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EGYPT

An enabling environment for investment

August 1994

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An enabling environment for investment

INDUSTRIAL DEVELOPMENT REVIEW SERIES

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In Tables:

Totals may not add precisely because of rounding.
Two dots (..) indicate that data are not available or not separately reported
A dash (-) indicates that data are not applicable.

The following abbreviations are used in this publication:

AAV	Arab American Vehicle Corporation
AOI	Arab Organization for Industrialization
CAPMAS	Central Agency for Public Mobilization and Statistics
CIS	Commonwealth of Independent States
EAA	Environmental Affairs Agency
EFF	Extended Fund Faculty
EGPC	Egyptian General Petroleum Corporation
EU	European Union
GAFI	General Authority for Investment
GATT	General Agreement on Tariffs and Trade
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GNP	Gross national product
GTZ	German Agency for Technical Cooperation
IMF	International Monetary Fund
LE	Egyptian Pound
LPG	Liquefied petroleum gas
MVA	Manufacturing value added
NASCO	El Nasr Automotive Manufacturing Company
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PEO	Public Enterprise Office
PTV	Pyramids Technology Valley
SAL	Structural Adjustment Loan
SAP	Structural Adjustment Programme
SFD	Social Fund for Development
USAID	United States Agency for International Development

PREFACE

This Industrial Development Review of Egypt is part of a series of reports aimed at strengthening the "country focus" of UNIDO activities. As part of the work of the Industrial Development Review Unit of UNIDO's Programme Support and Monitoring Branch, the Reviews present a survey and analysis of each country's industrial development achievements. The Reviews are intended to provide a service to those within UNIDO and other international agencies concerned with industrial policy, planning, project development and implementation, and to be a ready source of information for governments, investors, industrialists, entrepreneurs, policy-makers, international organizations, aid agencies, academics and research institutes.

The Reviews have two separate but interrelated objectives: they are designed to facilitate and promote the activities of UNIDO, as well as to serve as an informative and analytical document for the international industrial community. The analyses contained in the Reviews are intended to support the technical assistance programming for industry by providing industry-specific analysis which may serve as an input to programming activities and as a basis for informed discussions. The Reviews are also designed to accommodate the needs of a wide readership in the international community associated with industry, finance, trade, business, research and government, laying the groundwork for undertaking in-depth analyses of specific aspects of industrial development trends, policies and strategies.

This Review comprises three Chapters. Chapter I presents an overview of the economy, analysing the macroeconomic context of the ongoing process of industrialization. Chapter II elucidates the structure and performance of the manufacturing sector. Chapter III examines the constraints and prospects of key industry branches, focusing on the emerging subsectoral investment opportunities.

BASIC INDICATORS

BASIC INDICATORS I: THE ECONOMY

GDP (1992/1993) : LE 136,484 million
(In current prices)

Population (April 1994) : 61 million

Annual growth rate of population (Percentage) :

1989/90	1990/91	1991/92	1992/93	1993/94
3.1	2.8	2.7	2.5	2.3

Growth of GDP (Percentage) :

1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
2.5	3.9	3.0	2.6	2.3	2.8	1.5

Structure of GDP (Percentage) :

	1975	1992
Agriculture	29.0	16.5
Mining	2.9	6.1
Manufacturing	17.4	17.1
Other	50.7	60.3

Exports (1992/1993) : $ 3.4 billion

Imports (1992/1993) : $10.5 billion

Workers' remittances (1992/1993) : $ 4.8 billion

Current account balance (Billion $) :

1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
-1.27	-1.46	-1.59	2.22	3.56	1.01

Total external debt (Billion $) :

1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
51.69	40.44	41.01	40.43	..	..

Debt service ratio (Percentage) :

1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
28.5	26.3	16.4	15.4	..	..

International reserves excluding gold (Million $) :

1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
1,520	2,684	5,325	10,810	11,702	..

Consumer price index (1986/1987 = 100) :

1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
117.7	142.7	166.6	206.1	229.5	257.1

Exchange rate (Egyptian pound equivalents to $1) :

1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
1.10	2.00	3.33	3.33	3.35	3.58

BASIC INDICATORS II: THE INDUSTRIAL SECTOR

Value of industrial production (1991/1992) : LE 59,345 million

Industrial employment (1991/1992) (Number of persons) : 1.9 million

Growth of MVA (Percentage) :

1987	1988	1989	1990	1991	1992
7.3	7.5	-1.4	39.3	-1.1	9.3

Structure of MVA (Percentage) :

	1975	1990
Food products	12.21	13.18
Textiles	32.22	21.17
Petroleum refineries	2.25	17.32
Iron and steel	2.74	5.18
Non-ferrous metals	1.83	3.01
Metal products	3.48	3.9[a]
Non-electrical machinery	3.21	2.67
Electrical machinery	4.38	4.27
Transport equipment	3.82	3.05
Other	33.86	26.21

Value of selected industrial exports (1992/1993) (Million $) :

Petroleum and related products	1,651
Cotton yarn and textiles	564
Engineering and metallurgical goods	361

Value of selected industrial imports (1991/1992) (Million $) :

Transport equipment and machines	2,356
Food products	1,912
Chemicals and leather	1,115
wood, paper and textiles	967

Structure of industrial imports by end-use (Percentage) :

	1982	1991
Capital goods	29.7	20.6
Intermediate goods	43.1	38.3
Other	27.2	41.1

BASIC INDICATORS III: INTER-COUNTRY COMPARISON OF SELECTED INDICATORS

Indicator	Unit	Egypt	Algeria	Pakistan	Saudi Arabia	Turkey
Population (mid-1992)	Million	54.7	26.3	119.3	16.8	58.5
Area	Thousand square km	1,001	2,382	796	2,150	779
GNP per capita (1992)	$	640	1,840	420	7,510	1,980
Average annual rate of inflation (1980-1992)	Percentage	13.2	11.4	7.1	-1.9	14.3
Private consumption (1992)	Percentage of GDP	80	52	72	..	63
Gross domestic investment (1992)	Percentage of GDP	18	28	21	..	23
Gross domestic savings (1992)	Percentage of GDP	7	31	14	..	20
Exports of goods and services (1992)	Percentage of GDP	27	27	17	..	21
Energy consumption per capita (1992)	Kg of oil equivalent	586	988	223	4,463	948
Food industry (1991)	Percentage of MVA	25	22	..	7	17
Textile and clothing (1991)	Percentage of MVA	17	19	..	1	13
Machinery and transport equipment (1991)	Percentage of MVA	7	11	..	4	18
Chemicals (1991)	Percentage of MVA	12	3	..	39	10
Other industries (1991)	Percentage of MVA	39	45	..	50	42
Manufactured exports to OECD countries (1992)	$ million	1,011	1,382	3,474	1,837	7,809
Current account balance (1992)	$ million	2,605	1,337	-1,049	-19,431	-943
Gross international reserves (1992)	$ million	11,620	3,318	1,524	7,467	7,508
External debt (1992)	$ million	40,018	26,349	24,072	..	54,772
Debt service ratio (1992)	Percentage	15.5	71.3	23.6	..	31.9

Source: World Bank, *World Development Report 1994* (Washington D.C., 1994).

Note: Data for Egypt may not correspond to those cited elsewhere in this report because of different sources.

SUMMARY

Egypt has a long history of industrial development. A particularly strong boost was given to this process by the gradual shift in economic policy following the conclusion of the 1973 war with Israel. The new policy of economic liberalization, known as the "infitah" ("opening"), began with the enactment of Law No. 43 of 1974, which encouraged foreign investment in certain export-oriented sectors. This was followed by several further moves to eliminate government monopolies, reduce subsidies and withdraw price controls. The process of policy reform gathered pace in the 1980s, with the basic rate of corporate tax being lowered from 40 per cent to 32 per cent in 1982, several measures aimed at stabilizing the Egyptian pound and unifying the country's exchange rates being introduced in the mid- and late 1980s, and a further liberalization of investment regulations being initiated through the enactment of Law No. 230 in 1989.

The reform process began to accelerate in the early 1990s under the supervision of the International Monetary Fund (IMF), with which the government of Egypt concluded an Economic Reform and Structural Adjustment Program (ERSAP) agreement in May 1991, and the World Bank, which granted a structural adjustment loan (SAL) worth $300 million in November of that year. A second agreement with the IMF, arranged under its Extended Fund Facility (EFF) was approved in September 1993. Under the conditions attached to the disbursement of these funds, interest rates were gradually freed to encourage the repatriation of funds and credit ceilings were imposed on bank lending to help ease inflationary pressures. By mid-1992, the country's multi-tiered exchange rate system had also been completely reformed, resulting in an effective devaluation of the Egyptian pound and making it internationally convertible. Additional measures introduced to date have included further reductions of subsidies, a reduction and revision of import controls, the enactment of new banking and capital market laws, the commencement of a major privatization programme and the introduction of a sales tax.

These measures have contributed to a significant improvement in the performance of the Egyptian economy. The trade and payments balances have recorded a particularly dramatic improvement, with the value of petroleum exports soaring to almost $2 billion in the 1991 fiscal year (ending 30 June) from $1.3 billion in fiscal 1990, and the current account deficit of $1.6 billion in fiscal 1990 giving way to a surplus of $2.2 billion in fiscal 1991, which rose further to $3.6 billion in fiscal 1992 before falling back to an estimated $1 billion in 1993. This improvement in the balance of payments was accompanied by a significant decline in Egypt's external indebtedness, which fell from a peak of $51.9 billion at the end of fiscal 1988 to $40.6 billion at the end of fiscal 1991.

In addition, the reforms have stimulated a significant growth in industrial output. The rate of growth of manufacturing value added (MVA) increased to 9.5 per cent in 1991 from 8.4 per cent in 1987, while that of MVA per capita rose from 6.1 to 6.9 per cent over the same period. This growth in MVA has also been accompanied by important changes in its composition as a result of the extensive restructuring of the manufacturing sector during the late 1980s and early 1990s. The share of the food processing industries (excluding beverages) increased from only 7.7 per cent of total value added in 1987 to 21.3 per cent by 1992, while the share of iron, steel and non-ferrous metals rose from 10.1 per cent to 14.6 per cent during the same period. By contrast, the share of the traditionally strong textile industry, which is based on Egypt's position as a leading international cotton producer, fell from 16 per cent to 14.6 per cent, while the share of the chemical industry declined by approximately 1 per cent to 8.9 per cent.

The changing structure of the Egyptian economy and the evolving policy environment is discussed in greater detail in Chapter 1. This is followed by a comprehensive analysis of the manufacturing

sector in Chapter II, which highlights the expansion and diversification of Egypt's manufacturing industry in response to the policy reforms introduced since the mid-1970s. In particular, this chapter assesses the sector's growth and structural change, the patterns of industrial employment, productivity, ownership, investment and location, the environmental impact of industrial development, the growth of international trade in industrial products, and trends in industry-related technical cooperation.

With regard to the manufacturing sector's growth and structural change, Chapter II shows that the adoption of the "infitah" policy resulted in the rate of industrial expansion accelerating to an impressive annual average of 16.4 per cent during the 1976-81 five-year plan, which reflected a sharp rise in investment in response to the opportunities provided by the new policy. Much of this investment was concentrated in the hydrocarbon industries, however, as a result of which the mining and quarrying industries accounted for most of the growth of the industrial sector during this period, with MVA growing at about 7 per cent per year. Although the rate of industrial growth slowed to approximately the pace of overall GDP growth between 1982 and 1989, the new economic reforms of the late 1980s and early 1990s stimulated a renewed acceleration of industrial growth. A particularly strong surge was recorded in 1990, when the industrial sector as a whole expanded by 25.1 per cent in real terms, with MVA expanding by 39.3 per cent and the mining and quarrying industry by 7.9 per cent. Largely as a result of this strong growth performance in 1990, the share of the industrial sector in GDP had risen to about 40 per cent by 1992, with MVA accounting for more than 57 per cent of total industrial output.

The growth of the manufacturing sector is reflected in the extensive range of its output. This includes a variety of processed foods and beverages, cigarettes, textiles, building materials, chemicals and petrochemicals, engineering products and electrical goods. The food processing and textile industries together continue to account for the bulk of Egypt's MVA, however, even though there has been a gradual increase in the share of MVA accounted for by the furniture industry and most branches of the metallurgical and engineering industries. The tobacco, leather, paper, rubber and electrical equipment industries, by contrast, have suffered a relative decline.

According to data published by the Ministry of Planning, total employment in Egypt reached an estimated 13.9 million in the 1992 fiscal year. The most important sources of employment are the agricultural and service sectors, with manufacturing and mining accounting for only about 14 per cent of the total. More disaggregated data on the distribution of the labour force by sub-sector show that such traditional activities as textile manufacturing and food processing absorb almost 50 per cent of the manufacturing labour force.

The share of value added in the gross output of the manufacturing sector has risen substantially during the past 15 years, from 26.6 per cent in 1975 to 37.2 per cent by 1990, implying a corresponding decline in the proportion of input costs in total output value. These average figures for the manufacturing sector as a whole conceal some significant variations between industries, however, with particularly strong growth having been recorded by the metallurgical and non-electrical engineering industries, indicating the increasingly sophisticated nature of the goods produced by these industries. The food and tobacco processing industries have recorded a similar improvement in performance, as have the leather, woodworking, industrial chemicals and petroleum refining industries. By contrast, the share of MVA in the gross output of the beverages, textiles and garments, paper, rubber, plastic products, electrical machinery and professional equipment industries has declined, largely as a result of the increasing use of better and more costly inputs, both domestically produced and imported.

Attempts to measure the growth of labour productivity in Egypt's manufacturing sector are constrained by the prevailing data limitations. In the face of these constraints, the best available

estimates compiled by UNIDO suggest that labour productivity, measured as MVA per employee, recorded a real annual average growth rate of about 3-4 per cent between 1980 and 1990. As with the share of value added in gross output, however, this average figure for the manufacturing sector as a whole also conceals considerable differences between individual branches. Labour productivities in such essentially labour-intensive industries as textiles, garments, leather products, glass products and motor vehicle assembly remained well below the average for the sector as a whole throughout the period under review, while labour productivities well above the sector average were recorded in the highly mechanized or capital-intensive industries, such as tobacco processing, the production of non-industrial chemicals, petroleum refining, the manufacture of petroleum-based products and non-metallic mineral products (principally cement), the processing of non-ferrous metals and the manufacture of non-electrical machinery.

The pattern of public versus private ownership in Egypt has changed radically as a result of the government's reform programme. By 1993 some 27 public-sector holding companies had been reduced to just 16 in preparation for a major programme of privatization and restructuring of state-owned companies. Several important establishments in the service sector had already been sold to the private sector by the end of 1993, and by early 1994 two major bottling companies, producing Pepsi Cola and Coca Cola, had also been privatized. Further stages of the privatization programme for industry are expected to follow in the coming years, as a result of which the ownership structure is expected to change substantially.

The passage of Law 230 of 1989, which permits the complete ownership of manufacturing companies by non-Egyptian investors, has stimulated a strong growth of private and foreign investment in manufacturing. By the end of June 1993 almost LE 15.3 billion had been invested in industry and mining, excluding investments made in the country's free zones. Of this sum, LE 10.7 billion has been invested in 482 manufacturing projects which have already become operational, and LE 4.6 billion in 293 others being set up or planned. Equity investments in industry by the private sector had reached LE 7.5 billion by the end of fiscal 1993, including LE 5.4 billion for those currently in operation.

Although manufacturing activities take place in most of the main cities and towns of Egypt, there are several important sites devoted specifically to heavy industry, such as the iron and steel production centres of Helwan outside Cairo and Dikheila outside Alexandria, the aluminum works at Nag Hammadi, the chemical complex at Aswan and the petrochemical plants at Abu Qir northeast of Alexandria and at Suez. Since the late 1970s the government has also established several new cities on non-agricultural land which, in addition to solving the problems of urban congestion in Cairo, Alexandria and other parts of lower Egypt, are aimed at attracting new industries. These include Tenth of Ramadan City, located 50 kilometres from Cairo on the road to Ismailiya; 6th of October City, 32 kilometres south of the capital; Sadat City, 93 kilometres from Cairo and located midway to Alexandria; and Burg al-Arab to the west of Alexandria. In addition, the government has also established several free zones in Cairo, Alexandria, Damietta, Port Said, Suez and Ismailiya, which provide special incentives to investors.

The rapid expansion of industrial production in recent years has exacerbated the already serious environmental problems in Egypt caused by the country's high population density and the acceleration of urbanization, especially in Cairo, Alexandria and the Nile delta. Although a variety of measures to regulate and control the emission of pollutants have already been introduced, enforcement has often been weak and resulted in a steady increase in water, air and soil pollution. This prompted the enactment of a comprehensive environmental protection bill by the People's Assembly in February, 1994, which gives special powers to Egypt's Environmental Affairs Agency (EAA) to enforce clean-air regulations and to monitor pollution. Measures to set up a special

environmental police unit are also being considered. Under the new law, all proposed industrial and tourism projects must be subjected to environmental impact studies prior to approval.

Although Egypt has increased its industrial production considerably since the 1920s, the country remains a major importer of capital and manufactured goods, particularly from Europe. Chemical products represent the most important category of manufactured exports, with other manufactured exports including wood and wood products, metallurgical products, transport equipment and electrical and non-electrical machinery. In addition, paper products (including pulp and printed materials) and glass have also begun to emerge as important industrial exports, while handicrafts of various kinds also continue to play a modest role in Egypt's export trade.

Overseas aid funds have made a major contribution towards the promotion of national development since the 1970s. In 1990, official development assistance (ODA) amounted to $5.5 billion, or about 17.2 per cent of Egypt's GNP. Much of the UN assistance is provided by the United Nations Development Programme (UNDP), which reports to the Ministry of Foreign Affairs. UNDP's Fourth Country Programme, which operated from 1987 to 1991, was designed to help fulfill the national priorities and strategies outlined in Egypt's Second Five-Year Development Plan. The United Nations Industrial Development Organization (UNIDO) played a major role in helping to implement projects in industry, which accounted for 21.4 per cent of the total funds budgeted under the Programme.

The Fifth Country Programme is scheduled to run concurrently with Egypt's Third Five-Year Development Plan from 1992/93 to 1996/97, and is expected to involve total resources of about $52 million. UNIDO will be involved in many of the proposed areas of co-operation between UNDP and the government, including the Economic Reform and Structural Adjustment Programme (ERSAP), the public sector restructuring and privatization programme, management development, management information systems development and the development of a transnational economic focus to promote the development of international competitiveness in industry and its adoption of a market-oriented approach.

The analysis of the manufacturing sector at the aggregate level in Chapter II is followed by more specific analyses of its various branches and industries in Chapter III. For ease of reference, each of these analyses follows a standardized pattern, assessing first the resource base, then the recent development trends, and finally the constraints and prospects of each branch. All of the major manufacturing branches, and many individual industries, are covered in detail in this chapter, which forms the core of the present Review.

Food processing

Egypt is a major producer of starchy staple food crops in the Middle East even though only about 4 per cent of the available land area in the country is suitable for cultivation. The country's traditional starchy staple food crops consist of rice, maize, wheat, barley, millet and potatoes. Egypt's fertile soil, favourable climate and improved prospects for citrus fruit production in particular could provide the base for a considerable expansion of output of juices and of other fruit and vegetable drinks. The production of oil seed, particularly cotton seed or soya bean, is also significant. To keep pace with the steadily rising demand for meat and dairy products the government is endeavouring to develop an efficient and sustainable dairy industry. Egypt has a substantial natural resource endowment for developing both fresh water and sea water fishery industry. Plans are being mooted by the government to increase the annual fish catch from an average of about 300,000 tonnes to 700,000 tonnes by the year 2000.

The removal of price controls and the elimination of barriers to imports is already having a dramatic effect on food processing activities. A wider range of products is now available in supermarkets, hotels, restaurants and tourist resorts. The advent of huge international concerns such as Pepsi Co and Coca-Cola producing in the private sector, while posing a short-term threat to local producers, could also help to spread access to better technology, marketing and product development, thereby enhancing the industry's knowledge of, and ability to meet, wider export opportunities, as well as improving its ability to satisfy local needs.

With an impressive turnaround in Egyptian agriculture, the climate for both foreign and private local investment in the food industry is better than it has been for the past four decades, despite the growing reliance on imports. Changes in government policy to encourage such investment are at the forefront, including measures to change the country's land laws and to privatize existing state-owned industries, but so too is the prospect of a rise in demand both within Egypt and in the neighbouring countries. Exports could be promoted through the introduction of better packaging and marketing techniques, investment in modern, up-to-date processing facilities for products such as concentrates, juices, jams, canned items, frozen, dried and pre-cooked fruits and vegetables, condiments, sauces, puddings and infant foods. Food processing and packaging lines could also find potentially huge markets in the neighbouring states and in subsectors such as hotels and catering where Egypt has a particularly important market given its large tourism sector.

Textiles and garments

The production of textiles in Egypt is based largely on the country's main agricultural crop, cotton, which is the principal raw material for the production of premium extra-long and long-staple varieties as well as its medium- and short-staple fibres. Measures have been taken recently to increase the output of synthetic fibres using the country's resource endowment for the manufacture of petrochemicals. One of the major constraints of the Egyptian textile industry is its overcapacity in spinning resulting from a government policy in the past to facilitate the progressive expansion of the public sector through easy access to institutional credit, preferential exchange rates, and high protection from foreign competition. An ambitious capital-intensive investment policy resulted in overcapacity with no corresponding rationalization of the production process or modernization of the obsolete capital stock in textile mills.

Currently the textile industry is undergoing radical change with the introduction of the government's overall economic reform programme, including its planned privatization of some of the state-owned companies in the textile sector. Other measures are being introduced to reduce overmanning in public sector companies, including reforms to allow private sector participation. The reforms under way are also expected to expand the range of options for foreign investors to manufacture textiles in Egypt. Apart from subcontracting, licensing and joint ventures, drawback schemes are also being encouraged.

There has been a steady increase in the production of ready-made garments in recent years. Since most ready-made garments remain on the import ban list, garment franchising, a new and growing segment of the country's clothing industry, is emerging as a dynamic component of garment manufacturing in Egypt. While the overall market for garments is large, only tourists, foreigners and a section of Egyptian population with adequate purchasing power at present buy garments produced by existing garment franchises, which turn out high quality products at low cost under reputable brand names.

Labour costs, in particular, remain highly attractive. While the reforms in both the agricultural and industrial sectors currently under way will help provide new opportunities for investment, the

existing clothing manufacturing industries in Egypt are set to undergo radical change. Liberalization of trade policies, in particular, will have a significant impact on their current competitiveness. While much of Egypt's output of clothing will still be dominated by public sector concerns, liberalization will help create new markets for brand names and designs. Competitive pressures are created for efficiency gains with a view to enabling producers to compete against higher quality imports.

Furniture and woodworking

The furniture and woodworking industries have always been highly dependent on imported woods for raw material. Indigenous supplies of timber, which include tamarisk, acacia and carob, are insufficient in volume to meet domestic requirements. Wood from the ubiquitous date palm has tended to be rejected because of its tendency to split. Egypt spends over LE 1 billion annually on imports of wood and related products.

Egypt's long cultural history and worldwide reputation for antiquities could provide a competitive edge for the sale of models and replicas, as well as for the production of intricate wood screens, balustrades, tables and artifacts. Private sector investment could provide further opportunities to create employment, especially if the costs of raw materials were stabilized or if indigenous resources, such as date palm wood, tamarisk and other wood products such as fronds and seeds, were used. A reduction of tariffs on imported wood and other raw materials such as synthetic foams, nails, glues, upholstery fabrics, fasteners, glass, trims and packaging materials would also provide a significant stimulus to local private sector producers able to withstand the competition of ready-made furniture, doors, windows, flooring and other wooden products imported from abroad.

The furniture sector will also need to expand the use of modern materials, as well as to initiate modern methods of production that emphasize just-in-time delivery (to avoid costly inventories), flat-packed items and stacking furniture. The use of blockboard, plywood, chipboard and other cheaper wood-based products that are particularly suited to mass production is one way to expand output while minimizing raw material costs. This would help to provide for substantial unmet demand in Egypt by also keeping the final costs to the consumer low. However, research in the US and Europe has shown that consumer resistance to the use of these materials may be high unless they are accompanied by attractive designs, immediate availability and sufficient promotion and marketing. This in turn entails centralized distribution facilities and large showroom space that is beyond most of the small- to medium-sized producers in Egypt. The use of materials such as plexiglas, fiberglass and other synthetic plastics, polymers and resins may be another step forward, particularly if furniture made from these is marketed to specific clienteles. Their use would reduce the need to import costly wood in favour of materials that could be manufactured from Egypt's own resources of hydrocarbons.

Chemicals

Domestically, the current wide ranging economic, financial and social reforms will have mixed blessings for the petroleum products and petrochemicals sector. Recent measures to eliminate exchange controls and to ensure international convertibility of the Egyptian pound have encouraged foreign investment in the exploration and production of natural gas, but could have an adverse impact on state-run refineries, processing plants, petrochemical facilities and fertilizer companies as the cost of inputs rises in line with world prices. While these may fall in the next few years in line with an expectation of lower crude oil prices worldwide as additional supplies from Iraq and other newly developing areas come on stream, the net effect is expected to lead to

a considerable reorganization of hydrocarbon-based manufacturing industries over the medium term.

While the country is self-sufficient in phosphate fertilizers, significant changes can be expected by the year 2000. Taking into consideration changes in crop areas and in food consumption patterns, local demand for aziotic fertilizers is projected to reach 6.5 million tonnes of year. This is forecast to be slightly less than total productive capacity at that time of 7 million tonnes, assuming adequate hydrocarbon feedstocks. Local production of phosphate fertilizers is expected to amount to 1.3 million tonnes in the year 2000; however, unlike the situation with aziotic fertilizers, demand will outstrip local supply; demand is projected to reach 1.6 million tonnes a year by the end of the millennium.

The increasing global competition in petrochemicals and the consequent need to reduce costs could rebound favourably on Egypt, especially if Western and Saudi partners active in the kingdom's petrochemical sector are encouraged to look westward toward a country that enjoys the distinct advantage of a readily available supply of highly skilled professional and technical labour at extremely competitive wages, as well as good geographic access to affordable feedstocks.

Egypt has significant potential to become a major pharmaceutical producer if these problems can be resolved. The industry is already the largest in the Middle East, although other countries in the region such as Turkey, Iran and Saudi Arabia are also beginning to make important inroads in terms of local production. The Middle East market for pharmaceuticals is expected to be worth nearly $5.6 billion by 1997.

Metallurgy

Despite its substantial iron and steel manufacturing base, Egypt remains a significant importer of iron and steel products. Imports of these products have consistently exceeded 1 million tonnes between 1989 and 1992, surpassing the installed capacity of the country's largest integrated iron and steel producer, Egypt Iron and Steel Corporation (EISC). At the same time, however, Egypt is also a modest exporter of iron and steel products, having supplied some 275,000 tonnes per year in 1989-1992. The bulk of these exports are shipped to neighbouring Arab states, although markets have also been developed in North America, Europe and Asia.

Recently the lack of international competitiveness has begun to threaten the industry's position in the domestic market as the lowering of protectionist barriers has allowed local customers to meet their needs from imports. Significant volumes of low-priced steel have begun to enter Egypt from East European countries, the Commonwealth of Independent States, and some neighbouring Arab countries. With much of the Egyptian iron and steel industry having been based on the reprocessing of ferrous scrap, tightening supplies of this resource are also imposing an increasingly severe constraint. The shortage of scrap has become particularly acute in Alexandria.

These constraints notwithstanding, the Egyptian iron and steel industry is continuing to develop. Apart from the proposed establishment of a facility for the production of special steels, several other projects to upgrade the industry have been approved in recent years. These include the installation of a vacuum arc refining unit at the National Metal Industries (NAMETIN) and a new 3-strand continuous billet caster at Delta Steel, as well as the modernization of the hot strip mill at EISC. In addition, it has been reported that the Aswan iron ore deposits are currently being re-evaluated and the possibility of establishing a small-scale steel mill in the Aswan area is under consideration.

Despite its substantial domestic production capacity for non-ferrous metal products, Egypt continues to import significant volumes of such products. Although some domestically manufactured non-ferrous metal products are also exported, these exports are relatively modest. The only non-ferrous metal of which Egypt is a significant net exporter is aluminum, which it supplies both to neighbouring Arab countries and to other markets further afield. Egypt's already significant non-ferrous metal processing industry is on the verge of a substantial further expansion.

Building materials

Egypt is known for its quarrying of construction materials and its construction activities. A relatively large number of minerals used for the production of building materials are available but mostly on a limited scale, with the notable exceptions of gypsum, clays and to some extent ornamental stones including marbles and granites.

The growing demand for building materials stems from a number of infrastructural projects including public utilities, such as expansion of potable water systems and sanitary drainage facilities, tourism facilities, port expansion, reconstruction in the Suez Canal area, and infrastructural projects in agricultural and industrial sectors. Egypt has an ambitious programme for the development of Sinai, the North Western Coast, the New Valley, Lake Nasser, and the Red Sea and Suez Canal region. The government also plans to complete infrastructural projects in 14 new cities in the near future.

Private sector investment in the production of building materials has been significant in recent years. The shares of three state-owned cement companies, Helwan Portland Cement Company, Tora Portland Cement Company and the Holding Company for Mining, Refractories and Building Materials, were planned to be offered for public subscription by end-March 1994, with a view to increasing environment-friendly production capacity. The modernization of two State-owned companies is being funded by international donors, including the World Bank. A number of enterprises currently being planned for privatization are expected to undergo significant improvements in terms of modernization and financial restructuring.

Transport equipment

Despite the emergence of a number of enterprises in automotive component manufacturing, nearly 75 per cent of the country's automotive requirements are met by imports. While the government's insistence on mandating a percentage of local content will help develop an integrated manufacturing sub-sector, some teething problems can be expected. Egyptian labour is skilled, but extensive overmanning is a constraint. Despite the wide-ranging programme of privatization, the state sector remains powerful. This may result in pressure on private sector firms to maintain higher levels of employment than might otherwise be needed, and will also affect government policy on the proposed new tariff levels for imported cars, imported kits and spare parts and accessories. While much red tape has been eliminated, regulations affecting the licensing of new product lines, imports, access to foreign exchange and the employment of foreign personnel remain in force.

The new feeder industries, in particular, will need to maintain higher standards if locally produced cars are to compete successfully with imported vehicles. Upholstery, tyres, batteries, paints, metal alloys and electrical goods (air conditioners, lights, fuses, cabling), for example, will need to be subject to the kind of quality controls that are imposed in Europe, Japan or the United States and take into consideration the particular conditions in Egypt - the hotter weather and the poor state of the roads in particular. Most of the new joint ventures involving foreign car makers are investing heavily in providing training, technical advice and finance for this sub-sector.

The scene is gradually being set for a complete change in this sector during the coming few years. Aside from the commitment already shown by General Motors, Citroën, Peugeot, Suzuki, Hyundai and others, their development of domestic feeder industries - needed to meet agreements on local content - is paving the way for a considerable expansion of related manufacturing activities such as forging and castings, metal pressing and body working, machining, textiles and upholstery, rubber and plastics, paints, sprays and oils, glass and electronics. Given the significant unmet consumer, commercial and government demand for vehicles of all kinds, such developments, provided that quality is maintained and prices are affordable, can only further enhance the investment climate in general.

Electrical appliances and electronics

The production of electrical appliances in Egypt is highly dependent on imported equipment. This includes condensers, resistors, discrete semi-conductors, integrated circuits and electro-mechanical units, as well as compressors, copper pipes and timers. In the case of local assembly, imported kits are the dominant source of components. However, some low-tech inputs, such as wood cabinets, are produced domestically. Although valves and transistors, and metal and plastic parts were also produced for appliances in the past, the use of kits has reduced the importance of these components in favour of imports.

Dependence on imported components and kits, together with the required licensing arrangements for brand name items, has tended to create a proliferation of products in the market but has prevented the development of a healthy, integrated productive sector. Local producers of brand-named goods are tied to specific foreign brands and designs. Higher pricing policies by joint ventures and privately owned companies, together with restrictions on consumer credit, have suppressed the growth of indigenous demand.

The elimination of bans on imported goods will create greater competition in the market, especially for the public-sector companies. As elsewhere, Egyptians are familiar with international advertising of brand names, and the quality of locally produced, locally designed goods seems to be regarded as inferior to those which are imported or which are made locally under licence with recognized names such as Philips, Kelvinator or Carrier. While the high cost of imported goods, given the scarce access to foreign exchange, was a significant factor in preserving the market share for public sector industries, the completion of reforms to make the Egyptian pound convertible internationally is expected to lead to a reduction in the cost of imported kits, and so of locally produced branded items made under licence, over the medium term.

