	600	4,194	31,608	3		26,263
14	Upper Egypt	15,587	159	10,561	1,422	1,946	1,717	33,064			2,288
15	Middle Egypt	9,685	68	6,815	397	738	2,801	15,328		188	165
16	El-Kettan	9,908	36	4,677	197	440	5,638	131,771		9	16
17	Damietta	11,851	65	5,236	732	929	5,319	28,350		600	15
18	PORTEX	4,970	35	3,470	59	112	2,407	5,605	5	7	
19	Arab Carpets	5,671	13	3,488	125	143	3,843	13,886	38		62
20	Siouf	26,650	180	13,481	306	506	9,508	25,821		34	329
21	Alexandria	16,837	35	6,112	1,358	114	2,288	20,910		391	172
22	Dahaqliya	19,016	54	13,073	862	1,978	5,284	53,831	87	31	
23	Delta	10,824	113	7,912	642	449	7,589	21,556	6	89	131
24	KABO	14,677	40	4,386	1,006	805	8,913	29,137			29
25	TRICONA	2,761	9	1,489	139	48	2,012	20,797	6		59
26	Cairo Dyeing	7,098	375	1,823	95	9	1,836	7,367		25	40
27	El-Haririya	3,487	88	3,197	17	31	3,929	4,817			
28	El-Haditha	1,513		975		17	2,156	4,527			
29	El-Gout	16,203	55	4,323		241	832	1,355			55
30	El-Moodat	4,431	7	1,196	27	13	218	1,473			424
31	Zagazig	15,301	59	6,716	858	512	3,948	14,129	83	7	66

GENERAL TEXTILE COMPANY STATISTICS (1992)

(LE 000)

	1992	Raw Materials	Fuel	Spare Parts	Packing Material	Wasting	Goods in Process	Finished Goods	Unpaid Goods	Goods To Be Sold	Prepaid Goods
1	Misr Mehalla	102,363	1,319	61,373	2,292	927	77,308	105,644			8,034
2	Misr Kafr El Dawar	61,591	846	40,824	1,416	634	63,305	65,268	5		3,677
3	Misr Helwan	13,220	362	16,797	452	1,227	13,999	65,911			322
4	ESCO	6,969	583	13,229	327	1,040	7,017	53,042		15	515
5	Nasr Mehalla	13,963	159	9,669	452	639	27,708	27,324	84		145
6	UNIRAB	41,682	192	20,210	1,908	652	8,232	34,640			141
7	Misr Shebin el Kom	32,049	107	22,181	1,427	743	3,940	48,504	281		4,623
8	STIA	34,606	23	5,333	565	346	12,902	21,054	223		72
9	National	16,779	140	8,083	674	298	6,879	16,908		229	10
10	Bida Dyers	30,140	824	15,241	472	165	2,703	8,288	22		4,289
11	Wooltex	6,504	104	8,091	331	61	9,150	41,703	469		127
12	Chourbagi	5,048	46	4,067	163	77	3,045	22,144	454	95	289
13	El-Harer El Senaiee	35,491	645	22,444	1,473	2,049	4,519	40,750	8		7,588
14	Upper Egypt	8,940	176	11,859	1,335	1,141	1,967	65,856	405		122
15	Middle Egypt	12,050	66	6,259	424	886	2,674	23,072	3,960	1,157	426
16	El-Kettan	152,220	36	5,572	176	102	7,097	20,878	41	5	1
17	Damietta	8,276	65	6,633	801	1,111	4,692	34,562	941	853	513
18	PORTEX	3,902	44	4,934	52	143	2,380	9,048	515	3	102
19	Arab Carpets	5,239	18	4,048	107	126	3,089	25,612	39		5
20	Siouf	25,613	208	16,085	272	896	7,168	43,783		55	837
21	Alexandria	29,648	33	7,374	884	441	2,779	24,359	294		881
22	Dahaqliya	24,374	49	14,889	912	2,311	5,420	89,381	156	31	
23	Delta	21,668	113	10,660	798	539	8,692	26,384	7	75	111
24	KABO	17,560	46	6,038	1,488	1,429	13,833	41,367			151
25	TRICONA	1,563	8	1,508	190	103	4,207	23,625	310	69	
26	Cairo Dyeing	7,755	163	2,030	84	53	1,542	14,790		19	99
27	El-Haririya	2,612	113	3,157	27	68	11,776	8,255			
28	El-Haditha	2,348	872			13	1,483	6,127			
29	El-Gout	3,642	63	4,124		176	911	7,278	22		6,129
30	El-Moodat	5,646	10	1,787	43	93	433	2,790			264
31	Zagazig	22,176	95	8,874	1,138	734	4,735	24,499	154	17	273

LOCAL AND EXPORT SALES
FOR EGYPTIAN TEXTILE COMPANIES
(LE 000)

		1988/87			
		LOCAL SALES	EXPORT SALES	%	TOTAL SALES
1	Misr Mehalla	203,366	182,042	47.23	385,408
2	Kafr El Dawar	129,173	102,993	44.36	232,166
3	Misr Helwan	62,238	12,228	16.42	74,466
4	ESCO	63,653	16,178	20.27	79,831
5	Nasr Mehalla	66,176	6,961	9.52	73,137
6	UNIRAB	47,853	94,532	66.39	142,385
7	Misr Shebin el Kom	25,219	88,343	77.79	113,562
8	STIA	79,433	28,930	26.70	108,363
9	National	41,488	14,321	25.66	55,809
10	Bida Dyers	109,165	1,951	1.76	111,116
11	Wooltex	44,913	0	0.00	44,913
12	Chourbagi	19,056	977	4.88	20,033
13	El-Harer El Senaiee	167,219	3,147	1.85	170,366
14	Upper Egypt	33,886	22,026	39.39	55,912
15	Middle Egypt	27,442	22,683	45.25	50,125
16	El-Kettan	28,568	3,664	11.37	32,232
17	Damietta	14,029	29,035	67.42	43,064
18	PORTEX	18,673	729	3.76	19,402
19	Arab Carpets	25,876	29	0.11	25,905
20	Siouf	42,020	36,029	46.16	78,049
21	Alexandria	32,689	27,527	45.71	60,216
22	Dahaqliya	47,848	39,007	44.91	86,855
23	Delta	30,452	10,476	25.60	40,928
24	KABO	61,878	10,173	14.12	72,051
25	TRICONA	12,644	3,148	19.93	15,792
26	Cairo Dyeing	12,093	1,662	12.08	13,755
27	El-Haririya	18,681	0	0.00	18,681
28	El-Haditha	14,068	0	0.00	14,068
29	El-Gout	36,116	0	0.00	36,116
30	El-Moodat	12,635	126	0.99	12,761
31	Zagazig	35,029	15,765	31.04	50,794

COTTON EXPORT SELLING PRICES
(U.S. Cents Per Pound, FOB Alexandria)

Variety	1980/81	1981/82	1982/83	1983/884	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
ELS													
Giza 45													
Good+1/4	144.05	115.04	117.05	147.05	160.02	150.04	149.02	200.03	275.02	285.06	285.06	200.02	195.00
Good+3/8	145.04	116.02	118.04	148.04	161.00	151.02	150.00	202.03	278.02	288.06	288.06	203.02	196.00
G/FG	146.04	117.01	119.02	149.02	161.99	152.00	150.98	204.03	281.02	291.06	291.06	206.01	201.00
Giza 76													
Good+1/4	139.02	110.06	112.05	140.02	152.04	144.01	143.03		254.05	264.07	254.01		
Good+3/8		111.04	113.04	141.01	153.02	145.00	144.01	192.01	257.05	267.07	257.01		
G/FG	141.01	112.02	114.02	141.99	154.00	145.98	144.98	194.01	260.05	270.07	260.01	168.01 *	138.00 *
Giza 70													
Good+1/4	139.02	110.06	112.05	140.02	150.00	140.02	139.05		234.00	244.01	231.03		
Good+3/8		111.04	113.04	141.01	150.99	141.00	140.03	184.02	237.00	247.01	234.03		
G/FG	141.01	112.02	114.02	141.99	151.97	141.98	141.01	186.02	240.00	250.01	237.02	160.02 *	129.00 *
Giza 65,77													
Good+1/4	136.03	105.01	107.05	137.06	148.04	140.02	139.05		229.02	239.02	226.03		
Good+3/8		106.03	108.07	138.08	149.06	141.00	140.03		232.02	242.02	229.03		
G/FG	138.02	107.04	109.09	139.10	150.07	141.98	141.01	184.06	235.02	245.02	232.03	155.01 *	121.00 *
LS													
Giza 67,69,81													
Good+1/4	119.00	90.07	90.01	114.05	119.05	105.05	106.02		174.00	179.04	159.05		
Good+3/8		91.05	91.00	115.04	120.02	106.03	107.00	147.03	177.00	182.04	162.05		
G/FG	121.05	92.03	91.98	116.02	121.00	107.01	107.97	149.03	180.00	185.04	165.05	115.01 *	91.00 *
Giza 75													
Good+1/4	119.00					105.05	106.02		174.00	179.04	164.05		
Good+3/8		90.07	90.01	114.05	119.04	106.03	107.00		177.00	182.04	167.04		
G/FG	121.05	92.03	91.98	116.02	121.00	107.01	107.97	149.03	180.00	185.04	170.05	120.02 *	95.00 *

Source: Egyptian Cotton Gazette, Januray 1993

* Minimum grades at which Egyptian exports have taken place.

WAGES AND PRODUCTIVITY STATISTICS FOR TEXTILE COMPANIES

	Company	1987/88 Worker Salary Average LE	Worker Production LE	Production/ Salary	1990/91 Worker Salary Average LE	Worker Production LE	Production/ Salary
1	Misr Mehalla	2,823	12,750	4.52	3,788	21,956	5.80
2	Kafr El Dawar	1,918	8,988	4.69	2,668	14,576	5.46
3	Misr Helwan	2,334	5,488	2.35	3,202	8,140	2.54
4	ESCO	2,076	5,771	2.78	2,681	10,546	3.93
5	Nasr Mehalla	2,241	6,709	2.99	2,985	10,091	3.38
6	UNIRAB	2,572	19,494	7.58	4,201	33,276	7.92
7	Misr Shebin el Kom	2,667	13,001	4.87	4,084	21,477	5.26
8	STIA	3,853	19,155	4.97	5,012	29,113	5.81
9	National	2,304	8,297	3.60	2,995	16,675	5.57
10	Bida Dyers	2,460	18,004	7.32	3,264	21,709	6.65
11	Wooltex	2,480	7,673	3.09	3,092	11,264	3.64
12	Chourbagi	2,352	4,845	2.06	3,054	7,480	2.45
13	El-Harer El Senaiee	2,664	16,880	6.34	4,017	28,348	7.06
14	Upper Egypt	1,767	8,366	4.73	2,606	16,823	6.46
15	Middle Egypt	1,633	6,556	4.01	2,263	13,777	6.09
16	El-Kettan	2,069	6,807	3.29	2,822	11,180	3.96
17	Damietta	2,581	10,108	3.92	3,696	22,236	6.02
18	PORTEX	1,942	8,917	4.59	3,135	18,661	5.95
19	Arab Carpets	1,764	10,252	5.81	2,211	12,510	5.66
20	Siouf	2,086	10,142	4.86	2,819	17,731	6.29
21	Alexandria	2,454	13,839	5.66	3,462	25,032	7.23
22	Dahaqliya	2,575	12,937	5.02	3,238	23,419	7.23
23	Delta	1,660	7,975	4.80	3,937	21,895	5.56
24	KABO	2,450	13,156	5.37	3,674	22,591	6.15
25	TRICONA	2,264	5,511	2.43	2,827	5,832	2.06
26	Cairo Dyeing	1,946	8,357	4.29	2,853	19,350	6.78
27	El-Haririya	1,786	3,475	1.95	2,682	6,779	2.53
28	El-Haditha	2,657	12,443	4.68	3,560	21,865	6.14
29	El-Gout	2,887	8,660	3.00	3,367	12,514	3.72
30	El-Moodat	2,403	10,391	4.32	3,815	18,677	4.90
31	Zagazig	1,676	8,937	5.33	2,550	16,208	6.36

LABOR FORCE AND PRODUCTIVITY IN PUBLIC SECTOR MILLS

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	Average Annual Growth Rate (%)
Total work force	230,352	220,172	212,627	209,814	206,922	202,173	199,454	-2.24
Regular work force	213,716	205,001	200,502	199,126	197,792	194,453	192,106	-1.69
Total wage bill (in LE 000)	427,600	419,784	490,561	558,091	609,975	657,892	681,263	9.89
Total value of production (in LE 000)	1,797,645	1,916,251	2,213,162	2,794,429	3,508,691	3,978,943	4,529,323	25.33
Productivity per regular worker (in LE)	8,411	9,348	11,038	14,033	17,739	20,151	23,577	30.05
Productivity per LE of wage (in LE)	4.2	4.6	4.5	5.0	5.8	6.0	6.6	9.52

PRICES OF SELECTED EGYPTIAN COTTON FABRICS COMPARED WITH FOREIGN COMPETING VARIETIES

(U.S. Cents Per Meter)

Date and Kind of Fabric	60 x 60 63" 20 x 20			86 x 86 63" 30 x 30			Pakistan			
							60 x 60 38" 20 x 20		60 x 60 63" 20 x 20 *	
	Egypt	Brazil	Taiwan	Egypt	Brazil	Taiwan				
04/19/89	80			79						
10/24/89	85			84						
Yearly average										
09/28/90							48	50	79.6	82.9
09/29/90	89			88						
Yearly average										
03/31/91	89			88						
03/28/91							48		79.6	
11/15/91							49	51	81.2	84.6
11/17/91	86			85						
Yearly average		85	73.2	86.5	82.5	78				
03/26/92	86			85			49	50	81.2	82.9
10/22/92	86			85						
10/23/92							49		81.2	
Yearly average		85	66.8	85	82.5	66.5				
03/26/93							49	50	81.2	82.9
03/28/93	86	84.1	59.6	85	84.6	59.6				

* This column is calculated as a 63/38 ratio of the previous column.