The government's plans to build the Pyramids Technology Valley (PTV) in particular are crucial to the future development of the electronics sector. The PTV will be accompanied by measures to promote scientific education and research institutes in fields related to high-technology industries, such as software, microbiology, biotechnology, materials and pharmaceuticals as well as engineering and microelectronics. In particular, it would enhance Egypt's prospects as an international producer of advanced electronic consumer goods such as CD-ROM disc drives as well as industrial process controls. Given that the assembly and testing of CD-ROM drives, an increasingly important component of computerized multi-media systems, is highly labour-intensive and requires skilled workers, Egypt would appear to have a specific competitive advantage in this field.

I. THE MACROECONOMIC AND INDUSTRIAL POLICY ENVIRONMENT

A. RECENT ECONOMIC TRENDS

Developments to 1990: A socialist economy seeking the benefits of peace

Although Egypt was one of the first Middle Eastern countries to embark on a programme of industrialization after gaining independence from the United Kingdom in 1922, economic development in the post-Second World War era has been adversely affected by war, rapid population growth and rising external debt. During much of this period, notably after the 1952 Revolution which replaced the monarchy with a socialist-oriented command economy, Egypt's economic development was characterized by the nationalization of land, factories and property and by the formation of large state enterprises that dominated most of the productive sectors, as well as trade, commerce, transport, communications and banking. This trend was not reversed until the mid-1970s, when a policy of economic liberalization known as the "infitah", or "opening" began to be introduced. Law No. 43 of 1974 encouraged foreign investment in certain export-oriented sectors and marked the first step in the dismantling of the centrally planned economy and the monolithic role of the state in industry. Subsequent moves eliminated government monopolies, reduced subsidies for manufacturing industry and abolished many existing controls on prices.[1/]

The basic rate of corporate tax was lowered from 40 per cent to 32 per cent in 1982, and reforms aimed at stabilizing the Egyptian pound and at unifying the country's exchange rates were also introduced in the mid- and late 1980s. In 1989, the enactment of Law No. 230 expanded the investment opportunities provided by the 1974 statute and gave further impetus to the growth of local mixed- and private- sector enterprises. By then, multinational companies such as Coca-Cola, Cadbury, Schweppes and General Motors, encouraged by the liberalization policies as well as by the peace agreement with Israel, had begun to set up new manufacturing and assembly plants in the country.

The period from 1974 to 1990 was also marked by opposition to the reforms, however, most notably in 1977 when severe rioting broke out in Cairo in response to the removal of subsidies on certain foods and other commodities, and in 1984 when violence broke out in the Delta town of Kafr al-Dawar after price rises for basic staples were announced. The reforms nevertheless produced some economic growth, with gross domestic product (GDP) at constant 1987 market prices rising at an annual average rate of about 3.1 per cent in the late 1980s, from LE 45.2 billion in the 1987 fiscal year (ending 30 June) to LE 49.7 billion in fiscal 1990.[2/] This exceeded the rate of population growth of 2.4 per cent by a small but significant margin, ensuring a modest increase in average per capita income levels. Manufacturing value added (MVA), meanwhile, is estimated to have increased by 13.9 per cent per year in real terms during this period, with its

share in GDP at constant factor cost rising from 16.3 per cent in fiscal 1987 to 21.9 per cent in fiscal 1990.

This broadly favourable economic performance was perhaps inevitably accompanied by a significant deterioration in the current account of the balance of payments. Despite an increase in the value of merchandise exports from $2.6 billion in the 1987 fiscal year to $3.3 billion in fiscal 1990, the trade deficit grew from $5.4 billion to $8.2 billion as the growth of disposable incomes triggered a steady rise in imports of consumer goods and the expansion of industrial production prompted a similar increase in imports of capital and intermediate goods. Although this increase in the trade deficit was partially offset by a steady increase in net inflows on the invisibles account as well as workers' remittances and official transfers, it nevertheless prompted an increase in the current account deficit from $184 million in fiscal 1987 to almost $1.6 billion in fiscal 1990. The situation was aggravated, moreover, by large net outflows of most recorded categories of long-term and other capital, although this was offset by steadily growing positive entries in the "errors and omissions" line (incorporating private investment flows), which allowed the overall balance to be reduced to $213 million in fiscal 1990 from an annual average of about $850 million in the preceding three fiscal years.

Developments since 1990: IMF supervision and structural adjustment

The pace of the reform process began to accelerate in the early 1990s under the supervision of the International Monetary Fund (IMF) and the World Bank, which, along with Egypt's other donors and creditors, were becoming increasingly concerned about the country's widening macroeconomic imbalances. These included rising budget deficits, which were estimated to have reached 23 per cent of GDP in the 1988 fiscal year and helped to fuel an annual average inflation rate of 18.5 per cent in 1987-1990. They also included the dramatic rise in the merchandise trade deficit noted above, and the growth of Egypt's external debt burden, which peaked at almost $52.5 billion at the end of 1988, and included $30.7 billion in government debt as well as a further $10.5 billion in debt owed by non-financial public-sector enterprises. This represented almost 170 per cent of total GDP, while the payments to service this debt accounted for about 25 per cent of the country's exports of goods and services.

The Iraqi invasion of Kuwait in August 1990 and the subsequent outbreak of war in the Persian Gulf in January 1991 had wide-ranging implications for Egypt. In the short term, it prompted the voluntary and involuntary repatriation of hundreds of thousands of Egyptians working in Iraq, Kuwait and the Gulf states. This exacerbated the overcrowding and unemployment in Cairo, Alexandria and other towns and villages, and resulted in a further slowdown in the rate of GDP growth to 2.3 per cent and an acceleration of inflation to 23.7 per cent in fiscal 1991. During this period there was a substantial increase in the financial assistance provided by the country's international donors and creditors, including the United States, Saudi Arabia and the Gulf states, the Paris Club donors, the IMF and the World Bank.

This assistance was unlocked by the conclusion of an Economic Reform and Structural Adjustment Programme (ERSAP) agreement with the IMF in May 1991, which was followed by the granting of a structural adjustment loan (SAL) worth $300 million by the World Bank in November of that year. A second agreement with the IMF, arranged under its Extended Fund Facility (EFF), was approved in September 1993. Apart from their direct impact on the Egyptian economy, these agreements with the international lending agencies also benefited Egypt indirectly by paving the way for debt relief from the Paris Club. Since January 1991 $15.3 billion has been written off the country's external debts.

The disbursement of IMF funds was made conditional upon the drafting or enactment of a number of economic reforms aimed primarily at stimulating a transition to a mixed economy in which private enterprise would play a greater role. Interest rates were gradually freed to encourage the repatriation of funds, while credit ceilings were imposed on bank lending to help ease inflationary pressures. By mid-1992, the country's multi-tiered exchange rate system had been completely reformed, resulting in an effective devaluation of the Egyptian pound and making it internationally convertible. Additional measures to date have included further reductions of subsidies to help improve the budget deficit, a reduction and revision of import controls, customs duties and quotas, the introduction of new banking and capital market laws, the commencement of a major privatization programme and the introduction of a sales tax.

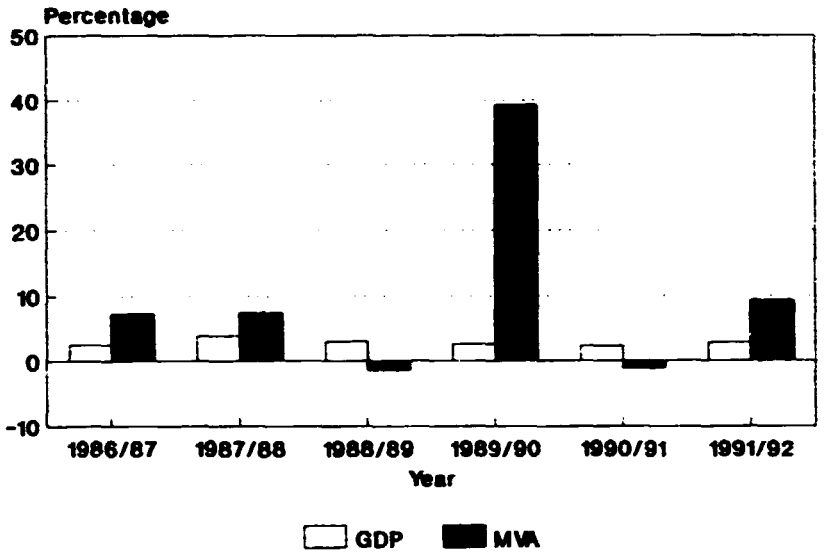
These measures have contributed to a significant improvement in the performance of the Egyptian economy. The trade and payments balances have recorded a particularly dramatic improvement, although some retrenchment is believed to have occurred in 1993. The value of petroleum exports soared during the conflict in the Gulf, producing revenues of almost $2 billion in fiscal 1991 compared with $1.3 billion in fiscal 1990. As imports remained static in fiscal 1991, this helped to reduce the merchandise trade deficit to $7.5 billion, compared with $8.2 billion in fiscal 1990. A continued strong inflow of workers' remittances as well as a fourfold rise in net official transfers also helped Egypt to overcome a decline in tourism receipts and produced a turnaround in the current account balance from a deficit of $1.6 billion in fiscal 1990 to a surplus of $2.2 billion in fiscal 1991.

Although world oil prices fell back subsequently, exports of crude oil still amounted to an estimated $1.7 billion in fiscal 1992 and 1993. Merchandise imports in both years were lower than in fiscal 1991, partly as a result of the exchange rate reforms, producing a merchandise trade deficit of only $6.4 billion in fiscal 1992 and an estimated $7 billion shortfall in fiscal 1993. As a result, the current account surplus jumped to $3.6 billion in 1992, before falling back to an estimated $1 billion in 1993, largely as a result of a decline in workers' remittances and the somewhat higher trade deficit.

This improvement in the balance of payments was accompanied by a significant decline in Egypt's external indebtedness. World Bank data suggest that the country's foreign debt had already fallen to $40.6 billion at the end of fiscal 1991, $11.9 billion less than in the peak year of 1988. The debt service burden has also dropped markedly, from 26.3 per cent of the value of exports of goods and services in 1990 to an estimated 16.7 per cent in 1993.

While helping to improve Egypt's financial position, and in particular its external accounts, the implementation of the macroeconomic reforms introduced since 1991 has nevertheless imposed considerable strains elsewhere in the economy, although this is expected to be a temporary phenomenon. The rate of GDP growth, after recovering to 2.8 per cent in fiscal 1992, slipped back to an estimated 1.5 per cent in fiscal 1993, while inflation accelerated mildly to 12 per cent in that year from 11.4 per cent in the previous fiscal year after having been brought down from 23.7 per cent in fiscal 1991. The relatively modest overall inflation rate masked a much more rapid rise in the price level of a number of basic consumer goods, such as furniture and household durables, transport and communications, clothing, and food and beverages, however, all of which generated considerable popular discontent with the government's economic policies. This was accompanied by a rise of Islamic militancy and attacks on major tourist targets, which in turn caused a sharp fall in revenues from tourism and related private sector services.

Fig. I.A. Growth of GDP and MVA, 1986/87-1991/92



• Growth of MVA is for calendar years.

On a more positive note, however, the reforms have stimulated a significant growth in industrial output. The rate of growth of manufacturing value added (MVA) increased to 9.5 per cent in 1991 from 8.4 per cent in 1987, while MVA per capita rose from 6.1 to 6.9 per cent over the period. This growth in the overall volume of MVA has been accompanied by important changes in its composition as a result of the extensive restructuring of the manufacturing sector during the late 1980s and early 1990s. The share of the food processing industries (excluding beverages) increased from only 7.7 per cent of total value added in 1987 to 21.3 per cent by 1992, while the share of iron, steel and non-ferrous metals rose from 10.1 per cent to 14.6 per cent during the same period. By contrast, the share of the traditionally strong textile industry, based on Egypt's position as a leading international cotton producer, fell from 16 per cent to 14.6 per cent, while the share of the chemical industry declined by approximately 1 per cent to 8.9 per cent.

B. ECONOMIC STRUCTURE

The physical environment

The territory of Egypt, part of which is in Asia and part in Africa, encompasses about 1 million square kilometres, stretching - at maximum - about 1,100 kilometres from the Mediterranean Sea south to the border of Sudan and 1,250 kilometres east from Libyan Arab Jamahiriya to the Red Sea. The land mass consists primarily of desert, with less than 4 per cent permanently settled. The fertile Nile Valley, which ranges in width from 3 to 15 kilometres, runs the length of the country, ending in the fan-shaped Nile Delta. A region of some 22,000 square kilometres, this

delta is fed by two main distributaries of the Nile - the Damietta and Rosetta branches - and, like the Nile Valley itself, has been the traditional focal point for the location of cities and towns, agriculture, industry and handicrafts. In recent decades, however, the extension of irrigation, modern transport and communications and the rise of tourism has helped to create new urban areas in the Western Desert, along the Suez Canal (which was opened in 1869), and in the Sinai Peninsula.

High temperatures and low rainfall make water a scarce commodity, although the annual Nile floods (disrupted since 1970 by the construction of the Aswan High Dam) have provided both water and nutrients to allow for the cultivation of large parts of the Valley perimeter for millennia. Today, up to three or four crop rotations are possible each year. While the cultivation of cotton - notably the country's fine long-staple varieties - is the predominant agricultural activity in terms of value of output, fruit, vegetables, flowers, rice, barley, wheat, animal fodder, dates and sugar (cane and beet) are also produced. Dairy and meat production is also widespread in the region.

The development of crude oil production in exportable quantities began in the mid-1970s, and substantial new discoveries have been made since then both onshore - particularly in the Western Desert and in the Sinai Peninsula - and offshore in the Gulf of Suez. Mineral resources include substantial deposits of iron ore, phosphates, manganese, granite, coal and gold. Hydroelectric power is generated at the Aswan High Dam.

The demographic base

Egypt has, since antiquity, faced the problem of extreme population density relative to the amount of arable land available. This problem that has been aggravated substantially in modern times by the high birth rate and increased life expectancy of the country's population, rapid urbanization and the transformation of its subsistence-based agriculture to one centered on the production of crops for export. Between the 1966 and 1976 censuses the population grew by an annual average of 2 per cent, but this rose to 2.8 per cent between 1976 and 1986. However, the growing acceptance of modern birth control techniques, together with continued emigration, is officially projected to lead to a slowdown in population growth to about 1.8 per cent per annum.

By the end of June 1993, Egypt's total population was estimated to have reached about 58 million, compared to 48.3 million in mid-1986. By the year 2000 it is projected to reach more than 62 million, with some 1.4 million inhabitants being added each year at current rates of growth. The population pressure is particularly severe in the main cities and towns. By 1986 the population of greater Cairo alone was estimated to have grown to 18.6 million compared with 14.2 million in 1976. The result is also reflected in the age distribution of the population, with some 40 per cent of the total being aged less than 15 years in 1986.

Despite the high rates of population growth, the past few decades have witnessed a significant improvement in the standards of public health and education. The latest available indicators show that the daily caloric intake rose from an average level of 2,336 calories per capita in 1965 to 3,281 calories per capita in 1988, while the average life expectancy increased by 11 years to 59 years for men and by 12 years to 61 years for women between 1965 and 1990. Primary school enrollment has also made considerable progress, reaching 97 per cent of the relevant age group in 1989 compared to only 75 per cent in 1965; for secondary schools, the figures rose even more impressively during the same period, from 26 per cent to 81 per cent.

An impressive increase has also been recorded at the university level, with some 20 per cent of those in the relevant age group being enrolled in tertiary education in 1989, compared to only 7

per cent in 1967. As a result, Egypt has a high rate of university graduates by developing country standards and, given the large degree of unemployment, suffers from a critical brain drain to other wealthier states in the region. Despite this outflow of qualified personnel the level of graduate underemployment has remained high, and prompted the government to take active measures to encourage the establishment of social funds and aid programmes aimed at providing professional and skilled jobs for its labour force, as well as at extending vocational training opportunities in both the urban and rural areas.

Agriculture and fishing

Although the share of agriculture and fishing in total GDP fell from 25.6 per cent in the 1985 fiscal year to only 19.7 per cent in fiscal 1990, the sector is still a major source of employment, particularly in the rural areas and smaller towns, and accounts for more than one-third of the labour force. Moreover, it still forms the second most important economic sector, behind trade, finance and insurance, which had a share in GDP of 23.2 per cent in fiscal 1990. Its contribution to GDP exceeded that of industry and mining, which amounted to 17.9 per cent.

Although agriculture and fishing declined in the late 1970s and early 1980s due to inappropriate pricing and production policies, impressive gains in output have been recorded since the introduction of a number of reforms in 1986, including a reduction of subsidies, the decontrolling of prices and changes in marketing procedures. This has permitted the achievement of self-sufficiency in several important commodities such as rice, beans, fruits and vegetables, as well as increased exports of certain products. Despite this increase in output levels, however, the high rates of population growth have necessitated a continuing increase in food imports, particularly of wheat. Imports of processed foods, beverages and livestock increased by 6 per cent alone in the fiscal year ending in June 1992, while the overall import bill for foodstuffs climbed to more than LE 8.1 billion.[3/]

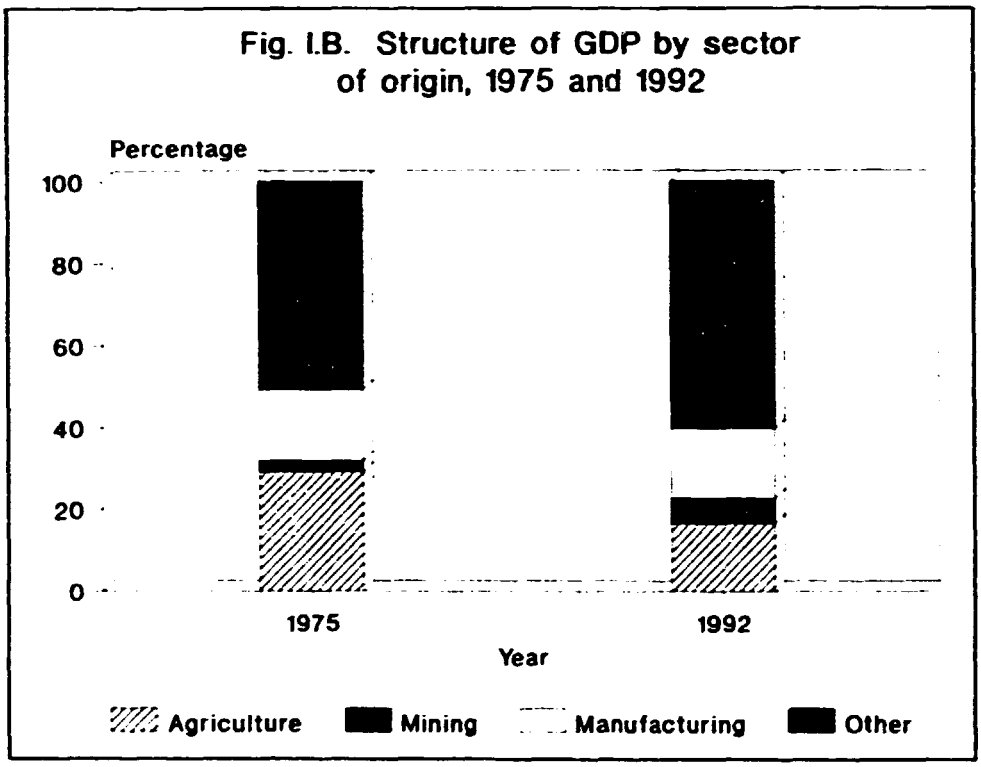
Mining and energy

The mining industry is dominated by the extraction of crude oil. While Egypt's reserves are small by Middle Eastern standards, they amounted to about 4.5 billion barrels at the end of 1991, or about 0.4 per cent of total world reserves. At current rates of production, they are expected to last about 13 years. Substantial reserves of natural gas, amounting to 12.2 trillion cubic feet have also been discovered, with potential deposits of at least another 20 trillion cubic feet believed to be awaiting discovery.[4/]

Production of crude oil amounted to 44.7 million tonnes in 1991, when natural gas output reached 6.9 million tonnes of oil equivalent. Smaller amounts of gas condensates and of liquefied petroleum gas (LPG), amounting to 1 million and 545,000 tonnes of oil equivalent respectively in 1991, are also produced. Government policies are encouraging the use of gas, rather than oil, in power stations and industry, with the result that about 59 per cent of total gas output is used to generate electricity, 40 per cent as a fuel for industry and 1 per cent as a domestic fuel.

Egypt began exporting crude oil in 1976, although small quantities have been produced for much of this century, mainly for domestic use. The growth potential of these exports is constrained by the continuing increase in domestic consumption, however, and by the persistent weakness of international oil prices. Between the 1987 and 1993 fiscal years, the value of petroleum exports fluctuated between $1.2 billion and almost $2 billion, representing approximately 40-50 per cent of total export revenues.

Egypt's coal reserves, which are located mainly in the Sinai Peninsula, are estimated to total some 50 million tonnes. Coal production was centered on the deep mine at Maghara in the Sinai, which produced approximately 18,000 tonnes per year between 1964 and 1967, but was discontinued after the 1967 war. It is expected to resume in the foreseeable future following the completion of a recently initiated project to redevelop the mine. The feasibility of developing other coal fields in northern Sinai is also being assessed.



Other mining activities include the extraction of iron ore, phosphates and limestone. In addition, Egypt also has appreciable deposits of asbestos, granite, alabaster, basalt, sand and gravel, gypsum, clay, dolomites, salt, manganese, chrome, tantalum, molybdenum, zinc, tin, lead, copper, potash, uranium and gold. Few of these deposits are being exploited to any significant extent, largely because of their remote locations and the high cost of establishing the necessary infrastructure.

Although the government has been removing the subsidies traditionally granted to both industrial and domestic users of electricity, the demand for power is continuing to rise dramatically because of the country's economic and demographic growth. Problems with especially low rainfall in the 1980s have also led to a reduction in hydroelectric power output from the Aswan High Dam. Official programmes to build huge new generating plants, fired by coal as well as gas, are moving ahead and some 6,000 megawatts (MW) are to be added by the year 2000. This would bring total generating capacity up to about 17,000 MW. In June 1993 Egypt also agreed to form a regional electricity grid with Iraq, Jordan, Syrian Arab Republic and Turkey, which is to be completed by the year 2002. It is hoped that the sharing of power will save each country some $2 billion to $3 billion a year.

Manufacturing

The manufacturing sector, which will be discussed in detail in Chapters II and III of this Review, plays an important role in the Egyptian economy. As indicated above, it has expanded at very rapid rates since the mid-1980s, with the share of MVA in total GDP estimated to have risen from about 16 per cent in 1987 to almost 23 per cent by 1992. The latest available data indicate further that food processing (including the production of beverages and the processing of tobacco) was the most important activity within the manufacturing sector, accounting for almost 24 per cent of total MVA in 1990. Other important activities were the manufacture of metal products (23 per cent), textiles and garments (14 per cent), chemicals (14 per cent), machinery and transport equipment (12 per cent) and non-metallic mineral products (8 per cent).

Transport and communications

Egypt has one of the oldest railway networks in the Middle East and North Africa, some of which dates back to before the mid-19th century. The 5,000-kilometre network is beginning to show signs of its age, and is in urgent need of rehabilitation and modernization. The opening of a huge new underground railway system in Cairo in 1987 was preceded by the construction of a 42-kilometre regional line between El Marg and the industrial centre of Helwan. A second line is now planned for inner Cairo, running from Shoubra El Kheima to Tahrir Square. More than 800,000 passengers currently use the system in Cairo each day, and the figure is expected to rise to more than 1.5 million when the additional route is completed.

During the 1980s, a road modernization and expansion programme was undertaken and by the end of fiscal 1991 the length of paved roads had more than doubled to 17,000 kilometres. The private sector is expected to be encouraged to undertake more of this activity as part of the current reforms, including the construction of much-needed bridges and tunnels.

Egypt's network of river canals, which together with the Nile has a total length of about 3,100 kilometres and forms a vital means of transport for both passengers and freight, is also being enlarged. Alexandria, located on the Mediterranean Sea, is Egypt's main port. It has the largest water area of any Mediterranean harbour, and handles about 18 million tonnes of cargo a year. Other major facilities exist at Port Said, Suez and Safaga on the Red Sea. New ports are being built, or planned, at Dikheila to the west of Alexandria and near Damietta in the Nile Delta.

The Suez Canal is an extremely important earner of foreign exchange for Egypt, with revenues from transit fees and tolls in fiscal 1993 amounting to an estimated $1.9 billion. Following the deepening of the Canal in the late 1970s to allow it to take supertankers, the Canal area and its important urban areas of Suez, Ismailiya and Port Said have been developed as major industrial, agricultural and residential areas, as well as focal points for the establishment of tax-free zones. Further expansion of the Canal in the Bitter Lakes area is continuing, and a decision is pending on a much larger expansion scheme to allow it to accommodate supertankers of up to 350,000 deadweight tonnes (dwt) instead of the current limit of 150,000 dwt.

The Sumed pipeline provides an alternative route for crude oil to be shipped between the Red Sea and the Mediterranean Sea. Owned by Egypt and several Gulf States, it has a capacity of 1.6 million barrels a day (b/d), and is currently being expanded.

Egypt Air, the state-owned carrier, is the largest airline in the region, flying some 3 million passengers a year on 300 flights a week. It is undergoing a major expansion programme, but in the wake of privatization reforms is expected to face growing competition from newly emerging

privately owned lines. Shipping services, including tankers, bulk and containerized cargo carriers, Nile barges, passenger ferries, and tourist and resort cruise vessels operate both within Egypt and to Jordan, Europe, the United States, the Indian Ocean and Africa. Plans to upgrade links with Saudi Arabia and other Red Sea littoral states are being considered.

Once famed for its limited and antiquated services, the telephone system has undergone extensive modernization in recent years. From less than half a million in 1982, the total number of lines reached 2.5 million in 1992, half of which were in Cairo. This figure represented a coverage of less than 6 lines for every hundred persons in Cairo and 4.5 lines per 100 persons in Egypt as a whole, which is expected to be raised to seven lines for every hundred persons by the year 2000. Services to provide advanced data transmission, facsimile, conferencing and other digital telecommunications systems that can be linked to computers fall far short of demand, however, and where they do exist they are often prohibitively expensive.

Banking and finance

Around 100 banks operate in Egypt, including 38 commercial banks led by the four state-owned banks: Banque Misr, National Bank of Egypt, Bank of Alexandria and Banque du Caire. About two-thirds of the banking system's total assets in 1992 were held in the publicly-owned sector. The banking sector also comprises 18 foreign branch banks, which as a result of recent reforms are now allowed to operate in local as well as foreign currencies provided they have sufficient capital and are registered as joint-stock companies. In addition, there are several joint-venture banks and specialized investment houses.[5/]

Under the government's current privatization programme, shares in the state-owned banks and insurance companies are to be sold to the private sector. Although traditionally under-capitalized, Egypt's banks have benefited considerably from the government's reforms of the exchange rate and interest rate systems, and many have made substantial gains by investing in government Treasury bills and bonds. As a consequence of the increasing stability of the Egyptian pound, local currency deposits have also risen, with more than 60 per cent of the total deposits of LE 170 billion in the banking system in mid-1993 believed to have been denominated in Egyptian pounds.[6/]

Stock exchanges exist in both Cairo and Alexandria, but only a small percentage of the registered shares are actively traded. Under a new capital-market law, passed in 1993, the exchanges are being modernized and stock brokerages allowed. An index for the exchanges is also being set up.

Trade, tourism and other services

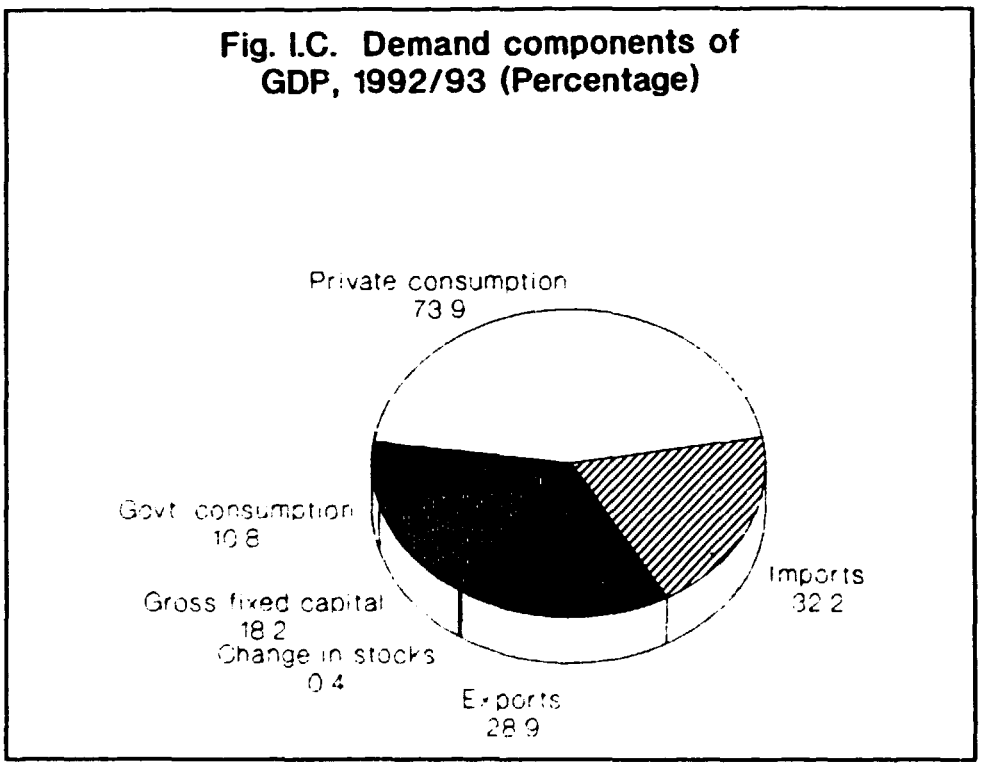
Data compiled by UNIDO show that the contribution of tourism and trade to the Egyptian economy's total output increased from about 10 per cent to 15 per cent in the first half of the 1980s and since then has fluctuated between 15 per cent and 17.5 per cent. Tourism in particular has gained considerable importance during the past decade as a vital earner of foreign exchange and a major contributor to the balance of payments. Between June 1987 and June 1990 revenues from this subsector rose from $1.2 billion to $2.1 billion. After a sharp fall to only $1.2 billion in 1991 in the aftermath of the Gulf war, they began to rise again, reaching $1.7 billion by the end of fiscal 1992.

While figures compiled by the United States Agency for International Development (USAID) in Cairo estimate that this level has been maintained in fiscal 1993, other observers are doubtful. There has been a sharp fall in arrivals, and stays of long duration.[7/] Analysts estimate that value

added in tourism may have declined by up to 30 per cent in 1993 and predict that it may fall further in 1994. Given that the subsector employs about one in every 15 Egyptian workers, and that investment will also be adversely affected as a result, the overall effect could be to lower economic growth as a whole.

Demand structure of GDP

Private consumption accounts for the bulk of aggregate demand in the Egyptian economy, and in 1992 had a share of 72.6 per cent in total GDP. The share of government consumption has traditionally been relatively small, by contrast, and in 1992 amounted to 10.4 per cent. Gross fixed capital formation plays an important role, accounting for 20.6 per cent of GDP in 1992. The contribution of external trade to domestic demand has been significantly negative throughout the past decades. In 1992 the share of exports in GDP amounted to 29 per cent, while that of imports amounted to 31.8 per cent.



External trade and payments

As indicated above, the reform process currently in progress under the supervision of the IMF and World Bank is aimed at opening Egypt to the free market and to global trade. By 1993 this was beginning to have some effect, and there were signs that Egypt's perennially large trade deficit was beginning to moderate. This was due principally to a decline in imports, which fell from $11.4 billion in the 1990 fiscal year to $10 billion in fiscal 1992 before rising modestly to an estimated $10.5 billion in fiscal 1993. Meanwhile, the value of merchandise exports rose sharply from $3.3

billion in fiscal 1990 to $3.9 billion in fiscal 1991, following which it declined gradually to $3.5 billion in fiscal 1993. Despite the slight reduction in the value of merchandise exports between the 1991 and 1993 fiscal years, the trade deficit has narrowed gradually from $8.2 billion in fiscal 1990 to $7.5 billion in fiscal 1993.

The composition of Egypt's merchandise exports has changed significantly during the past few decades. Between 1965 and 1990 the share of agricultural commodities in total exports fell from 71 per cent to 20 per cent, while that of fuels, minerals and metals rose from 8 per cent to 41 per cent. The share of manufactured goods has also risen significantly since 1965, mainly because of increased output of textiles and clothing. In 1990, they represented 39 per cent of total exports, almost double the 20 per cent share recorded in 1965.

Although Egypt's dependence on imports has begun to decrease in recent years, the country continues to have to import large quantities of capital goods and food. The main suppliers are the OECD countries in general, and the western European countries in particular. The latest available direction of trade data show that western Europe accounted for 43.9 per cent of Egypt's total imports in 1992. North America, primarily the USA, came second with 18.5 per cent, followed by Asia with 15.5 per cent.