Prices for Egypt and Pakistan are FOB.
Prices for Brazil and Taiwan are CIF Europe.

EGYPT' S QUOTA AND ACTUAL EXPORTS OF COTTON YARN AND TEXTILES TO THE U.S.

		1989		1990		1991		1992		1993	
		Quota	Exports	Quota	Exports	Quota	Exports	Quota	Exports	Quota	Exports
Cotton Yarn	Meters (000)	6	2	6	2	6	6	6	5	7	NA
Cotton Fabrics	Sq. Meters (mil.)	58	43	61	35	65	52	69	26	74	NA
Shirts & Blouses	Pieces (000)	536	502	684	412	727	664	773	646	822	NA
Towels, Etc.	Metric Tons		126		597	925	946	980	996	1,039	NA
Trousers	Pieces (000)								13	16	NA

Source : Cotton Textile Consolidation Fund

EGYPT' S QUOTA AND ACTUAL EXPORTS OF COTTON YARN AND TEXTILES TO THE EC

		1989		1990		1991		1992		1993	
		Quota	Exports	Quota	Exports	Quota	Exports	Quota	Exports	Quota	Exports
Yarn	Tons	30,500	31,873	35,090	31,662	37,295	29,054	40,000	32,131	41,400	
Fabrics	Tons	8,623	9,706	10,594	10,507	11,615	10,953	13,300	9,759	13,765	

Source : Cotton Textile Consolidation Fund

EMPLOYMENT AND PRODUCTION VALUE FOR PUBLIC SECTOR TEXTILE COMPANIES

(LE 000)

	Company	PRODUCTION VALUES AT ALL STAGES 1991/92	TOTAL PRODUCTION VALUE**		OVER STATEMENT OF PRODUCTION		NET VALUE ADDED		TOTAL WAGE BILL		LABOUR FORCE			
											1990/91		1991/92	
			1990/91	1991/92	VALUES 1991/92	% 1991/92	1990/91	1991/92	1990/91	1991/92	REGULAR	TOTAL	REGULAR	TOTAL
1	Misr Mehalla	930,553	552,744	620,481	310,072	49.97	188,000	193,791	116,160	121,296	29,625	30,290	29,284	29,897
2	Kafr El-Dawar	568,126	341,455	431,839	136,287	31.56	109,322	131,420	67,983	76,283	23,988	25,328	25,119	25,932
3	Misr Helwan	165,073	104,107	114,330	50,743	44.38	25,877	26,655	41,509	46,410	12,759	13,262	11,883	12,449
4	ESCO	151,450	117,301	122,387	29,063	23.75	27,196	23,558	32,101	33,143	11,117	11,588	10,448	10,951
5	Nasr Mehalla	150,531	102,542	106,199	44,332	41.74	36,386	36,139	32,159	34,695	10,192	10,613	9,989	10,436
6	UNIRAB	247,490	199,449	234,389	13,101	5.59	63,844	61,428	30,934	32,117	6,882	7,364	6,888	7,345
7	Misr Shebin el Kom	206,871	159,251	185,950	20,921	11.25	63,466	53,914	37,747	39,740	8,448	8,794	8,468	8,765
8	STIA	293,916	159,525	184,726	109,190	59.11	51,192	59,040	30,141	31,335	5,959	6,097	6,008	6,168
9	National	157,451	98,152	117,197	40,254	34.35	35,987	34,698	18,092	16,985	5,954	6,188	5,724	5,967
10	Bida Dyers	147,105	140,312	137,377	9,728	7.08	29,907	33,048	21,278	22,917	6,357	6,485	6,187	6,342
11	Shourbagi	69,897	37,174	43,394	26,503	61.08	11,118	15,289	13,508	14,028	4,196	4,449	4,214	4,444
12	Upper Egypt	134,002	104,608	131,962	2,040	1.55	32,314	22,236	18,047	18,856	6,570	6,761	6,497	6,677
13	Middle Egypt	94,938	74,908	83,767	11,171	13.34	24,583	10,105	15,674	16,280	6,112	6,297	5,913	6,121
14	Orient Linen	76,629	54,379	63,127	13,502	21.39	18,915	22,329	13,801	14,357	4,606	4,798	4,375	4,568
15	Damietta	115,259	89,236	85,313	29,946	35.10	44,809	12,692	18,372	16,620	4,751	4,939	4,697	4,918
16	PORTEX	42,152	35,258	41,346	806	1.95	8,299	10,553	5,956	6,354	1,817	1,900	1,740	1,823
17	Siouf	156,639	128,144	154,437	2,202	1.43	47,344	45,435	23,521	21,727	7,675	8,078	7,441	7,767
18	Alexandria	116,621	83,564	101,710	14,911	14.66	27,454	21,969	15,078	14,441	4,102	4,271	4,115	4,376
19	Dahaqliya	195,704	162,048	189,959	5,745	3.02	66 763	31,556	28,[illegible]5	23,291	8,456	8,747	8,446	8,785
20	Delta	152,497	103,618	123,422	29,075	23.56	42,758	32,755	19,001	19,765	6,350	6,418	6,228	6,274
21	KABO	143,298	125,993	131,121	12,177	9.29	54,852	49,673	20,797	21,365	5,329	5,550	5,266	5,513
22	TRICONA	17,551	16,489	16,696	855	5.12	6,022	5,104	7,911	8,302	2,607	2,848	2,510	2,752
23	Cairo Dyeing	42,713	35,671	42,458	255	0.60	4,612	5,796	5,366	5,522	1,732	1,828	1,672	1,776
24	Cairo Silk	34,191	27,448	27,333	6,858	25.09	1,187	4,648	10,434	10,867	3,568	3,749	3,436	3,600
25	Zagazig	118,666	84,845	98,323	20,343	20.69	23,155	23,157	14,107	14,567	5,301	5,531	5,558	5,808
	Total	**4,529,323**	**3,138,421**	**3,589,243**	**940,080**	26.19	**1,045,362**	**966,988**	**657,892**	**681,263**	**194,453**	**202,173**	**192,106**	**199,454**

* Involves duplication of production values at each successive stage.

** Derived using local market prices.

PRODUCTIVITY INDICATORS

	Company	PRODUCTION VALUE PER REGULAR WORKER (IN LE)		PRODUCTION VALUE PER LE OF WAGES		NET VALUE ADDED/ REGULAR WORKER (IN LE)		NET VALUE ADDED PER LE OF WAGES		PERCENTAGE OF UNAVAILABLE LABOR	
		90/91	91/92	90/91	91/92	90/91	91/92	90/91	91/92	90/91	91/92
1	Misr Mehalla	18,658	21,188	4.76	5.12	6,346	6,618	1.62	1.60	2.24	2.09
2	Kafr El-Dawar	14,234	17,192	5.02	5.66	4,557	5,232	1.61	1.72	5.59	3.24
3	Misr Helwan	8,159	9,621	2.51	2.46	2,028	2,243	0.62	0.57	3.94	4.76
4	ESCO	10,551	11,714	3.65	3.69	2,446	2,255	0.85	0.71	4.24	4.81
5	Nasr Mehalla	10,061	10,632	3.19	3.06	3,570	3,618	1.13	1.04	4.13	4.47
6	UNIRAB	28,981	34,029	6.45	7.30	9,277	8,918	2.06	1.91	7.00	6.63
7	Misr Shebin el Kom	18,851	21,959	4.22	4.68	7,513	6,367	1.68	1.36	4.10	3.51
8	STIA	26,770	30,747	5.29	5.90	8,591	9,827	1.70	1.88	2.32	2.66
9	National	16,485	20,475	5.43	6.90	6,044	6,062	1.99	2.04	3.93	4.25
10	Bida Dyers	22,072	22,204	6.59	5.99	4,705	5,342	1.41	1.44	2.01	2.51
11	Chourbagi	8,859	10,298	2.75	3.09	2,650	3,628	0.82	1.09	6.03	5.46
12	Upper Egypt	15,922	20,311	5.80	7.00	4,918	3,423	1.79	1.18	2.91	2.77
13	Middle Egypt	12,256	14,167	4.78	5.15	4,022	1,709	1.57	0.62	3.03	3.52
14	Orient Linen	11,806	14,429	3.94	4.40	4,107	5,104	1.37	1.56	4.17	4.41
15	Damietta	18,783	18,163	4.86	5.13	9,431	2,702	2.44	0.76	3.96	4.71
16	PORTEX	19,405	23,762	5.92	6.51	4,567	6,065	1.39	1.66	4.57	4.77
17	Siouf	16,696	20,755	5.45	7.11	6,169	6,106	2.01	2.09	5.25	4.38
18	Alexandria	20,372	24,717	5.54	7.04	6,693	5,339	1.82	1.52	4.12	6.34
19	Dahaqliya	19,164	22,491	5.74	8.16	7,895	3,736	2.37	1.35	3.44	4.01
20	Delta	16,318	19,817	5.45	6.24	6,734	5,259	2.25	1.66	1.07	0.74
21	KABO	23,643	24,900	6.06	6.14	10,293	9,433	2.64	2.32	4.15	4.69
22	TRICONA	6,325	6,552	2.08	2.01	2,310	2,033	0.76	0.61	9.24	9.64
23	Cairo Dyeing	20,711	25,394	6.68	7.69	2,663	3,467	0.86	1.05	5.54	6.22
24	Cairo Silk	7,693	7,955	2.63	2.52	333	1,353	0.11	0.43	5.07	4.77
25	Zagazig	16,005	17,690	6.01	6.75	4,368	4,166	1.64	1.59	4.34	4.50
	Weighted Average	**16,140**	**18,684**	**4.77**	**5.27**	**5,376**	**5,034**	**1.59**	**1.42**	**3.97**	**3.82**

HOLDING COMPANY PORTFOLIO OF AFFILIATED COMPANIES
(Status as of June 1993)

	Textile Industries Holding Co.	Holding Co for Consumer Goods	Holding Co. for Int'l Trade & Cotton
Cotton Textile Companies	Misr Spinning & Weaving Co. (Mehalla Kobra) Damietta Spinning & Weaving Co. Delta Spinning & Weaving Co. El Nasr Clothing & Textile Co. (KABO) Daqahliya Spinning & Weaving Co. Cairo Dyeing & Finishing Co. El Sharqiya Spinning & Weaving Co. Orient Linen & Cotton Co. Misr Helwan Spinning & Weaving Co.	Misr Fine Spinning & Weaving Co. (Kafr El Dawar) UNIRAB Spinning & Weaving Co. National Spinning & Weaving Co. El Souif Spinning & Weaving Co. El Nasr Spinning, Weaving & Dyeing Co. Alexandria Spinning & Weaving Co. Port Said Spinning & Weaving Co. (PORTEX) Bida Dyers Co. El Nasr Wool & Selected Textile Co. (STIA) Misr Shebin el Kom Spinning & Weaving Co.	Upper Egypt Spinning & Weaving Co. Etab. Industriel Pour La Soie et Le Coton (ESCO) Nasr Spinning Weaving & Knitting Co. (Chourbagi) Cairo Silk Textile Co. Cairo Clothing & Hosiery Co. (TRICONA) Middle Egypt Spinning & Weaving Co.
Cotton Trading Companies	AL Kahira Cotton Co.	Port Said Cotton Export Co.	Societe Misr Pour L'Exportation Du Coton Alexandria Commerical Co. The Cotton Trading & Export Co. Eastern Cotton Co.
Cotton Ginning Companies	Delta Cotton Ginning Co.	El Wady Cotton Ginning Co.	The Nile Cotton Ginning Co. Misr Cotton Ginning Co. Arab Cotton Ginning Co.
Non-Cotton Textile Companies	Arab Carpet & Upholstery Co. Societe Misr Pour La Rayonne Misr Company for Manufacturing Textiles & Clothing Equipment	Egyptian Co. for Wool Spinning & Weaving (Woolte The Modern Textiles Co.	The General Jute Products Co.
Other Companies	Fashion Wear Home Co.(Hannaux, Pontrimouli) The Egyptian Products Sales Co. United Co. for Trade & Distribution	Omar Effendi Shops Co. Modern Wearing Co. (Benzaion, Adds, Rivoli) Consumption Goods & Clothes Co. (Sednawi)	Arab Foreign Trade Co. Misr Foreign Trade Co. Misr Import & Export Co. El Nasr Export & Import Co. General Co. for Engineering Works Societe Commerciale Du Bois Egyptian Company for Chemical & Metal Trading Egypt Co. for Electric Instruments (Shaher)

PRICES FOR SEVERAL TYPES OF COTTON, CIF NORTH EUROPE

(Year: August-July)

Crop Year	Giza 75	Giza 70	US Pima G 3	Barakat	Calif Acala SJV	"A" Index M 1-3/32
1980/81		158.66		112.00	101.85	94.12
1981/82		137.34		90.76	79.79	73.76
1982/83		135.84		77.16	84.94	76.66
1983/84		162.33		92.80	94.90	87.59
1984/85		164.69	121.62	97.60	76.20	69.26
1985/86		147.14	109.81	87.70	59.43	48.81
1986/87	115.00	146.94	112.79	69.60	74.27	62.37
1987/88	144.53	181.68	128.93	92.60	81.17	72.12
1988/89	177.91	231.44	178.06	118.70	77.09	66.23
1989/90	192.66	254.11	112.06	106.22	88.67	81.65
1990/91	178.20	248.91	136.24	86.69	93.07	82.95
1991/92	133.33	178.14	115.84	88.90	74.66	63.05
1992/93 *	105.66	141.86	98.53	76.00	67.28	56.34

* For 8 months (Aug. - March)

Source: Cotton Outlook, Liverpool

GRADE CATEGORIES USED IN EGYPT COTTON CLASSIFICATION

1. EXTRA (E)
2. E - 1/16
3. E - 1/8
4. E - 3/16
5. E - 1/4
6. E - 5/16
7. E - 3/8
8. E - 7/16
9. Fully Good / Extra (FGE)
10. FG + 7/16
11. FG + 3/8
13. FG + 1/4
12. FG + 5/16
14. FG + 3/16
15. FG + 1/8
16. FG + 1/16
17. FULLY GOOD (FG)
18. FG - 1/16
19. FG - 1/8
20. FG - 3/16
21. FG - 1/4
22. FG - 5/16
23. FG - 3/8
24. FG - 7/16
25. Good / Fully Good (GFG)
26. G + 7/16
27. G + 3/8
28. G + 5/16
29. G + 1/4
30. G + 3/16
31. G + 1/8
32. G + 1/16
33. GOOD (G)
34. G - 1/16
35. G - 1/8
36. G - 3/16
37. G - 1/4
38. G - 5/16
39. G - 3/8
40. G - 7/16
41. Fully Good Fair / Good (FGFG)
42. FGF + 7/16
43. FGF + 3/8
44. FGF + 5/16
45. FGF + 1/4
46. FGF + 3/16
47. FGF + 1/8
48. FGF + 1/16
49. FULLY GOOD FAIR (FGF)
50. FGF - 1/16
51. FGF - 1/8
52. FGF - 3/16
53. FGF - 1/4
54. FGF - 5/16
55. FGF - 3/8
56. FGF - 7/16
57. Good Fair / Fully Good Fair (GFFGF)
58. GF + 7/16
59. GF + 3/8
60. GF + 5/16
61. GF + 1/4
62. GF + 3/16
63. GF + 1/8
64. GF + 1/16
65. GOOD FAIR (GF)
66. GF - 1/16
67. GF - 1/8
68. GF - 3/16
69. GF - 1/4
70. GF - 5/16
71. GF - 3/8
72. GF - 7/16
73. Fully Fair / Good Fair (FFGF)
74. FF + 7/16
75. FF + 3/8
76. FF + 5/16
77. FF + 1/4
78. FF + 3/16
79. FF + 1/8
80. FF + 1/16
81. FULLY FAIR (FF)

SOURCE: CATGO

ANNEX D

INTERVIEW NOTES

ALEXANDRIA COTTON EXPORTERS ASSOCIATION

Interview Date: May 5, 1993

Interviewees: Mr. A. Mohsen Abdellatif, President
Mr. Aly M. Sherif, Executive Director

Major Findings

- **Fixing cotton export price.** The export price is fixed by a high-level Inter-Ministerial Committee for Cotton, composed of representatives of MALR, MEFT, and cotton exporters, who take into account world supply, carryover from previous season, domestic production, and specifications of Egyptian cotton. The price is announced in September for each variety and is fixed until August of the following year. The export year is defined as September through August.

- **Current situation (1992-93).** According to agreements reached under ERSAP, the farmgate price applicable in 1992-93 is 66 percent of the economic price (based on five-year export price average). This has put pressure on exporters. It is estimated that for the current year, exporters are losing $8-10 per metric kentar. As a result, exporters are reluctant to export and have even stopped exporting. The data for the 92-93 year are as follows:

Total amount contracted for year	50,000 bales (about 6.5 metric kentars)
Concluded so far	25,000 bales
Contracted (January 1993)	43,000 bales
Delivered	12,000 bales

- **Calculation of margin (between farmgate price and export price).** For the purpose of calculating the margin, the starting point is the farmgate price decided by the committee. Some examples follow:

Giza 75 farmgate price in LE per metric kentar

Farmgate price	303.00
Export price	350.80
Margin	47.80

Comparison of U.S. Pima with Giza 70, LE per metric kentar

Farmgate price (Giza 70)	431.00
Export price (Giza 70)	476.36 (129 cents per pound)
Margin	45.36
U.S. Pima	350.81[1]

- This margin is a net margin in the following sense. The following example is for 1992-93, in LE per metric kentar:

Margin for ginning, trading, and other costs	46.00 (from above)
FOB expenses	59.80
Subtotal	105.80
Sale of cotton seed to oil mills	65.00 (see Tabbakh)
Net margin	40.80

[1]As of March 1, 1993: offered 98 cents per pound Northern Europe, sold 95 cents per pound = $104.72 per metric kentar = LE 350.81 per metric kentar. FOB expenses cover: breaking the bales, mix, repress, etc. In the calculations, 95 cents per pound equals 10471.85 per metric kentar equals $104.72 per metric kentar)

ARAB COMPANY FOR TEXTILES

Interview Date: May 16, 1993

Interviewees: Mr. Ibrahim M. Hassen, Chairman

Major Findings

General

- Weaving, knitting, finishing, and garments plant in Cairo.
- Textile chemical company in Cairo.
- This private sector firm was started by Hassen in 1983 for dyestuff chemicals only.
- Chemicals sold: softener, levellers, disbursants, waterproofing, etc.
- He works in tandem with a chemical company in Stuttgardt, Germany.
- Manufacturing began to develop in 1992 and is evolving now.

Weaving

- Five shuttleless looms (three used ones in hand and two new ones coming from Italy).
- Five used Sultzer Jacquard looms that have not yet been installed.
- Production rate is about 500 linear meters/day.
- Most production is exported.

Knitting

- Started in 1992.
- Circular machines (two German, two English, and eight Italian).
- Production is about 2 tons/day. Sewed into T-shirts and some underwear.
- Sewing: 30 machines.
- Production is about 1,000 pieces/day.
- He hopes to open factory for 2,000-3,000 T-shirts/day.
- T-shirts and underwear are exported to Paris, with plans for the Netherlands and Germany.

Other Points

- Yarn comes mainly from Kafr El Dawar and Alexandria, with some from Zagazig.
- Yarn problems include slubs, tension, and number of twists.
- Current yarn consumption is about 2.5 tons/day. The intermediate goal is over 4 tons/day.
- There are about 150 employees, including 10 engineers.

- Marketing and technical services:
  - Sales offices in Cairo, Mahalla El Kobra, and Alexandria.
  - Sales offices planned in Syria and Tunisia.
  - Chemicals are main focus.
- Hassen believes that worker performance can be controlled to a large degree. Fixed salary is about 50 percent of total salary for production workers, with incentive pay at about 50 percent. Minimum salary is LE 50 per month, but he can deduct up to LE 40 for mistakes.
- He is planning to build a factory in an industrial zone and concentrate all production activities on 10,000 square meters of land. Storage for both chemicals and yarn will remain in Cairo.

BTM

Interview Date: April 25, 1993

Interviewees: Mr. Louis Bishara

Major Findings

Company Data

- Created 10 years ago.
- Operates under Law 59/1979 establishing industrial zones. The law provides for generous tax incentives: 10-year exemption on corporate income tax (35 percent) and personal income tax (17 percent on income greater than LE 60,000). Tax incentives under Laws 59/1979 and 230/1989 are virtually the same. Under Law 230, those incentives are in principle available outside the industrial zones.

Activities

- Produces fabrics and garments.
- Consumption of yarn: 30 tons/month (6 of cotton plus 24 of polyester).
- He buys cotton yarn from public mills: he does not have procurement difficulties. He does not import cotton yarn because he is using higher counts (100x2, 80x2, and 60x2 Ne) and similar imports would be more expensive than domestic yarn. The coarsest yarn he uses is 14x1 Ne. He imports polyester yarn from the U.S.
- He consumes 100 percent of fabric production for garment-making.
- Garments distribution is 88 percent to the domestic market, plus 12 percent for export (Europe and the Near East).

Marketing

- He has 10 shops (Cairo, Alexandria, Uxor). They absorb 50 percent of domestic sales.
- Has been using computer assisted design techniques for five years.
- Marketing uses 70 people in retail shops, 20 people in stores for inventories, and 5-6 people in sales here and abroad.
- Emphasizes flexibility and fast response to changes in tastes and markets.

Employment/Productivity:

Total Employees (estimated)	1,200
Weaving	250
Dyeing and Finishing	300

275

Garment	500
Marketing	100
Administration	50

- Weaving: three shifts; dyeing and finishing: two shifts; garment manufacture: one shift.
- In 1991, the value of a worker's production was: LE 148/day. In 1992, it was LE 165, of which 5 percent is due to inflation.
- In 1991, LE 1 of work produced a value of LE 18.4. In 1992, the value was LE 18.2.
- He estimates that he is not satisfied of about 5 percent of his work force.
- He does not have a single worker coming from public mills.
- Wages are based on a fixed rate plus a piece rate system.
- A worker in garment-making (woman) makes on average LE 180/month inclusive of wages and bonus.

Cost Structure

Raw materials	30 percent of sales (gross revenues)
Labor	10
Utilities	6
Maintenance	4
Depreciation	9
Financing	6 (16% on short-term, 17% on 3-5 year borrowing)
Administrative	5
Profit	30

Issues

- **Imports of yarn.** Markets are free. A marketing license is required but there is no administrative difficulty in obtaining it. No foreign exchange license is needed. As a result of liberalization under ERSAP, tariffs have come down. They are currently 30 percent of CIF value for all types of yarns plus 10 percent sales tax. He indicated that large imports of yarn come from Pakistan (especially knitting yarn) because it is cheaper. Tariffs on equipment, machinery, and spare parts are about 25-30 percent.

- **Investment incentives.** Under Laws 59 and 230, the tax exemption expires after 10 years. As a result, expansion investment does not benefit from exemption any more; a new legal entity must be created to benefit from further exemptions.

- **Labor legislation.** The situation is still difficult, and he sees little or no improvement. Employers cannot fire in practice, or it is too costly in terms of time and procedures.

- **Public mills.** They have excess capacity, especially in spinning, and lack flexibility in responding to market demands.

- **ERSAP.** Great progress has been achieved in liberalization and general climate for private enterprises over past few years, but at expense of increased competition.

- **Critical issues.** In order of priority:

  - Improve judiciary system (more equity, simplification, and clarification of legislation).
  - Reduce taxation.
  - Relax labor legislation.

CATGO

Interview Date: May 6, 1993

Interviewees: Mr. Galai El Rifai, Chairman
Mr. Ahmed M. Massekh, General Manager

Major Findings

Background

CATGO was created in 1965 by merging some existing entities (including private ones) and ministerial departments, including the former Egyptian Testing Court, the former cotton department of the Ministry of Finance (formerly responsible for cotton purity), various spinning and fiber labs, ministry departments for classification, and an international institute.