Western Europe is also Egypt's main market, largely because of shipments of oil and petrochemical products, although agricultural products, textiles and clothing are also important in some countries. Altogether, the region received about 38.8 per cent of Egypt's total exports in 1992. Asia ranked second with 19.4 per cent, slightly ahead of the neighbouring Arab countries which recorded a share of 18 per cent.[8/]

On the invisibles account, the cost of importing services is also continuing to rise. Outflows on non-factor services were estimated at $4.1 billion in fiscal 1993, while those on factor services amounted to $1.6 billion; together this represented a $1.7 billion increase over the 1987 figure. At the same time, Egypt also receives substantial revenues for the export of nonfactor services. These were estimated at about $6.3 billion in fiscal 1993, of which Suez Canal fees and tourism accounted for $3.6 billion. Inflows from the export of factor services were estimated at $1.3 billion in the 1993 fiscal year.

A major positive contribution to the current account of Egypt's balance of payments has been made by workers' remittances, which rose steadily from $3 billion in fiscal 1987 to almost $5.5 billion in fiscal 1992, although they are estimated to have fallen back to about $4.9 billion in the following year. The customary deficit on the current account, which persisted until the 1990 fiscal year, was generally funded by external borrowing and private investment flows. Since then, as Egypt's current account has moved into substantial surplus, the need for foreign loans has declined, although export credits and aid for social projects has remained important, especially in view of the continuing cost of servicing the country's external debt which, while diminishing, is still substantial.

C. THE POLICY ENVIRONMENT

Planning for development

Egypt's first full-scale development plan covered the five years from 1960 to 1965 and was widely regarded as having been successful. Based on the rationalization of agriculture, the nationalization of industries and the expansion of the public sector, it relied upon protectionist policies and provided extensive subsidies for the country's agricultural and industrial sectors and for domestic consumers. The planning process was subsequently interrupted by the 1967 and 1973 wars with Israel, and it was not until the launch of the 1982/83 Five-Year Plan, and its successor in 1987/88, that the focus shifted again to long-term development planning.

While the 1982/83 Plan concentrated on stepping up the economy's growth rate and improving the country's infrastructure, which had been neglected during the war years, the 1987/88 Plan emphasized economic reform and the achievement of economic stability. Avoiding the accumulation of new debt was also a major priority. The growth target over the five-year period was set at 5.8 per cent per year, which was lower than the 8 per cent envisaged for the previous Plan and also lower than the 6.8 per cent actually achieved by the previous Plan.

Significantly, the 1987/88 Plan, which ended in June 1992, provided for an increased role for the private sector. While many of its details were subsequently overtaken by the negotiations with the IMF which led to the May 1991 agreement, it nevertheless achieved some of its aims, including the development of tourism, a substantial increase in natural gas exploration and production, the enlargement of the Suez Canal, the provision of primary school places for all in the relevant age group, and the expansion of electrical power generation.

Box I.A. Major highlights of macroeconomic policy environment

Since signing the IMF agreement in May 1991, the government has:

- Made the Egyptian pound convertible;
- Agreed to strict fiscal and monetary policies to contain inflationary pressure;
- Started to restructure state enterprises;
- Begun to foster the expansion of the private sector;
- Cut subsidies for energy and basic foods;
- Allowed market forces to determine the prices of many products;
- Liberalized import regulations;
- Decontrolled many industrial and agricultural prices;
- Introduced a package of incentives encouraging foreign investment;
- Reformed the legal framework;
- Allowed competition in banking;
- Introduced measures to revitalize the stock market.

Source: General Authority for Investment (GAFI).

The current Five-Year Plan, which runs from June 1992 to June 1997, has already been superseded by the negotiations with the IMF and the World Bank to replace the 1991 agreement and by Egypt's acceptance of a structural adjustment programme. However, several important plan targets have been retained, including the creation of 2.45 million jobs; the planned investment of LE 154 billion, of which LE 89.5 billion is to come from the private sector; the creation of substantial new infrastructure for land-reclamation projects by both the public and private sectors; the imposition of restraints on the expansion of public-sector industries to allow for competition from the private sector; an increase in the production of natural gas and gas products from 8.3 million tonnes in 1991/92 to 13.1 million tonnes by the end of the Plan period (including an increase in the share allowed to foreign partners); further increases in electricity generation; an increase in both tourist arrivals and in tourist nights; and the establishment of up to 1.15 million new housing units.[9/]

Fiscal policy

As Egypt's gross deficits amounted to more than 20 per cent of GDP in most of the 1980s, reforms in fiscal policy have been a key element of the stabilization programmes drawn up for the country in collaboration with the IMF. The main causes of these deficits have been the government's policy of subsidizing basic commodities, rising employment costs in public sector industries, financial support for these firms, falling revenues from the government's export monopolies and insufficient tax revenues.

The first steps at reform were taken in 1989 when subsidies on petroleum products, electricity and bread were lowered. A policy of wage restraint was also introduced in the public sector and taxes increased. Despite this, the deficit in 1989/90 still amounted to 15 per cent of GDP.

In 1990 state-controlled prices for energy products and basic foodstuffs, many of which are produced under government subsidy, were raised but the Gulf conflict and the effects of a devaluation of the Egyptian pound on foreign debt servicing pushed the budget deficit back up to 20 per cent of GDP that year. In 1991, under IMF supervision, electricity prices were raised by up to 25 per cent and petrol prices by 33 per cent. A percentage-based sales tax replaced a fixed-rate consumer tax, generating an estimated LE 1 billion in revenues per year. By the end of fiscal 1992, the deficit had fallen to 7 per cent of GDP, only 2 per cent above the IMF target.

In 1993, the prices of electricity and petroleum products such as kerosene, diesel, gas and oil were raised. A sales tax of 25 per cent was also imposed on ten items, including passenger cars with engine capacities exceeding 1,600 cubic centimetres, air conditioners, video- cassette players and perfumes. By the end of the year, progress had also been made on the issuance of a unified tax law aimed at increasing government revenues and the collection of taxes. However, preliminary figures for fiscal 1993 show that while the cost of subsidies declined by about 55 per cent over the previous year to LE 4.5 billion, interest payments on the government's debt rose by 42 per cent and the wage bill for the civil administration and state enterprises grew by 19 per cent. Nevertheless, the ratio of the deficit to GDP fell to 4.7 per cent, and would have been only 4.1 per cent had it not been for extraordinary expenses required to repair earthquake damage in Cairo. Although final figures are not yet available, the fiscal 1993 deficit appears to have fallen close to the IMF target of 3.5 per cent.

The 1993/94 budget envisages only a 4.5 per cent rise in total expenditure, equivalent to half the anticipated rate of inflation. Subsidies on other food items such as tea and fish are to be reduced, and increases in customs revenue are expected as a result of trade reforms. Some savings may also occur in debt servicing, as local interest rates have fallen. The achievement of these

budgetary targets would enable Egypt to reduce the fiscal deficit to 2.7 per cent of GDP in fiscal 1994 as agreed with the IMF, and Egyptian spokesmen have even suggested that the deficit could be reduced further to 1 per cent in the 1996 fiscal year.[10/]

Monetary policy

The past few years have witnessed wide-ranging changes in the regulatory framework governing the financial sector, including the introduction of new laws on banking and capital markets. Under the new legislation interest rates have been freed from government controls; branches of foreign banks have been allowed to operate in local currency subject to certain restrictions; capital gains from securities (stocks and bonds) have been exempted from tax; corporate tax incentives have been provided for companies raising more than half their equity by public subscription; restrictions have been removed on bond trading; measures have been launched to encourage the secondary trading of securities; and a Capital Markets Authority has been established. In addition, ceilings imposed on bank credits to private- and public-sector enterprises prior to the exchange rate reforms of 1991 to curb inflationary pressures were lifted in October 1992 and July 1993, respectively. To complete the reform process, the four state-owned banks are expected to be privatized in the foreseeable future.

Inflation continued to rise for most of 1993 despite the comparatively strict fiscal and monetary policies adopted by the government, which had resulted in the figure dropping to below 10 per cent in the second half of 1992. This disappointing performance in 1993 has been attributed primarily to the influx of expatriate capital in response to the stability of the Egyptian pound, although the government's moves to limit the sale of Treasury bills in an effort to reduce its interest payments on these assets (which by mid-1993 represented about 4 per cent of GDP) have also closed a major outlet for surplus funds. In addition, delays in the implementation of stock market reforms, which include the licensing of brokerage houses, have also encouraged investors to delay decisions, especially as many are waiting for more details about the government's privatization programme.

Price policy

Until the recent reforms, Egypt operated a system of centralized price controls for a number of basic commodities, including selected food products and soft drinks, most of which were produced by public-sector firms, and cement. On the input side, a discriminatory pricing policy existed for energy, aluminium, cotton seed and other commodities, leading to highly subsidized prices for both public- and private-sector companies. By the end of 1985, it was estimated that the burden of implicit and explicit subsidies as a result of charging less than economic prices to producers and consumers in the fertilizer sector alone had reached more than LE 500 million, including LE 285 million provided indirectly to Egyptian farmers. The loss to public-sector companies producing goods subject to price controls was estimated to be in the order of LE 400 million at the end of 1983.[11/]

By the mid-1980s, the first steps towards a reform of these policies had begun. Public-sector companies were gradually allowed to set their own selling prices according to market forces in a series of stages that began with the liberalization of the textile and garment industries (except for those manufacturing cotton yarn). This was subsequently extended to the food, chemicals, engineering goods and metal industries, and by the early 1990s virtually all industrial prices had been freed except those for pharmaceuticals and ten other products where prices were set on a cost-plus basis. Domestic cotton prices were freed in mid-1993 and by the end of the year had reached about two-thirds of world levels.[12/]

A series of parallel reforms resulted in the gradual deregulation of energy prices. The price of petroleum and electricity was freed as part of the 1991 IMF programme aimed at reducing the government's budget deficits. As a result of these reforms petroleum prices had risen to 80 per cent of world levels by the end of 1992, compared to only 36 per cent in May 1989, while the price of electricity rose from 24 per cent to 69 per cent of the long-run marginal cost of producing electricity over the same period.[13/] Current policies call for the price of energy as a whole to be raised to world price levels by the end of June 1995, with electricity prices being raised in two stages to achieve parity.

Trade policy

Between the 1930s and the early 1970s Egypt consistently maintained an import-substituting industrialization strategy, with the result that industry has not developed as a leading sector pulling the rest of the economy towards self-sustaining growth, but has, instead, acted as a heavy burden on the economy. As part of the "infitah" reforms in the 1970s, bilateral trade agreements were terminated, private trading companies were allowed to operate and some exchange contro's were relaxed. Import tariffs offering high rates of protection to producers selling in the domestic market were maintained, however, and produced a strong bias against export-oriented production. This disincentive to export was reinforced by a wide range of administrative obstacles placed in the way of potential exporters.[14/]

In the mid-1980s, export procedures were streamlined and export pricing committees eliminated. In 1987, an active programme of export promotion was launched, but the trade deficit continued to worsen as the growth of imports outpaced the growth of exports, while the scarcity of foreign exchange hampered the development of the economy. In the 1990s, as the pace of reform has quickened, maximum tariff rates have been lowered, minimum tariffs raised from 5 to 10 per cent (with the exception of some basic commodities such as cereals) and tariff exemptions almost completely eliminated. Advance import deposits have been abolished and the list of banned imports had been reduced substantially to only 26 items by the end of 1993. In 1992 an Export Credit Agency was established to assist local exporters; and since then the number of prohibited export items has been reduced from 20 to two.

Further trade reforms currently envisaged include a reduction in the maximum tariff from 80 to 60 per cent by the end of 1994, and to 50 per cent by the end of 1995, in line with the recommendations of the IMF. All non-tariff barriers, including the remaining list of banned items, are also due to be lifted in the near future, although the government has said that textile industries will remain protected from imports for most of 1994. Some exceptions to the maximum tariff level are also due to remain, notably for alcohol and passenger cars, in order to protect local producers.

Foreign exchange policy

Fundamental reform of the Egyptian foreign- exchange system was begun in February 1991, when most foreign exchange controls were eliminated, allowing rates to reflect market forces. Subsequently, the country's multiple exchange-rate system was unified, and the exchange market opened to non-bank dealers. The abolition of the distinction between free and controlled foreign accounts has also made it easier for foreign investors to repatriate profits.[15/] As a result, the Egyptian pound is now regarded as being internationally convertible. During 1993, it remained stable at a rate of about LE 1 = $3.33.

At home, the reforms have led to a steady reduction in the share of foreign currency deposits in the stock of money from 53 per cent at the end of fiscal 1991 to 41 per cent at the end of fiscal

1992 and to only 30 per cent at the end of fiscal 1993. The reductions illustrate the degree to which confidence has returned to the Egyptian currency as a store of value in the country itself.

In late 1993, the government took further steps to liberalize the foreign exchange market. Restrictions on non-bank dealers were relaxed, the ceiling on working balances in foreign exchange raised to $225,000 per LE 1 million of capital and the number of branches allowed for financial institutions and exchange companies for each additional LE 1 million of capital increased from three to four. Restrictions on the number of banks with which these institutions could hold accounts were also removed.[16/]

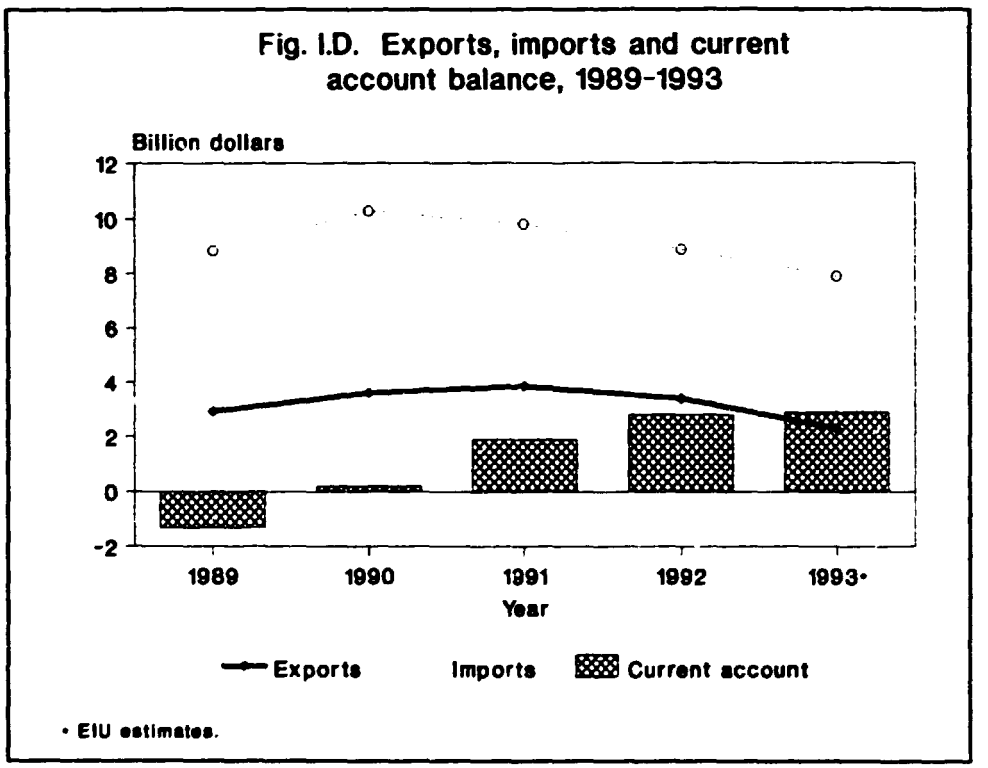


Fig. I.D. Exports, imports and current account balance, 1989-1993

Policies towards poverty alleviation

The initiation of the structural adjustment and economic reform programmes in the late 1980s made it necessary to introduce measures to protect the most vulnerable groups in society from the adverse effects of these changes. In 1991 the government of Egypt set up the Social Fund for Development (SFD) for this purpose, with finance provided by the World Bank, the International Development Association (IDA), the European Communities (EC) and other multilateral and bilateral donors. By the end of August 1992 the Fund's resources amounted to $612.3 million, of which $320 million was in the form of loans and $292.3 million in grants.[17/] Chaired by the prime minister, it aims to combine the attributes of effective private enterprise with a strong sense of social purpose.[18/]

Fig. I.E. Foreign reserves excluding gold, 1989-1993

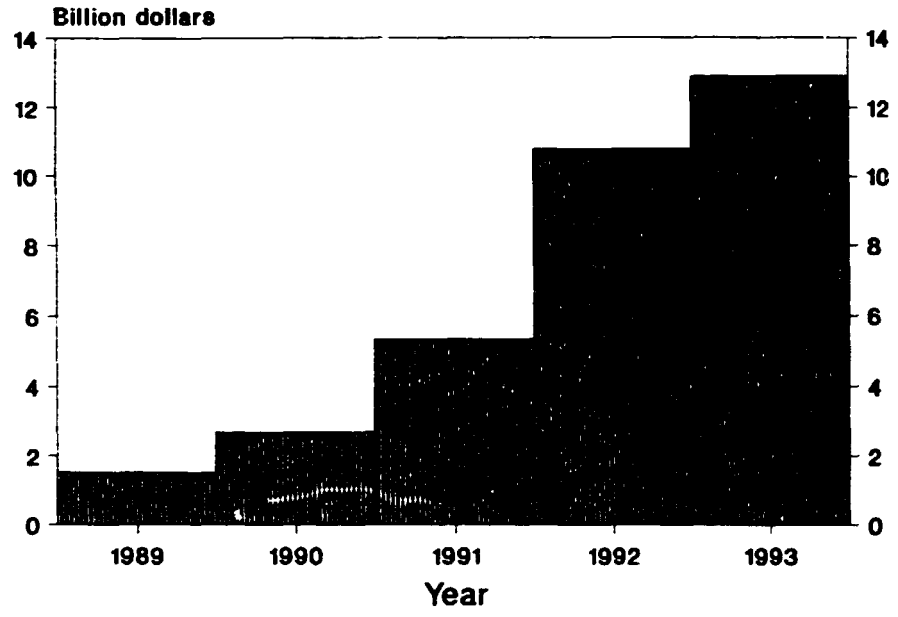
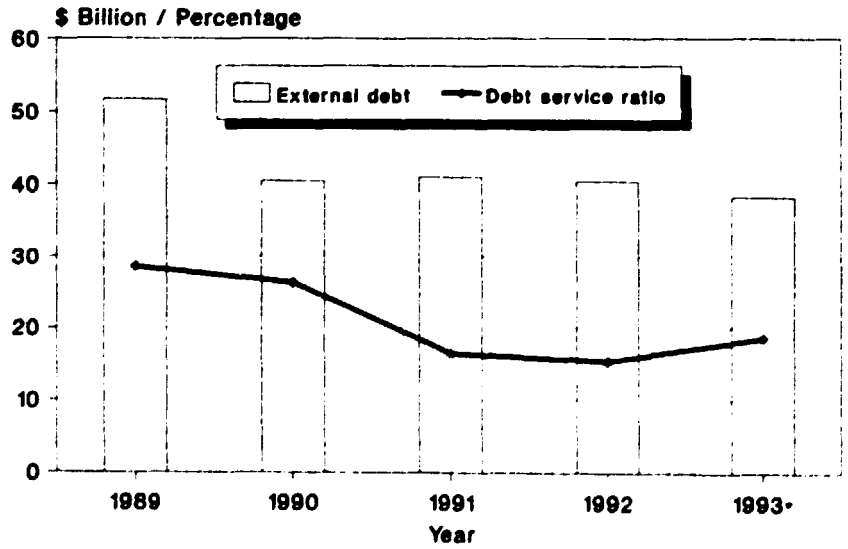
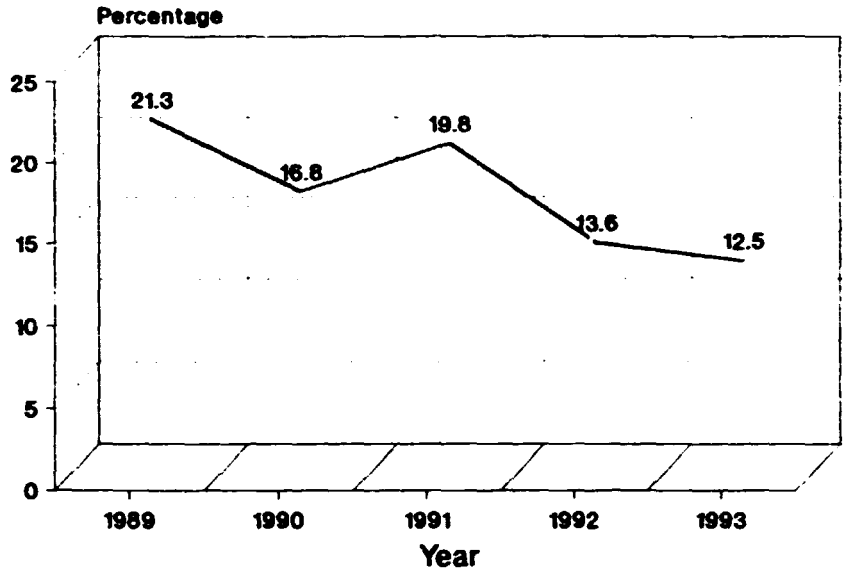


Fig.I.F. External debt (Billion dollars) and debt service ratio (Percentage), 1989-1993



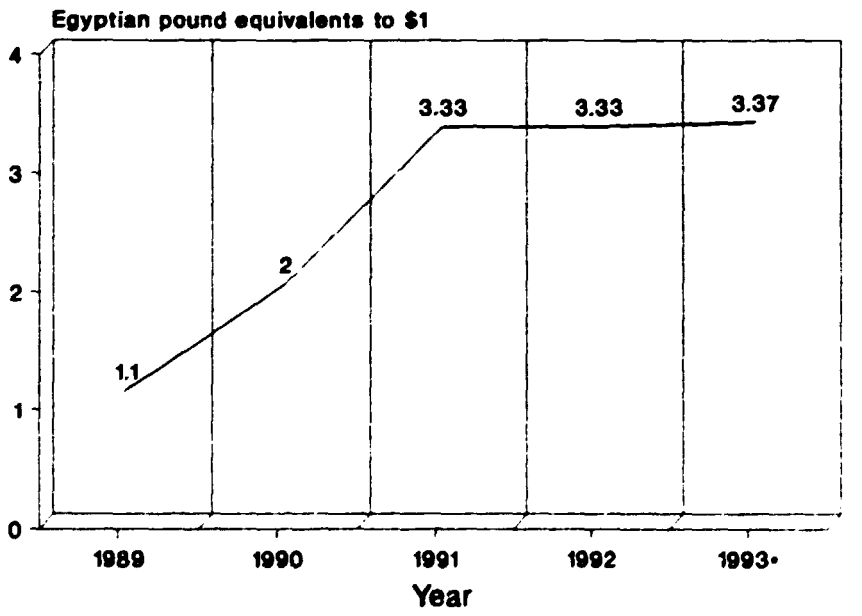
* EIU estimates.

Fig. I.G. Consumer price inflation, 1989-1993



• EIU estimate.

Fig. I. H. Exchange rate, 1989-1993



• EIU estimate.

Target groups for assistance include unemployed youth, new graduates, Gulf crisis returnees and households headed by women. Six core programmes have been established to promote income- and employment- generating activities. These consist of:

- The Community Development Programme, which mobilizes local grassroots community initiatives, either in the form of productive or social development activities;

- The Municipal Services/Public Works Programme, which seeks to improve essential infrastructure and services with labour-intensive activities such as road construction, garbage collection and road refurbishment;

- The Enterprise Development Programme, which promotes employment and income-generating opportunities in the small- and micro-enterprise sector by providing technical assistance, training and know-how as well as credit;

- The Labour Mobility Programme, which provides financial and technical assistance to facilitate mobility for unemployed graduates and workers released from privatized public-sector industries through training and retraining schemes;

- The Institutional Development Programme, which aims to strengthen the SFD's own managerial efficiency and capability to identify and implement projects and to help in the monitoring of results; and

- The Public Transport Programme, which provides bus and transport maintenance work to low-income groups in Greater Cairo and in Alexandria to help facilitate labour mobility among the population of these cities.

While some criticism has been directed at the Fund for the slowness in implementing projects in the past, the SFD maintains that it had approved 73 projects by the end of September 1993, which were expected to provide about 103,380 permanent jobs.[19/] Projects on the list include rural public works programmes in Ismailiya, Gharbiya and Beni Sweif; the creation of industrial parks in Sadat City and Sayeda Zeinab; a cattle-raising project in Fayoum; a labour restructuring programme at the Alexandria Shipyard; several women's literacy development and training schemes and a community health project.[20/]

Social spending has also been highlighted in the budget for fiscal 1994, as well as in the current Five-Year Development Plan. Slum areas are to be redeveloped as part of a major housing-development scheme costing LE 4 billion and new health services established in rural villages and poor urban districts. Mother and child care programmes have also been allocated LE 4.1 billion in the Five-Year Plan.[21/]

Box I. B. Social Fund for Development (SFD): Enterprise Development Programme

Objectives

To expand existing small enterprises to generate income and increase employment opportunities.
To create new small enterprises.

These objectives are to be achieved through developing, funding and delivering integrated packages of technical assistance, credit, and training.

Target groups and beneficiaries

- Public enterprise workers displaced as a result of economic reform programme
- Gulf crisis returnees
- New graduates
- Existing small entrepreneurs
- Unemployed persons
- Women

Appraisal and selection criteria

- Expansion of employment and income-generating opportunities in the small enterprise sector.
- Utilization of appropriate technology
- Provision for marketing and quality control
- Financial viability
- Project sustainability
- Managing capacity of sponsoring agencies

Source: Social Fund for Development.

Environmental policies

Egypt's high population density, along with the rapid growth of intensive agriculture, industrialization and urbanization has given rise to a number of chronic environmental problems, including the agricultural run-off of chemicals and minerals; the creation of untreated industrial and municipal waste, heavy air pollution in the major cities and high levels of water pollution in coastal areas as well as in the Nile Delta. While a number of laws to control environmental hazards have been passed since 1946, particularly regarding water quality and wastewater discharges and the collection and treatment of municipal solid waste, implementation and regulation have fallen considerably short of what is required to meet many minimum international standards.[22/]

However, in May 1992 the government announced a $2.6 billion plan to implement and enforce new environmental standards over the next ten years. An environmental protection law, prepared with the help of the Egyptian Environment Affairs Agency (EEAA), was passed in February 1994; this is expected to pave the way for the provision of additional aid funds for such schemes by the World Bank, Canada and Japan.[23/] While opposition is expected from the influential petroleum-producing sector, support is increasing from other quarters, notably those involved in tourism, and from many members of the People's Assembly.

D. INDUSTRIAL POLICY

The development of modern industry has long been an overriding government concern, and this was reflected in the launch of an ambitious and comprehensive Five-Year Development Plan in 1960. In the following years virtually all existing industrial operations, with the exception of small-scale workshops, were nationalized and individual shareholdings limited to a maximum of LE 10,000. A quarter of net profits were also designated for distribution to workers.

The opening of the Aswan High Dam in 1971 enabled the government to begin a huge programme aimed at developing heavy industry. Car and vehicle assembly and the manufacture of spare parts, which had begun in the early 1960s, was expanded. The giant Helwan Iron and Steel Works was expanded in 1973 and the Nag Hammadi aluminium complex two years later. In 1982 the Alexandria National Steel Company began production with a total annual capacity of 745,000 tonnes of bars and rods. The conversion of a huge cement works at Asyut, originally built with aid from the former USSR, together with the opening of several other major plants in 1985, pushed output in this sector up to 14 million tonnes by 1988. The development of Egypt's hydrocarbon resources in the second half of the 1970s and in the 1980s also led to the creation of refineries, natural gas processing plants, and to the manufacture of petrochemicals and fertilizers.

However, while the government continued to emphasize the expansion of manufacturing and heavy industry, a gradual shift in political orientation began to move policy away from the previously prevailing centralized, socialist approach to one favouring the private sector. The sequestrations of the 1960s, under which many private firms had been nationalized or in which the state had taken majority control, were declared illegal and the way opened for foreign private investment in export-oriented industries.

By the mid-1980s, Egypt's manufacturing industry could be classified into four largely independent sectors: the public-enterprise sector; the formal traditional private sector consisting of traditional firms with ten or more employees; the new private-enterprise sector consisting of firms set up under the deregulatory legislation passed since the mid-1970s; and the small-scale enterprise sector consisting of establishments with less than 10 employees. At the end of fiscal 1984, the state-owned sector consisted of some 200 large enterprises operating 936 establishments and employing about 724,000 workers. The formal traditional private sector consisted of 4,729 firms employing some 160,000 workers, the new private-enterprise sector of 305 companies with less than 30,000 workers and the informal, small-scale sector of an estimated 278,000 workshops employing about 600,000 workers.[24/]

Basic policy issues - public versus private ownership

Although the government has encouraged the growth of private industry since the mid-1970s, debate continues to rage within government ministries, the state-owned enterprises, the People's Assembly, the media and the general public about the merits of such policies and about the scope

and pace of private-sector development. The debate intensified in 1991 with the passage of Law 203 which removed nearly 400 public-sector enterprises from the control of government ministries and led to their restructuring as affiliates under 27 independent holding companies able to operate as private companies with full financial and managerial accountability. It was further exacerbated in 1992, when the government announced its intention to privatize many of these firms, having already set up the Public Enterprise Office (PEO) to carry through the reforms.

In contrast to the policies outlined in the government's current Five-Year Plan, which emphasized the expansion of private-sector industries through the injection of private capital and the establishment of new privately owned firms, the privatization programme now under way is focused on a huge sell-off of state assets, beginning with the profitable firms and leaving those incurring losses needing major restructuring for later stages.[25] This is a result of the structural adjustment programmes imposed by the IMF and by the World Bank. Indeed, the terms of the Extended Fund Facility (EFF) approved by the IMF in September 1993 stipulate that some 25 per cent of public-sector company assets are to be privatized by June 1995, and that other state-owned firms are to be restructured in preparation for their eventual privatization.[26] The overall objective, according to the IMF, is to create a decentralized, outward-oriented market economy with sustained growth.

Although the PEO insists that the pace of privatizations will accelerate, progress has been slow, being mainly limited in 1993 to companies and hotels in the tourism sector. In addition, the 27 holding companies affected by Law 203 have been rationalized down to 16, and some progress has been made in preparing a few of these firms for privatization. By the end of 1993 some 22 industrial and trading companies were on offer while the assets of 13 others were being valued in preparation for their future privatization. The PEO expected another 50 to be offered to the public by June 1994, and sales of public-sector banks (which account for 60 per cent of total bank assets) are also due to begin in 1994.[27]

In the view of the PEO and its supporters within the government, the privatization programme is necessary to increase the efficiency of the enterprises concerned; optimize the use of the government's financial and management resources by reallocating public spending to social services, human resource development and infrastructure; secure enhanced access to foreign markets, technologies and capital; increase long-term job creation; stimulate the development of the capital market; and widen the ownership base by increasing the role of the private sector in the ownership and management of national economic resources.[28] Many of Egypt's bankers, as well as most private businessmen and investors, also appear to support this view.

Opponents of the programme, who include some government ministers, members of the People's Assembly, managers of state-owned companies and large sections of the working population, see privatization as a threat to their standards of living, a means of redistributing wealth to the middle and upper classes and a source of potential social and civil conflict. While some in this camp would actually favour a greater role for the private sector in industry, they are concerned that the sale of the most profitable firms will discourage investment in manufacturing industry as a whole, leaving little managerial talent and capital for a proper restructuring of the large but loss-making publicly owned firms. Other fears have been expressed that the net result could be a further drain of funds to investors outside the country and a worsening of Egypt's already chronic pattern of emigration, particularly among the highly educated.

Box I. C. Selected candidates for third batch of privatization, 1993/94

1. El Nasr Company for Refractories & Ceramics (SORNAGA)
2. Egyptian Copper Factory Company
3. Industrial Gases Company
4. Abu Qir Fertilizer & Chemical Industries
5. Delta Spinning & Weaving Company
6. Uniarab Spinning & Weaving Company
7. Daqahlia Spinning & Weaving Company
8. Damietta Spinning & Weaving Company
9. Alexandria Spinning & Weaving Company
10. Extracted Oil Company
11. Tanta Oil & Soap Company
12. Cairo Oil & Soap Company
13. Alexandria Confectionery & Chocolate Company
14. Egyptian Starch, Yeast & Detergents Company
15. Edfina Company for Preserved Foods
16. Al-Ahram Company for Beverages
17. Egyptian Light Transport Manufacturing Company
18. Springs & Transport Needs Manufacturing Company
19. Misr Engineering & Tools Company (MICAR)
20. Egyptian Company for Refractories
21. Medical Packing Company
22. Arab Drug Company
23. El Ameriya Cement Company
24. Tourah Portland Cement
25. Helwan Portland Cement Company
26. Delta Industrial Company

Source: Public Enterprise Office

Basic policy issues - Industrial rationalization versus job creation

In the current period of transition, during which the dismantling of the public sector's dominance of the economy is not yet complete, the full benefits of private enterprise have not yet become apparent. This has important political and social implications in a country where the majority of the population lives at subsistence levels (with hunger a vivid memory even for those in employment) and where the public sector is a main provider of jobs and welfare services. Against this background the government is well aware that popular discontent, which has erupted on several occasions in the past two decades, could surface again on a broad scale, and needs to take this possibility into consideration when drafting and implementing the reform programme.