Functions

- CATGO now has 2,000 employees, 50 percent too many.
- CATGO's most important function is classifying cotton at the farm and after ginning.
- There are 2,000 collection centers, each covering several villages (the farmer is not supposed to be more than five kilometers from a center).
- The farmer brings his cotton to the center, where about 500-600 sacks are accumulated per week. Each week a CATGO agent comes and classifies those sacks. CATGO charges the trading companies LE 2.56 per metric kentar for its services; this covers all costs at the center, the gins, in Alexandria, etc. For the past six months now, CATGO has not received any subsidy from the GOE.
- Under the new policy whereby private buyers/traders will be allowed to enter the market starting with the 1993-94 season, the above system will not be affected: CATGO will charge all buyers. Private buyers and traders will be required to have their cotton classified.

Historical Background

Before nationalization, the cotton market was a completely free market. At the Alexandria cotton exchange, there was a spot market, a futures market, traders of all sizes, and exporters. The 1963 nationalization was directed against the private sector traders and merchants suspected of making too much money at the expense of the farmer.

With nationalization, the whole sector was split into different power centers, each pursuing different policies according to its own vested interests. The strongest in the group became the industry, because of the national policy of developing industry based on the socialist model.

The Ministry of Industry replaced existing personnel with inexperienced people, which led to poor management and losses. This in turn led to pressures to lower the cost of raw materials. The easiest way was to squeeze the farmer, who had no political clout.

Procurement prices to farmers were lowered arbitrarily and to such low levels that the mills could at one point sell their waste at a higher price than cotton. Despite that, mills continued to run losses, so they developed export markets to Eastern Europe and the USSR and sold at any price, at the expense of traditional markets in the West. At the same time, waste was sold to the West for convertible currency. These phenomena were reflected in the balance sheets showing profits on both accounts: convertible currency and Eastern Bloc trade. The mills flourished and expanded under such a system, effectively protected from international competition.

Current Situation

As a result of the above, spinning mills do not have expertise in raw materials in terms of using what they have effectively or managing their production resources.

Issues

- He does not believe the opening of trade to the private sector for 1993-94 will succeed for the following reasons:

- Private bussinesses would not want to sell to the trading companies or to mills.

- The number of farmers (about 1 million) has increased dramatically with average acreage falling. Therefore, it will be very difficult for traders to visit a large number of small farmers.

- To make it succeed, he thinks that the GOE should announce a clear, coherent, and comprehensive plan to be implemented over a number of years. The plan should set the rules of the game, so that every private entrepreneur can make business decisions within a climate of certainty. In his view, uncertainty is the major obstacle to private sector development.

- He believes reopening the Alexandria Cotton Exchange is not necessary for the following reasons:

- A spot market is a cash market. Before nationalization, most of the crop was produced and marketed in the northern part of the Delta, with 70 percent of production exported through Alexandria, so that Alexandria was right in the center

of the producing area. Now production has shifted southward, with 85 percent of the crop being marketed below a line extending from Kafr El-Dawar to Mahalla.

- Fax, telex, and computers make an exchange obsolete. Any trader can work from his house wherever he is.

- He believes that the Egyptian cotton sector has lost its export market for raw cotton and is losing the market for textiles (especially yarn) because of competition with cheaper producers.

COTTON TEXTILE CONSOLIDATED FUND

Interview Date: April 27, 1993

Interviewees: Mr. Tawfik Messiha, Director General

Major Findings

Activities

- Covers yarn and textile products.
- Applies industry standards, i.e., quality control for the industry (both public/ private mills) for exports only.
- Sets minimum prices for export products (not domestic), whether from public or private mills. Minimum prices are based on information on costs of production (from public mills) and world prices (information from commercial attachés in embassies, missions abroad, visits, etc.).

Setting Minimum Prices

- A minimum price is set for all exporters (public and private) for each count of yarn and for each type of woven fabric.

- A minimum price is set for garment products exported by public mills (not by private mills). This minimum price is established on the principle that the export price cannot be lower than costs (as provided by mills to CTCF).

- Minimum prices are revised and announced twice a year (end of March; end of September).

- Since 1984, the export price of knitted fabrics has been free of controls.

COTTON TEXTILE CONSOLIDATED FUND

Interview Date: May 3, 1993

Interviewees: Eng. Magdi El-Areef, Chairman

Major Findings

Background

After World War II, private mills had difficulties in terms of prices and quality (apparently a result of excess capacity built during the war to satisfy requirements of German armies). To respond to this situation, GOE created CTCF in 1953 to stabilize and support export prices and provide promotional assistance to the industry (e.g., quality control, training, technical assistance). Essentially, this prevented price competition among firms. Export subsidies for yarn and fabrics were eliminated in 1984.

Aspects of Present System

To enforce minimum prices and quality standards, CTCF issues certificates, which exporters are required to submit to Customs. Public mills report their costs to CTCF twice a year. In fact, however, they report only increases in cost items. CTCF knows that, in the absence of a report, there has been no change from the previous period.

Imports of yarn involve the following system:

- The import duty is 30 percent plus a sales tax of 10 percent, payable if imports are transformed into materials destined for local market.
- Imports are exempt from duty if they are transformed into products destined for export.

In 1992-93, 400 tons of coarse yarn were imported by the private sector from Pakistan for garment making (rough T-shirts) for re-export to Europe.

International Market Situation

The industry is currently suffering from a severe worldwide recession. Demand is so low that, for the past two seasons, Egypt has not been able to fill its quota for fine counts either in the United States (6,000 tons) or the European Community (40,000 tons for yarn and 17,000 tons for fabrics). He explained that prices cannot be lowered below cost of production for fear of possible retaliation from the United States and/or the European Community in the form of anti-dumping duties.

With respect to competitive pricing, he indicated that input prices (lint cotton prices to mills) had been set too high and that labor costs cannot be reduced. He said that some public mills would like to cut production in view of excess production and build-up of inventories, but could not because of the impossibility of reducing labor. Also in this regard, and as an example, he indicated that Pakistan, India, and Turkey are selling so aggressively that they risk being targeted for anti-dumping duties by the United States and the European Community, a risk that Egypt is not ready to take.

A factor in the recession is the loss of markets in Eastern Europe and CIS countries, which were major markets for fine counts. Egypt used to export 20,000 tons of yarn and fabrics to CIS and 10,000 tons to Eastern Europe. This market has been lost for two years now and there is no way of knowing when it will be recaptured, if at all.

Egypt is in a monopolistic situation on the international market for 60/1 Ne and greater. The profit margin for these counts is 70-80 percent. The markets are essentially the EC and Japan although they have shrunk substantially with the recession. The CIS and Eastern Europe were the other primary markets for fine counts (and for ELS cotton).

The profit margin for 30/1 counts is about 30 percent. One of the major competitors in this market is Pakistan.

Cotton Price Policy

We discussed the relationship between the procurement price to farmers, the price to the mills, and the export price. The three prices were raised in the late 1980s according to a five-year moving average when the international market was strong. However, the market turned more rapidly and more steeply than anticipated, resulting in a discrepancy between price movements and market conditions.

As a result, export prices had to be lowered for 1992-93 year by 30 percent compared to 1991-92 prices. Despite this, only 200,000 metric kentars out of 1 million planned were exported. The outcome is that export prices for 1993-94 will have to be lowered again, but this raises the issue mentioned above, i.e., that export prices cannot be lowered below costs because of anti-dumping rules. Also, labor costs cannot be lowered, while other costs are rising as a result of a policy of phasing out subsidies. For instance, the cost of electricity to mills is now 70 percent of the full economic price, and is expected to be raised by 15 percent for 1993-94 and another 15 percent the following year to reach 100 percent.

He favored liberalizing the marketing of cotton so as to supply the mills with lower quality cotton to reduce input costs and better meet market demands. He recognizes that the issue of what to do with over-production of ELS cotton remains unsolved as long as the international market is depressed. He suggested that farmers should not plant ELS, but this raises several issues:

- Are areas agronomically substitutable?
- Can farmers respond quickly to changes in demand and market conditions?
- What about the policy of requiring that a certain acreage be allocated to cotton?

Resolving such issues requires policies ensuring maximum flexibility at all stages to respond to change in market conditions, which implies free prices throughout and greater flexibility in production, management, and marketing.

224

DELTA SPINNING AND WEAVING COMPANY

Interview Date: April 17, 1993

Interviewees: Eng. Mohsen El Gillani, Chairman

Major Findings

General

- Cotton consumption is approximately 300,000-350,000 kentars (16.700 tons or 76,500 U.S. bales).
- The mill uses only Egyptian cotton because it is located in the Delta.
- Total yarn production is 300-350 tons/month Exports are 185-200 tons/month, with the rest going to domestic weaving mills.

Main Problems

- Raw material prices.
- Staff training and development.
- Quality control.
- Excess inventories have gone up significantly since the USSR/Eastern Europe market for yarns collapsed in 1992.
- Number of employees: about 4,000 in spinning mills, about 2,200 in weaving mills.
- Delta has no in-house marketing personnel and uses references and contacts, along with brokers and other middlemen, to find market outlets.
- Delta has three spinning mills and one weaving mill.

Spinning Mill No. 1

- 33 years old.
- Has 60,000 spindles.
- Spins fine counts (60/1-80/1 Ne normally, but up to 120/1 Ne).
- Equipment was worn out six years ago when El Gillani came to Delta.
- Equipment has been rehabilitated but with few new machines.

Spinning Mill No. 2

- Is an open end spinning mill with 3,500 rotors.
- Open end frames are about 14 years old and obsolete.

- Used to make coarse count yarns from cotton waste (e.g., noils, flat strips, and yarn waste) or from lower quality cotton fiber.
- Yarn count is up to 20/1 Ne. 14/1 Ne is made from 100 percent waste.

Spinning Mill No. 3

- About six years old and a high tech operation.
- Has 40,000 ring spindles.
- Spins medium and coarse count yarns—up to 40/1 Ne, singles only.
- Makes weaving and knitting yarn.
- Typically all of its production goes into export market.

Weaving Mill

- Frames are at least 14 years old.
- All of this mill's input comes from Mill No. 2.

Other Points

- El Gillani would like to have access to other cottons from other countries.
- Fine counts are not wanted in today's market.
- American Pima is superior to Giza 75 and 77.
- Upland cottons are adequate for yarns up to 40/1 Ne.

EGYPT TEXTILE MANUFACTURING FEDERATION

Interview Date: May 17, 1993

Interviewees: Mr. S. Semida, General Manager

Major Findings

Background

ETMF was created in 1937 as a public body although its functions and mandate are similar to those performed by private trade associations serving their membership. Firms engaged in textiles are required by law to become members; however, many are not, and the Federation has no means to enforce this requirement. He estimates that some 40 percent or 1,883, are registered as members. A large number are very small firms (probably household firms).

The board comprises 15 members (of whom four are from public enterprises) elected by the membership. It meets once a month and makes all decisions, the secretariat's duties being limited to carrying out the latter on a day-to-day basis.

Staff, Salaries, and Members's Contributions

There are 12 or 13 staff, including the general manager. Six staff collect contributions from members and perform clerical tasks, and six provide services to members. The latter group includes a lawyer, economist, statistician, and export promotion specialist, Last year, the federation had only five staff.

The general manager and the staff are civil servants. Their salary scale follows that of the GOE. However, their salary as well as other federation expenses are paid from the federation's budget, entirely financed from members' contributions. The annual budget is about LE 200,000. Members' contributions are LE 15/year for small members and LE 2,000/year for the largest members.

Functions

The federation performs some "public" functions, such as trying to enlist members, and some private functions, such as rendering services to its members. Its services include assistance with tax, legal, and labor problems. In these cases, the federation essentially plays the role of advocate for the firm. He gave two examples of help that the Federation is trying to provide to its membership:

- Reducing the cascade in taxation for intermediate products.

- As of August 1993, all industrial establishments are required to convert their power generation from diesel to another fuel and eventually to natural gas. This is costly to many firms, so the federation is trying to convince the GOE to apply these new provisions in a more flexible way for its members.

For training, the federation organizes seminars with the Export Promotion Committee of the Ministry of Economy and Foreign Trade. The issues of greatest interest to members are how to promote their exports and how to develop business contacts among themselves or other business partners.

GIZA SPINNING, WEAVING, DYEING, AND GARMENTS COMPANY

Interview Date: May 10, 1993

Interviewees: Mr. M. G. Marzouk

Major Findings

Ownership and Legal Status

The company, owned by two brothers, was established in 1976 as a joint venture under Law 43 because the owner has both American and Egyptian nationalities. It therefore enjoyed tax exemption for five years. Giza Spinning is the mother company. The family also has another company in Cairo doing knitting and garments.

Development of the Company

The company is fully integrated vertically. It is the only private sector mill engaged in spinning. The company started in 1976 with garment-making, then moved to weaving. In 1986, it added dyeing.

The problems encountered in quality and reliability of yarn supply in 1988 led them to decide to move into spinning in 1989. To do this, they had to obtain a new industrial license, but under the same company. The procedure was very long and cumbersome. He estimates that, on average, the procedure takes eight to 12 months. By obtaining a new industrial license under Law 43, the company benefits from a five-year tax exemption. To set up their spinning operations, they bought second-hand spinning equipment from Germany and Misr Helwan.