Although the economic and industrial reforms under way since 1991 are seen as the means towards the long-term creation of new jobs, and although the Social Fund has been established specifically with the idea of providing employment to those adversely affected by the radical reforms currently being undertaken, concern continues to mount at all levels of Egyptian society

about the short- and medium-term dangers of high levels of un- and underemployment. Official figures show that the average rate of unemployment in the 12 months to September 1992 amounted to 12 per cent, having risen steadily to this level over the previous four years. Unofficial estimates put the rate of unemployment and the year-on-year increases much higher than the official data, however, with one such estimate suggesting that unemployment exceeded 17 per cent of the workforce of 18 million in 1993, with the worst rates being recorded among the country's educated youth. Underemployment was thought to affect one-third to one-half of all workers.[29/]

In view of the limited opportunity for the expansion of employment in either agriculture or the government, which under President Nasser had guaranteed jobs for all new graduates, industry is widely regarded as the leading sector for future job creation. Despite the high priority accorded to the manufacturing sector as a source of employment generation by the government, the rate of growth of labour absorption by the sector slowed significantly between the early 1960s and the mid-1980s. While employment in manufacturing grew at 9.6 per cent per annum during the first Five-Year Plan from 1960 to 1965, and at 3.7 per cent during the period from the end of fiscal 1966 to the end of fiscal 1971, the rate dropped to between 2.7 per cent and 3 per cent in the 1970s and to only 1.6 per cent from 1980 to 1984. This slowdown in the rate of growth of manufacturing employment from 1960 to 1984 was due to a combination of causes, including a shift of the government's hiring policies in the large public-sector companies, relative scarcities of different categories of labour, movements of wages relative to productivity and wage differentials between public and private enterprises, and increased mechanization, especially in the newer private-sector companies.[30/]

Data collected by UNIDO indicate a significant acceleration in the growth of manufacturing employment between 1985 and 1990, however, from 917,300 to 1,109,450. This represents an overall increase of 20.9 per cent, and implies an annual average increase of about 3.5 per cent. Nevertheless, the average number of employees per reporting firm fell over the period, from 167 in 1985 to 154 in 1990.[31/] Moreover, although employment in manufacturing increased in overall terms between 1985 and 1990, the decline in the average numbers employed per firm may be an indication that the newer firms are continuing to favour mechanized production processes and that the manufacturing sector can therefore not be expected to continue to generate employment on the scale that it has in the past.[32/] In addition, the level of bankruptcies in industry has also increased significantly since the introduction of the deregulatory economic reforms.[33/]

Finally, it must be noted that the labour force is growing at an average annual rate of 5 per cent, even excluding the additional women and children who might seek employment in better economic conditions. This is well above even the more favourable rates of employment growth in manufacturing recorded in the second half of the 1980s. In the absence of specific measures to promote job creation and stimulate the adoption of labour-intensive rather than capital-intensive production technologies in the manufacturing sector, unemployment will therefore continue to increase in both the short term and the long term.

The prevailing compromise appears to be one in which the government will continue to delay progress on privatization and other sensitive reforms such as taxation and public-sector restructuring while continuing to conform to the letter of its agreements with the IMF and the World Bank. Trade liberalization measures may also be implemented more gradually than expected, in an effort to protect public-sector companies (especially those with high levels of employment, such as textiles, or others deemed vital to consumers and producers, such as sugar

refineries) from the full impact of the rise in imported input costs and competition from lower cost (or better quality) imported products.

Social spending, both by the Social Fund and by the government itself, may be increased in response to growing concern about job creation, rising prices and falling living standards, but there will be little acquiescence to demands for a complete abandonment of the reform programme. However, demands by industrialists for a further reform of the labour laws, including an end to the ban on compulsory redundancies in state-owned firms and a revision of regulations regarding worker compensation in the private sector, are likely to be resisted. Should Islamist violence escalate, the government can be expected to resort to stronger means of enforcement to protect its reform programme, while at the same time giving way to the militants' demands in other spheres, such as in culture and education.

Industrial policy will, in this sense, continue to be dominated by the themes outlined in the current Five-Year Plan. These include:

- The modernization of industrial capacity and maximization of productivity;
- An enhancement of the role of the private sector and the role of market forces in industry as a whole;
- An improvement in the quality of domestically produced goods and a reduction in the costs of production;
- The promotion of exports and the strengthening of industrial competition in local markets; and
- The reduction of government expenditure in industry and the encouragement of private investment, especially in areas deemed unprofitable for the public sector.

E. INVESTMENT POLICY

Background and evolution

The enactment of Law 43 of 1974 marked the beginning of the "infitah", or "open door", policy which encouraged foreign investment in certain export-oriented sectors in view of its beneficial effect on the economy. Although this law reflected, in part, the need to find funds to overcome the extensive war damage of the preceding eight years, it was also aimed at encouraging the transfer of technology to Egypt and the introduction of modern management and marketing techniques.

As a consequence, private investment doubled, on average, each year during the following decade, totalling LE 1 billion by the end of 1983. Inflows of foreign investment set a new record in that year, rising to LE 616 million. Arab aid, mainly from the Gulf states, also climbed dramatically, from $720 million a year in 1973 to more than $1.7 billion by 1977.[34/]

Law 159 of 1981, which forms the basis of Egyptian company law, further expanded the incentives for investment provided by Law 43 and brought private Egyptian and foreign investors under its umbrella, subject to government approval. Under its terms, Egyptian investors operating in Egyptian pounds can benefit from most of Law 43 privileges except those regarding the repatriation of funds and the payment of dividends.

The enactment of Law 230 in 1989 further amended the provisions of Law 43, making the development of private enterprise a core strategy of the government. Unlike Law 43, the new legislation permitted full foreign ownership of companies incorporated in Egypt and also granted the same privileges to projects established entirely with Egyptian capital. Moreover, these privileges can now be extended, subject to government approval, to companies set up before 1974 if their capital base has been subsequently expanded through an increase in shareholders' equity or through public share offerings.[35/]

In addition, Law 230 increased the range and amount of tax exemptions, granted all investors the right to buy land and property necessary for their projects and banned the nationalization or confiscation of private enterprises without due process of law. Debt-equity swaps were encouraged as a means of enabling foreign creditors to settle claims against Egyptian projects, and the General Authority for Investment (GAFI) was given sole authority for approval and oversight of projects.[36/] The legislation also stipulated that the Authority had to announce its decision on any new application within a period of 20 days.

While many investors, bankers and private businessmen, as well as Egypt's international donors, welcomed the new legislation, criticism of some of its aspects, and of continuing bureaucratic delays, remained. The IMF and World Bank in particular were concerned about clauses in the legislation allowing the government to establish a "negative list" for sectors and areas in which investment would be banned, or severely limited. These included energy-intensive industries such as petroleum, petrochemicals, natural gas and electricity, as well as activities in the Sinai Peninsula, where investment was to be subject to government approval on a case-by-case basis. Investment incentives in certain manufacturing projects were also subject to provisions regarding local content.

Box I. D. General privileges and guarantees under investment Law 230, 1989

- Unrestricted ownership of investment capital
- Investment projects considered as private sector projects
- No discrimination with regard to privileges granted under the new investment law
- Right of acquisition of land and real estate
- Right to operate on behalf of third parties
- No price controls or profit ceiling
- Guarantees for project assets and funds
- No expropriation of real estate or property

Source: General Authority for Investment.

However, since the law's enactment some of the more restrictive provisions have been eased. The negative list has been reduced, and stipulations on local content relaxed. In July 1993 the government announced that it was abolishing permits for investments in manufacturing, except in certain industries such as explosives and tobacco, and withdrawing the existing local content regulations. These had required domestic manufacturers of household appliances, tractors, buses,

medium- and large-sized trucks, motorcycles, bicycles, diesel engines and electrical motors to have a minimum local content ratio of 60 per cent, while subjecting manufacturers of passenger cars, pickup trucks, jeeps and pharmaceuticals to a ratio of 40 per cent.

The net result of these and other reforms since 1989 has been a further dramatic rise in foreign and private investment. By the end of June 1993 the government had approved 2,151 new projects with a total investment of LE 39.1 billion, including LE 22.4 billion in equity capital, according to figures produced by GAFI. Of these, 1,751 were inland projects entailing investments worth LE 36 billion (of which LE 20.1 was in the form of equity) and 400 for the country's free zones, worth LE 3.1 billion (with LE 1.9 billion in equity).

The number of operational projects at the end of June 1993 stood at 1,362, with another 789 in the process of being implemented. The total investment in the operational projects amounted to LE 24.1 billion (of which LE 14.4 billion was in the form of equity capital), while for those due to be implemented the figure was LE 15 billion (LE 8 billion equity).

Between the 1990 and 1993 fiscal years the rate of growth of the number of projects approved by the investment authorities accelerated steadily from 6 per cent to 16 per cent. During the same period the rate of growth of the value of approved investment projects increased from 6 per cent to 15 per cent.

The GAFI figures also show that Egyptians themselves dominate in terms of equity investments, accounting for LE 12.9 billion of the total of LE 22.4 invested between 1989 and the end of June 1993, or about 57 per cent. In addition to confirming the growing confidence of Egyptians in their own economy, the figure also reflects the substantial foreign holdings of Egyptian expatriates, which many are now repatriating. As the pace of privatizations escalates, and as the stock exchanges are expanded, considerably more funds for industrial investment could come from this source.

Arab equity investment, mainly from Saudi Arabia and the Gulf states, amounted to LE 4.9 billion between the end of June 1989 and the end of June 1993, or 22 per cent of the total. Other foreign equity investment accounted for 21 per cent of the total, or LE 4.6 billion.[37/] In the case of the USA, for example, there were almost 50 major joint-venture projects in operation in Egypt, involving companies such as Xerox, General Motors, Johnson Wax, Pepsi Co and Pfizer. Car firms from Europe, Japan and the Republic of Korea, including Peugeot, Citroën, Opel, Suzuki, Isuzu and Hyundai, have also been opening assembly or manufacturing operations in Egypt.

Private investment regulations and procedures

Private investment in Egypt by both foreign and domestic investors is governed primarily by Law 43 and Law 230. These laws apply to all fields except the financial sector and non-financial services, and specifically to investments in industry, housing, land reclamation and tourism. Foreign investments in industry tend to be in the form of joint ventures, although Egyptian partners are not always involved, e.g. in the case of projects involving unique technology. Complete foreign ownership is also allowed. Special incentives are also being given to both foreign and private investors for projects that are deemed to be of social importance or which have the potential for high job creation, especially in poorer regions or impoverished urban districts.

The benefits of Law 230 are that:

- Projects are classified as belonging to the private sector, hence escaping regulations which may apply to public-sector companies (i.e. concerning price controls and profit margins);
- Foreign currency accounts can be maintained;
- Repatriation of capital and profits is guaranteed;
- Import and export controls are subject to exemptions;
- Foreign, Arab and Egyptian investors are treated equally (except in the case of repatriations and dividends for Egyptian partners);
- Land ownership is possible;
- Funds in local currency made available by debt-equity swaps are treated as foreign-sourced investments;
- Approval for projects is required to be given within 20 days; and
- all necessary permits and licences can be obtained through GAFI, which can also act on behalf of investors in land deals.

In addition, Law 230 provides several specific tax incentives, including:

- A minimum five-year tax holiday, with up to 10 or 15 years for those establishing operations in new industrial free zones, land reclamation schemes, reconstruction areas or in new cities;
- An additional two-year tax holiday if the local content of a manufacturing enterprise exceeds 60 per cent;
- An exemption from all taxes on income and distributed profits for a period of five years from the year following the commencement of production;
- An exemption of foreign employees from the general purpose taxes associated with Law 230;
- The deductibility of business expenses up to 25 per cent of the cost of new production equipment, in addition to the usual depreciation allowances;
- The taxation of corporate profits distributed to shareholders solely under the general income tax, with 50 per cent of all such distributions being exempt from tax;
- The taxation of professional income at 18 per cent and 30 per cent; and
- A provision for corporations to deduct an amount equal to their paid-in capital multiplied by the rate of interest for savings deposits declared by the Central Bank from their net profits, which are generally taxed at a flat rate of 32 per cent (after any relevant tax holidays).

Financial incentives available under the Law include the following:

- Permission to bring in foreign currency and to obtain it on the local market for the payment of goods and services which require payment in local currency;

- Permission to replenish foreign-currency accounts of companies established under the Law by capital investments, loans, purchases of foreign exchange on the exchange markets and the proceeds of local and foreign sales;

- Permission to import goods and services, and to purchase foreign currencies;

- Permission for export-oriented enterprises to transfer their net profits abroad up to the value of their credit balances in their foreign-currency accounts;

- Permission for import-substituting enterprises to buy foreign currency on the local market and to transfer it overseas within limits set by GAFI; and

- Permission for expatriate employees to remit up to 50 per cent of their salaries in foreign currencies abroad.

In addition to Law 230, investment in Egypt's free-trade zones, which are located in Cairo, Alexandria, Port Said and Suez, also provides special incentives. These include:

- Customs exemptions for goods entering or leaving the zones, as well as for instruments, machinery and transportation equipment;

- An exemption of these projects, and resulting dividends, from all Egyptian taxes, although an annual duty of up to 1 per cent of the value of project goods entering or leaving the zone may be assessed;

- An exemption of compensations and payments to foreign employees in free-trade zone projects from general income tax;

- The applicability of the Law 230 guarantees against nationalization and confiscation of assets (except through judicial procedures) to projects in free-trade zones; and

- The exemption of all transactions in free trade zone projects from exchange control regulations.

While free-trade zones have been primarily used in the past by companies seeking to establish storage and warehousing facilities or for mixing, sorting and re-packing operations, the government has encouraged the establishment of manufacturing and assembly plants in these zones during the past year. In doing so, it has stressed Egypt's beneficial geographical position as a base for export-oriented production. Free-trade zone projects have attracted particular interest from exporters from Europe and the United States servicing the neighbouring Arab and Gulf states, including Saudi Arabia, as well as others exporting, or re-exporting, to Europe and Africa.

NOTES TO CHAPTER I

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3/ Central Bank of Egypt, *Annual Report, 1991/1992*, Ministry of Planning, Cairo.

4/ British Petroleum, *BP Statistical Review of World Energy*, London, June 1992.

5/ *Middle East Economic Digest*, 12 March 1993.

6/ *Middle East Economic Digest*, 24 September 1993.

7/ *Middle East Economic Digest*, 26 March 1993.

8/ Compiled from data published by the Ministry of Planning.

9/ Ministry of Planning, *Summary of the Third Five Year Plan (1992/1993-1996/1997)*, Cairo, July 1992.

10/ *Middle East Economic Digest*, 24 December 1993.

11/ Companies established under Law 43 were, however, often charged at rates closer to international market values. See Handoussa, Heba, "Reform Policies for Egypt's Manufacturing Sector", in Handoussa, Heba, and Potter, Gillian (Eds.), *Employment and Structural Adjustment: Egypt in the 1990s*, Cairo, 1990.

12/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

13/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

14/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

15/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

16/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

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18/ *Social Fund for Development Newsletter*, April 1993.

19/ *Social Fund for Development Newsletter*, August-September 1993.

20/ *Social Fund for Development Newsletter*, August-September 1993.

21/ Ministry of Planning, *Summary of the Third Five Year Plan (1992/1993-1996/1997)*, Cairo, July 1992.

22/ *Profile of the Environmental Business Sector in Egypt*, Report prepared for USAID Project Number 398-0365 on Development and the Environment, Cairo, December 1993; *Report on Industrial Activities and Economic Reform in Egypt*, Report presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993; "Egypt's Water Supply", *Middle East Executive Reports*, August 1993; "Air Scare", *Cairo Today*, December 1993.

23/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

24/ Handoussa, Heba, "Reform Policies for Egypt's Manufacturing Sector", in Handoussa, Heba, and Potter Gillian (Eds.), *Employment and Structural Adjustment: Egypt in the 1990s*, Cairo 1990; see also Handoussa, *"Egypt's Investment Strategy, Policies and Performance since the 'Infitah '"*, Paper presented at a seminar on investment policies in arab countries sponsored by the Arab Fund for Economic and Social Development and the Arab Monetary Fund, Kuwait, December 1989.

25/ For details of the programme, see Smith, Pamela Ann, "Major Egyptian Reforms Open Door to Investment" *Business International Weekly Report*, 22 June 1992; Butter, David, "Egypt Special Report", *Middle East Economic Digest*, 4 June 1993; Ministry of Planning, *Summary of the Third Five Year Plan (1992/1993-1996/1997)*, Cairo, July 1992; *Profile of the Environmental Business Sector in Egypt*, Report prepared for

USAID Project Number 398-0365 on Development and the Environment, Cairo, December 1993; and *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December 1993.

26/ United States Agency for International Development, *Report on Economic Conditions in Egypt*, USAID, Cairo, EAP, Cairo, 9 December 1993.

27/ *Middle East Economic Digest*, 10 September 1993.

28/ Public Enterprise Office (PEO), *General Procedures and Guidelines for the Government's Programmes of Privatization, Restructuring and Reward System*, Cairo, 14 February 1993.

29/ *Report on Industrial Activities and Economic Reform in Egypt*, Paper presented by the Embassy of the Arab Republic of Egypt to the Industrial Development Board of UNIDO, December, 1993.

30/ Handoussa, Heba, "Reform Policies for Egypt's Manufacturing Sector", in Handoussa, Heba, and Potter, Gillian (Eds.), *Employment and Structural Adjustment: Egypt in the 1990s*, Cairo, 1990.

31/ Based on reporting firms only, whose number rose from 5,497 in 1985 to 7,216 in 1990. UNIDO, Industrial Development Reviews Information Base.

32/ "Labour and Economic Reform", *Middle East Executive Reports*, February 1993.

33/ In fiscal 1992, the number of bankruptcies amounted to 10,841, although this declined to 6,892 in fiscal 1993. In contrast, the number of new companies receiving government approval to open amounted to 2,807 in the period from January to September 1992, and to 1,961 in the same period in 1993. "Main Economic Indicators", *Monthly Economic Bulletin*, IDSC, November 1993.

34/ "Egypt", *The Middle East and North Africa*, Europa Publications, London, 1990.

35/ *All About Business in Egypt*, 1993, United States Foreign Commercial Service (USFCS), Cairo and Alexandria, 1993; See also General Authority for Investment (GAFI), *Investment Law No. 230/1989*, and *Privileges and Exemptions Granted by Investment Law No. 230/1989*, Cairo.

36/ Debt-equity swaps have also been made available as a result of Egypt's 1991 agreement with its European creditors in the Paris Club. Since then, France has auctioned off 550 million French francs of its Egyptian debt stock to investors, who can resell it to the Egyptian Central Bank for Egyptian pounds to buy shares in Egyptian companies or to establish projects in Egypt. The agreement allowed for up to 10 per cent of the $20 billion of Egyptian debt being restructured to be sold in the form of debt-equity swaps. For details see Economist Intelligence Unit, *Egypt: Country Report*, Third Quarter 1993, London, 1993.

37/ General Authority for Investment, Cairo.

II. THE MANUFACTURING SECTOR

A. GROWTH AND STRUCTURAL CHANGE

Growth

At the time of its independence in 1922 Egypt was primarily an agricultural country, the industrial output of which consisted mainly of handicrafts and artisanal products. After independence the Banque Misr group helped to establish a number of industries, which laid the foundation for the development of the country's modern manufacturing sector. This process was supported by the introduction of a series of trade policy reforms in 1930 and by Egypt's role as an important allied staging base in the Second World War, which stimulated the growth of the food, textile, engineering and construction industries.

The revolution of 1952 heralded a major shift in economic and industrial policy, which was formalized in the first Five-Year Plan launched in 1959. Following the extensive nationalization of land and private enterprises, a system of centralized planning and resource allocation was introduced. Although this resulted in the creation of a large number of state-owned enterprises heavily dependent on government subsidies and investment, the first Five-Year Plan proved relatively successful. GDP grew at an annual average rate of about 6 per cent in real terms, while MVA expanded by about 9 per cent per year during this period. This pace of economic and industrial development could not be sustained in the second Five-Year Plan (1964-1969), however, because of a number of external developments. The rate of GDP and MVA growth is thus estimated to have slowed to about 3 per cent per year during this Plan period.

The advent of a new "open door" policy in the early 1970s heralded a second stage of industrialization, this time with the involvement, albeit on a small scale, of private and foreign enterprise. During the 1976-1981 Five-Year Plan, which was devised as the first phase of an overall 20-Year Plan, real GDP growth averaged about 10 per cent per year (see Table II.1). Industry, defined broadly to include mining, manufacturing and utilities, expanded at a particularly impressive annual average rate of 16.4 per cent in real terms,[1/] reflecting a sharp rise in investment in response to the new opportunities provided by the change in government policy. By 1979, this rapid industrial growth had resulted in the share of industry in GDP surpassing that of agriculture for the first time, with the former amounting to 30.5 per cent and the latter to slightly less than 21 per cent.

Much of this investment was concentrated in the hydrocarbon industries, as a result of which the mining and quarrying industries accounted for most of the growth of the industrial sector during this period, with MVA growing at about 7 per cent per year. By 1981, the share of industry in GDP had risen to almost 33 per cent. Within the industrial sector the share of the mining and quarrying industries increased from a mere 13.3 per cent (representing 2.9 per cent of GDP) in

1975 to 57.4 per cent (or 18.8 per cent of GDP) in 1981, with the share of MVA declining from almost 79 per cent (17.4 per cent of GDP) to less than 40 per cent (13 per cent of GDP).

Table II.1. Contribution of industry to the national economy, 1976-1992

Year	GDP	Agriculture	Combined industry	Mining	MVA	Utilities	Other
	A. GDP growth by sector (Percentage change at constant 1980 factor cost)						
1976	14.6	1.3	17.3	40.5	7.7	34.8	20.9
1977	11.3	-2.8	21.4	52.2	6.7	9.0	13.1
1978	9.5	5.6	25.6	54.7	5.7	12.4	2.6
1979	9.7	4.1	14.9	21.7	7.8	15.6	8.9
1980	11.0	3.5	9.6	10.5	9.2	1.6	14.9
1981	4.0	1.8	25.6	45.0	3.9	1.6	-9.1
1982	21.3	4.0	-12.7	-35.0	24.5	-18.5	58.9
1983	7.4	2.8	10.1	14.4	6.4	10.4	7.4
1984	6.0	2.1	9.5	10.6	8.2	15.4	5.4
1985	6.6	3.3	3.9	1.0	6.4	10.4	8.8
1986	2.7	2.1	1.0	-2.1	3.5	6.7	3.7
1987	4.2	2.1	6.1	4.4	7.3	10.1	3.8
1988	5.4	2.5	6.5	5.2	7.5	7.4	5.6
1989	5.1	2.0	1.6	3.8	-1.4	28.7	7.5
1990	7.6	1.7	25.1	7.9	39.3	32.6	0.5
1991	3.1	6.9	1.0	6.6	-1.1	-30.2	3.6
1992	7.8	11.5	8.9	7.6	9.3	21.4	6.4
	B. Distribution of GDP by sector (Percentage share at current factor cost)						
1975	100.0	29.0	22.1	2.9	17.4	1.7	48.9
1976	100.0	28.3	21.7	4.0	16.1	1.6	50.0
1977	100.0	27.1	22.5	6.2	14.9	1.4	50.5
1978	100.0	25.3	22.9	6.9	14.6	1.3	51.8
1979	100.0	20.9	30.5	15.8	13.6	1.1	48.6
1980	100.0	18.3	32.1	17.0	14.3	0.8	49.7
1981	100.0	20.1	32.7	18.8	13.0	0.9	47.2
1982	100.0	19.6	29.3	15.4	13.3	0.6	51.1
1983	100.0	19.6	30.0	16.1	13.2	0.7	50.4
1984	100.0	20.1	28.5	14.5	13.2	0.8	51.5
1985	100.0	20.0	28.2	13.8	13.5	0.8	51.8
1986	100.0	20.8	26.9	12.6	13.3	1.1	52.3
1987	100.0	17.7	27.3	9.2	16.8	1.4	55.0
1988	100.0	17.2	27.8	8.1	18.2	1.5	55.0
1989	100.0	16.9	27.8	7.4	18.8	1.5	55.4
1990	100.0	16.4	26.8	7.2	18.0	1.6	56.8
1991	100.0	16.0	24.6	6.1	16.9	1.7	59.4
1992	100.0	16.5	25.0	6.1	17.1	1.9	58.6

Source: UNIDO, Industrial Development Reviews Information Base.

Industry's share of GDP declined in subsequent years, however, and fluctuated around 27-30 per cent between 1982 and 1989. The implicit slowdown in the rate of industrial growth to approximately the pace of overall GDP growth was prompted by a combination of factors, including the growth of public-sector debt and the associated shortage of foreign exchange for imports, a shift of foreign investment from industrial to tourist projects, and the decline in domestic demand caused by the fall in world oil prices. The effects of these developments were

reinforced by the completion of the major investment projects launched in earlier years in the hydrocarbon industry, as a result of which the relative importance of the mining and quarrying industries declined while that of the manufacturing industries gradually increased. By 1989 MVA accounted for about 65.6 per cent of industrial output, and mining and quarrying for 29.1 per cent.

The new economic reforms of the late 1980s and early 1990s stimulated a renewed acceleration of industrial growth. A particularly strong surge was recorded in 1990, when the industrial sector as a whole expanded by 25.1 per cent in real terms, with MVA expanding by 39.3 per cent and the mining and quarrying industry by 7.9 per cent. Despite this strong growth performance in 1990, however, the continued development of other economic sectors during the 1980s resulted in a further decline in the share of the industrial sector in GDP to 25 per cent by 1992, with MVA accounting for more than 68 per cent of total industrial output.

Structural change

As a result of the comparatively early beginnings of Egypt's industrialization process, the country had already acquired the capacity to produce an extensive range of manufactured products by the early 1950s. At the time of the 1952 revolution Egypt's manufacturing sector was thus capable of producing a variety of processed foods and beverages, cigarettes, textiles, building materials and chemicals. Despite some disruptions and setbacks in subsequent years, the production of most of these processed and/or manufactured goods has advanced considerably during the past four decades.

The range of manufactured goods produced in Egypt has also increased significantly in this period. In the food, beverages and tobacco sector, new products introduced include non-alcoholic beer and tobacco products other than cigarettes, pasteurized milk and canned sardines. Wool textiles have been added to the spinning and weaving industries, which were traditionally based on cotton, while the output of synthetic textiles, jute yarn and jute textiles as well as blankets and rugs has increased substantially. Several products have also been added to the output of the building material industries, including safety glass, ceramics and sanitary appliances, while the range of domestically manufactured chemical products has been expanded to include insecticides, ferro-silicones, tyres, tubes, pencils, and several varieties of fertilizers.

A particularly outstanding feature of Egypt's industrial diversification has been the development of the hydrocarbon, engineering, metalworking and electrical products industries. Although Egypt produced small quantities of fuel oil, gasoline, kerosene, aviation fuel, gas and diesel oils, butane gas and asphalt in the early 1950s, this industry has experienced dramatic growth since then as a result of the expansion of crude oil and natural gas exploration and production. In the engineering, metalworking and electrical goods sectors, meanwhile, the country's production of metal structures, metal furniture, river tugboats, centrifugal pumps, lead products, reinforced steel, nails, accumulators, electric bulbs and bergman tubes had been supplemented by a large variety of new industrial products and consumer goods during the past 40 years. These include steel billets, sections, and castings; wire and wire mesh; butagaz stoves and containers; high pressure pipes; diesel engines; cars, trucks, buses, tractors and railway wagons; air conditioners, refrigerators and washing machines; sewing machines; water meters and heaters; electrical meters and heaters; radio and television sets; dry batteries and insulated and non-insulated cables.

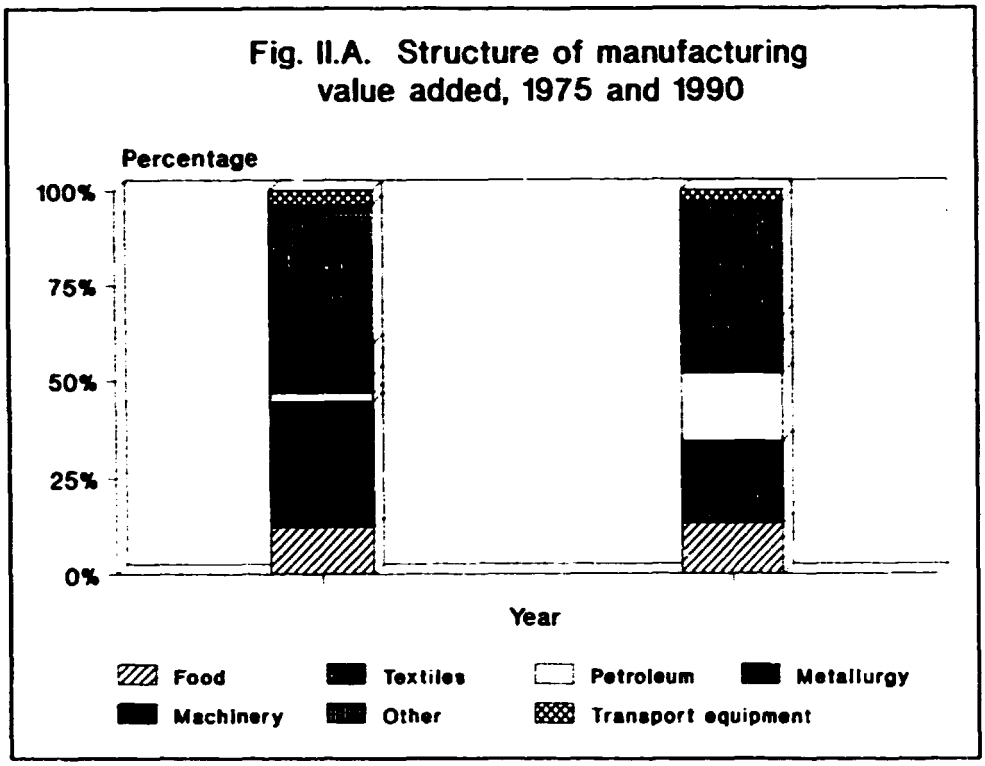
A further indication of the structural changes experienced by the manufacturing sector in Egypt is provided by data on the distribution of MVA by major branches between 1975 and 1990 compiled by UNIDO (See Table II.2). While confirming that the food-processing and textile industries together continue to account for the bulk of Egypt's MVA, these data show a marked

decline in the share of MVA accounted for by the textile industry and, especially in 1989, a dramatic increase in the share of the petroleum-refining industry. Abstracting from some inevitable year-to-year fluctuations, they also show that the relative shares of most other branches have remained broadly unchanged.

Table II.2. Structure of manufacturing value added, 1975-1990, selected years (Percentage)

Branch	1975	1980	1985	1986	1987	1988	1989	1990
Food products	12.21	17.43	14.33	17.03	7.68	22.09	13.32	13.18
Beverages	1.69	0.80	2.42	3.76	2.63	1.82	1.37	1.37
Tobacco manufactures	4.45	1.17	4.47	5.12	3.19	3.53	2.52	2.49
Textiles	32.22	28.60	17.35	18.29	16.01	15.46	21.40	21.17
Wearing apparel other than footwear	0.56	0.33	0.52	0.62	0.50	0.61	0.49	0.49
Leather and leather substitutes	0.41	0.15	0.23	0.48	0.61	0.23	0.17	0.17
Leather footwear	1.07	1.25	0.31	0.45	0.79	0.50	0.51	0.52
Wood and cork products excluding furniture	0.56	0.50	0.81	0.40	1.33	0.56	0.23	0.23
Furniture and fixtures of wood	0.41	0.38	0.65	0.43	0.47	1.39	0.15	0.16
Paper and paper products	3.21	2.40	2.57	1.83	2.06	1.19	1.40	1.39
Printing, publishing and allied industries	2.15	2.22	3.43	2.50	0.67	1.45	1.52	1.51
Industrial chemicals	2.58	3.90	4.93	4.88	3.55	3.14	4.04	4.00
Non-industrial chemicals	5.75	4.92	6.99	6.38	6.13	6.16	4.75	4.71
Petroleum refineries	2.25	2.25	2.00	2.29	1.86	2.08	16.74	17.32
Miscellaneous products of petroleum and coal	2.29	3.44	2.65	2.41	1.87	1.12	1.06	1.06
Rubber products	1.74	0.70	0.93	0.69	0.61	0.42	0.41	0.41
Plastic products	1.33	1.89	-0.70	3.12	3.50	1.85	0.97	0.97
Pottery, china and earthware	0.39	0.34	0.39	1.24	0.47	0.76	0.71	0.71
Glass and glass products	0.78	0.98	0.75	1.07	1.41	0.73	0.78	0.79
Other non-metallic mineral products	4.18	4.43	5.66	6.36	7.45	7.37	4.88	4.83
Basic iron and steel industries	2.74	4.99	3.35	1.69	1.26	5.32	5.23	5.18
Basic non-ferrous metal industries	1.83	3.63	9.50	4.91	8.85	8.00	2.96	3.01
Metal products excluding machinery and equipment	3.48	2.38	3.22	3.60	5.50	3.96	3.97	3.94
Non-electrical machinery	3.21	3.04	2.83	1.55	4.71	3.68	2.70	2.67
Electrical machinery, apparatus and appliances	4.38	3.92	6.15	4.36	6.44	2.21	4.27	4.27
Transport equipment	3.82	3.65	3.61	4.02	9.43	3.53	3.05	3.05
Professional and scientific equipment	0.12	0.24	0.44	0.31	0.99	0.75	0.27	0.28
Miscellaneous manufacturing	0.19	0.08	0.21	0.21	0.09	0.10	0.12	0.15
Total manufacturing	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source. UNIDO, Industrial Development Reviews Information Base.