He moved to spinning for control of supply and not because it is financially interesting. The investment is high and the rate of return is estimated at 5 percent only, which is why few private sector firms are interested.

Production

He is running at 50 percent of capacity now. The plant consumes all its intermediate products, except for some coarse yarn sold to other public and private mills. Over 90 percent of the garments produced are exported, virtually all to the U.S. market (90 percent), with some exports to Europe. Exports to the United States amount to $7-8 million. He buys some cotton yarn and lycra. His products are low quality garments destined to discount stores in the United States (e.g., WalMart, K Mart).

Average labor cost: $50 per month, including social security and transportation. Social security is 40 percent of base salary. He has marketing agents in the United States and Europe; he has his own office in New York.

Cotton Imports and Import Prices

He uses mostly Giza 75, but has succeeded in convincing the authorities (the trading companies) to let him import cotton from Sudan and SJV from California. He now hopes to import from CIS. He quoted the following prices:

- At one time he imported from Sudan at 42 cents per pound CIF Suez while the Sudanese imports were at over 70 cents per pound.

- He can get SJV California 10 cents per pound cheaper than through the trading companies.

He mentioned that the GOE and trading companies raise obstacles (e.g., fumigation requirements). His point was that the obstacles are not legal but administrative, with the authorities arguing that such and such steps have to be taken first, visits made, etc. This raises two issues:

- Apparently the private sector can import cotton legally. He stated clearly that there is no legal monopoly by the GOE (through the trading companies) on the importation of cotton, but only a 1983 decree governing importation.

- Apparently the private sector can import directly, without going through the trading companies.

On fumigation, GOE insists that it be done in country of origin but he believes there is no valid reason for this. He indicated that public and private firms could easily finance the construction of two fumigation units in Alexandria and Suez, the investment not being very large. If the choice is between fumigation here or in the country of origin, it would be easier to forestall the objections raised by GOE by having it done here. In fact there is a fumigation plant in Alexandria.

He indicated that liberalization of markets would have the effect of forcing Egypt to produce the varieties most in demand internationally and he believes that the farmer would respond fairly quickly.

On import prices, he considers U.S. Pima about equivalent to Giza 75. If U.S. Pima is at 70 cents per pound, Giza 75 should be at 75 cents per pound. G-70 is of higher quality and commands a 20 percent premium over U.S. Pima.

Cotton Trading and Ginning

He is optimistic about the liberalization steps announced for 1993-94 although he believes that the rules of the game should be announced more firmly and clearly. On private trading, he believes that private traders and mills will move into the market. He personally will go directly to the farmers and believes the farmer will respond because the farmer prefers to deal with an individual and negotiates directly with him over price and calibration of his cotton.

On reopening the Alexandria Cotton Exchange, it is still not clear what GOE has in mind and how it will function. On ginning and other intermediation costs, the margin is LE 40-45 per metric kentar, which is excessive. He estimates it should not be more than LE 7-8 for all services (ginning, warehouse, transport, pressing in Alexandria, etc.). He predicts that with full liberalization this is the likely price, which would allow a profit.

He has started discussing with other private businessmen the possibility of buying a gin at the cost of LE 1.5 million. The private sector would be interested in buying gins because of the modest investment. In this connection, he indicated that there is a growing black market for cotton ginned outside official channels (estimated at 500,000 metric kentars). It is well organized, the product going into mattresses.

CATGO is responsible for grading seed cotton (if asked) and lint cotton after ginning. The classer at the collection center is an employee of the trading company and not of CATGO. In the case of disputes, CATGO acts as arbitrator. CATGO does the classification and grading after ginning.

Duties on Imports of Yarn

All cotton and polyester yarn are subject to 30 percent duty on CIF value, plus 10 percent sales tax on CIF, the 10 percent being applicable to CIF value plus duty, which gives a total of 43 percent. On woven fabrics, the duty is over 100 percent.

General Issues

- **Liberalization of cotton imports.** He believes that this is critical for the survival of the industry. Without liberalization, the spinning, weaving, and dyeing segments will die within two years. The situation cannot continue as it is now with the price differential for yarn being 40-50 cents per pound. The garment segment will survive because of its labor cost advantage, since it is the most labor intensive segment of the chain. The industry has to adjust to the secular change in tastes toward more casual wear worldwide. In this connection, he indicated that Egypt does not produce enough quantities to satisfy the lower end of the market. It therefore has to import about 2.5 million metric kentars from other countries such as Sudan (Acala), the United States, Pakistan, and Russia. He thinks that the pressure will be so great that the "import scenario" will be inevitable.

- **Liberalization of textile product prices.** He believes CTCF should be abolished.

- **Private sector involvement.** The key condition is creating an environment of certainty (i.e., of establishing the rules of the game), with respect to items such as electricity prices, the judicial system, and raw materials prices. The problem now is that the private sector cannot plan ahead, even though the financial and human resources are available. The private sector has the money and labor is plentiful.

- **Privatization.** He thinks that a privatization strategy should consist of liquidating unprofitable mills, with the private sector buying operations that still have some value (including land), and splitting the larger companies into smaller units for sale to the private sector.

- **Training.** This is a major national problem, not restricted to the textile industry. He believes that training centers should be established to train students after primary school. In the case of textiles, the industry would be ready to contribute to the costs of creating and operating such centers. There is a general lack of management skills, especially at the middle level.

HOLDING COMPANY FOR INTERNATIONAL TRADING AND COTTON

Interview Date: May 6, 1993

Interviewees: Mr. Samir Anis Awadalla

Major Findings

The farmgate price is set as the lint cotton price plus the value of seed, plus the value of ginning outturn, less the value of inputs provided to the farmer (e.g., fertilizers, pesticides, etc.). An example is shown for the Giza 75 farmgate price in LE per metric kentar:

	91-92	90-91
Lint cotton	282	242
Values of seed	1	1
Ginning outturn	56	48
Inputs	-10	-10
Farmgate Price	329	281

292

EL NASR CLOTHING AND TEXTILES COMPANY, S.A.E.

Interview Date: April 22, 1993

Interviewees: Mr. Hassan Abdel Kader Abdel Salam, Chairman

Major Findings

General

- Private sector of KABO is 23 percent.
- A share of KABO stock has increased 100 times over past year or so.
- KABO has a cash reserve fund of LE 100 million.
- Cotton yarn consumption is approximately 6,000 tons/year.
- Annual production is over 40 million pieces of underwear and outerwear.
- Yarn counts range from 21 Ne to 80 Ne and include 21, 24, 30, 33, 40, 60, 60x2, and 80x2.
- KABO has developed a market niche in 80x2 knit underwear.
- A mainframe computer is used to manage wages, stocks, sales, production information, etc.

Main Problems

- Quality of managers.
- Sources of yarns and markets for products.
- Best yarns are exported, leaving seconds to Egypt's weaving and knitting industry.
- KABO has often been in situations where the export order is supplied with double or triple the contract in order to ensure that the order includes enough yarn of the specified quality.
- He does not use yarns from American cotton, but it could be used up to 30 Ne.
- Inventories have gone from a desired level of about three months of production to about six months of production in recent months. Fortunately, most of this is underwear, which is not subject to obsolescence and therefore not too risky.

Markets

- Goal is to export 50 percent of total production. This has dropped to about 25 percent currently (mostly underwear).
- Exports are to West Germany, England, France, Denmark, Norway, Sweden, the United States, Canada, East Germany, Czechoslovakia, Saudi Arabia, Kuwait, Emirates, Qatar, Oman, Bahrain, Iraq, and Jordan.
- Early exports were in outerwear, but underwear is now important.
- The company has a strong working relationship with the French.

- It started exporting to the United States four years ago, but stopped because orders were too large.

Salam thinks that Egypt's yarn spinning industry will have tough times for the next few years, because it will be unable to compete on price and quality. Also, since nationalization, yarn quality has been in secular downtrend, due to cotton fiber, machinery, and labor.

Number of employees: about 7,071 in October 1984, about 5,500 in 1993. Yet production capacity has increased 25 percent, due in part to new machinery purchased over time.

Statistics

Distribution:	80 percent in production and 20 percent in non-production
Excess:	None in production and 50 percent in non-production
Cost Distribution:	All raw materials - 70 percent
	Labor - 19.8 percent
	Services - 6.5 percent
	Depreciation - 2.5 percent
	Taxes - 0.9 percent
	Other - 0.3 percent

Training

Engineers go to France and French advisors come to KABO. He believes that his technical people are well trained, but further training is needed for marketing. He has local salesmen and local buyers. Salam and some employees travel abroad and attend international fairs. The company has agents in Germany, England, and Denmark.

MISR FINE SPINNING AND WEAVING COMPANY

Interview Date: April 21, 1993

Interviewees: Abdel-Aziz Helmy, Deputy Member
Eng. Moustafa L. Daoud, Commercial Sector
M. Mohamed Gomaa, Financial Department
Eng. Mohammed Salmine, Weaving Sector
Eng. Mahmoud Ghamry, Spinning Sector
Eng. Adel Hosny, Production

Major Findings

General

- Spinning and weaving in Kafr El-Dawar.
- Spinning in Mahmoudia.
- Spinning in Kom-Hamada Factory.
- Owns shares of SOFICO Garments Company, the Arab German Company for Garments and Equipment, and Misr-Iran Spinning and Weaving Company.
- KED has 400,000 spindles and 2,856 (168x17) rotors.
- Cotton consumption is approximately 100,000 tons (or 460,000 480-pound bales). About 15,000 tons (about 69,000 bales) are U.S. cotton.
- Average yarn count is 33/1 Ne.
- Range of yarn counts is 8/1-120/1.
- Of yarn production, 50-55 percent goes into KED weaving, about 25 percent goes into export markets, and 20-25 percent is sold into the domestic market.
- About 30 million meters/year of fabrics produced now go into export markets. The goal is for 50 million meters/year.
- No. of employees: about 24,000 in 1983
- Cost Distribution:

Fiber	50-60 percent
Electricity	5 percent
Other	greater than 6 percent
Labor	15-20 percent
Taxes	5 percent
Interest	10 percent
Shipping	2 percent

- Training: Feeling is that the ability to train is adequate. The company has its own training facilities.

296

Main Problems

- Marketing.
- Raw material prices.
- Liquidity.

297

KAFR EL-DAWAR

Interview Date: May 5, 1993

Interviewees: Mr. M. I. Shabayek, Chairman

Major Findings

There is not much future for higher counts. Most of the demand is for 30 counts. The demand for higher counts is small and has been declining for quite some time. Kafr El-Dawar is trying to remedy this by building up the demand by developing new qualities (for shirts, women's underwear, etc.). Kafr El-Dawar is the only company in Egypt making the very fine counts (120 Ne/2). The prospective markets for these high quality products are the United States and perhaps Japan and Europe. In the United States, there is a big demand for 60 Ne/1.

The average count of the Egyptian production is currently 30/1.

- LMS less than 50 /1
- LS greater than 70/1
- ELS greater than 70/1

GOE made the mistake, starting in 1982, of inducing farmers away from planting LMS, so that now the bulk of the production is LS and ELS.

AGRICULTURAL PRODUCTION CREDIT PROJECT

Interview Date: May 19, 1993

Interviewees: Mr. Ronald Krenz

Major Findings

Farm Surveys

He conducts cotton farmer surveys for PBDAC. Recent surveys were taken in summer 1991 and again in winter of 1991-92. Response by farmers is 100 percent.

It is difficult to know exactly what the farmer really thinks. Farmers are influenced by 30-40 years of GOE intervention and regulations. They may also be afraid of possible penalties, for instance regarding compulsory planting quotas, even though they no longer seem to be enforced (quotas were still given this year but apparently not enforced).

Data from surveys on costs of production are nevertheless more accurate than costs reported by MALR, which do not have any statistical basis and which are established by bureaucrats on political or other considerations.

Cooperatives

Village cooperatives are GOE's agencies and not true farmers' coops; personnel are civil servants who set the planting quotas, even though they do not enforce them. As a result, farmers are confused about their roles.

Some Cost Items

- **Pesticides.** For the crop year 1991, the charge to the farmer was LE 27 per feddan while the reported cost to the GOE was LE 236 per feddan. For the 1992-93 crop, for which the floor price for seed cotton should have been announced last fall, the subsidy was expected to be reduced by 25 percent. However, this is unlikely now, and apparently the price to the farmer will be raised only from LE 20 to LE 30 per feddan. For the 1993-94 season, GOE may end up reducing the subsidy by charging the farmer about LE 100. He was not able to obtain information on the budget for 1993-94 currently under preparation. Cost per spray is about LE 60-70 per feddan, which corresponds to the price indicated above for three sprays/season.