B. INDUSTRIAL EMPLOYMENT

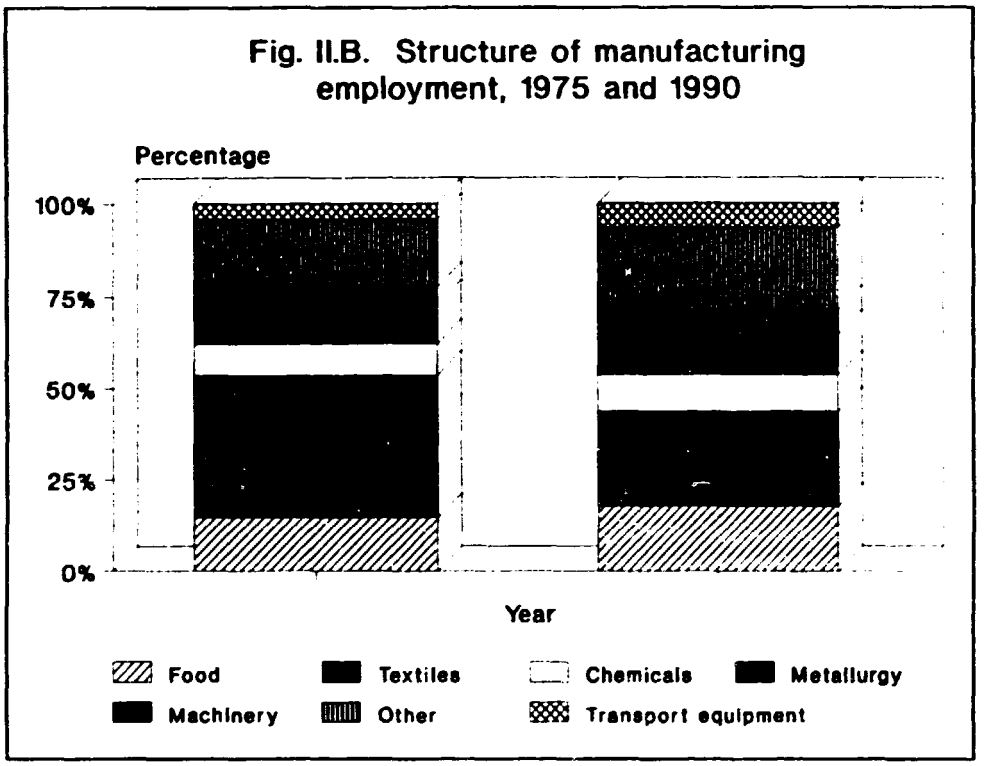
Quantitative trends

Data on employment in Egypt are difficult to obtain, particularly for the manufacturing sector. The only consistent official data series available, published by the Ministry of Planning, classifies the number of employees into "production services" (covering transport and communication, the Suez Canal, finance, trade, insurance, tourism, hotels and restaurants), "commodity sectors" (such as agriculture, mining and factories, petroleum and petroleum products, electricity, housing and construction) and "social services". No separate category is given for manufacturing industry as a whole.

The Ministry of Planning figures show that total employment in the 1992 fiscal year reached an estimated 13.9 million, of whom 4.6 million were employed in agriculture, 2.5 million in government services and social insurance, 1.9 million in industry and mining, 1.5 million in trade, finance and insurance, 1.4 million in personal and social services and 911,000 in construction. About 38,000 people were employed in the oil and petroleum products sector, with the remainder in tourism, hotels and restaurants, electricity and public utilities.[2/]

Agriculture and services therefore provide the overwhelming source of jobs for Egyptians despite the advances made in industrial development during the past four decades. Un- and underemployment is high: the government estimates it may amount to as much as 15 per cent, but

independent analysts suggest that it may be around 20 per cent or even higher. Under these circumstances, emigration has been a traditional outlet, particularly for skilled workers, professionals and technicians. About 2-3 million Egyptians were thought to be working abroad in fiscal 1992, including about 850,000 in Saudi Arabia and possibly 1 million in the Libyan Arab Jamahiriya.[3/]



Data on the distribution of the industrial labour force by subsector show that such traditional activities as textile production and food processing remain the most important sources of manufacturing employment (see Table II.3). As in the case of MVA, however, the share of total manufacturing employment held by the textile industry has declined from about 39 per cent in 1975 to 26 per cent in 1990. At the same time, the share of the food processing industries has increased from 15 per cent to about 18 per cent. These developments imply that while the food processing industry maintained a steady rate of employment growth of 3.9 per cent per year during 1975-1990, employment levels in the textile industry remained largely unchanged in absolute terms over this period, fluctuating for the most part in a relatively narrow range between 280,000 and 305,000.

With the exception of the transport equipment industries, which increased their share of manufacturing employment significantly, the relative contribution of most other industrial branches to manufacturing employment recorded no marked change between 1975 and 1990. Even the petroleum refining and chemical products industries experienced only a modest increase in their share of total manufacturing employment from 11 per cent to 13 per cent during this period, despite the significant increase in their contribution to MVA indicated above. This implies a

comparatively steady and balanced increase in employment levels throughout the manufacturing sector, with employment growth in all branches proceeding at broadly similar rates.

Table II.3. Structure of manufacturing employment, 1975-1990, selected years
(Percentage)

Branch	1975	1980	1985	1986	1987	1988	1989	1990
Food products	14.67	15.79	16.16	16.37	17.57	17.07	17.80	17.72
Beverages	1.44	1.24	2.30	2.00	2.18	2.15	1.83	1.83
Tobacco manufactures	2.00	1.82	1.79	1.86	1.68	1.65	1.66	1.65
Textiles	39.02	35.16	29.12	29.35	27.61	26.15	26.03	25.91
Wearing apparel other than footwear	0.88	0.52	0.88	1.12	1.31	1.55	2.02	2.03
Leather and leather substitutes	0.49	0.38	0.36	0.39	0.39	0.33	0.30	0.30
Leather footwear	0.83	0.82	0.83	0.87	0.98	0.93	1.13	1.14
Wood and cork products excluding furniture	0.67	0.82	0.89	0.74	0.95	0.76	0.73	0.73
Furniture and fixtures of wood	0.55	0.44	0.55	0.58	0.88	0.85	0.57	0.59
Paper and paper products	1.91	1.52	3.02	1.43	1.48	1.42	1.68	1.68
Printing, publishing and allied industries	1.74	2.33	2.53	2.27	2.06	2.17	1.69	1.68
Industrial chemicals	3.19	4.28	5.69	4.80	4.28	3.88	4.29	4.26
Non-industrial chemicals	4.05	4.23	4.64	4.50	4.96	4.73	4.27	4.25
Petroleum refineries	1.42	1.27	1.29	1.31	1.23	1.52	1.60	1.67
Miscellaneous products of petroleum and coal	0.60	0.74	1.70	0.69	0.66	0.64	0.62	0.63
Rubber products	0.70	0.61	0.64	0.67	0.65	0.63	0.69	0.70
Plastic products	1.00	1.35	1.82	1.63	1.61	1.63	1.74	1.76
Pottery, china and earthware	0.36	0.32	0.44	0.87	0.63	0.82	0.79	0.80
Glass and glass products	1.44	1.38	1.33	1.27	1.39	1.37	1.28	1.29
Other non-metallic mineral products	3.50	4.38	4.39	4.37	4.06	4.03	4.32	4.31
Basic iron and steel industries	5.46	5.37	4.98	5.11	4.53	4.45	4.70	4.68
Basic non-ferrous metal industries	1.61	3.00	2.85	3.54	2.70	2.58	1.92	1.97
Metal products excluding machinery and equipment	3.65	3.34	3.67	3.73	4.13	3.58	4.31	4.31
Non-electrical machinery	2.27	2.17	2.21	2.40	3.18	3.71	3.57	3.56
Electrical machinery, apparatus and appliances	2.35	2.58	2.53	2.47	2.74	2.82	3.16	3.18
Transport equipment	4.05	3.92	3.67	4.86	5.26	7.50	6.52	6.55
Professional and scientific equipment	0.03	0.15	0.56	0.62	0.78	0.88	0.63	0.66
Miscellaneous manufacturing	0.15	0.09	0.16	0.17	0.13	0.20	0.15	0.19
Total manufacturing	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: UNIDO, Industrial Development Reviews Information Base.

Wages and salaries

As with other employment statistics, information on industrial wages and salaries in Egypt is extremely limited. However, Ministry of Planning figures show that wages in industry (including mining) amounted to LE 4.9 billion in the 1992 fiscal year, more than double the LE 2.3 billion figure recorded five years earlier in fiscal 1987 (see Table II.4). During the same period, the number of workers employed in the sector rose by only 22.5 per cent to 1.9 million at the end of fiscal 1992. Wage costs per employee in industry and mining thus increased by about 11.8 per cent per year in nominal terms from LE 1,484 in fiscal 1987 to LE 2,588 in fiscal 1992. At the end of this period, they accounted for 14.4 per cent of the total wages paid to the entire labour force and for just under 36 per cent of those paid to workers outside the service sectors.

Table II.4. Wages by sector, 1986/1987-1991/1992
(Million LE at current prices)

Sector	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]	Percentage change 1986/1987 - 1991/1992
All sectors	**16,379**	**19,617**	**22,453**	**25,820**	**29,830**	**34,247**	**109.1**
Commodity sectors	**6,661**	**7,813**	**8,989**	**10,328**	**11,868**	**13,648**	**105.4**
Agriculture	2,663	3,116	3,535	4,000	4,530	5,191	94.9
Mining and manufacturing	2,305	2,700	3,135	3,640	4,225	4,922	113.5
Petroleum and its products	208	244	287	337	395	455	118.8
Electricity	195	233	277	331	396	475	143.6
Housing and construction	1,290	1,520	1,755	2,020	2,322	2,641	104.7
Production services	**3,836**	**4,762**	**5,500**	**6,393**	**7,471**	**8,736**	**127.7**
Transportation, communication and Suez Canal	1,056	1,242	1,457	1,709	2,005	2,354	122.9
Finance, trade and insurance	2,507	3,278	3,763	4,360	5,090	5,945	100.2
Tourism, hotels and restaurants	210	242	280	324	376	437	131.3
Social services	**5,882**	**7,042**	**7,964**	**9,099**	**10,491**	**11,827**	**101.1**
Housing	94	108	124	142	163	187	98.9
Social and personnel services	1,263	1,479	1,679	1,909	2,182	2,505	98.3
Public utilities, social insurance and government services	4,525	5,455	6,161	7,048	8,146	9,135	101.9

Source: Ministry of Planning.

a/ Preliminary figures.

An inter-sectoral comparison of wage growth during the five-year period from fiscal 1987 to fiscal 1992 shows that wages in industry and mining increased by 113.5 per cent in nominal terms. Though falling short of the increases recorded in the electricity and petroleum-refining industries, this figure exceeded the increases in most other activities included in the "commodity" sector, where the average wage increase during this period amounted to only 105.4 per cent. The rate of increase in industrial wages between the 1987 and 1992 fiscal years also compared well with the 101.1 per cent increase in the "social services" sector, although it fell short of the increase in the "production services" sector, which was buoyed by strong wage increases in tourism-related activities.

The role of women

Female labour participation in Egypt is relatively low. The latest estimates published by the International Labour Organization (ILO) indicate that the economically active share of the total female population aged above 15 years amounted to 30 per cent in 1989.[4/] To the extent that women have entered the labour force, this is believed to have been due mainly to the inability of the incomes earned by the male members of their households to meet the rising costs of living, or because of a shortage of male labour due to the high rate of emigration to neighbouring oil-producing countries.

The ILO data indicate further that the share of females employed in manufacturing industry in 1989 amounted to a mere 17.6 per cent (see Table II.5). A more detailed breakdown of these data shows that women played a particularly important role as unpaid family workers, accounting for 72.4 per cent of that category of the manufacturing labour force. Their representation in the category of employers and own-account workers was much lower at 22.8 per cent, and in the category of employees still lower at only 8.8 per cent.

Additional data on employment by sex is available for public-sector enterprises. These statistics, compiled by the Ministry of Planning, show that the number of women employed in state-owned industries rose by only 10,000 between January 1987 and January 1992, from 157,000 to 167,000 (see Table II.6). This modest increase in the number of women employed in public-sector industries was accompanied by a similarly small increase in their share of the workforce in these industries, from 12.2 to 12.4 per cent.[5/]

Some efforts have been made by the government to raise the level of female participation in the labour force. The Third Five-Year Plan, which ends on 30 June 1997, makes special reference to the expansion of the role of women in the economy and allocates LE 4.1 billion for this purpose. Women's access to education is also being increased gradually despite the existing cultural and social constraints, which include comparatively early marriages and pregnancies. Primary and preparatory education is compulsory and free of charge for both male and female students, and the number of females enrolled in these schools increased by about 74 per cent between the 1986/87 and 1991/92 school years. During the same period, the number of females enrolled in secondary schools and technical institutes increased by about 25 per cent and 48 per cent respectively.

Table II.5. Labour force by industry, status and sex, 1989
(Percentage share)

	Agriculture[a/]	Mining[a/]	Manufacturing	Construction[a/]	Utilities[a/]	Trade[a/]	Transportation and communication	Financial services	Other services
Employers and own-account workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Male	74.4	100.0	77.2	100.0	62.5	83.9	99.5	98.4	98.3
Female	25.6	-	22.8	-	37.5	16.1	0.5	1.6	1.7
Paid employment and wage earners	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Male	89.2	96.7	91.2	97.8	89.9	86.5	91.8	78.9	72.2
Female	10.8	3.3	8.8	2.2	10.1	13.5	8.2	21.1	27.8
Upaid family workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Male	36.4	-	27.6	100.0	-	62.5	91.7	100.0	89.1
Female	63.6	-	72.4	-	-	37.5	8.3	-	10.9
All categories	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Male	58.9	96.8	82.4	98.3	88.8	82.3	94.1	81.9	73.9
Female	41.1	3.2	17.6	1.7	11.2	17.7	5.9	18.1	26.1

Source: International Labour Organization, Yearbook of Labour Statistics, 1993, Table 2a, pp.50-51.

a/ Agriculture includes fishing.
Mining includes quarying.
Utilities include electricity, gas and water.
Trade includes wholesale and retail trade, hotels and restaurants.

Table II.6. Number of employees in the government and business sector by sex, 1987-1992 (Thousands)

Year	Sex	Number of employees
1987	Male	1,135
	Female	157
	Total	**1,292**
1988	Male	1,137
	Female	156
	Total	**1,293**
1989	Male	1,156
	Female	159
	Total	**1,315**
1990	Male	1,179
	Female	166
	Total	**1,345**
1991	Male	1,182
	Female	164
	Total	**1,346**
1992	Male	1,183
	Female	167
	Total	**1,350**

Source: Ministry of Planning

C. PRODUCTIVITY AND PERFORMANCE

Output

Data compiled by UNIDO show that the share of value added in the gross output of the manufacturing sector has risen significantly since the mid-1970s, from 26.6 per cent in 1975 to 31.4 per cent by 1990 (see Table II.7), implying a corresponding decline in the proportion of input costs in total output value. A particularly sharp increase was achieved in 1988, with the share of MVA in gross output fluctuating in a narrow range around 26 per cent during most of the earlier period. A slightly higher share, of between 28 and 29 per cent, was recorded in 1977 and in the three-year period from 1983 to 1985.

The average figures for the manufacturing sector as a whole conceal some significant variations between industries. Particularly strong growth was recorded by parts of the metallurgical and engineering industries, indicating the increasingly sophisticated nature of the goods they now produce. The food and tobacco processing industries recorded a similar improvement in performance, as did the leather, industrial chemicals and petroleum refining industries. By contrast, the share of MVA in the gross output of the beverages, garments, paper, rubber and plastic products, electrical and non-electrical machinery and professional equipment industries declined, largely as a result of the increasing use of better and more costly inputs, both domestically produced and imported.

Table II.7. Share of MVA in gross output, 1975-1990, selected years
(Percentage)

Branch	1975	1980	1985	1986	1987	1988	1989	1990
Food products	15.21	21.43	21.93	22.66	10.80	33.66	20.23	20.23
Beverages	36.53	18.07	34.57	39.60	33.33	31.49	29.91	29.91
Tobacco manufactures	12.35	4.72	20.28	22.37	16.60	27.23	32.36	32.36
Textiles	40.42	36.46	31.98	31.08	27.19	33.77	39.79	39.79
Wearing apparel other than footwear	28.19	18.51	25.31	27.08	15.13	20.83	17.62	17.61
Leather and leather substitutes	16.66	12.80	22.51	37.74	50.00	29.17	23.66	23.65
Leather footwear	33.87	55.37	19.35	23.75	35.49	32.38	43.81	43.81
Wood and cork products excluding furniture	27.72	22.91	24.61	27.42	47.74	34.93	19.98	19.98
Furniture and fixtures of wood	34.26	22.55	35.71	22.50	22.22	49.61	19.96	19.94
Paper and paper products	31.17	23.97	29.55	25.58	25.69	19.29	20.35	20.35
Printing, publishing and allied industries	33.78	29.92	40.74	27.85	11.25	29.53	28.40	28.40
Industrial chemicals	18.88	23.82	30.06	28.08	22.70	26.71	27.53	27.53
Non-industrial chemicals	24.71	20.53	26.35	22.71	20.49	24.33	22.51	22.51
Petroleum refineries	46.31	50.43	45.56	48.73	44.98	53.09	59.69	59.69
Miscellaneous products of petroleum and coal	21.93	30.23	35.66	33.78	31.61	24.17	24.12	24.12
Rubber products	49.28	24.33	36.74	27.62	25.56	21.23	21.66	21.66
Plastic products	37.13	29.64	-9.06	34.43	35.53	25.26	15.28	15.28
Pottery, china and earthware	54.80	45.35	45.46	39.10	31.71	32.86	31.03	31.03
Glass and glass products	32.87	40.64	41.43	44.56	40.42	33.00	33.37	33.37
Other non-metallic mineral products	37.81	34.09	36.03	33.46	34.71	44.28	37.24	37.24
Basic iron and steel industries	12.08	21.41	19.55	12.37	7.75	29.49	26.34	26.34
Basic non-ferrous metal industries	22.34	17.83	67.53	34.39	46.72	45.04	27.72	27.72
Metal products excluding machinery and equipment	33.33	23.81	29.88	31.07	37.01	37.86	35.60	35.60
Non-electrical machinery	41.31	35.89	27.39	12.43	31.48	28.11	31.20	31.21
Electrical machinery, apparatus and appliances	40.92	26.28	38.29	29.76	39.14	22.26	33.35	33.35
Transport equipment	28.32	18.72	22.90	24.35	52.67	22.97	31.35	31.35
Professional and scientific equipment	77.83	31.15	34.70	31.71	36.91	45.03	32.24	32.24
Miscellaneous manufacturing	21.99	19.30	23.53	27.28	17.85	13.85	19.64	19.63
Total manufacturing	**26.60**	**25.33**	**28.97**	**27.05**	**26.36**	**32.22**	**31.32**	**31.41**

Source: UNIDO, Industrial Development Reviews Information [illegible]

Table II.8. Labour productivity in manufacturing, 1975-1990, selected years
(Index: 100 = total manufacturing)

Branch	1975	1980	1985	1986	1987	1988	1989	1990
Food products	83	110	89	104	44	129	75	74
Beverages	118	64	105	188	120	85	75	74
Tobacco manufactures	223	64	250	275	190	214	152	151
Textiles	83	81	60	62	58	59	82	82
Wearing apparel other than footwear	64	64	59	56	38	39	24	24
Leather and leather substitutes	83	39	65	122	155	70	58	57
Leather footwear	129	153	38	52	81	53	45	45
Wood and cork products excluding furniture	84	62	90	55	140	74	31	31
Furniture and fixtures of wood	75	87	119	73	53	164	27	27
Paper and paper products	167	158	85	128	136	84	83	83
Printing, publishing and allied industries	124	95	136	110	32	67	90	90
Industrial chemicals	81	91	87	102	83	81	94	94
Non-industrial chemicals	142	116	150	142	124	130	111	111
Petroleum refineries	158	177	155	175	150	137	1,046	1,040
Miscellaneous products of petroleum and coal	380	466	380	347	285	175	171	170
Rubber products	249	115	145	103	95	66	59	59
Plastic products	133	140	-39	191	217	113	55	55
Pottery, china and earthware	110	107	89	143	75	93	89	89
Glass and glass products	55	71	57	85	101	53	61	61
Other non-metallic mineral products	119	101	129	145	184	183	113	112
Basic iron and steel industries	50	93	67	33	28	119	111	111
Basic non-ferrous metal industries	113	121	334	139	328	310	154	153
Metal products excluding machinery and equipment	95	71	88	96	133	111	92	92
Non-electrical machinery	141	140	128	64	148	99	76	75
Electrical machinery, apparatus and appliances	186	152	243	177	235	79	135	134
Transport equipment	94	93	98	83	179	47	47	47
Professional and scientific equipment	436	162	79	50	127	85	43	43
Miscellaneous manufacturing	125	83	127	124	69	49	78	78
Total manufacturing	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: UNIDO, Industrial Development Reviews Information Base.

Labour productivity

Efforts to measure the growth of labour productivity in Egypt's manufacturing sector are constrained by serious data limitations. In the face of these constraints, the best available estimates compiled by UNIDO suggest that labour productivity, measured as MVA per employee, recorded a real annual average growth rate of about 3-4 per cent between 1980 and 1990. As in the case of Table II.7, however, this average figure for the manufacturing sector as a whole hides considerable differences between individual branches, with many branches having recorded significantly higher and others significantly lower rates of growth in labour productivity.

Although the available disaggregated branch-specific estimates of labour productivity growth appear less than entirely reliable, an indication of this inter-branch variation is provided by the data in Table II.8. This presents inter-branch comparisons of labour productivity for selected years from 1975 to 1990, with the average labour productivity for the manufacturing sector as a whole in each year being used as a basis for comparison. These data show that labour productivity in such essentially labour-intensive industries as textiles, garments, leather products, glass products and motor vehicle assembly remained well below the average for the sector as a whole throughout the period under review. Similarly, levels well above the sector average were recorded in the highly mechanized or capital-intensive industries, such as tobacco processing, the production of non-industrial chemicals, petroleum refining, the manufacture of petroleum-based products and non-metallic mineral products (principally cement) and the processing of non-ferrous metals.

Significant inter-temporal changes in relative labour productivities were recorded in most cases, however. These were particularly evident in the case of beverages, leather footwear, paper and printing, rubber, pottery, iron and steel, and professional and scientific equipment, where labour productivities increased from well below the prevailing sector average to well above it between 1975 and 1990, and vice versa. The recorded improvements in labour productivity were due principally to increased investment in modern production technologies and a diversification of the product range to include an increasing number of commodities with a higher degree of value added. The relative deterioration of labour productivities in other industries during this period reflected not only their inability to attract similar levels of investment in new plant and equipment, but also shortages of raw materials, overmanning (particularly in state-owned factories), inadequate training of workers, poor management and an inefficient organization of production.[6/]

Profitability

Although the rapid pace of economic and financial liberalization is prompting manufacturing enterprises in Egypt to take steps to increase their international competitiveness, the general level of profitability in the manufacturing sector remains relatively low. Data compiled by UNIDO indicate that the share of gross profits in total MVA more than doubled between 1975 and 1990, from 12.6 per cent to 25.8 per cent (see Table II.9). Particularly substantial increases were achieved in the food and tobacco processing, leather products, furniture, industrial chemicals, glass, and metal products and engineering industries. These improvements notwithstanding, the share of gross profits in most industrial branches remained well below comparable figures for the more industrialized developing countries, where ratios of 60-80 per cent are not uncommon.

Table II.9. Share of gross profits in MVA, 1975-1990, selected years
(Percentage)

Branch	1975	1980	1985	1986	1987	1988	1989	1990
Food products	6.79	11.77	9.50	11.76	-0.43	25.43	12.20	12.20
Beverages	21.59	0.73	18.96	27.57	20.78	20.61	17.53	17.53
Tobacco manufactures	8.70	-0.05	14.86	16.86	10.88	21.46	23.55	23.55
Textiles	17.06	14.13	7.42	8.46	7.10	15.77	26.08	26.08
Wearing apparel other than footwear	9.99	8.19	12.66	12.50	3.78	9.85	4.33	4.33
Leather and leather substitutes	7.07	-2.76	5.01	22.64	35.29	15.28	10.06	10.05
Leather footwear	19.36	38.70	-4.84	2.50	17.74	15.11	34.05	34.05
Wood and cork products excluding furniture	13.44	4.94	9.53	1.62	30.97	18.49	0.86	0.86
Furniture and fixtures of wood	13.69	9.39	18.57	5.00	2.56	38.98	1.52	1.50
Paper and paper products	22.55	15.51	11.05	14.62	16.67	11.43	11.88	11.87
Printing, publishing and allied industries	12.60	8.25	20.99	9.02	-12.46	6.93	10.12	10.12
Industrial chemicals	2.53	7.59	11.39	9.86	6.11	12.09	14.84	14.84
Non-industrial chemicals	14.41	8.13	14.01	10.93	10.25	15.99	13.07	13.07
Petroleum refineries	25.43	16.86	12.43	16.75	12.23	20.51	55.18	55.18
Miscellaneous products of petroleum and coal	18.34	25.64	28.67	26.76	24.01	17.30	16.95	16.95
Rubber products	37.64	9.06	19.39	11.43	10.53	7.26	6.22	6.22
Plastic products	22.94	18.07	-22.82	24.69	27.11	16.99	6.90	6.90
Pottery, china and earthware	31.70	22.66	21.22	23.31	14.63	20.48	19.41	19.41
Glass and glass products	1.15	8.18	4.29	17.82	20.73	13.50	15.00	14.99
Other non-metallic mineral products	22.18	13.96	19.67	19.42	23.45	34.04	25.07	25.07
Basic iron and steel industries	-3.37	6.59	2.27	-9.93	-8.53	18.56	15.29	15.29
Basic non-ferrous metal industries	10.11	7.70	53.87	19.87	37.30	37.73	19.21	19.21
Metal products excluding machinery and equipment	14.34	5.62	10.12	12.76	22.45	25.34	21.70	21.70
Non-electrical machinery	20.94	20.31	10.30	-2.68	17.01	13.47	13.61	13.61
Electrical machinery, apparatus and appliances	28.41	14.59	27.30	18.54	28.40	8.53	22.41	22.41
Transport equipment	10.05	4.28	5.27	4.61	35.65	11.20	10.58	10.58
Professional and scientific equipment	67.83	5.74	10.21	0.00	15.44	21.85	5.22	5.22
Miscellaneous manufacturing	12.79	4.79	11.77	18.19	3.56	4.62	11.40	11.39
Total manufacturing	**12.56**	**10.89**	**12.85**	**11.90**	**12.63**	**20.26**	**20.40**	**20.52**

Source: UNIDO, Industrial Development Reviews Information Base.

D. OWNERSHIP AND INVESTMENT PATTERNS

Ownership

The pattern of public versus private ownership in Egypt has been changing radically as a result of the government's reform programme. By 1993 some 27 public-sector holding companies had been reduced to just 16 in preparation for a major programme of privatization and restructuring of state-owned companies. Several important concerns in the services sector, notably hotels and tourism, had already been sold to the private sector by the end of 1993. By early 1994, two major bottling companies, producing Pepsi Cola and Coca Cola, had also been privatized.[7]

The privatization programme for industry, although subject to considerable delays, was expected to proceed in the mid-1990s. The first batch of candidates lists several which are wholly state-owned and operated by public-sector holding companies under Law 203 of 1991. They include bottling companies, vineyards, a factory manufacturing steam boilers, another producing glass and crystal, one manufacturing dinner and utility ware and two others: the Suez Cement Company and Chloride Egypt. Successive stages are to include other completely state-owned Law 203 companies and Law 230 joint-venture enterprises in which the government has a significant shareholding. They include factories producing insecticides, paints, dyes and other chemicals, foods, textile and clothing, electrical appliances, pharmaceuticals, beverages, ceramics, transport equipment, marine supplies and other goods, as well as the Nile General Auto Repairs Company, the Egyptian Shipbuilding and Repairs Company, the Misr Engineering and Tool Company, the Egyptian Company for Refractories and Cement, the Egyptian Copper Factory, the Industrial Gases Company, the Abu Qir Fertilizer and Chemical Industries Company, the Egyptian Company for Refractories and the Delta Industrial Company.[8]

As a result, figures on the current, or past, ownership of industry will be subject to considerable change in the near future. Before the beginning of the current economic restructuring programme, public enterprises dominated manufacturing industry. In the 1985 fiscal year, they accounted for 60 per cent of MVA, 82 per cent of total capital stock, 54 per cent of employment and 90 per cent of exports. The public-sector industries are under the supervision of the Ministry of Industry, except for cement and pharmaceuticals. Following the adoption in 1974 of the open-door policy, private industrial investment increased from 4 per cent in 1974 to 24 per cent by fiscal 1982. By fiscal 1987, the private sector was estimated to have accounted for 43.6 per cent of manufacturing value added.[9]

Investment

Although foreign investment has been allowed under certain conditions since 1974, Law 230 of 1989 permits the complete ownership of manufacturing companies by non-Egyptian investors. Contrary to past legislation, no limits are set for the participation of domestically owned equity, and foreign companies are free to own land for manufacturing purposes.

As a result of this liberalization, private and foreign investment in manufacturing has increased substantially since the beginning of the first economic reforms in the early 1970s. By the end of June 1993, almost LE 15.3 billion had been invested in industry and mining, excluding investments made in the country's free zones (see Table II.10). Of this sum, LE 10.7 billion has been invested in 432 manufacturing projects which have already become operational, and LE 4.6 billion in 293 others being set up or planned. Equity investments in industry by the private sector had reached LE 7.5 billion by the end of fiscal 1993, including LE 5.4 billion for those currently in operation.

Table II.10. Private investment in industry, as of June 30, 1993
(Million LE)

Approved			In operation			Under implementation		
Number	Equity capital	Investment costs	Number	Equity capital	Investment costs	Number	Equity capital	Investment costs
775	7,545	15,251	482	5,439	10,698	293	2,106	4,553

Source: General Authority for Investment.

Figures produced by the Ministry of Planning show that public and private investment in industry (including mining) grew from LE 13.4 billion during the first Five Year Plan ending in June 1987 to LE 25.7 billion during the second Five Year Plan ending in June 1992 (see Table II.11). The total for the ten-year period amounted to LE 39.1 billion, or 22.9 per cent of total investment.

For the current Plan period, 1992/93 to 1996/97, the Government is expecting total investment in industry (including mining, but excluding petroleum products) to reach LE 28 billion (see Table II.12). Of this figure, LE 27.4 billion is expected to come from the public and private sectors and LE 600 million from government sources. This would represent about 18.2 per cent of the total overall investment - LE 154 billion - targeted for the five-year period. Results for the first year of the current Five-Year Plan, ie fiscal 1992/93, show that the total of public- and private-sector investment in industry amounted to LE 6 billion, including LE 200 million provided by government sources.

Table II.11. Private- and public-sector investment expenditure, 1982/1983-1991/1992
(Million LE)

Economic sectors	First Five-Year Plan	Second Five-Year Plan	First and second Five-Year Plans
Total investments	56,322.3	114,924.4	171,246.7
Industry and mining	13,375.1	25,741.5	39,116.6

Source: Ministry of Planning, Summary of the Third Five-Year-Plan 1992/1993-1996/1997

Table II.12. Projected private- and public-sector investment expenditure, Third Five-Year Plan, 1992/1993-1996/1997.
(Billion LE)

	Government sector	Business sector	Total
Total investments	64.5	89.5	154.0
Industry and mining	0.6	27.4	28.0
of which 1992/1993	0.2	5.8	6.0

Source: Ministry of Planning. Summary of the Third Five-Year-Plan 1992/1993-1996/1997

E. INDUSTRIAL LOCATION

The long history of industrial development in Egypt means that factories and workshops exist in most of the main cities and towns. However, there are several important sites devoted specifically to heavy industry, such as the iron and steel works in Helwan outside Cairo and in Dikheila outside Alexandria, the aluminum works at Nag Hammadi, the chemical complex at Aswan and the petrochemical plants at Abu Qir northeast of Alexandria and at Suez.