- **Fertilizers.** There have been no subsidies since July 1992. Fertilizer is produced locally, and prices are close to border prices. The fertilizer market is now firmly in the hands of private dealers, who sell with a small margin (3-4 percent). Farmers, who were first skeptical about buying from private traders, show no reluctance now.

- **Energy and transport.** There are still some subsidies, but they are substantially reduced from two years ago.

Trading System for the 1993-94 Season

The situation is fluid. GOE should have announced floor prices last fall, but there is no indication of when the announcement will take place. It may not happen before harvest time. With international prices falling, GOE faces a dilemma: if the announced price happens to be below world price, the farmer will be discouraged; if it is higher, stocks will accumulate. The area planted this year is slightly higher than last year.

It is not clear whether GOE decisions currently under preparation will be applicable or applied, even if ministerial decrees are issued, because the law makes it illegal to sell cotton to anyone but the GOE. A bill currently before the People's Assembly would repeal the current law. However, its adoption has been delayed.

APCP is currently conducting a survey of 100 potential private traders, based on information collected in villages, not on sampling. The survey will be completed in two weeks.

MAHALLA

Interview Date: May 4, 1993

Interviewees: Mr. Motaz B. Abdel Maksoud, Chairman

Major Findings

Ownership

- Created as private company in 1927; nationalized.

Activities and Production Distribution

- **Spinning**. Mahalla consumes 1 million metric kentars of cotton, of which 250,000 is of the Dendera variety.
  - Total spinning capacity: 45,000 tons/year (350 days x 3 x 8h).
  - Distribution: seven mills (with each 50 thousand spindles on average).
  - Average efficiency: 95 percent.
  - Average stoppages: 2 percent (including for maintenance).
  - Mills cover all counts.
  - Five of seven mills produce high quality products (see below).

- **Mill No. 1**
  - There was a complete rehabilitation three years ago with the installation of German equipment. Automatic bale opening equipment is in use.
  - Before rehabilitation, the company was producing coarse yarn: greater than 24/1 Ne.
  - After rehabilitation, the company produces in the range of 30/1 to 60/1.
  - Prevailing count is 30/1.
  - If the count goes lower, he has to compete with Pakistan, which has lower prices.
  - Therefore there is an advantage to moving to higher counts, since it better suits Egyptian cotton.
  - Productivity has increased to 13,000 rpm versus 8,000 rpm previously.

- **Mill No. 2** is being rehabilitated.

30

Summary of Production Patterns

Mill	Count
No. 1	Medium
2	Medium
3	1/2 Medium 1/2 Coarse
4	Coarse
5	Fine (70+)
6	Medium
7	Medium

Distribution of Counts

	Coarse	Medium	Fine
No. of mills	1 1/2	4 1/2	1
Average count	18	30	70
Capacity	20 percent	64 percent	16 percent

Distribution of Output

Total production of yarn	45,000 tons/year
Internal consumption	30,000 tons/year
Sales	15,000 tons/year of which 13,000 is for export (first to Europe, then the U.S.) and 2,000 is for the local market (mainly to the private sector).

Marketing

A sales and marketing department is divided into local and export markets and subdivided by product and export country. In addition, the company has an agent in each major European country.

Weaving

Production capacity is about 29,100 tons/year, of which 1,300 tons/year are terry fabrics and 27,800 tons/year are woven fabrics (estimated at 200 million square meters). Distribution of woven fabric is as follows:

Production	200 million square meters
Internal consumption	40 million square meters
Sales	160 million square meters of which 100 is for local markets and 60 is for export (Europe: 30; U.S.: 15; other: 15)

302

Garment Making

Consumption of woven fabric	40 million square meters
Production of garments	40 million square meters equivalent, of which 20 is for exports and 20 is for local use (e.g., military, police).

Issues

- **Price of cotton.** Price relationships have not been correct over past two to three years. Fixing export prices greater than the international average was a mistake. International prices since have come down considerably. U.S. Pima, considered the closest competitor to Giza 75, is currently at U.S. 74 cents per pound. He believes that the authorities are currently thinking of setting Giza 75 price at 85 cents per pound, while 80 cents per pound maximum would be more appropriate. The price to the mills should be lower than that. He believes that export price should be based on international price and adjusted constantly. In this regard, he argued that, over the past few years, the fall in yields resulted in increase in price to maintain total revenues. Instead, he believes GOE should have concentrated on reversing the decline in yields.

- **Liberalization.** He is ready to buy directly from private traders, if this results in lowering the intermediation margin. He thinks the new system will work.

- **Import of cotton (into Delta).** He has several times proposed to the authorities to import cotton in sealed containers, which would be opened only in his plants, but MALR still refuses. He uses 250,000 metric kentars of Dendera (which is the equivalent of the lower quality Pima, called Upland). He argued that he could import that type of cotton more cheaply.

- **Privatization.** He is cautious and very conscious of labor problems. The number of company employees has decreased from 34,000 to 30,000 over past years due to a policy of attrition and recruiting only when he needs specific skills. He emphasized that the key thing is not privatization per se, but giving autonomy to management in running enterprises. He indicated that he has observed substantial changes since adoption of Law 203. He is very much in favor of increased liberalization and increased autonomy for management.

- **Training needs.** He sees needs in two areas for both his firm and the industry: technical (e.g., assistance in spinning quality control) and marketing. He indicated that technical assistance and training is needed in those two areas to put the industry on same footing as world industry now that liberalization is taking place.

EL MESSIRI AND COMPANY

Interview Date: May 25, 1993

Interviewees: Mr. Mohamed Ihab El-Messiri, Managing Partner

Major Findings

General

- Production goes almost entirely to United Sstates (K Mart, etc.).
- The company produces T-Shirts, underwear, and outerwear.
- He also commissions weaving for fabrics used in domestic market.
- Messiri had a textile firm nationalized in 1963.
- This private sector firm was started by El-Messiri in 1977.
- The company is under Law 21 and gets no special incentives.

El-Messiri attended a meeting yesterday with personnel from the World Bank. Discussion centered on lowering tariffs and lifting import bans. El-Messiri said that U.S. tariffs on textile imports under "most favored nation" status ranged from about 15 percent to 35 percent, but data sheets showed that they ranged from about 5 percent to 30 percent.

In Egypt, the tariff on yarns is 30 percent, with no quantity restrictions. The tariff on fabric is 80 percent, going down to 55 percent—but some fabrics are prohibited. The tariff on garments has been 110 percent, down to 100 percent, and may soon be dropped to 80 percent—but some garments are also prohibited. A tariff is announced even if imports are not allowed.

Yarns Used

- He imports from Pakistan. No Egyptian yarns are used.
- He uses 20/1 and 30/1 Ne. 20s are cheaper than Egyptian yarn; 30s are about the same FOB price but are superior in quality.
- All yarns for knitting are 100 percent cotton.
- For commission yarns, 80 percent are made with man-made fibers. On these, he must pay 30 percent tariff plus sales tax.
- No tariffs are paid on yarn imports if products are exported.

Employees

- 1,200 in all, with about 950 in production and about 250 in support positions.
- About 10 percent of the value of production is in labor costs. The value of production is LE 25-30 million annually.

- Material costs account for about 40 percent of value of production.

Marketing

- Has no agents in United States.
- Has no other people in marketing.
- Believes that in Egypt, buying and selling must stay in hands of owners of the businesses.
- Sells to discount stores such as K Mart.
- Goes to the United States approximately every eight weeks.
- Does some trading as opportunities arise.

Machines

- He owns no weaving machines and weaves only on commission.
- The company has 40 circular knitting machines—some bought in 1977, some in 1980, some in 1985. All were bought new from West Germany.
- He has a dyeing and finishing plant for vertical operations and provides some dyeing and finishing for other firms.

El-Messiri is pessimistic about future of cotton and textiles in Egypt. Cotton no longer deserves to be emphasized on scarce land and with very small farms. Much of the textile spinning machinery came from East Germany (Textina) because production was to go to Eastern Block. Such machinery is about 20 years old and never was suitable for international competition. About 50 percent of all spinning machinery needs to be scrapped. Moreover, demand for fine count yarns is permanently reduced.

Postscript

The team visited the plant in Mahalla on June 12 and visited again with Ihab El Messiri and also with his brother Nabil El Messiri. Custom work is a much more important part of the total business than originally understood, with about 50 percent of revenue coming from custom dyeing and finishing. The plant is larger than expected and has just finished installing the first printing machine owned by the company bought from a public sector company. The conventional wisdom was expressed that excess yarn stocks in Egypt are near 50,000 metric tons, with a cost of about LE 500,000.

NATIONAL SPINNING AND WEAVING COMPANY

Interview Date: April 20, 1993

Interviewees: Eng. Ahmed El-Sersy, Chairman
Eng. Kamal Eldin Badr Eldin, Chief Sector of Mills
Mr. Mahmoud Mohamed Sonbol, Finance
Mr. Fatma El-Sakhawi, Manager of Statistics Department

Major Findings

General

- Spinning plant in Karmooz.
- Weaving, finishing, and garments plant in Muharran Bey.
- Cotton consumption is about 600-700 thousand kentars (16.7 thousand tons or 76.5 thousand U.S. bales).
- The mill uses one-third Egyptian cotton and two-thirds American cotton. It is probably largest single user of U.S. cotton (with about 50,000 bales).
- Average yarn count is 20/1 Ne.
- About half of the yarn produced goes to National's weaving plant, with the other half sold to other firms. Very little yarn is now exported due to uncompetitive prices.
- About 60 percent of fabrics are now going into export markets (mainly to Western Europe, Eastern Europe, and the U.S.). Practically all these exports are grey goods.

Main Problems

- Raw material prices.
- Control over salaries and employment.
- Debt and interest:
  - Existing debt of LE 50 million in 1983 has now grown to LE 150 million.
  - Total debt is now about LE 220 million.
  - Current interest rate is about 24 percent.
- Management needs the power to hire and fire and to negotiate input costs.

Operating Information

- Excess inventories have gone from 500 tons in August 1992 to 3,000 tons currently.
  - For the whole industry, excess inventories are now near 50 thousand tons.
  - This has resulted primarily from the collapse of Soviet/Europe market.

206

- Until September 1992, inventory damage was being controlled by discounted sales.
- In September 1992, the new TIHC board disallowed such discounting because it is against the law to sell below cost of production.

- Estimated average operating efficiency: 80-85 percent for spinning
  85-90 percent for weaving

- Cotton conversion ratio: U.S. cotton - 1.10 for 20/1 Ne
  Egyptian cotton - 1.15 for 20/1 Ne

- Type of cotton needed
- Staple = 29-30 (30-31 w/ 2.5 percent span) or 1 1/8 - 1 1/4 in.
- No more than 20 percent short fibers.
- 75-80 percent maturity.
- 3.5 microns or less is preferred.

- California and Arizona cotton is good, but quality of shipments is uneven.

- Employees: About 11 thousand in 1983
  About 5,500 in 1993
  Distribution: 75 percent in production and 25 percent in non-production
  Excess: None in production and 30 percent in non-production

- The cost distribution is 70 percent for fibers and 12 percent for labor.

Training

The feeling is that training for the mill is adequate. The need is for training for selecting and purchasing based on alternative fiber characteristics. National has no in-house marketing personnel and is satisfied for the time being to use brokers and other middlemen, mostly from private sector, to find market outlets.

ANNEX E

QUALITY CONTROL AUDITING IN TEXTILE MILLS

ANNEX E
QUALITY CONTROL AUDITING IN TEXTILE MILLS

The trend in modern textile mills is to establish a separate department directly responsible to management for quality auditing. This ensures the independence necessary for objective analysis and evaluation and enables mill management to take the appropriate corrective steps. However, the organization must guarantee smooth cooperation between quality control and production. This department should never replace everyday quality auditing in the production unit.

The main objectives of the quality control department are as follows:

- Assigning control responsibilities.

- Ensuring that prompt corrective action is undertaken. It is necessary to define precisely how measurements are compared to standards. This must be coordinated in such a way that minimum time lapses between the discovery of faulty operation and the start of corrective actions.

- Providing an adequate record system to document and summarize measurements as they change with time.

Competition in export markets is a key factor in the pressure to improve quality. However well equipped, quality control laboratories must be run by qualified individuals. Quality control individuals should have the background and training to analyze problems and deal with them effectively. They must be able to develop good contacts and elicit cooperation.

The mill should be able to afford the equipment needed for routine testing and troubleshooting according to ISO 9003. Modern mills should at least have the following testing equipment, and should use it in their producing units as required.

- **Fiber testing**
  - Cotton finesse meter
  - Pressly tester
  - Shirley analyzer
  - Fibrograph

- **Yarn testing**
  - Yarn count automatic tester
  - Automatic twister
  - Tensorapid

304

- Uster tester III
- Uster classimat

- **Fabric testing**
  - Microscopic pick counter
  - Crock meter
  - Gyrowach
  - Fabric strength tester

310

ANNEX F

MILL MAINTENANCE FOR HELWAN

ANNEX F
MILL MAINTENANCE FOR HELWAN

It pays to have well-maintained equipment, and an old piece of equipment that is well maintained will produce a quality level superior to a new machine that is ill maintained.

Maintenance in Helwan should not be in the hands of unexperienced technicians. Helwan should have qualified maintenance personnel to supervise and to carry on a well-designed program. The labor force should be trained not only to improve their skills but also to improve their job performance and attitude.

Special measures should be taken by the managers at Helwan to improve the morale of their labor force and to emphasize quality in connection with productivity. In particular, the wage structure in Helwan should emphasize productivity at high quality level. The labor force should realize through management that it pays to produce a high quality product. The manager should emphasize that not only production, but production at the highest quality level, is important.

The labor force should also understand that the mill can survive only if it has a quality product, and that everybody from the top down should strive for quality at all levels and in every process. A fair and balanced system should be established to reward those who produce and to show that mediocre performance does not pay. The system should discourage and penalize excessive absences.

A. Spinning Maintenance

Maintenance is generally scheduled so that cleaning, inspecting, and replacing worn parts on frames takes place from four to six months. Frames are lined and leveled every eight to 12 months. Spindles are plumbed every eight to 12 months. Steel roll run out (front roll) is checked each cycle and rolls with run out greater than .002 inch are either straightened or replaced. Idler pulleys are checked and aligned every eight to 12 months. Roving traverse motions are checked each cycle.

B. Lubrication

Spindles are lubricated every one to four years depending on type of frame. Cylinders are lubricated every three to six months. Steel roll bearings are lubricated every three months. Gearing is oiled every shift. Back and middle top roll arbors are greased every two years. Front top roll arbors are greased every one to two years.

- 317

C. Aprons and Top Roll Cots

Top roll coats are buffed every cycle. Generally, cots are replaced at the recommended minimum diameter after two to five buffings. Top and bottom aprons are replaced every four to 12 months, depending upon type of frame and yarn number produced.

D. Replacement Parts

Appropriate procedures include the following:

- Replace all aprons one to three times per year. Use an additional 30-40 percent, based on the number of spindles per frame to replace top and bottom aprons between maintenance cycles.
- Replace spindle tapes when wear may start to affect yarn quality. As many as 26-60 tapes per frame may be used each year.
- Replace thread guides when wear starts to affect year quality. An average five to 10 guides per frame may be used per year.
- Replace spindle an average eight to 10 bearings per frame per year.
- Replace rings for damage or unusual wear an average of three rings per frame per year.
- Replace builder chains once per year.
- Use two to three Pittman rolls per frame per year.

Gears and other major components usage varies. Replacement is generally .25 or less per frame per year, with most parts well below .25.

E. Rings

Rings should be cleaned monthly and checked every six months for roughness and eccentricity.

F. Travelers

Travelers are replaced every four to 14 days, depending upon yarn number produced. Ten to 20 traveler cleaners are replaced per frame per year.

G. Roll Picking

The removal of waste lint is accomplished by non-maintenance personnel every one to three weeks.

H. Loom Maintenance

First of all, it is very important to follow the maintenance instructions of the manufacturers. Moreover, individual loom maintenance should be carried on a 10- to 16-week schedule. During maintenance, every item on the loom should be checked for wear,

looseness, and setting. The shuttle of each loom should be checked every day for nylon or for damage to the shuttle body and shuttle boxing. Inspection of the shuttles may reveal bad leather pick motion, harness and transfer problems, loom and shuttle grade problems. The loom and shuttle grade sheets are helpful in identifying the items that should be inspected.

ANNEX G

TRAINING THE WORK FORCE

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TRAINING THE WORK FORCE

A well-designed work force training program should be established in Helwan. The program should have all the job training segments for production labor, maintenance labor, shift supervisors and engineers and mill managers. This program should be carefully designed to emphasize not only productivity but also quality.

By demonstrating through quality measurements the difference between the right performance and wrong performance, large posters should be designed and distributed through the mill showing clearly the difference between the right way and the wrong way of doing a job. People should be trained to be cost conscious and to understand the relationship between doing their job correctly and system economics.

The labor force, especially for maintenance and cleaning, should be well trained in using tools correctly and on the importance of using the right tool for the job to save effort and money. Managers should establish clean restrooms and changing rooms for the labor force to use. Excessive labor should be retrained and relocated to areas suffering from shortage of labor. They should be trained to have multi-functioning skills that can be used effectively.

Buying and marketing personnel should be trained in effectively buying and selling material. The purchasing department should be trained in the importance of acquiring high quality raw material and should understand the relationship between raw material, its processability, and effect on quality. The role the raw material plays in mechanical performance and product quality should be emphasized in this department. The marketing force should be well trained, with an emphasis on communication and selling ability, and they should be trained to evaluate market needs and effectively communicate these needs to design and production personnel.

Managers in general should be trained to effectively deal with and control the people they work with and to be supportive of their needs. They should be trained to be firm or encouraging depending on the situation. The management system at Helwan lacks effective communication with the different sectors of the mill. A well designed system of communication is needed. The managers from different departments should discuss their needs and evaluate their product line, and evaluate and discuss product quality with each other. Mill managers should meet at least weekly to discuss problems in their respective departments and specify their raw material requirements. If this is done properly, mill performance and efficiency will be greatly enforced. The results of these meetings should be distributed to more people in each sector of the mill and kept on file.

Helwan strongly needs a color scientist who not only is a designer but also has a knowledge of fabric design and the latest market demands and requirements in both fashion and color.

ANNEX H

PROJECT WORK PLAN AND SCOPE OF WORK

ANNEX H
PROJECT WORK PLAN AND SCOPE OF WORK

The cotton assessment project team followed the plan below, which was derived from the scope of work in the delivery order and developed for further approval by USAID/Cairo in the first two weeks of the project.

A. Project Start-Up

Required start-up tasks include the following:

Task A.1: Mobilize and Field the Expatriate Team. Chemonics will initiate the work order by mobilizing the team, reviewing individual scopes of work, establishing clear benchmarks for the tasks to be carried out, and fielding the team. Timing: two days in the Chemonics home office prior to departure.

Task A.2: Collect Background Information. Chemonics will concurrently initiate a library search for documents relevant to the project. Timing: one day prior to departure.

Task A.3: Brief AID and GOE Officials. The team will meet with and obtain guidance from designated officials in USAID/Cairo, the PEO, and the HC's. The objective will be to discuss implementation strategies and to arrange further data collection. Timing: first three days in the field.

Task A.4: Interview and Hire Local Staff. The team will interview candidates for the local-hire positions. Hiring actions will be documented in accordance with Chemonics policies. Timing: first week of the project.

Task A.5: Develop Assessment Methodology. The team will assess alternative methodological approaches to analyzing technical, institutional, financial, and economic data in order to evaluate the potential for privatizing. It will also identify those host country agencies and key informants who might be able to provide the information. Timing: first week in the field.

Task A.6: Develop Assessment Outline. The team will draft an outline for the assessment report. In particular, it will develop in detail each section to ensure that all elements of the scope of work are considered. Timing: second week in the field.

Task A.7: Draft and Present Project Work Plan. Based on the information previously gathered, the team will develop and present for approval a work plan for the remainder of the project. Timing: end of the second week in the field.

B. Data Collection

Once the start-up is complete, the team will organize and implement its data collection effort. As stated previously, the emphasis will be upon secondary data collection. Minimal primary data collection is anticipated during the project since the proposed schedule will preclude spending the time necessary to conduct such data properly and comprehensively.

Task B.1: Design and Development of Data Instruments. The team will construct those forms and questionnaires required to conduct a structured and systematic approach to data collection. Required sub-tasks include the following:

- **Sub-task B.1.1: Identify Required Data Elements.** Identify the types of data required for the assessment. This plan contains descriptions of some of these data elements at relevant points.

- **Sub-task B.1.2: Identify Data Sources and Interview Strategy.** Identify the data sources to be used. This sub-task includes the development of an interview strategy that comprises the identification of key informants and stakeholders, development of an interview timetable, and organization of follow-up consultations. However, the data sources will include numerous additional sources as well, including company manufacturing and financial records, official GOE statistics, international statistical tables maintained by international textile-related organizations, and statistics maintained by international donor agencies (e.g., the World Bank).

- **Sub-task B.1.3: Design and Develop Structured Interview Questionnaires.** Design, field test, and refine the necessary interview questionnaires. The assessment team's objective is to be systematic and structured in its interviews to collect data in a consistent and efficient fashion.

- **Sub-task B.1.4: Design and Develop Site Visit Report Formats.** Design the formats to be used for recording data collected during field work within the textile manufacturing plants. As with the interviews questionnaires, this will enhance the efficiency and consistency of the assessment process.

Task B.2: Design and Implementation of Data Systems. The team will develop computerized information systems to support the analyses comprising the assessment. The team's data analyst will have primary responsibility for this task. Required sub-tasks include the following:

- **Sub-task B.2.1: Design and Implement Database Structure.** Design and implement an assessment database system based on the requirements of the other team members.

- **Sub-task B.2.2: Program Required Statistical Procedures.** Set up statistical programs and conduct analyses as required.

320

- **Sub-task B.2.3: Program Required Graphics.** Design, program and produce analytical graphics as required.

Task B.3: Data Collection and Data Entry. With the concurrence and cooperation of the host country officials, the team will collect data required for the assessment through interviews, site visits, and compilations of existing demographic, structural, financial and economic data. Required sub-tasks include the following:

- **Sub-task B.3.1: Conduct Interviews.** Conduct and document interviews with key GOE, USAID, and private sector officials with an involvement in the cotton textile subsector in Egypt.

- **Sub-task B.3.2: Conduct Site Surveys.** Conduct and document site visits to those manufacturing plans agreed upon with the HC's.

- **Sub-task B.3.3: Compile, Review, and Catalog Documentary Data.** Compile and review all documents requested and received as part of the assessment.

- **Sub-task B.3.4: Computerize Financial and Economic Data.** Computerize all financial and economic data and conduct analyses as required.

- **Sub-task B.3.5. Compile Other Data as Required.** Compile records for the team on interviews conducted, site visits carried out, and other tasks completed to report fully on the activities of the team in carrying out the assessment.

C. Sectoral Analysis

Task C.1: Structural Analysis of the Cotton Textile Industry. The team will analyze the data collected in Task B to produce a comprehensive description of the cotton textile industry (e.g., spinning, weaving, knitting and finishing). Required sub-tasks include the following:

- **Sub-task C.1.1: Describe and Assess the Structure of the Textile Industry.** Describe and assess the structure of the industry with reference to factors such as:

  - Number and location of firms at each production level
  - Management structure
  - Shares of production and plant capacity utilization
  - Trade arrangements
  - Trading rules and regulations
  - Employment, costs and returns
  - Industry productivity (labor, capital)
  - Private sector textile companies and their relationship to the public sector
  - Current cotton production in Egypt and the interrelationships between the production system and the textile subsector

321

This will provide a basis for evaluating the privatization potential for the existing public sector companies, for determining competitive conditions confronting prospective private investors, and for estimating benefits and costs of liberalizing and/or privatizing each segment of the sector. The assessment will focus on the entire textile subsector, including both public and private sector companies as well as companies earmarked currently for either privatization or restructuring.

- **Sub-task C.1.2: Describe and Assess the Marketing System.** Describe and appraise the existing systems for assembling, sorting, pricing, transporting and allocating ginned cotton and yarns to textile manufacturing firms.

- **Sub-task C.1.3: Draft Report Section.** Draft section of final report on assessment of industry structure, including conclusions and recommendations with reference to liberalization and privatization options.

Task C.2: Technical Assessment of the Textile Industry. Based on analysis of both primary and secondary data, the team will conduct a technical assessment of the textile industry. Required sub-tasks include the following:

- **Sub-task C.2.1: Map Equipment Configurations.** Determine the age and production capability of the equipment currently in use within the public sector plants. This will be done for a selected sample of plants, as agreed with the HC's, rather than all plants currently under the control of the HC's.

- **Sub-task C.2.2: Conduct Comparative Analysis.** Compare equipment performance specifications and actual performance measurements with worldwide averages. This will enable evaluation of the current capacity, technology,and optimal running conditions in the Egyptian textile industry.

- **Sub-task C.2.3: Assess Fabric Forming Systems.** Assess and compare conditions that exist in fabric forming systems (weaving and knitting) in both the public and private sectors.

- **Sub-task C.2.4: Draft Report Section.** Draft section of final report on results of the technical assessment, including conclusions and recommendations with reference to liberalization and privatization options.

Task C.3: Economic Analysis of the Textile Industry. The team will analyze the data collected in Task B to produce an economic assessment of the textile industry. Required sub-tasks include the following:

- **Sub-task C.3.1: Analyze Employment and Productivity.** Analyze the present employment and productivity situation in the industry. On that basis, estimate the likely impact of liberalization and privatization of cotton processing on employment and productivity for each segment of the industry.