Since the late 1970s the government has also established several new cities on non-agricultural land which, in addition to solving the problems of urban congestion in Cairo, Alexandria and other parts of lower Egypt, are aimed at attracting new industries. These include Tenth of Ramadan City, located 50 kilometres from Cairo on the road to Ismailiya; Sixth of October City, 32 kilometres south of the capital; Sadat City, 93 kilometres from Cairo and located midway to Alexandria; and Burg al-Arab, between Alexandria and El-Alamein on the Mediterranean coast.

By mid-1994 some 470 factories producing light, medium and heavy industrial goods had been attracted to Tenth of Ramadan City since its establishment in the late 1970s and another 241 factories were under construction. Heavy industries are primarily situated outside the urban area, south of the desert road, to separate the population from potential sources of pollution. These factories benefit from good access to railway services. The city's location has also made it attractive to Egyptian investors from Heliopolis, which is a 35-minute drive away, and from Ismailiya.[10/]

Sixth of October City has a mixed industrial base, with some 200 factories, and is relatively close the thriving Cairo suburb of Giza. Foreign investors include several large manufacturers from the USA, such as General Motors, Procter & Gamble, H.J. Heinz, Johnson & Johnson and Xerox.[11/] Government plans call for an expansion of its services in tourism as well as in agricultural output with the aim of providing jobs for a residential population of some 500,000 by the end of the century.

Sadat City provides access to Cairo International Airport as well as to the port of Alexandria. About 900 factories are located in the area, and work has begun on a 500,000 square metre site for a huge new special steels complex.[12/] However, plans to attract a residential population have had limited success, and commuters have proven reluctant to undertake the relatively longer

travelling times required from either the capital or from Alexandria. Nevertheless, the city is well situated to provide consumer goods, as well as industrial products, to the large populated areas of the Nile Delta, which could also supply a large pool of skilled and unskilled workers.

In addition to the new towns, the government has established several free zones which provide special incentives to investors. These are located in Cairo, Alexandria, Damietta, Port Said, Suez and Ismailiya, with another planned for Safaga on the Red Sea coast. However, very few of the investments made in these zones to date have been in the industrial sector.

The General Organization for Industrialization (GOFI) is currently preparing a comprehensive map which is to be used as a base for expanding industrial development throughout the country.[13/] Work on the project began in October 1992 and new industrialization programmes are planned for several areas in upper Egypt, including Assiut, Minia, Qena, Beni Suef, Souhag and Aswan. Surveys for these cities, covering raw materials, manpower resources, educational and training institutions, infrastructure and employment had been completed by the end of 1993.

F. ENVIRONMENTAL ISSUES

Egypt faces serious environmental problems. These have their origins in the country's high population density and the acceleration of urbanization, especially in Cairo, Alexandria and the Nile Delta. The situation has been exacerbated in recent years by the rapid growth of intensive agriculture and industrial production, which have resulted in a significant increase in the application of agricultural chemicals and the emission of industrial pollutants.

The pollution problems are particularly severe in the case of the River Nile, which represents the source of almost all of Egypt's water and is the locus of most of the country's arable land. The failure to protect these water resources in the past has resulted in a significant deterioration in the quality of the Nile and the coastal regions. A recent study prepared by USAID showed that industries dump effluent at 20 monitored locations along the Nile, and at some 80 unmonitored locations along irrigation and drainage canals feeding into the river.[14/] Although industrial emitters of wastewater have long been subject to licensing procedures and regulations governing their discharges, enforcement has often been weak.

Concern has also been mounting in recent years about the worsening quality of the air, especially in urban areas. In Cairo and Alexandria the degree of air pollution from unregulated industries, workshops, small businesses, thermal power stations and motor vehicles has been growing rapidly. The recent removal of constraints on vehicle imports and the increased domestic production of automotive transport equipment is expected to make the problem worse in coming years. Few laws have addressed air pollution directly until 1994, and local standards were inconsistent with those prevailing internationally. In addition, enforcement procedures and penalties tended to be poorly defined and enforced.

Some early measures to regulate solid waste were introduced in 1967 and 1976, but the disposal of hazardous and industrial wastes remained largely uncontrolled until 1994. The USAID study cited above notes that hazardous solid wastes from hospitals and industries amount to 13,000 tonnes per year in Cairo alone. The city's composting plants and sanitary landfill sites have a combined maximum capacity of less than one-quarter of the solid waste generated there, leading to indiscriminate dumping in the outskirts, in drainage canals, and in other inappropriate places. The situation is even worse in smaller communities, where only about 15 per cent of solid waste is collected, compared to 68 per cent in the capital.

A comprehensive environmental protection bill was introduced in the People's Assembly in 1993 and passed in February 1994.[15/] The legislation gives special powers to Egypt's Environmental Affairs Agency (EAA) to carry out clean-air regulations and to monitor pollution. Measures to set up a special environmental police unit are also being considered. Under the new law, all proposed industrial and tourism projects must be subjected to environmental impact studies prior to approval.

Although the legislation was opposed by some sections of the oil and gas industry, especially because of concern that it would limit their ability to set up new production and transport facilities in the Red Sea and in adjacent areas where there are now a number of important tourism sites, the sector as a whole has been cooperating with government moves to reduce industrial pollution. Isomerization units, for example, have been introduced in Egyptian petroleum refineries and natural gas is increasingly being used for the generation of power. Plans are also under way to introduce lead-free fuel to the public-sector fleet of urban buses to help reduce pollution in Cairo and other cities.[16/]

Passage of the bill is expected to pave the way for some $500 million in aid funds (mainly from the World Bank, Canada, Denmark, Germany and Japan) to support new projects aimed at improving the environment and at controlling pollution, particularly from industry, the tourism sector, transport and utilities, local authorities and agriculture. About $250 million is to be spent on measures to clean up the Helwan industrial zone south of Cairo. Funds will be provided by the World Bank, the Danish Industrial Development Agency (DANIDA) and Germany's Kreditanstalt für Wiederaufbau (KfW). Other aid is to be directed toward reducing pollution in lakes in the Nile Delta near Alexandria and Port Said.[17/]

The Project in Development and the Environment (PRIDE) estimated in 1992 that more than 100 companies operating in the country already provide products or services in the environmental business sector. They consist of both state-owned and private enterprises; the former generally tending to provide equipment, the latter services. The Project, which is funded by USAID, forecasts that the environmental market in Egypt could reach almost $1.2 billion by 1997, representing an annual growth of about 20 per cent. In 1990, it was estimated to amount to about $430 million.[18/]

G. TRADE IN MANUFACTURES

Imports

Although Egypt has increased its industrial production considerably since the 1920s, the country is still a major importer of capital and manufactured goods, particularly from Europe. Data published by the Central Bank of Egypt show that the value of capital goods imported into Egypt amounted to $2.6 billion in 1982, or about 29.7 per cent of the total value of imports (see Table II.13).[19/] By 1991 this share was provisionally estimated to have fallen to 20.6 per cent. In that year, capital goods imports amounted to $2.3 billion, only slightly less than in 1982. The decreasing share therefore must be compared with the rise in imports of intermediate goods and raw materials rather than with the growing domestic production of capital goods.

Intermediate goods constitute a formidable portion of imports as well. The cost of these rose from $3.7 billion in 1982 to an estimated $4.2 billion by the end of 1991. However, the share they represent in overall imports has also been falling, from 43.1 per cent in 1982 to 38.3 per cent at the end of 1991. Again, however, this decline must be set against the rising scale of total imports, which grew by 28.1 per cent during the previous decade.

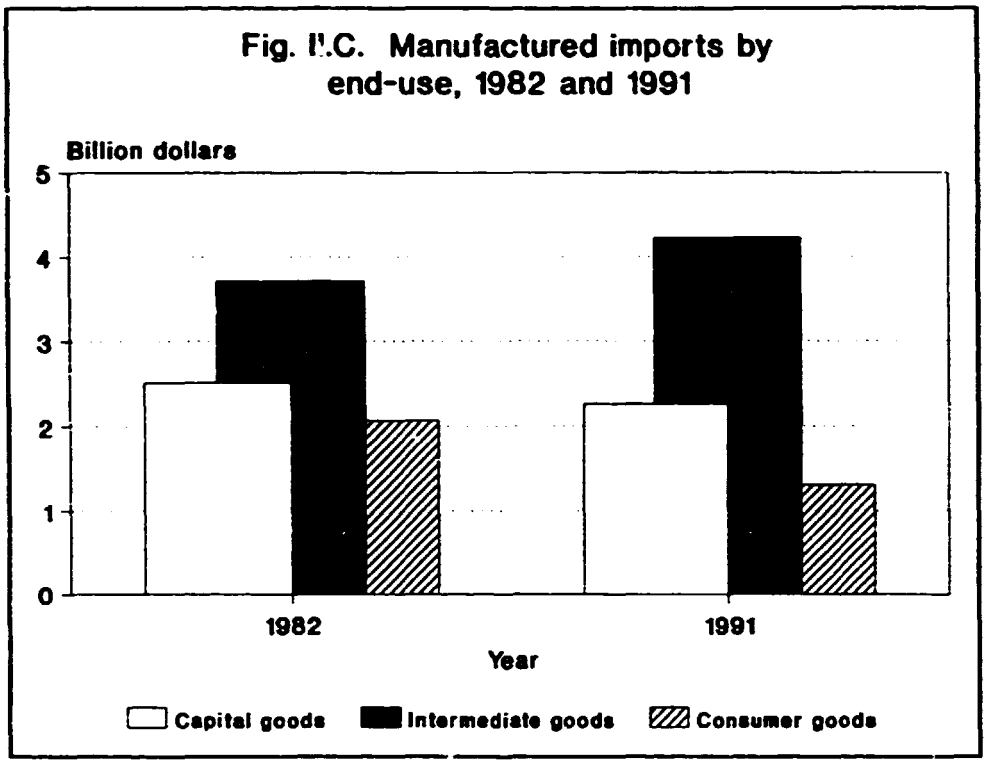


Table II.13. Imports, 1982-1991
(Million $)

Year	Total	Capital goods	Intermediate goods	Food and consumer goods	Percentage of capital goods	Percentage of intermediate goods
1982	8,605.5	2,525.6	3,710.3	2,078.9	29.3	43.1
1983	9,170.0	2,210.9	3,233.4	2,367.7	24.1	35.3
1984	11,202.1	2,452.0	4,155.0	2,691.6	21.9	37.1
1985	10,057.1	1,971.6	3,989.6	2,299.7	19.1	39.7
1986	7,968.0	1,819.9	2,553.4	2,009.3	22.8	32.0
1987	8,995.3	2,120.7	3,732.3	1,663.7	23.6	41.5
1988	10,360.8	2,207.7	4,052.9	1,844.0	21.3	39.1
1989	10,024.8	2,055.5	3,914.2	2,157.1	20.5	39.0
1990	11,629.5	2,670.4	4,754.4	1,988.7	23.0	40.9
1991[a/]	11,024.0	2,268.7	4,222.5	1,310.8	20.6	38.3

Source: Central Bank of Egypt.
a/ Provisional.

Exports

A consistent data series on Egypt's exports of manufactured goods in dollar terms is not provided by official Egyptian sources. Moreover, the statistics that do exist often provide different figures for various subsectors, ie either by value (in Egyptian pounds) or by volume. In part, this stems from the fact that a significant share of Egyptian industrial exports during the 1970s and 1980s was sold to countries with non-convertible currencies or under countertrade agreements.

The available data indicate that chemical products had become the most important category of manufactured exports by 1991/92, when they accounted for export revenues of LE 614 million. This represented a large increase over the corresponding figure of LE 112 million recorded in fiscal 1989 (see Table II.14).[20/] Exports of wood and wood products provided another LE 304 million in 1991/92, having increased to this level from a mere LE 11 million in 1988/89.

Exports of electrical and non-electrical machinery also did well, rising from LE 31 million to LE 90 million and from LE 4 million to LE 50 million respectively between the 1989 and 1992 fiscal years. Another impressive performance was achieved by the transport equipment industry, which doubled its export sales from LE 18 million to LE 36 million during this period.

A significant contribution to Egypt's manufactured exports is also made by the country's metallurgical industries, with substantial quantities of cast iron and steel-based products having been exported in recent years. In addition, paper products (including pulp and printed materials) and glass have begun to emerge as important industrial exports. Handicrafts of various kinds also continue to play a modest role in Egypt's export trade.

Table II.14. Manufactured exports, 1988/1989-1991/1992

Description	Unit	1988/1989	1989/1990	1990/1991	1991/1992
Chemicals	LE million	112	119	217	614
Wood and wood products	LE million	11	14	0	304
Mechanical and electrical machinery	LE million	31	26	0	90
Non-electric machinery	LE million	4	5	0	50
Iron and steel cast iron products	LE million	18	24	0	36
Products of iron strips and sheets	Thousand tonnes	12	14	40	40
Steel bars	Thousand tonnes	55	100	40	40
Transp. products	Thousand tonnes	10	15	25	38
Special iron products and iron accessories	Thousand tonnes	9	15	19	20
Metals (cast iron and steel)	Thousand tonnes	0	6	17	10
Printing and paper	Thousand tonnes	1	0	1	4
Newsprint	Thousand tonnes	0	0	0	4
Flat and engraved glass products	Thousand tonnes	1	1	1	2
Packaging (cartons)	Thousand tonnes	0	0	0	1
Paper pulp	Thousand tonnes	0	0	0	1
Handicrafts	Thousand tonnes	1	1	12	0.1

Source: Central Bank of Egypt.

Fig. II.D. Value of selected manufactured exports, 1991/92

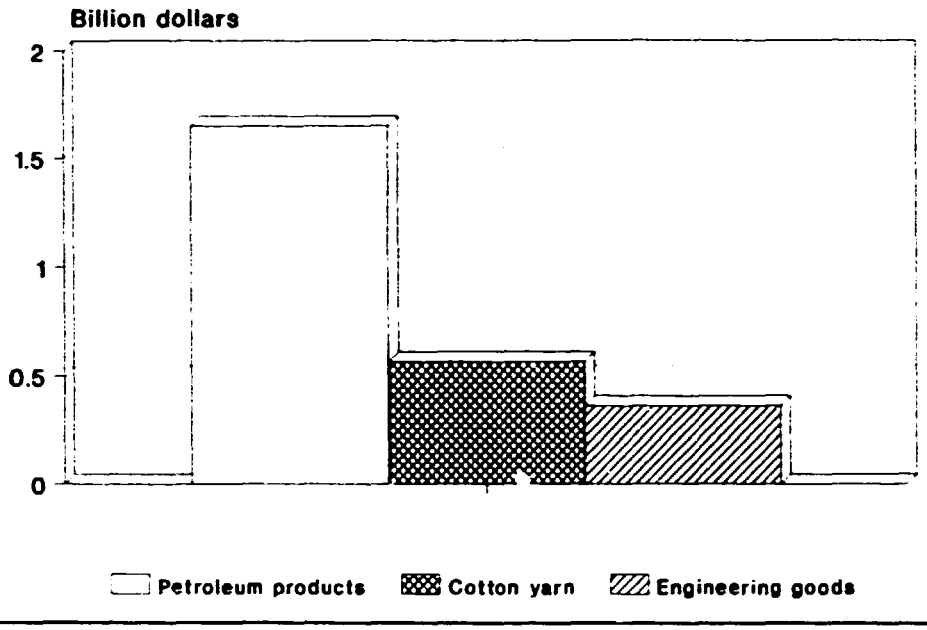
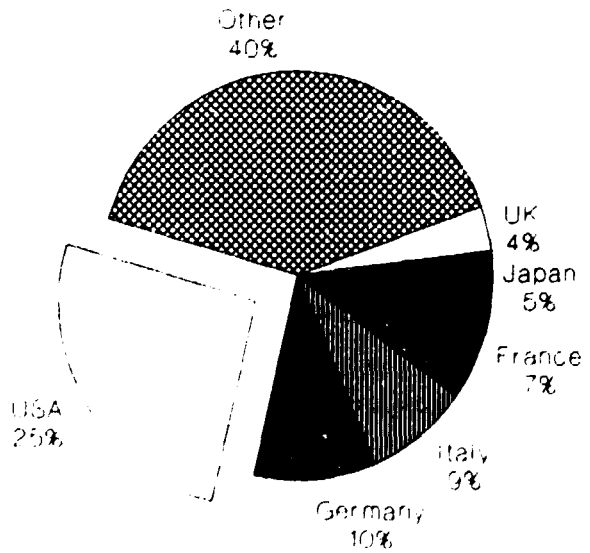
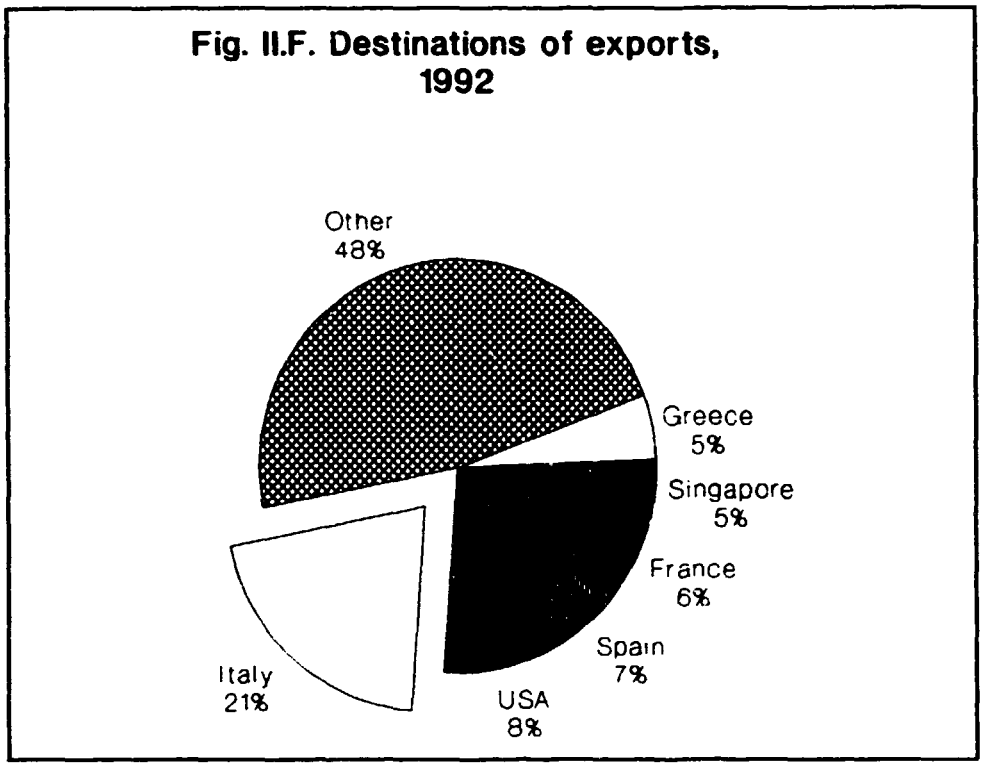


Fig. II.E. Origins of imports, 1992





H. INTERNATIONAL COOPERATION FOR INDUSTRIAL DEVELOPMENT

International aid funds have made a major contribution towards the promotion of national development since the 1970s. In 1990, official development assistance (ODA) amounted to $5.5 billion, or about 17.2 per cent of Egypt's GNP. ODA in the form of grants amounted to $2.4 billion.[21/]

Multilateral donors include the specialized agencies of the United Nations, the World Bank, the International Fund for Agricultural Development (IFAD), the African Development Bank and the Arab Fund for Economic and Social Development (AFESD). Bilateral aid, in the form of both loans and grants, is provided by European countries such as Denmark, Germany, Italy, Netherlands and the United Kingdom, by Canada and the US Agency for International Development (USAID) and by several Gulf states, especially Saudi Arabia.

Although some $8 billion in ODA had been pledged to Egypt for 1992 and 1993, the impact of the recession in Europe and the considerable fall in world crude oil prices is expected to lead to a reduction in the amount of aid Egypt receives in the mid-1990s. At the same time, the government is determined to limit any further borrowing to finance development as much as possible. For these reasons, high priority needs to be given to the effective use of aid funds and the improvement of the aid-management systems.

been requested to assist the Ministry of International Cooperation, which is responsible for coordinating external assistance, in setting up a system for the management of the aid portfolio. This would be followed by the preparation of an annual development assistance report.

UNDP's Fourth Country Programme, which operated from 1987 to 1991, was designed to help fulfill the national priorities and strategies outlined in Egypt's Second Five-Year Development Plan. UNIDO played a major role in helping to implement projects in industry, which accounted for 21.4 per cent of the total funds budgeted under the Programme.[22/]

The Fifth Country Programme runs concurrently with Egypt's Third Five-Year Development Plan from 1992/93 to 1996/97. It is expected to involve total resources of about $52 million.[23/] The government is concerned to promote the following priorities, which will need technical cooperation:

(a) Supporting self-reliance through economic and management development for the implementation of the social and economic reforms agreed in 1991;

(b) Supporting sustainability through the design and implementation of sustainable human development and an environmental action plan.

UNIDO could be involved in many of the proposed areas of cooperation between UNDP and the Government including:[24/]

(a) The Economic Reform and Structural Adjustment Programme (ERSAP);

(b) Public sector restructuring and the privatization programme;

(c) Management development;

(d) Management information systems; and

(e) The development of a transnational economic focus to promote the development of international competitiveness in industry and its adoption of a market-oriented approach.

NOTES TO CHAPTER II

1/ Industrial Development Reviews Information Base.

2/ Ministry of Planning, *Five Year Plan for Economic and Social Development, 1992/1993-1996/1997*, Cairo, July 1992.

3/ Economist Intelligence Unit, *Egypt: Country Profile 1993/1994*, London, 1993.

4/ International Labour Office, *International Yearbook of Labour Statistics 1993*, Table 1, p. 14.

5/ Some caution must be exercised when using these figures, however, because it is not clear from the categories used whether "business public sector" employment - as opposed to that of "government agencies" - includes state-owned companies in commerce, banking and other services as well as public sector manufacturing industries.

6/ For important case studies of labour productivity in Egypt's manufacturing industry see Abla M. Abdel-Latif, *Labour Productivity in the Egyptian Ready-Made Garment Industry*, paper presented at the Second Conference of the Economics Department, Cairo University, 23 to 25 April 1991, and International Bank for Reconstruction and Development, *Arab Republic of Egypt: Cotton and Textile Sector*, Report No. 9381-EGT, Washington D.C., 20 November 1991.

7/ Economist Intelligence Unit, *Egypt: Country Forecast*, Third Quarter 1993, London, 1993.

8/ Ministry of Planning; Public Enterprise Office.

9/ International Bank for Reconstruction and Development, *Arab Republic of Egypt: Current Economic Situation and Economic Reform Program*, Report No. 6195-EGT, Washington D.C., October 1986; See also United Nations Development Programme (UNDP), *Industrial Restructuring and Development Programme*, and Handoussa, Heba, *Developments in the Public Manufacturing Sector and Implications for the 1987/1988-1991/1992 Five Year Plan*, Paper presented to the Eleventh Conference of Egyptian Economists, November 1986.

10/ "Egypt New Policy", *Business Monthly*, Cairo, March 1992.

11/ "Egypt New Policy"; *Business Monthly*, Cairo, March 1992.

12/ Economist Intelligence Unit, *Egypt: Country Report*, Fourth Quarter 1993, London, 1993.

13/ General Organization for Industrialization in the Ministry of Industry, Cairo.

14/ *Profile of the Environmental Business Sector in Egypt*, Report prepared for USAID *Project No. 398-0365 on Development and the Environment*, Near East Bureau, Cairo, December 1993.

15/ *Middle East Economic Digest*, 18 February 1994.

16/ Economist Intelligence Unit, *Egypt: Country Forecast*, Third Quarter 1993, London, 1993.

17/ Economist Intelligence Unit, *Egypt: Country Forecast*, Third Quarter 1993, London, 1993.

18/ USAID, "Profile of the Environmental Business Sector in Egypt", *Project in Development and the Environment*. Near East Bureau, Cairo, Project No. 398-0365.

19/ The Central Bank's compilations do not specify whether the dollar figures are in constant or current prices. Nor is it clear what exchange rates have been used, i.e. official rates or those of the parallel market which existed until 1993.

20/ It is not known from the data available whether this includes petrochemicals as well as industrial and other chemicals.

21/ UNIDO, "Fifth Country Programme for Egypt" in *Programme Planning, Country and Inter-country Programmes and Projects*", Vienna, 1991.

22/ UNIDO, "Fifth Country Programme for Egypt" in *Programme Planning, Country and Inter-country Programmes and Projects*", Vienna, 1991.

23/ UNIDO, *Briefing Note on Arab Republic of Egypt*, PPD/AREA/ARAB, Vienna, 23 November 1993.

24/ For a general outline of UNIDO's orientation and activities prior to the Fifth Country Programme, see *Country Brief Egypt: A New Era of Industrial Cooperation*, Regional and Country Studies Branch, PPD.143(Spec.), Vienna, 28 November 1989.

III. INDUSTRIAL BRANCH PROFILES

A. FOOD PROCESSING

STARCHY STAPLE FOODS

The resource base

Egypt is one of the principal producers of starchy staple food crops in the Middle East even though only about 4 per cent of the available land area in the country is suitable for cultivation, the remainder consisting primarily of desert. The country's traditional starchy staple food crops consist of rice, maize, wheat, barley, millet and potatoes. With nearby 4.2 million tonnes of wheat and 5.1 tonnes of maize in 1992 (see Table III.1) domestic production met 48.2 per cent of Egypt's wheat consumption, and 74.8 per cent of its maize consumption. The country is self-sufficient in rice and potatoes, with a surplus for export.

Table III.1 **Production of starchy staple foods, 1952-1992, selected years**
(Thousand tonnes)

	1952	1987	1988	1989	1990	1991	1992
Barley	118	148	120	138	142	121	234
Maize	1,506	3,619	4,088	4,529	4,798	5,122	5,069
Millet	522	551	586	585	628	675	764
Potatoes	..	1,801	1,862	1,657	1,638	1,786	..
Rice	517	2,279	2,132	2,679	3,168	3,448	3,910
Wheat	1,081	2,721	2,838	3,182	4,266	4,483	4,169

Source: Central Agency for Public Mobilization and Statistics, *Statistical Yearbook, 1952-1992* (June 1993).

In the late 1980s and early 1990s government policy began to change significantly, partly in response to the demands of its international donors, including the World Bank and the International Monetary Fund, for a reduction of government subsidies on food and a lowering of the government's budget deficit. Previous attempts to lower these had already met with severe public discontent. It was hoped that measures aimed at increasing domestic agricultural output, by reducing government controls and encouraging private investment, would help to minimize the impact of price rises on foodstuffs as the subsidies were gradually withdrawn.

During the period, state intervention in the cropping system was eliminated, the role of central planning reduced and compulsory delivery quotas, usually at depressed prices, removed. Crop prices were to be determined by market forces; input subsidies phased out and the private sector allowed to import agricultural supplies directly. State-owned agricultural and food companies would also be privatized.

The government's role would henceforth concentrate on land reclamation, providing the necessary infrastructure - such as irrigation, water supplies, seed and soil research, credits for small- and medium-sized farms, environmental controls on land, air and water pollution, construction of glasshouses (which are needed to avoid excessive heat and sun as well as cold), marketing and storage facilities and training - and the revision of agricultural law to enact the necessary changes. Since then, finance for the reforms has been obtained from USAID, the German Agency for Technical Co-operation (GTZ), the Food and Agriculture Organization of the United Nations (FAO) and other international agencies, as well as other bilateral and multilateral donors.

The Kuwait Fund for Arab Economic Development (KFAED) has also provided KD 70 million ($242 million) in loans for a $250 million project to build a huge siphon to pump water beneath the Suez Canal into northern Sinai. Both the Saudi Fund for Development (SFD) and the Abu Dhabi Fund for Arab Economic Development (ADFAED) have promised financial assistance for later stages of the scheme.

The siphon will create a new water supply system. Water will be brought from the east branch of the Nile via the El-Salam Canal and then pumped through four tunnels five metres in diameter. The system is to be installed 28 kilometres south of Port Said, from where it will be transported 150 kilometres into northern Sinai. Capacity is expected to be 160 cubic metres of water a second. Altogether, it will enable some 168,000 hectares of land to be irrigated for use in cultivation.

The Abu Dhabi Fund has also allocated $75 million in loans for additional irrigation projects in and near the Nile Delta. One of these aims to supply additional pumps costing a total of some $9.3 million to farmers in the region in 1994 to help irrigate an additional 26,000 acres of desert. More than 50,000 pumps have already been installed along the Nile river itself.

Japan, meanwhile, has agreed to help fund the installation of 20 floating irrigation stations on the Nile in the provinces of Qena and Awan in Upper Egypt. The project, which is expected to cost ¥2,500 million ($21 million), will enable 16,800 hectares to be irrigated. However, although the government had originally been planning to reclaim a total of some 1.6 million feddans (1 feddan = 0.42 hectares or 1.04 acres) during the 1990s, pressure from the World Bank and certain aid donors may reduce this, particularly if the government adheres to its insistence that such activities be turned over to the private sector, leaving the government to concentrate solely on infrastructure projects aiming at strengthening the agricultural resource base in general and the production of strategic crops in particular.

Rice

Recent trends

Despite a lack of adequate irrigation facilities, Egyptian rice farmers have recorded an impressive performance with the aid of more productive and disease-resistant high-yielding varieties, the introduction of which has helped to offset the effects of an unexpected rise in the price of fertilizers and pesticides. Both the area under rice cultivation and productivity have consequently increased significantly since the mid-1980s, giving a substantial boost to Egypt's production and

exports of rice, which according to the latest available data rose to an estimated 170,000 tonnes in 1992 from 32,000 tonnes in 1989. The main destinations of Egypt's rice exports include western Europe, neighbouring Arab countries and Africa.
Rice mills are being increasingly modernized. Obsolete capital stock is being replaced by automated, continuous processing facilities. A modernized factory in Alexandria typifies the modernization wave sweeping across rice mills in Egypt. The new plant in Alexandria incorporates drying and complete storage facilities, including technologies which efficiently separate the husk, the brokens and bran from the rice with a yield of 67 per cent of complete grains from paddy rice.

Constraints and prospects

Price liberalization makes rice production financially attractive given the absence of water charges. However, the provision of an adequate supply of water for rice cultivation is a formidable challenge. In addition to the demands of irrigated agriculture, the growth of the population is adding to demand for domestic drinking and household water supplies and for its use in industry. By the year 2000 total consumption is forecast to rise to 70 billion cubic metres, compared to the current level of 60 billion. Conservation efforts to re-use drainage water in agriculture, to line irrigation canals to reduce seepage and the greater use of underground supplies could produce another 4 billion cubic metres a year according to official estimates, while the introduction of irrigation equipment that waters selectively (rather than through flooding) may provide another 2 billion cubic metres annually.

The Ministry of Agriculture collaborates with the Ministry of Irrigation and Public Works in order to ensure adequate supply of water to irrigate substantial areas under rice cultivation. It is being contended that rice production using existing technology is competitive when the crop is used in rotation where the water supply is insufficient. The modernization of rice mills is expected to strengthen the export potential of expanding rice production in Egypt.

Wheat

Recent trends

Following an impressive 4.5 million tonnes of wheat harvested in 1991, production in 1992 stood at under 4.2 million tonnes. Factors contributing to the improvement in wheat production until 1991 included the introduction of better strains during the previous decade and the deregulation of wheat prices paid to farmers. Yields for wheat averaged 5.9 tonnes a hectare, with some farms managing as much as 9.6 tonnes a hectare, compared with only 4.2 tonnes a hectare in 1987. The improvement in wheat production helped to reverse the declining trend in cereal output expressed in per capita terms: based on an index in which the period 1979 to 1981 represented 100, output rose from a low of 93 in 1986 to 124 in 1990.

Wheat imports in 1992 were forecast by the United States Department of Agriculture to reach 5.5 million tonnes, mainly from the United States, Australia and the European Communities (EC). This compares with estimated imports of 5.37 million tonnes in 1991, just over 5 million in 1990 and 5.67 million tonnes in 1989. However, the Department expected Egyptian imports of wheat flour to fall to 300,000 tonnes in 1992, compared with 1.3 million tonnes in 1989, 719,000 tonnes in 1990 and 441,000 tonnes in 1991.

Constraints and prospects

Egypt is endeavouring to raise the annual production of wheat to 20 million tonnes by the year 1997. The Ministry of Scientific Research has announced an LE 80 million plan to develop high-yielding seeds. In the absence of a dramatic increase in wheat production, the country is likely to spend about $20 billion annually on wheat imports.

The increase in wheat production over the years has done little more than keep pace with the rise in consumption. According to rough estimates, each Egyptian consumes 200 kg of flour a year, the highest in the world. Given the fact that consumption patterns are unlikely to be altered significantly, Egypt will remain the world's largest flour importer and a major wheat importer.

Maize

Recent trends

Maize production was estimated to have grown from 3.6 million tonnes in 1987 to over 5 million tonnes in 1992. Maize output has benefited from the privatization of the maize trade and a curtailment of imports in the late 1980s, with output rising 25 per cent between 1986 and 1989 when producer prices averaged more than $200 a tonne, double the world average.

Constraints and prospects

Maize production continues to benefit from the new wave of reforms and agricultural expansion programmes. Crucial areas of reform relate to removal of price controls, state control and land reclamation.

Potatoes

Recent trends

Potato cultivation encompasses 17 per cent of land area destined for vegetable cultivation in Egypt. For a long period the country depended heavily on imports for potato seeds. Recently there has been a dramatic reduction in potato seed imports. With a view to achieving self-sufficiency and to growing different varieties appropriate to different export destinations in Europe and the Arab states, the government is encouraging the private sector to take an active role in potato cultivation, potato seed production and in running potato research institutes.

The United Kingdom, a primary importer of Egyptian potatoes, bought an estimated 100,000 tonnes in 1991 and while this was expected to increase in 1992, pushing total potato exports up to 220,000 tonnes compared with 210,000 in 1991, tighter inspections of quality at United Kingdom ports in the early part of the year were later projected to push the United Kingdom figure down to only 60,000 tonnes. Other previous buyers of potatoes included countries in western Europe and in the Middle East.

Successful marketing abroad by companies such as Farm Frites Egypt, which has introduced a wide range of potato products from crinkle cut chips and potato chips to potato balls and fried potatoes, provide an example of how product development and marketing can help to open export markets in Europe and the Gulf states, while adding value to one of the country's most important export crops.

Constraints and prospects

The high cost of modern irrigation is a constraint on potato cultivation. However, the returns in terms of export earnings more than offset the high cost of cultivation. Private farm operators collaborate with the Ministry of Agriculture in the National Potato Seed Production Project in order to provide farmers with sufficient quantities of potato seeds. This is expected to save around $60 million spent on potato seed imports annually.

A number of enterprises have ventured into a high degree of processing activities. Success in enhancing value added in potato processing depends upon investment in the latest processing equipment, as well as in marketing, advertising, training and management.

FRUITS, VEGETABLES AND BEVERAGES

The resource base

A wide range of citrus fruits is grown in Egypt, including oranges, tangerines, clementines, satsumas, grapefruits, lemons, and limes, in addition to pineapples, bananas, apricots, apples, melons and watermelons, mangoes and guavas, as well as other "exotic" fruits such as kiwi-fruits and papayas. Production of oranges alone in the 1991 season amounted to about 1.7 million tonnes (see Table III. 2).

Table III.2. Production of fruits and vegetables, 1987-1992
(Thousand tonnes)

Type of crop	1987	1988	1989	1990[a/]	1991[a/]	1992[b/]
Fruits total	**3,687**	**3,609**	**4,144**	**5,019**	**5,378**	..
Apples	31	44	45	173	176	..
Apricots	29	33	42	38	25	..
Bananas	278	355	388	408	442	..
Dates	542	494	572	542	603	..
Figs	25	31	39	88	78	..
Grapes	510	557	621	694	636	..
Guavas	196	184	235	265	263	..
Lemons	208	235	238	411	418	..
Mangoes	106	99	129	144	152	..
Olives	29	31	32	62	65	..
Oranges	1,387	1,199	1,389	1,636	1,964	..
Peaches	32	33	33	74	89	..
Pears	62	52	73	55	52	..
Plums	35	35	49	46	27	..
Pomegranates	20	17	24	24	28	..
Strawberries	20	24	26	43	30	25
Sweet lemons	1	1	1	2	3	..
Tangerines	134	151	170	278	298	..
Other	42	34	38	36	29	..

Table III.2. Continued.

Vegetables total	**10,336**	**8,641**	**7,992**	**8,394**	**8,034**	**8,643**
Artichokes	53	45	83	74	67	43
Aubergines	431	371	364	385	415	343
Cabbages	431	460	347	381	424	436
Carrots	116	94	94	92	93	90
Cauliflower	113	101	71	86	83	96
Green peppers	261	262	242	271	282	234
Haricot beans, dry	28	19	21	24	31	20
Haricot beans, fresh	157	122	114	123	148	129
Kidney beans, dry	7	6	5	7	10	5
Kidney beans, fresh	21	28	13	15	16	23
Lettuce	132	124	111	121	118	125
Marrows	436	419	368	347	396	342
Melons	163	163	183	138	138	132
Okra	64	60	56	64	67	65
Parsley	43	41	44	65	64	67
Peas, dry	6	7	7	3	1	3
Peas, fresh	89	96	90	100	101	174
Radishes	15	17	14	15	13	15
Cucumbers	275	265	290	267	278	298
Spinach	50	51	37	39	40	36
Sweet potatoes	63	116	55	102	128	90
Taro	107	93	125	99	118	128
Tomatoes	4,921	4,212	3,997	4,234	3,806	4,697
Turnips	756	81	52	49	53	58
Water melons	1,370	1,165	1,000	1,007	894	712
Other	228	223	209	286	250	282

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Including Nobaria area.
b/ Preliminary estimates.

Vegetable cultivation is extensive, and the favourable climatic conditions in the country allow the production of two or more crops a year. Glasshouse cultivation, along with the use of irrigation on reclaimed land, is also expanding as private-sector investments in agriculture are liberalized. Crops include tomatoes (4.7 million tonnes in 1992), carrots, cauliflowers, cabbages, aubergines and green beans. Sugar production, using both cane and beet, is also rising, and amounted to about 1 million tonnes by the end of the 1980s.

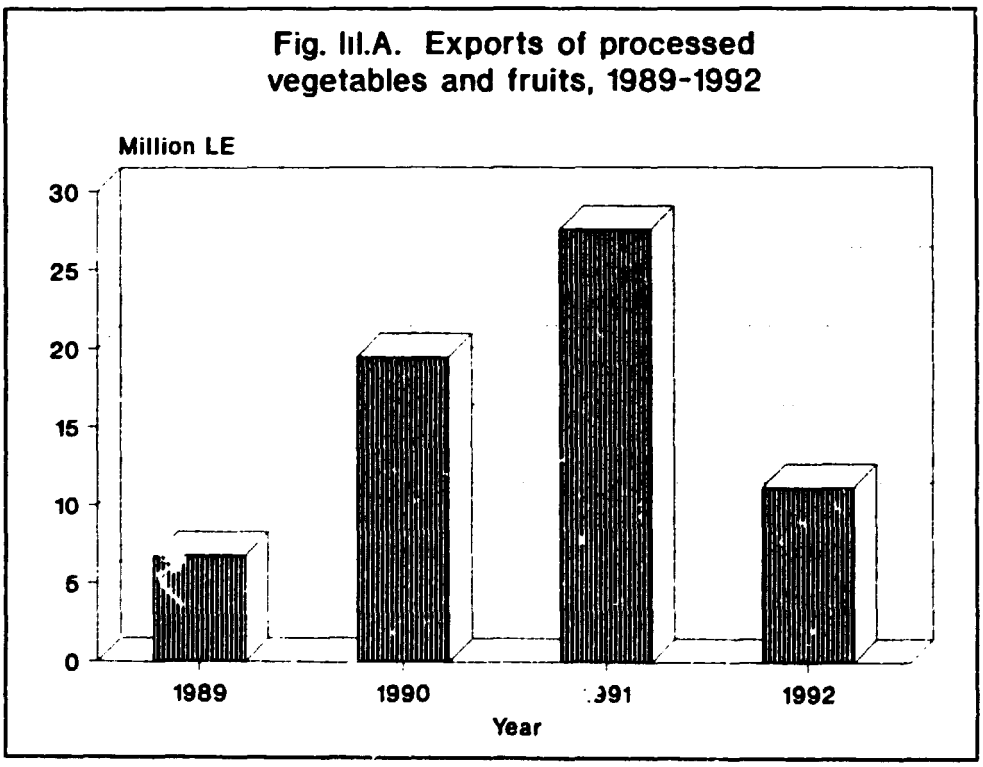
Recent trends

The production of preserved vegetables rose significantly from 7.3 million tonnes in 1986/87 to 10.7 million tonnes in 1990/91, but declined marginally to 10.2 million tonnes in 1991/92. The production of canned vegetables also recorded a similar trend, rising significantly for several consecutive years until 1990/91 (see Table III. 3).

Table III.3. Production of preserved and canned vegetables, 1952-1991/1992, selected years (Tonnes)

	1952	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992
Preserved vegetables	..	7,238	8,484	9,689	9,324	10,700	10,225
Canned vegetables	600	7,430	4,941	5,118	7,162	8,061	7,960

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).



Beverages

Fruits and vegetables constitute a substantial resource base for the manufacture of a wide range of beverages although the production of several varieties of soft drinks is based on imported ingredients. Soft drink and juice producers include two large government-owned organizations, the Egyptian Bottling Company (EBC), an affiliate of the state-owned Holding Company for Food

Industries, and Nasr Bottling. EBC operates under franchise from Pepsi Co, while Nasr Bottling has a licence for Coca-Cola, which was originally held by the private-sector concern, Egyptian-Germany Food Company (Fine Foods), until it ceased producing beverages in 1991. Both concerns dominate this subsector in Egypt, with the various carbonated drinks and juices produced by Pepsi Co and Coca-Cola accounting for about 70 per cent of the local market. Subsidies for production, although decreasing, are available to EBC and to Nasr Bottling from the government, but both were privatized in the first stage of the government's announced sell-offs in early 1994.

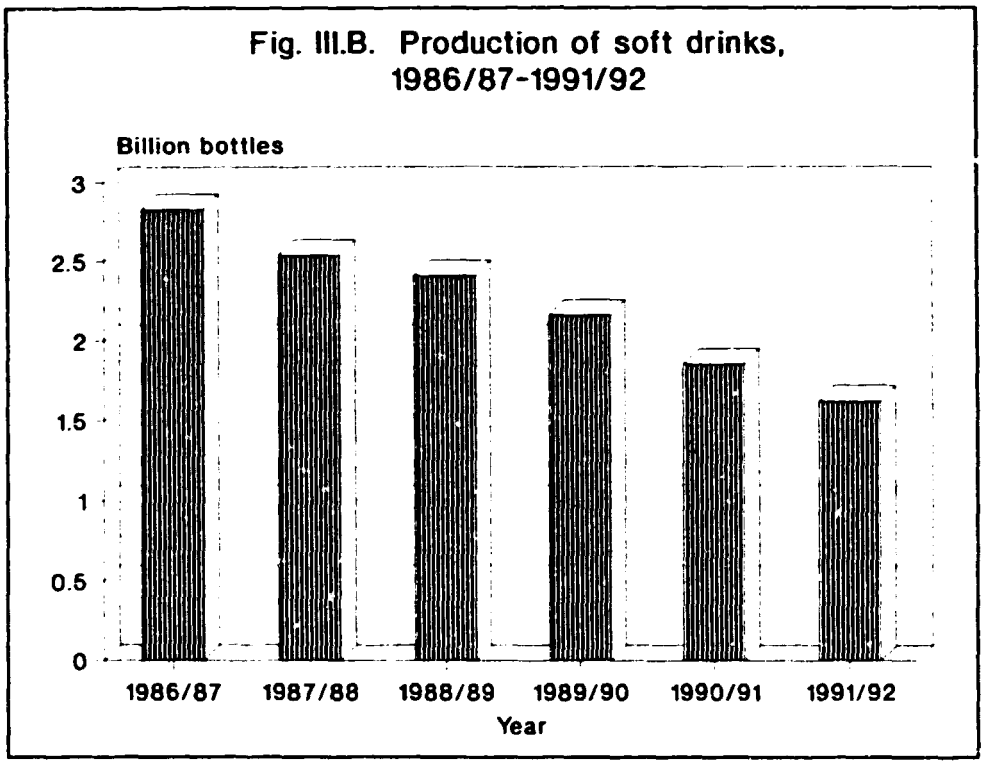


Fig. III.B. Production of soft drinks, 1986/87-1991/92

Large public-sector firms such as Kaha and Edfina dominate the local market for non-carbonated drinks and juices, primarily because of their lower production costs and cheaper retail and wholesale prices. Private companies such as Juhayna and Nile Food - which broke the government monopoly in the sector when they began operations in 1983 - produce higher quality, but more expensive, products. Yet another firm, Tasty Foods, operates in the sector as a joint venture with Pepsi Co, which holds 50 per cent of the equity. Nile Food exports about 10 per cent of its output, but also relies on other products, such as ice creams, to maintain profits. Juhayna reported net sales of $10 million in 1991, about 20 per cent of which came from exports.

In addition to fruit and vegetable juices, Egyptian production of beverages includes non-alcoholic drinks such as mineral and bottled waters, soft drinks, and the processing and packaging of imported tea and coffee as well as alcoholic products such as beer, wine, brandy, rum, anisette and ouzo. Water is available from underground springs and aquifers, as well as from the Nile River and the Delta.

Malt is grown in Egypt for the production of beer and other malted drinks, but hops are imported. Grapes for wine-making are grown on a 15,000-acre estate south of Alexandria in the Delta area. Annual production amounts to about 25 million kilogrammes of 25 different varieties, including both reds and whites.

Mineral and bottled natural water companies include the United Company for Mineral Water in Egypt (El Mottaheda), founded in 1979; Vittor, a joint-venture company 50 per cent owned by Vittel of France - also founded in 1979; and Nilcom, which began production in 1984. El Mottaheda's brand, "Mineral", is produced from deep wells some 75 feet below ground in the Bilbeis area, about 50 kilometres north of Cairo in the governorate of Sharqiya. Technical assistance is provided by Evian of France. Vittor's "Baraka" brand taps sources up to 170 metres underground at Gungara, 60 kilometres north of Cairo, near Benha in the Delta region.

Both companies filter the supplies through sand to remove manganese and iron, then through an activated charcoal filter to absorb odours and gases. A final filtration, using crystals, removes any remaining particles, while ultraviolet light is employed to kill bacteria. Both also contain mineral salts, unlike the bottled natural water "Helwan" produced from Nile river waters by Nilcom at Al-Tabeen, a southern suburb of Helwan just upstream from the city's industrial complex. The water is purified using sand and coal filtration systems as well as coagulation and precipitation procedures, and is then oxidised using ozone gas.

El Mottaheda also produces carbonated water, while the other two limit their output to still water. Each also manufactures its own plastic bottles from imported polyvinyl chloride (PVC), and all three depend on imported water filters, bottle manufacturing and filling equipment imported from France. Moreover, all three have set up their own distribution facilities, including fleets of trucks, although some outside contracting is used during periods of heavy demand, particularly in the summer.

Baraka enjoys the largest market share domestically, concentrating on supplying "upmarket" outlets such as hotels and restaurants in Cairo and Alexandria. Its wholesale prices amounted to LE 9.00 per case of 18 litres in 1992. Helwan supplies bottled water to United Nations troops and to some international oil companies operating in the Sinai Peninsula. These were said to account for about a quarter of its sales in 1991.

Production of both tea and coffee is dependent on imports, with local output centering mainly on processing and packaging. Tea consumption amounts to about 91,000 tonnes a year. Tea production is dominated by the public-sector company, Shemto, which is supplied through bulk imports purchased by the Ministry of Supply on public tenders. These consist mainly of "dust" tea costing from $1,060 to $2,000 per tonne. Private sector firms such as El Minshawi, which handles the Lipton brand from the United Kingdom, also import packaged tea, although government controls limit these to packages of between 100 grammes and 1 kilogramme. Other private companies with factories established in one of Egypt's free zones are allowed to import or to buy bulk tea from abroad and to pack it themselves, but strict price controls affect sales in the local market at both the wholesale and retail levels, as well as for the importer.

Coffee production was dominated by the privately owned Misr Cafe company, which concentrates on pre-packaged brewed coffee for supermarkets and larger retail outlets, until 1991 when the Swiss giant, Nestlé, was allowed to begin production of its instant "Nescafe" brand. Some 800 other roasters operate in Egypt, buying green coffee beans from importers to produce roasted beans and ground coffees, either pure or blended. Misr Cafe's output includes light, medium and dark Turkish coffees, coffee mixed with cardamom, an American-style filter coffee, "French" coffee

with chicory, decaffeinated coffee and cereal coffees made from malt, beet root and chicory. Exports, mainly of decaffeinated coffees and of cereal coffees, are sent to Australia and Canada, Europe and the neighbouring Arab states. Capacity totals 420 tonnes, of which about 300 tonnes are exported. Nescafe is reported to have taken about half of Misr Cafe's domestic market share when it began operations, even though it is more expensive. Misr Cafe officials say this is because of the popularity of its brand identity, rather than because of quality.

Beer production is a public monopoly operated by the state-owned Pyramids Beverages Company, makers of "Stella" beers, which has breweries in Giza, Alexandria and Sharqiya. Originally established in 1897 by the Dutch brewers, Heineken, it currently produces lager beer, malt beer, non-alcoholic beer and soft drinks. Average annual output amounts to about 500,000 hectolitres of alcoholic drinks and 100,000 hectolitres of non-alcoholic products. Exports to the neighbouring Gulf states consist of non-alcoholic beers under the "Stella" and "Birell" labels as well as malted apple and malted lemon drinks.

Originally established by a Greek family 50 years ago, the Gianaclis vineyard - the only sizeable commercial facility in Egypt - south of Alexandria produces about 10 million litres of wine a year for both the local and export markets. Nationalized in 1961, and now known as the Egyptian Vineyards Company, it produces nine different wines, brandy, rum, anisette and ouzo, as well as non-alcoholic grape juice and apricot juice. Distilleries are located in the vineyard area as well as in Alexandria. Wine exports, averaging from 3 to 5 million litres a year, are sent to Austria, Denmark and Switzerland, while the non-alcoholic drinks are destined mainly for the Gulf states and other neighbouring Arab states. Equipment, including machinery for pressing grapes, storage, bottling and labelling as well as testing, has been imported from France, Germany, Italy and the United States and includes some of the latest computerized models. Although originally corks were imported from Portugal and Spain, other sources have been used recently.

Constraints and prospects

The removal of price controls and the elimination of barriers to imports is already having a dramatic effect on the beverages sector. A wider range of products is now available, especially for those consumers able to pay higher prices, in supermarkets, hotels, restaurants and tourist resorts. At the more popular end of the market, however, persistent constraints on production by the public-sector companies, rising production costs and a lack of investment are restraining sales.

Both Pepsi Co and Coca-Cola are also reported to be planning to modernize their production facilities and to improve distribution and marketing once the current privatization programme is completed. The way will also be open for other international manufacturers to compete, although given the long lead times needed, they will be at a disadvantage compared to these two giants.

The prospects for the fruit and vegetable processing sector in general and the beverages industry in particular will depend greatly on the scale and success of the privatization programme. Egypt's fertile soil, favourable climate and improved prospects for citrus fruit production in particular could provide the base for a considerable expansion of output of juices and of other fruit and vegetable drinks to markets in Europe and the Gulf states, as well as to the United States. Products such as mango and guava juices could command a premium, once quality, packaging and continuity of supply are guaranteed.

The advent of such huge international concerns such as Pepsi Co and Coca-Cola producing in the private sector, while posing a short-term threat to local producers, could also help to spread access

to better technology, marketing and product development, thereby enhancing the industry's knowledge of, and ability to meet, wider export opportunities, as well as improving its ability to satisfy local needs. So too will the introduction of a wider variety of teas and coffees through the penetration of international brands with particular blends and advertising.

Given that Egypt's domestic market for beverages is sensitive to price, rather than quality, only those manufacturing companies which can supply products at reasonable cost will be able to enjoy the economies of scale that will create the profits needed to finance investment to upgrade plant, expand marketing and advertising and enlarge storage and distribution facilities. While small-scale operations catering for the tourist market, urban supermarkets in Cairo or Alexandria, or exporters may be able to operate at a profitable level, the removal of import bans on competitive products is expected to have an adverse effect on existing sales by local manufacturers in the domestic market.

The beverages sector in Egypt has, for most of the past decade, suffered from a lack of adequate quality controls, a lack of investment, a high dependence on imported inputs (including bottles and cans, manufacturing and quality-control equipment, and commodity inputs in the case of tea, coffee and certain soft drinks) and from an almost complete lack of modern marketing and management methods. Private-sector firms such as Fine Foods, Tasty Foods and others have sought to overcome the obstacles, but often with only modest success.

Fine Food's decision to quit the sector in 1991 is testimony to the severe difficulties caused by soaring production costs and the lack of a sufficient domestic market able to afford high quality products in a climate in which the large state-owned bottling companies have dominated output. Although government subsidies have, in the past, been less than those in the food sector - ie less raw material imports are subsidised - the ability of such companies to win the key international franchises due to their lower costs and large-scale production facilities has left little room for domestic manufacturers seeking to expand the output of generic products or those which could produce more value added from Egypt's own agricultural production.

Yet the fact that the country's vital citrus fruit crop is now seeking additional markets (at a time when the harvest is up by one-third or more a year due to the reforms in agriculture), because of the reduction in demand from previous eastern European outlets, makes such a development more important than ever if the crop is not to be wasted or under-priced. The same applies to potentially high-earning vegetable crops, such as tomatoes and carrots, and to grapes, mangoes, papaya, pineapple, guava and melons which could be used in the beverage industry for premium exports to Saudi Arabia and the neighbouring Gulf states, and possibly to wider export markets in Europe, the United States and Asia.

A severe constraint exists in the form of subsidiary industries needed to supply the beverages sector. Beer production, for example, suffers from a lack of adequate bottle tops which could prevent flatness; the same applies in the case of corks or capped bottles for the wine and spirits industry; plastic and glass bottles and recyclable, self-opening aluminium cans for soft drinks, juices and bottled waters; carbonated waters for bottling; and distribution services as a whole. Marketing, including store promotions, product design, advertising and graphics is also in great need of investment and development, as are testing and quality-control facilities and production equipment in general.

In general, with Egyptian towns and villages replete with street vendors selling juices of all kinds, and market traders supplying tea and coffee at popular prices, the manufacture and production of beverages requiring costly imports, high-quality ingredients, quality controls, nationa

distribution and/or brand name marketing will, of necessity, need to be targeted either for export or at the small segment of the local market which can bear higher retail prices. Sales to the hotel and catering trade, as well as to the tourism sector, have been growing rapidly in recent years.

The possible exception is the large-scale production of international brand-name soft drinks, such as Coca-Cola and Pepsi Co, and of imported, pre-packaged branded teas and coffees. Investment in distribution services, as well as in packaging and marketing, could also help Egypt's bottled water producers and others manufacturing non-alcoholic drinks or "health foods" such as decaffeinated coffees, teas and coffee substitutes, to expand their output, both for local consumption and for export.

The United States Department of Agriculture, for example, has noted that the expansion and increased output of horticultural products from reclaimed desert areas led to a record output of 2.2 million tonnes of citrus products in 1992. Fruit harvests were also up significantly, including high-value export crops such as peaches and strawberries. Egypt's advantage in being able to harvest, process and market such crops during the April to June period would give it an unbeatable competitive edge in European markets, which currently depend on high-cost imports of such commodities and related products from countries such as Chile and South Africa during this period.

CASH CROPS

The resource base

Egypt's principal cash crops used in food processing are cotton seed, soya beans and sugar cane. The production of cotton seed declined significantly from 584,000 tonnes in 1987 to 483,000 tonnes in 1991, while that of soya beans fell from 134,000 tonnes in 1987 to 59,000 tonnes in 1992. After two consecutive years of declining output, sugar cane production rebounded well in 1992 with a record production of 11.6 million tonnes (see Table III.4). Domestic production of sunflower seed is insignificant. The above-mentioned crash crops are widely used for the production of edible oil.

Table III.4. Production of cash crops, 1987-1992
(Thousand tonnes)

	1987	1988	1989	1990	1991	1992
Cotton seed	584	532	498	504	483	..
Soya beans	134	129	91	107	120	59
Sugar cane	8,424	10,795	11,213	11,144	11,095	11,624

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Recent trends

Around 75 per cent of Egypt's edible oil requirements is met by imports, and one-quarter is produced locally. Cotton seed accounts for 60,000 tonnes of edible oil production, while soya

beans and corn turn out 12,000 and 3,000 tonnes of edible oil, respectively.[1/] Around 95 per cent of local edible oil is produced by public-sector companies.

Constraints and prospects

Edible oil consumption in Egypt is estimated to reach 63,000 tonnes in 1995. A fall in the cultivation of oil seeds, particularly cotton seeds or soya beans, is predicted, with a resultant decline in the local production of crude edible oil. Because sunflower seed production is not sufficient to offset a fall in the production of other oil seeds will force the government of Egypt to spend about LE 1 billion annually on oil imports.

The use of high-yielding hybrid seeds is essential for enhancing productivity levels in the cultivation of oil seeds in Egypt. Two companies in Egypt turn out 120,000 tonnes of hybrid seeds annually which is sufficient to cultivate over 45,000 acres of land. But these seeds are exported. Prevention of losses in oil extraction and introduction of good packaging are important. The edible oil processing industry has significant scope for generating job opportunities for farmers, saving foreign exchange spent on imports, and providing by-products, such as protein feed for animals, with a substantial potential impact on dairy products.

Confectionery products

The resource base

The production of sweets and confectionery products depends heavily on imports of sugar, cocoa beans, oil, fats, coconut milk, nuts, dried fruits etc. The cost of imports rose significantly in the late 1980s due to the depreciation of the Egyptian pound and successive increases in duties on essential imports, including packaging materials.

Recent trends

Production figures as reported by the members of the Chamber of Food Industries show that the production of halawa, Egypt's popular sweet, stood at 25,927 tonnes in 1989/90 (see Table III.5). The production of halawa increased dramatically since 1975, with a number of varieties based on imported almonds and nuts.

Table III.5. Output of confectionery products, 1989/1990[a/]
(Tonnes)

Halawa	25,927
Toffee	929
Caramels	802
Chocolate, cocoa and butter	3,068

Source: Chamber of Food Industries, Cairo.

a/ As reported by the members of the Chamber of Food Industries.

Enterprises affiliated to the Chamber of Food Industries turned out 3,068 tonnes of chocolate, including cocoa and butter, in 1989/1990. The open-door policy led to a spurt in chocolate manufacturing which was further triggered by a surge in the demand for a variety of chocolates. In the mid-1970s the country had only five public-sector chocolate manufacturing enterprises, equipped with obsolete capital stock. By the end of 1993 the number of chocolate factories rose to over 500, with the emergence of a large number of private enterprises to tap the country's lucrative chocolate market. Competition among chocolate manufacturers seems to be severe between public and private enterprises in the production of wafer, the most affordable and popular type of confectionery product among the middle- and low-income group in Egypt.[2/]

Constraints and prospects

High customs duties levied on essential imports constitute a major constraint affecting the cost competitiveness of confectionery products. In the wake of rising production costs most of the major private dealers seem to have fought hard to establish their foothold in external markets. However, Egyptian chocolates are still quite competitive in Africa and in Arab states. For example, Cadbury Egypt, a leading chocolate manufacturing enterprise, reaps 25 per cent of its sales from the Gulf states, Jordan, Oman and North Africa. Egypt's confectionery industry is indeed one of the principal items on the country's export profile of food products. New companies using international brand names continue to step up production to satisfy the growing home market and to meet ambitious export targets.

DAIRY PRODUCTS

The resource base

Stocks of cattle numbered 1.95 million and of water buffalo 2.65 million in 1989. Buffaloes account for around 55 per cent of the country's dairy herd and produce about 68 per cent of total milk production. Local baladi cows and imported Friesian cows account for 45 per cent of the country's dairy herd.[3/] Small farmers owning less than 3 acres of land account for over 70 per cent of Egypt's total milk production. Large commercial dairy farms sell much of their output to Misr Dairy, a state-owned enterprise manufacturing dairy products. Currently local production meets only 60 per cent of domestic milk requirements. There is a need to expand large-scale commercial dairy farms in order to cope with the rising demand for dairy products.

Problems in obtaining sufficient feed are thought to have reduced commercial stocks of sheep and goats, which were estimated to have numbered 1.32 million and 1.65 million respectively in 1989, although there are some indications that villagers with access to home-grown corn supplies actually expanded their livestock. Stocks of both cattle and of water buffalo were less severely hit, as farmers bought more expensive feedstuffs, such as berseem, to replace the previously subsidized imports, and as producer prices for dairy products improved due to the ban on poultry imports.

Recent trends

Production of milk during 1980-1990 rose to 2.3 million tonnes, up from 1.2 million tonnes, and of eggs from 2 to 3 billion. In terms of average annual growth rates, this amounted to 12.6 per cent in the case of poultry, 9.2 per cent for milk, 5 per cent for eggs and 3.1 per cent for red meat. Removal of subsidies on imported feed for poultry caused output in this subsector to decline sharply in 1988, but production had rebounded to about 250,000 tonnes in 1989, exceeding the peak of 216,000 tonnes achieved in 1987 when output was heavily dependent on imported feed.

Data obtained from the Chamber of Food Industries, as reported by its members, show production, export and import figures in volume and value terms for the year 1989/90, the latest year for which reliable data is available (see Table III.6). Apart from fresh milk production, cheese production constitutes an important processing activity. A large proportion of the country's fresh milk and imported non-fat powder milk are used for the production of cheese. The major share of total cheese production is made on farms for local consumption. Both commercial and home-made white cheese account for over 80 per cent of cheese production in Egypt. According to rough estimates, local production of cheese stood at 295,000 tonnes in 1992 and an output of 300,000 tonnes was forecast for 1993.

Although butter is produced on a large commercial scale, Egypt currently imports 30,000-35,000 tonnes of butter annually. Imports include around 14,000 tonnes of butter oil, most of which originates from the European Union. Domestic consumption of butter rose significantly from 44,000 tonnes in 1992 to 50,000 tonnes in 1992. Public- and private-sector companies have the installed capacity to turn out 1.9 million tonnes of diary products per year, but current production is only 500,000 tonnes.

Table III.6. Output, imports and exports of milk and dairy products, 1989/1990[a/]
(Quantity in tonnes and value in thousand LE)

	Output		Imports		Exports	
	Quantity	Value	Quantity	Value	Quantity	Value
Fresh milk	21,877	16,919	..	..	52	544
Sweetened powder milk	..	..	1,105	6,072	3	9
Unsweetened powder milk	..	..	13,138	82,436	1	4
Sweetened condensed milk	..	..	..	..	4	54
Unsweetened condensed milk	..	..	..	..	4	4
Yoghurt	3,667	5,076	..	..		
Soft cheese	3,667	5,076	27,600	78,954	1,787	6,159
Hard cheese	9,908	68,617	4,224	20,909	708	4,968
Processed cheese	2,308	11,604				
Ice cream	2,651	6,387	..	..	..	..
Butter and natural butter oil	..	..	48,099	273,464	35	207
Fresh, not concentrated or sweetened, milk and cream	..	..	22	135	63	68
Preserved or concentrated or sweetened or powder milk and cream	..	..	14,243	88,507	12	72

Source: Chamber of Food Industries, Cairo.

a/ As reported by the Chamber of Food Industries. Data in this table refers only to quantities produced and traded by members of the Chamber.

The progressive expansion of the private sector is an important feature of the dairy industry. After the dairy industry was opened to private investment in 1974, private investment expanded rapidly and quickly captured 80 per cent of the market of the public-sector enterprise, Misr Dairy Products.

Constraints and prospects

One of the major constraints is the country's limited land base with no permanent pastures. Animals are fed in confinement with high capital and input costs. Shortage of good quality feed is yet another constraint on the development of dairy farms. To keep pace with the steadily rising demands of the growing population the government is endeavouring to develop an efficient and sustainable dairy industry. Recently the EU has embarked on a project in collaboration with Egypt's Animal Production Research Institute. Since December 1991 a leading consulting firm is working on artificial insemination, fodder production, improved milking and milk handling, cheese production, and on the use of modern technology. Around Ecu 43 million has been sanctioned as credit for the private sector to encourage profitable investments in dairy products and livestock.

PROCESSED MEAT

The resource base

Despite a significant increase in the number of slaughtered livestock and poultry over the years (see Table III.7), Egypt depends heavily on imports, mainly from the EU. By the late 1980s the country's meat processing industry imported over 4,000 tonnes of meat annually from the EU.

Table III.7. Number of slaughtered livestock and poultry, 1987-1992
(Thousand head)

	1987	1988	1989	1990	1991	1992[a/]
Livestock						
Buffalo	93	87	79	96	135	163
Calves	480	455	457	486	511	555
Camels	49	77	80	74	90	90
Cows	36	34	32	52	74	76
Goats	38	34	38	53	64	78
Oxen	1	1	2	1	1	2
Pigs	61	60	54	59	61	67
Sheep	438	418	485	526	561	553
Poultry						
Chickens, bred in homes	33,125	33,515	33,905	34,295	35,465	35,855
Ducks	7,090	7,205	7,321	7,437	7,553	7,668
Geese	5,800	5,895	5,989	6,084	6,180	6,275
Pigeons	9,245	9,520	9,801	10,088	10,380	10,679
Turkeys	1,287	1,307	1,327	1,348	1,368	1,388

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.