322

- **Sub-task C.3.2: Analyze Export/Import Patterns.** Develop estimates of the likely growth in exports and imports and in domestic processing; make a preliminary estimate of private sector shares in this growth.

- **Sub-task C.3.3: Conduct Net Value-Added Analysis.** Compute the net value-added in the spinning and weaving sectors that will arise from liberalization of the cotton industry as a whole, i.e., production, ginning, exports, processing and domestic trade. This will be done by comparing demand and supply estimates, projecting the net value-added under a liberalized system, and comparing this to trends under the current government-controlled system.

- **Sub-task C.3.4: Estimate Social Returns.** Estimate net marginal social returns arising from the liberalization process.

- **Sub-task C.3.5: Analyze Distribution and Allocation Patterns.** Predict the disposition of cotton production according to trade channels, including exports, spinning followed by exporting, spinning followed by sale in the domestic markets, weaving followed by exporting, and weaving followed by sale in domestic markets.

- **Sub-task C.3.6: Conduct Price Analysis.** Estimate the impact of liberalization on domestic prices and markets of yarns, fabrics, and ready-made goods. Analyze the advantages of and opportunities for free market pricing and private operations in spinning, weaving, and other cotton industries.

- **Sub-task C.3.7: Draft Report Section.** Draft section of final report on an economic analysis of industry, including conclusions and recommendations with reference to liberalization and privatization options.

Task C.4: Financial Analysis of the Textile Industry. The team will analyze the data collected in Task B to produce a financial assessment of part of the textile industry, including spinning, weaving, dyeing, and finishing subsectors. Required sub-tasks include the following:

- **Sub-task C.4.1: Assess Finances of Selected Companies.** Assess the finances of a selection of cotton textile enterprises. This will include the following elements:

  - Prepare financial reports from the Egyptian accounting reports
  - Determine equity
  - Compute revenues
  - Calculate net earnings
  - Determine volume of debts by sources and terms of borrowing
  - Derive other financial measures as required

- **Sub-task C.4.2: Assess Institutional Arrangements.** Identify enterprises and determine their legal status and ownership control. Assess the structural relations within the sector, including: including information and control systems, price

323

determination of inputs and outputs, and authority and responsibility of the relevant participants.

- **Sub-task C.4.3: Draft Report Section.** Draft section of final report on financial assessment of the industry, explaining implications for liberalization and privatization options.

Task C.5: Marketing Analysis of the Industry. The team will assess the marketability of public sector textile companies within the current policy and institutional environment. Required sub-tasks include the following:

- **Sub-task C.5.1: Assess Barriers to Liberalization and/or Privatization.** Identify barriers to entry of private firms, including legal, technical, economic, financial, trade and institutional factors. This assessment will derive from findings of previous sections. Assess the extent to which barriers prohibit growth in private investment. Recommend a plan for implementing measures, particularly policy changes, to remove such barriers.

- **Sub-task C.5.2: Marketability Assessment.** Identify the potential marketability of public sector spinning and weaving firms given the current high level of debt and. employment. The team will utilize its structural, technical, economic, and financial analyses in making this assessment.

- **Sub-task C.5.3: Draft Report Section.** Draft section of final report on the policy environment assessment, including conclusions and recommendations with reference to liberalization and privatization options.

D. Liberalization/Privatization Strategies

On the basis of data collected under Task B and the sectoral analysis under Task C, the team will produce representative scenarios of liberalization and privatization of the relevant industry. It will also assess the policy requirements and the impacts expected under each one. Required tasks include the following:

Task D.1: Evaluation of Liberalization and Privatization Scenarios. Develop alternative liberalization and privatization scenarios, considering the following for each scenario:

- Various constraints identified by the sectoral analysis, including the price regime, labor legislation, tax and incentives legislation, financial regulations, phyto-sanitary requirements, trade and foreign exchange regulations and practices, and other aspects of the legal and regulatory framework.

- Impact on industry outputs (i.e., growth and distribution of outputs), employment, exports and domestic markets, foreign exchange earnings, and public sector deficit.

The team will also analyze the advantages and disadvantages of each scenario from the standpoint of various policy objectives. On the basis of this evaluation, the team will assess the future role of the public sector. Each scenario will take into consideration the need to stimulate private investment while minimizing the social costs of transforming the cotton textile industry from a public to a private system. The evaluation will address the accessibility of the market to all participants. This evaluation may lead to the recommendation of a preferred scenario.

Task D.2: Institutional and Financial Support Plan. Determine the institutional and financial support services required for the implementation of various scenarios (or for the preferred scenario) of liberalization and privatization of the cotton textile industry. This will include the following:

- Analysis of requirements for various options such as divestiture, liquidation, selling and/or renting to private sector, financial restructuring, and strengthening under performance contracts and/or management contracts.

- Evaluation of the possibility of policy-based financial incentives (e.g., tranching under a policy-based sectoral program, or recourse to available resources under the Social Fund).

- Identification of required asset base upgrades.

- Analysis of specific forms of assistance that donor agencies can provide to further the liberalization process (e.g., severance pay, training, retraining, etc.).

Task D.3: Time-Phased Scheduling. Develop a time-phased liberalization and privatization plan for various scenarios (or for the preferred scenario) over a three to five year period, including timing and sequencing of measures to be taken and identification of responsibility and accountability for implementation and monitoring.

Task D.4: Case Analysis. Conduct a case study of a single, representative textile company. This case approach will define a generic approach to privatization that can provide the GOE with guidelines for its current privatization efforts.

Task D.5: Management Seminar. Present a one-day management seminar for GOE officials on privatization. This will include the results of the case study.

Task D.6: Draft Report Section. Draft a section of final report on options for liberalization and privatization strategies and scenarios, including conclusions and recommendations on a preferred option and its implementation schedule.

E. Assessment Finalization and Project Close-Out

The team will write a sectoral assessment of opportunities for liberalization and privation in the textile industry. This will include the following tasks:

Task E.1: Prepare Draft Assessment. Assemble a complete draft assessment based upon the sections drafted previously in earlier tasks with the addition of an introduction and other required sections.

Task E.2: Prepare Data Collection and Analysis Volume. Assemble a second volume based on the data collected during the project.

Task E.3: Submit Draft Assessment for Review. Submit both volumes to AID and GOE officials for review two weeks prior to departure.

Task E.4: Conduct Management Presentations. Review the findings in a management presentation both AID and host country officials. The team will also meet as required on an informal basis to discuss the assessment.

Task E.5: Finalize Assessment. Based on the reviews from AID and the GOE, revise the assessment as appropriate.

Task E.6: Depart Post. De-mobilize the project office, prepare all files for storage, and depart Egypt.

326

ANNEX I

INTERVIEWS AND SITE SURVEYS

ANNEX I
INTERVIEWS AND SITE SURVEYS

A. Interviews

In the course of the project, the assessment team conducted a number of interviews with textile industry officials and others with special knowledge in this area. These interviews included the following:

Agricultural Production Credit Project (APCP) (May 19, 1993)
Mr. Ronald Krenz

Alexandria Cotton Exporters Association (May 5, 1993)
Mr. A. Mohsen Abdellatif, President
Mr. Aly M. Sherif, Executive Director

Arab Company for Textiles (May 15, 1993)
Mr. Ibrahim M. Hassen, Chairman

BTM, 10th of Ramadan City (April 25, 1993)
Mr. Louis Bishara

CATGO (May 6, 1993)
Mr. Galal El Rifai, Chairman
Mr. Ahmed M. Massekh, General Manager

Cotton Textile Consolidated Fund (CTCF) (April 27, 1993)
Mr. Tawfik Messiha, Director General

Cotton Textile Consolidated Fund (CTCF) (May 3, 1993)
Eng. Magdi El-Areef, Chairman

Delta Spinning and Weaving Company, Tanta (April 17, 1993)
Eng. Mohsen Elgillani, Chairman

Egypt Textile Manufacturing Federation (ETMF) (May, 17, 1993)
Mr. S. Semida, General Manager

Giza Spinning, Weaving, Dyeing and Garments Company (May 10, 1993)
Mr. M.G. Marzouk

Holding Company for International Trade and Cotton, Alexandria (May 6, 1993)
Mr. Samir Anis Awadalla

Kafr El-Dawar (May 5, 1993)
Mr. M. I. Shabayek - Chairman

Mahalla (May, 4, 1993)
Eng. Motaz B. Abdel Maksoud, Chairman

El-Messiri and Company (May 25, 1993)
Mr. Mohamed Ihab El-Messiri, Managing Partner

Misr Fine Spinning and Weaving Company (Kafr El-Dawar) (April 21, 1993)
Abdel-Aziz Helmy, Deputy Member
Eng. Moustafa L. Daoud, Commercial Sector
M. Mohamed Gomaa, Financial Dept.
Eng. Mohammed Salmine, Weaving Sector
Eng. Mahmoud Ghamry, Spinning Sector
Eng. Adel Hosny, Production

El Nasr Clothing and Textiles Company, S.A.E. (KABO) (April 22, 1993)
Mr. Hassan Abdel Kader Abdel Salam, Chairman

National Spinning and Weaving Company, Alexandria (April 20, 1993)
Eng. Ahmed El-Sersy, Chairman
Eng. Kamal Eldin Badr Eldin, Chief Sector of Mills
Mr. Mahmoud Mohamed Sonbol, Finance
Mr. Fatma El-Sakhawi, Manager of Statistics Dept.

B. Site Surveys

The assessment team applied a series of criteria to identify those companies suitable for site surveys. These criteria included the following:

- Need for study, as articulated to the team by Eng. Mahmoud A. Ibrahim, Chairman of the Textile Industries Holding Company (TIHC).
- Estimated net worth and overall financial condition.
- Estimated manufacturing capacity.
- Approximate size of the labor force.
- Actual products being produced by the company and the marketability of these products in both the domestic and international markets.

Based on such criteria, the team made site visits to the following public sector companies:

- BTM Beshara for Clothing and Garments
  P.O. Box 47 Alasher
  10th of Ramadan City
  Tel: (015) 362650 362751 Fax: (015) 362753

32

- Cairo Clothing and Hosiery Co. (TRICONA)
  6 El-Madaris Street, Kobbah Gardens
  P.O. Box 11646
  Cairo
  Tel: (02) 823044 829203 2824268 Fax: (02) 836755

- Cairo Dyeing and Finishing Company
  15 May Road, Shubra El-Kheima
  P.O. Box 1278
  Cairo
  Tel: (02) 2201608 2201193

- Delta Spinning and Weaving Company (DELTATEX)
  28 Tala'at Harb Street
  P.O. Box 69
  Tanta
  Tel: (040) 334477 or (02, 748881 Fax: (040) 334291 or (02) 5746359

- Etablissment Industriel pour la Soie et le Coton (ESCO)
  P.O. Box Bahteem
  Kalyobia
  Tel: (02) 2202877 2202458 Fax: (02) 2212170

- El-Gharbia Company
  Mehalla El-Kobra
  52 Mesadak St.
  Dokki, Giza
  Tel: (02) 3482684 3482662 Fax: (02) 3496009

- El-Giza Company for Spinning, Weaving, Dyeing and Printing
  Kafer Hakiem El-Giza
  Cairo
  Tel: (02) 824390 839423

- Misr Fine Spinning and Weaving Company (Kafr El-Dawar)
  Kafr El-Dawar
  Tel: (03) 4920893/4920875 Fax: (03) 903742

- Misr Helwan Spinning and Weaving Company
  P.O. Box 19
  Helwan
  Tel: (02) 672138 780981 Fax: (02) 782718

- Misr Spinning and Weaving Company (Mehalla El-Kobra)
  Tala'at Harb Street
  Mehalla El-Kobra
  Tel: (043) 323000 Fax: (043) 327833

- El-Nasr Clothing and Textiles Company (KABO)
  407 Qanal El-Mahmoudiya Street
  P.O. Box 829
  Alexandria
  Tel: (03) 4216585 4216586 4210695 Fax: (03) 4210923

- El-Nasr Spinning, Weaving and Knitting Company (Chourbagi)
  P.O. Box 1890
  Imbaba, Giza
  Tel: (02) 3443860 3475836 Fax: (02) 3471160

- National Spinning and Weaving Company
  Karmooze
  P.O. Box 119
  Alexandria
  Tel: (03) 4920399 4920415 Fax: (03) 4935172

- Textile Arab Company
  P.O. Box 4006 Seventh Quarter Nasr City
  Cairo
  Tel: (02) 2732328 2731418 Fax: (02) 2731988

- Upper Egypt Spinning and Weaving Company (ASCOTEX)
  Sohag
  Tel: (093) 333528 333577 334689 Fax: (093) 333582

ANNEX J

SELECTED BIBLIOGRAPHY

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