In the mid-1980s the government launched the "Bitello" (calf-rearing) project with a view to containing a significant increase in the price of red meat by enhancing its supply. This large-scale project led to a significant increase in the domestic supply of red meat to 451,000 tonnes in 1990, compared with 343,000 tonnes in 1980. Imports of buffalo decreased from 122,500 in 1987 to 6,470

in 1992, while those of frozen meat declined from 110,000 tonnes to 9,900 tonnes during the same period. Recently a new calf-rearing project was launched by the Ministry of Agriculture in collaboration with USAID.

Recent trends

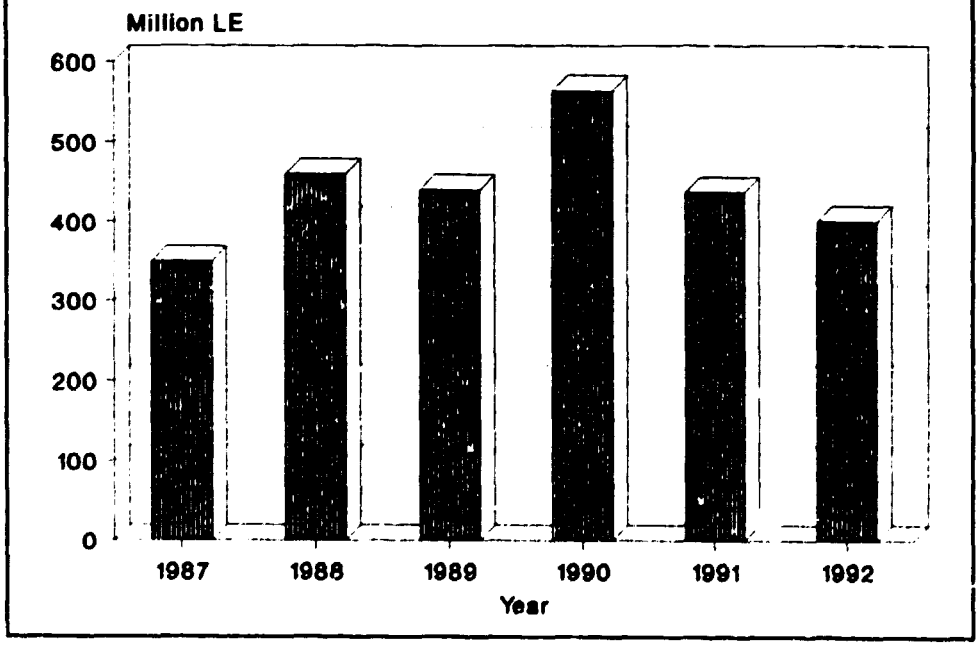
Fresh Foods International, one of the largest meat processing enterprises, had the capacity in the late 1980s to process 500 tonnes of meat per month. However, the enterprise was processing only 200 tonnes of meat per month for the production of hamburgers, meatballs, mince, sausages, meat cuts and liver due to the scarcity of meat. While large meat processing factories operate at less than optimal capacity, many small factories do not have adequate facilities for storing and processing activities.

A significant development in recent years has been a change in the pattern of meat consumption. Consumers are becoming increasingly accustomed to frozen meat rather than fresh products. In the face of rising demand for frozen meat products, supermarket freezing facilities are being expanded.

Constraints and prospects

The demand for meat is growing. Upper Egypt has experienced the greatest increase in the demand for frozen meat products. A shift in the pattern of consumption in favour of frozen meat calls for modernization of meat processing factories in order to deliver varieties of high-quality products.

Fig. III.C. Imports of frozen meat, 1987-1992



FISH PROCESSING

The resource base

The annual fish catch currently averages about 300,000 tonnes a year, compared to 295,155 tonnes in 1990 (see Table III. 8), according to official figures, but other analysts estimate that this may have fallen recently. A major clearing operation at the Damietta power station in February 1992 seems to have resulted in some 475 tonnes of fish being killed and caused severe damage to the local fishing industry.

Recent trends

Data pertaining to the production, export and import of processed fish products is not readily available for recent years. Information obtained from the Chamber of Food Industries, as reported by its members, is presented in Table III.9. The output of preserved fish stood at 3,207 tonnes in 1989/'90 against huge imports of 126,872 tonnes.

Table III.8. Fish catch, 1987-1990
(Tonnes)

	1987	1988	1989	1990
Total	221,563	263,905	277,118	295,155
Sea fisheries				
Mediterranean sea	23,002	32,812	32,363	32,128
Red Sea	21,182	25,540	39,581	36,295
Suez Canal	253	342	288	443
Lakes				
El-Manzala	46,987	69,256	50,353	57,195
El-Boroulles	22,510	24,274	38,070	52,520
El-Barduil	1,398	1,5..	1,600	2,761
Edco	7,580	8,236	7,511	8,043
Maryott	5,514	6,991	3,205	1,731
Qaroan	2,352	1,927	1,143	1,617
High Dam	22,518	21,865	22,835	22,034
Port Fuad	500	521	300	300
Rivers and canals				
Nile, canals and drainage systems	30,067	31,189	38,415	37,882
Fishery farms	37,700	39,410	41,454	42,206

Source: Central Agency for Public Mobilization and Statistics (CA .AS).

Table III.9. Output, imports and exports of processed fish products, 1989/1990[a/]
(Quantity in tonnes and value in thousand LE)

	Output		Imports		Exports	
	Quantity	Value	Quantity	Value	Quantity	Value
Preserved fish	3,207	15,406	126,872	157,750	2,790	193,113
Frozen fish	4,125	14,791	-	-	-	-

Source: Chamber of Food Industries, Cairo.

a/ As reported by the members of the Chamber of Food Industries.

Constraints and prospects

Egypt has a substantial natural resource endowment for developing both fresh-water and sea-water fisheries. Since much of the fish catch is not subject to a high degree of processing at the moment despite a significant increase in the demand for processed fish products, there is considerable scope for expanding fish-processing activities. Plans are being mooted by the government to increase the annual fish catch from an average of about 300,000 tonnes to 700,000 tonnes by the year 2000.

PRIVATE SECTOR DEVELOPMENT IN FOOD PROCESSING

The scale of the government's proposed privatization programme in the food and agricultural sector is particularly impressive for potential investors. The initial stage of the sell-off, announced in early 1993, will centre on offering all, or part of, the shares of companies deemed to be profitable already (rather than those which need restructuring or which are operating at a loss). Altogether, some 35 companies are reported to be ready for sale. Those so far named include the following in food processing and production (excluding beverages and tobacco):

Misr Company for Food and Dairy Products;
Egyptian Food Company (Bisco Misr);
Alexandria Confectionery & Chocolate Company;
Edfina Company for Preserved Foods;
Egyptian Company for Packing and Distributing Foodstuffs; and
Egyptian Company for Fish Marketing.

Investors seeking entry to the market now have the option of purchasing shares in existing factories, as well as setting up new plants in the free zones or in greenfield industrial sites. With the government having eliminated previous bans on the import of live sheep, meat, fish, cheese and other dairy products, tomato paste, sugar, flour, sesame, lentils and beans in 1992, and reduced tariffs on imported items such as fruits (excluding bananas, apricots, apples and citrus fruits), honey and olives, some current food producers could also benefit from lower-cost inputs or access to new raw materials; others, however, may find that demand for their products is

adversely affected by the provision of a wider choice of imported foodstuffs to the Egyptian consumer.

The Misr Carbonated Beverages Company (Misroob), formerly operated by a public-sector holding company under Law 203, has already been sold to private investors, while other concerns slated for later sell-offs include Edfina and Al-Ahram for Beverages. The expected sale of several leading government-owned hotels, including the Cairo Sheraton Hotel, the Aswan Oberoi and Shepheards, will also affect the market leaders in the beverages sector in Egypt.

In the beverage manufacturing sector, the Egyptian Vineyards Company, El-Nasr Bottling and Egyptian Bottling were slated to be included in the first batch of sell-offs, which concentrated on 100 per cent state-owned firms. By mid-1993, bids were being evaluated for all three. Both Pepsi Co and Coca-Cola were reported to be interested in acquiring complete ownership of their franchisees, but some reports in Cairo suggested there was opposition to the government giving approval to their moves on the grounds that it would give international firms a virtual monopoly in the domestic market. As a result, some shares in the two firms may be offered to the public. In late 1992, a company partly owned by Kuwaiti interests, MAK for Investments, had bought EBC's shareholding in its subsidiary, the Misr Soft Drinks and Canning Company, for a reported sum of LE 7 million. The sale was said to involve almost 550,000 shares.

Cumulative private-sector investment flows across disaggregated segments of food manufacturing are presented in Table III.10. According to the General Authority for Investment (GAFI), margarine, fats and oil products attracted the most in terms of capital investment. By June 1993 both foreign and local private-sector investment in these product categories stood at LE 312 million. Soft drinks and mineral water production also attracted substantial private-sector investment.

In the medium term, the gradual removal of price controls on tea, coffee, soft drinks and juices will create a new climate in which manufacturers will be able to produce a wider range of products aimed at upmarket consumers, the hotel and catering sector and tourist facilities. The example of Nescafé already demonstrates the demand in the country for internationally branded products, despite their generally higher cost. Government reforms of the tariff system will also help to remove production constraints affecting supply and diversity, although local companies will suffer from the higher cost of imports and the removal of protection. In the latest moves, existing bans on the import of carbonated water, certain non-citrus fruits and glass products have been removed, and the lifting of similar import bans on a variety of other products is under consideration.

Joint ventures with international firms able to contribute effective marketing and advertising, as well as distribution, would help Egypt increase its value added through the development of brand-named products or through the supply of natural juices, and possibly wines and other alcoholic beverages, to foreign manufacturers. Production of non-alcoholic beers and of products such as sparkling apple and grape juices will also find more ready markets in Europe and the United States, given the increasing emphasis on health, as well as in the Arab countries.

With an impressive turnaround in Egyptian agriculture, the climate for both foreign and private local investment in the food industry is better than it has been for the past four decades, despite the growing reliance on imports. Changes in government policy to encourage such investment are at the forefront, including measures to change the country's land laws and to privatize existing state-owned industries, but so too is the prospect of a rise in demand both within Egypt and in the neighbouring countries.

Table III.10. Approved private investment in the food industry to June 1993
(Cumulative investment in million LE)

Activity	Number	Capital invested			Investment cost			Labour			Wages			Production Value
		Local	Foreign	Total	Local	Foreign	Total	Egyptian	Foreign	Total	Egyptian	Foreign	Total	
Soft drinks and mineral water	18	58	142	200	83	248	331	4,803	19	4,822	6	1	7	164
Freezing and cooling stores	19	9	5	14	23	18	41	993	1	994	1	-	1	14
Cookies, macaroni and pastes	15	66	41	107	106	104	210	1,473	21	1,494	6	1	7	134
Margarine, fats and oils	15	38	274	312	215	496	711	3,038	72	3,110	23	3	26	1,673
Prepared food	12	37	70	107	79	101	180	1,362	17	1,379	5	1	6	241
Processed meat	9	29	48	77	76	73	149	862	16	878	3	1	4	143
Processed fish	3	4	8	12	7	11	18	269	-	269	1	-	1	21
Milk and dairy products	10	11	28	39	34	50	84	1,315	31	1,346	5	1	6	173
Processing of non-food crops	17	35	59	94	63	104	167	3,647	13	3,660	11	1	12	480
Food products distribution centres	3	11	4	15	15	10	25	2,570	-	2,570	4	-	4	151
Other	4	1	4	5	4	11	15	-	-	-	-	-	-	-
Total	**125**	**299**	**683**	**982**	**705**	**1,226**	**1,931**	**20,332**	**190**	**20,522**	**65**	**9**	**74**	**3,194**

Source: General Authority for Investment.

The removal of government subsidies on basic foods and revisions in trade policy aimed at creating a freer market in foodstuffs while removing the support given to state-owned firms have already led to higher consumer prices but, it is hoped, will expand supply response in the medium term and so increase both the range and quantity of goods available as well as investment opportunities for profit-making companies.

In addition to opportunities to promote such exports through the introduction of better packaging and marketing techniques, investment in modern, up-to-date processing facilities could open potentially huge markets in the neighbouring Gulf states and in subsectors such as hotels and catering where Egypt has a particularly important market given its large tourism sector. Products particularly suitable for such processing include concentrates, juices, jams, canned, frozen, dried and precooked fruits and vegetables, condiments, sauces, puddings and infant foods, as well as for use as a raw material in other food processing and packaging lines. Investment in marketing, to provide for the increasingly sophisticated and environmentally conscious tastes of consumers in these countries and sectors would also create more value added, given Egypt's comparative advantage in terms of skilled but low cost labour, and its access to highly trained technicians and professionals.

Government reforms have removed controls from virtually all food crops except the growing of sugar cane in Upper Egypt, the site of the large public-sector sugar refineries. Producer prices are also being freed to allow them to approach international levels. A new code governing property relations has been adopted and is described as one of the most significant reforms in agriculture since the 1952 Revolution. Under its terms, landlords will be given the freedom to set farm rents up to a specified ceiling (22 times the property tax levied on the land).

Officials estimate that as much as LE 700 million worth of private investment has gone into the Sinai Peninsula alone as a result of the sales. Incentives already provided include free irrigation water (except on reclaimed land) and a subsidy on fertilizers; energy for food processing is also provided below market cost. Altogether some 83 agricultural companies are to be sold to private investors as a result of the government's privatization programme, thereby making it possible for many food processors and manufacturers to obtain domestic supplies of certain inputs free of government purchasing and import schemes.

Foreign and private investment in the food industry is expected to concentrate on the production of foods for those Egyptians with incomes sufficient to purchase processed foods, the hotel and catering sectors and on exports. This will require better packing, distribution and marketing than generally has been the case in the past in the state-owned sector.

B. TEXTILES AND GARMENTS

TEXTILES

The resource base

The production of textiles in Egypt is based largely on the country's main agricultural crop, cotton, of which a wide range of varieties are produced, including premium extra-long and long-staple varieties as well as its medium- and short-staple varieties. Measures have been taken recently to increase the output of synthetic fibres using the country's resource endowment for the manufacture of petrochemicals. On average, the textile industry absorbs about 80 per cent of local cotton production, the remainder being exported. Traditionally the textile requirements of local mills

were met entirely by domestic production. Imports of short-staple cotton however have increased in recent years and currently these imports account for over 17 per cent of total consumption by spinning mills. Since cotton is by far the most important component of Egypt's textile industry, most disaggregated data reported in this section refer to cotton textiles.[4/]

For much of the period between the revolution in 1952 and the end of the 1970s, the cotton crop averaged about 10 million metric qantars, or around 1.53 million bales (1 metric qantar equals 50 kilograms; 218 kilograms equal 1 bale.) Exceptional periods included the early 1970s and some years of the 1980s when output averaged below normal production levels. While 7 million qantars were produced in the 1989/90 season, output fell to below 5.7 million qantars in 1990/91 before rising again the following year to 5.9 million qantars.

Long staples (defined as 1.25 inches and longer) have tended to dominate output, although this has been falling since the mid-1970s, when these accounted for about 40 per cent of total production. By the end of the 1980s, however, medium (1.125 to 1.25 inches) varieties made up about 71 per cent of output. By 1992 medium-staple cotton production accounted for over 73 per cent of total cotton output (see Table III.11).

Table III.11. Cotton: cultivated area, production and yield by type and year, 1952-1992, selected years
(Cultivated area in thousand feddans; production in thousand metric qantars; yield in metric qantars per feddan)

	1952	1987	1988	1989	1990	1991	1992	Percentage change 1988-1992
All varieties								
Cultivated area	1,967	980	1,014	1,006	993	851	840	-17.2
Production	8,233	6,029	5,422	5,055	5,169	5,023	5,992	10.5
Yield	4.19	6.15	5.35	5.02	5.21	5.9	7.13	33.3
Long staple								
Cultivated area	965	233	237	253	253	252	199	-16.0
Production	3,830	1,431	1,454	1,490	1,490	1,637	1,586	9.1
Yield	3.97	6.14	6.14	5.89	5.89	6.5	7.97	29.8
Medium staple								
Cultivated area	278	747	777	753	740	599	640	-17.6
Production	1,081	4,598	3,968	3,679	3,679	3,384	4,396	10.8
Yield	3.89	6.16	5.11	4.97	4.97	5.65	6.87	34.4

Source: Central Agency for Public Mobilization and Statistics (CAPMAS)

Note: One feddan equals 0.42 hectares, one metric qantar equals 50 kilogrammes

Overall cotton output is constrained by the limited availability of cultivated land and has been adversely affected by the increasing diversification of crops to include more fruits and vegetables and also by the migration of agricultural workers to urban areas. Two- and three-year crop rotations mean that the cultivated area sown for cotton production is limited to about a maximum of 20 per cent of the total cultivable land, a figure which was reached in 1952. Cultivated areas for all varieties fell by 17.2 per cent during 1988-1992, and by 16 per cent and 17.6 per cent for long staple and medium staple, respectively.

Egypt's share of the world's premium extra-long cotton staples has also fallen dramatically. In the 1980/81 season, Egyptian output of this variety amounted to 2.4 million bales, or about 59.2 per cent of total world production. By the end of the 1989/90 season, however, Egypt's output amounted to only 1.3 million bales, at a time when world production had risen to 4.9 million bales. As a result, Egypt's share of the total fell to 27 per cent. In contrast, India's output rose from 562,000 bales to 1.2 million bales over the same period, thereby increasing its share of the world total from 12.2 to 24.3 per cent.[5/]

In an effort to regain international competitiveness in textiles, the government has launched a number of reforms in recent years. These include measures to increase cotton production and yields, a freeing of the cotton trade and of textile export regulations, investment in new plant as well as measures to make the state-run factories more profitable. The production of synthetic fibres and their use in local manufacturing to make more modern blends suitable for both hot and cold climates is also being promoted.

Agricultural reforms include the raising of prices paid to farmers by the state trading monopoly. These were set at 60 per cent of world prices in 1992 and at 66 per cent in 1993. It is expected that they will be increased further once planned measures to remove government subsidies on cotton are eliminated. Administrative controls on crop allocations, which require all non-orchard farmers to plant cotton at least once every three years, are to be removed by the end of 1996. This will limit the government's role primarily to research, such as on new strains of cotton, and the dissemination of technology and new farming methods.

As a result, the actual acreage devoted to cotton may increase in the second half of the 1990s. This is expected to halt the decline in cultivation, which has seen the acreage devoted to cotton falling by 19 per cent from 1,291,000 acres in 1980/1981 to only 993,000 acres in the 1990/1991 season. While in the past the government has allocated specific amounts of land each season to the crop, often irrespective of world demand or prices, local farmers have tended to plant late or to plant less desirable varieties because of the relatively poorer price they have obtained for this crop as opposed to fruits and vegetables. Others have simply ignored the government requirements and paid the resulting fines.

Plans to reopen the Alexandria cotton exchange were mooted in 1992 for implementation in late 1993, in time for the trading of that season's crop. Further measures to liberalize domestic marketing have also been announced for 1994. These reforms should help to stabilize prices at levels suitable both for producers and consumers, including retail and wholesale distributors as well as industrial purchasers. The new price incentives will help make cotton production more competitive with other crops, as may government efforts to reclaim new lands for agriculture and improved irrigation techniques. Initial indications were that the price incentives had succeeded in boosting output during the 1993 season.

Recent trends

The textile industry is one of the oldest industrial activities in Egypt, based originally on small-scale workshops and home production. It has spawned a wealth of expertise in both traditional and modern methods, even though much of the existing industrial plant is antiquated by world standards and in need of modernization. By the end of 1990 there were 925 firms in the textile industry employing a total of 296,000 persons. Of these enterprises, 31 state-owned textile mills dominate the industry and account for 100 per cent of all spinning, and 70 per cent of weaving.[6/] In 1990 the largest textile mill in the country, the Misr Spinning and Weaving company at Mehalla el-Kubra, produced 47,000 tonnes of cotton and cotton/polyester yarns, 180 million metres of

cotton and cotton/polyester woven fabrics, 5 million metres of woollen fabrics (including synthetic blends), 4,500 tonnes of woollen and wool/synthetic yarns, 750,000 blankets (of wool or wool blends), 2,500 tonnes of cotton wool, 15 million gauze bandages, 100 tonnes of bleached cotton lint, 700 tonnes of terry cloth fabrics and 1.3 million bed sheets and pillow cases.

Egypt's total textile output in 1990 was valued at LE 3,954 million, up from LE 3,282 million in 1989 and just LE 1,443 million in 1984. Domestic sales have been more than doubled over the period to LE 2,279 million in 1990, compared with LE 1,968 million in 1989 and LE 946 million in 1984. Exports have increased even more markedly in value terms, rising from LE 263 million in 1984 to LE 886 million in 1989 and LE 1,129 million in 1990, ie more than fourfold over the six-year period.[7/] The overall production of cotton yarn rose from 251,000 tonnes in 1986/1987 to 316,000 tonnes in 1991/1992 (see Table III.12). For pure wool yarns, the respective figures were 19,000 and 20,000 tonnes, while that of jute yarn amounted to 26,000 and 25,000 tonnes, a fall of 3.8 per cent over the same period.

The use of synthetic fibres, particularly polyesters, in weaving is also being encouraged by the government. As a result, output rose from 14,247 tonnes in 1984 to almost 30,000 tonnes by 1992. In value terms it rose from LE 67 million in 1986/1987 to LE 129 million in 1991/1992. The Ameriya petrochemicals complex near Alexandria is being targeted in particular to produce the feedstocks needed for the local manufacture of these fibres.

The country's textile export profile stagnated in the first half of the 1980s, with knitted fabrics and terry fabrics declining dramatically and woven fabrics registering an average annual decline of 0.4 per cent. During the same period the growth of cotton fabrics remained subdued at an average annual rate of less than 2 per cent (see Table III. 13). The sombre export performance of textiles stemmed largely from a distorted policy environment in terms of an unrealistic exchange rate and price structure. Textile exports recorded a significant increase in the second half of the 1980s, with cotton yarn exports reaching a peak of $396 million in 1989 as a result of the flexible exchange rate policy introduced in 1987. However, cotton yarn exports declined dramatically in 1990 and the declining trend continued through 1992, registering an average annual decline of 14.7 per cent during 1989-1992 against a 5.7 per cent decline suffered by textile exports in general.

Public-sector textile exports seem to have lost ground whereas products of high value-added fabrics - such as knitted fabrics, where the private sector is more involved - have grown significantly over the years. There are indications that private-sector exports have grown most rapidly in those product areas where the market is not regulated. Currently the private sector accounts for around 70 per cent of total knitted fabric exports and 35 per cent of terry fabrics. The performance of the private sector is particularly striking in the exports of terry fabrics, rising from 1.1 per cent in 1989 to 35 per cent in 1992. It highlights the private sector's ability to adapt to changing conditions and penetrate external markets.

The EU countries constitute the major export market, accounting for almost 55 per cent of the total exports of the spinning and weaving industries.[8/] Moreover, Egypt's textile exports to the United States - a highly competitive market for developing country exporters - have been substantial although the country's quota for selected products in these export markets remains underutilized. During the first half of 1992 these were valued at $65 million, compared with only $51 million in the first half of 1991. Despite the relatively better performance of the private sector, which concentrates heavily on downstream products, Egypt was clearly unable to capitalize on the textile export growth of the late 1980s. The decline in cotton yarn and woven fabrics in recent years was partly due to the loss of markets in eastern Europe and in part due to increased competition on the world market.

Table III.12. Production of textiles, 1986/1987-1991/1992

Product	Unit	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]	Percentage change 1987/1988-1991/1992
Cotton yarn	Thousand tonnes	251	249	249	307	306	316	26.9
Cotton textiles	Million Egyptian pounds	658	671	776	882	1,357	1,504	124.1
Wool yarn	Thousand tonnes	19	18	19	19	20	20	11.1
Wool textiles	Million metres	14	17	17	30	23	23	35.3
Synthetic textiles	Million Egyptian pounds	67	70	75	76	108	129	84.3
Jute yarn	Thousand tonnes	26	26	26	25	24	25	-3.8
Jute textiles	Thousand tonnes	26	27	27	26	24	20	-25.9
Blankets and rugs	Million Egyptian pounds	85	87	99	115	167	215	147.1

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.

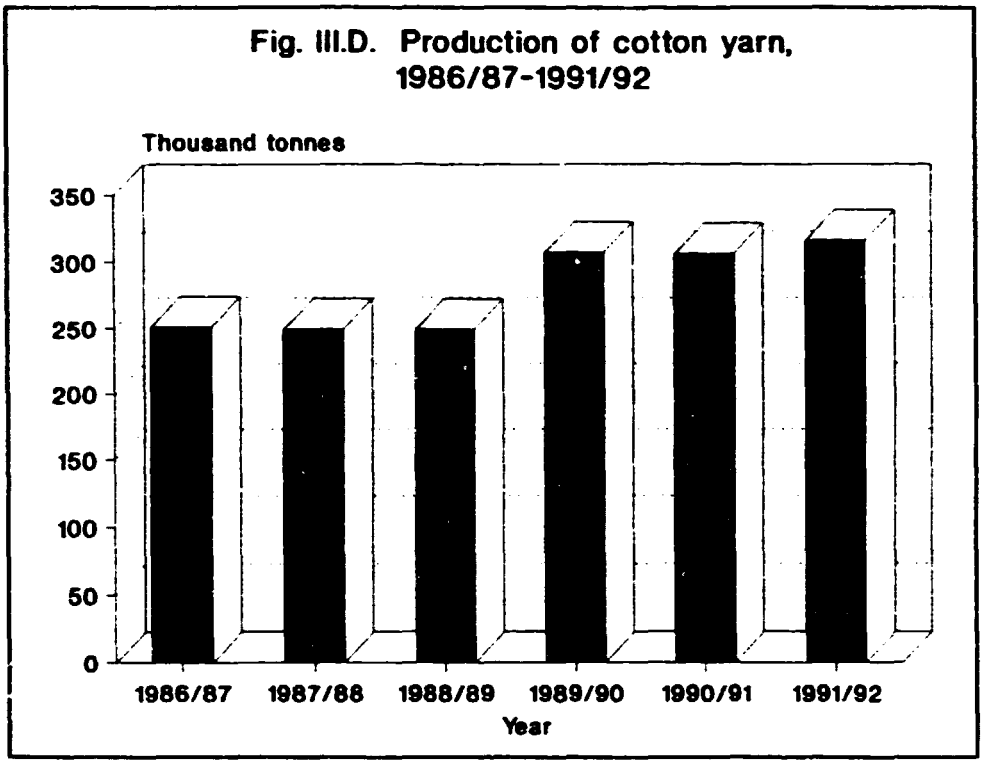


Table III.13. Textile exports, 1980-1992, selected years
(Million $)

	1980	1985	1980-1985 Average growth per annum (per cent)	1989	1990	1991	1992	1985-1992 Average growth per annum (per cent)
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

Source: USAID, *Assessment of potential for liberalization and privatization of the Egypt cotton textile subsector*, Cairo, 8 July 1993, Volume I.

In the wake of a decline in demand for Egypt's fine-count yarns, enterprises were forced to shift their production towards coarser counts. There is strong evidence to suggest that the country's textile industry lacks international competitiveness. This is corroborated by the fact that there has been underutilization of the United States and EU quotas for the exports of yarn and fabrics in recent years (see Table III.14). The country's quarterly index of unsold stocks of yarns has risen dramatically above the world index in recent years, revealing partly the loss of comparative advantage in competition for yarn sales.

Table III.14. Egypt's quota and actual exports of cotton yarn and fabrics to the USA and EC, 1989-1993

		1989		1990		1991		1992		1993	
		Quota	Exports	Quota	Exports	Quota	Exports	Quota	Exports	Quota	Exports
To the United States											
Cotton yarn	Thousand metres	6	2	6	2	6	2	6	5	7	..
Cotton fabrics	Million square metre	58	43	61	35	65	52	69	26	74	..
To the European Communities											
Cotton yarn	Tonnes	30,500	31,873	35,090	31,662	37,295	29,054	40,000	32,131	41,400	..
Cotton fabrics	Tonnes	8,623	9,706	10,594	10,507	11,615	10,953	13,300	9,759	13,765	..

Source: Cotton Textile Consolidation Fund.

The deterioration of export sales is attributed partly to the quantitative decline in cotton output in the face of low procurement prices and an increase in the domestic consumption of the local spinning mills, and partly to the use of high, fixed export prices based on a five-year average of Egyptian cotton prices. The depression in the world textile industry that commenced in late 1991 caused considerable damage to textile exporters, including Egypt.

Constraints and prospects

One of the major constraints on the Egyptian textile industry is its overcapacity in spinning, resulting from a previous government policy of facilitating the progressive expansion of the public sector with easy access to institutional credit, preferential exchange rates, and high protection from foreign investment. An ambitious capital-intensive investment policy resulted in overcapacity with no corresponding rationalization of the production process and modernization of the obsolete capital stock in textile mills. During 1984-1992 the number of spindles in public enterprises increased at an average annual rate of 6.2 per cent against a 1.8 per cent increase in yarn production, reflecting the poor productivity record of textile mills.

The productivity record of public-sector firms in particular is uniformly poor. An audit report on one of the companies shows that 60 per cent of fabrics turned out by the company is defective. According to the same report a fine-count spinning mill wastes around 25 per cent more cotton than is standard for such operations. In the mid-1980s the government announced a three-stage modernization programme for the ginning industry which was expected to cost a total of $40.4 million, of which $18.5 million were to be provided by the International Development Association, the soft-loan agency of the World Bank. Additional funds were obtained from international donors to help develop the spinning and weaving industries. These include a World Bank loan of $69 million to finance a $109.3 million building project for the state-run National Weaving and Spinning Company in Alexandria and $40 million from the Kuwait-based Arab Fund for Economic and Social Development (AFESD) to finance spinning and weaving projects at Kafr el-Dawar and Bayda.

The textile industry itself is undergoing radical change with the introduction of the government's overall economic reform programme, including its planned privatization of some of the state-owned companies in the textile sector. Other measures are being introduced to reduce overmanning in public-sector companies, including reforms to allow private-sector participation. The reforms under way are also expected to expand the range of options for foreign investors to manufacture textiles in Egypt. Apart from subcontracting, licensing and joint ventures, drawback schemes - which allow temporary exemptions from prevailing import restrictions to enable local producers to match international quality standards when local raw materials are unavailable - are also being encouraged.

While international demand for Egypt's extra-long staples has been declining in favour of the more affordable medium- and short-staple varieties, greater attention is being paid to the introduction of new technology and production processes, with a view to improving quality. Under the current Five-Year Development Plan, which ends in 1997, some $400 million is to be invested in new machinery for the textile industries, virtually all of which has to be imported. State-run firms, which include 79 ginning mills and nine large spinning concerns, are also being allowed to import more short- and medium-staple cotton to reduce their dependence on the longer varieties which can be used more profitably for both export and for local value added. The state-owned El Nasr Export and Import Company concluded counter-trade deals with Belarus, the Russian Federation, Ukraine and Uzbekistan in early 1992 which will allow, for the first time since the large-scale nationalizations in the 1960s, the import of short-staple cotton in return for shipments of extra-long staples. The important local manufacturer, Oriental Weavers, has also lined up similar deals

with Kazakhstan which are expected to result in the import of short-staple cotton in return for the export of textiles, clothing and carpets. Local production, under licence, through joint ventures, or under subcontracting arrangements will become both more possible and more profitable, especially if the remaining government controls on imports are removed, and could also help to expand Egyptian exports of both textiles and clothing.

CLOTHING

The resource base

The domestic textile industry is the major supplier of raw materials to the country's garment industry. In addition to the substantial domestic sources of raw materials, Egypt is also endowed with a large pool of cheap labour possessing traditional skills in garment manufacturing. Because of the fragmented nature of the garment industry spreading across formal and informal manufacturing activities, it is difficult to gauge the exact number of persons engaged in garment manufacturing. According to rough estimates, direct and indirect employment in garment industry is close to 500,000 people. The availability of abundant skilled and semi-skilled workers at relatively low cost is a major comparative advantage in garment manufacturing. By the late 1980s the average wage of a worker in garment manufacturing was around 50 US cents per hour, compared to 83 cents, 367 cents and 792 cents in India, Taiwan Province of China and the United States, respectively.

Recent trends

There has been a steady increase in the production of ready-made garments in recent years, rising from 76 million pieces in 1986/1987 to 131 million pieces in 1991/1992. Since most ready-made garments remain on the import ban list, garment franchising, a new and growing segment of the country's clothing industry, is emerging as a dynamic component of garment manufacturing in Egypt.[9/] While the overall market for garments is large, only tourists, foreigners and the wealthiest 10 to 15 million Egyptians presently buy garments produced by existing garment franchises which turn out high-quality products at low cost under reputable brand names.

Already, international names such as Pierre Cardin, Wrangler, Van Heusen, Benetton and Stefanel are producing ready-to-wear clothing in Egypt for domestic consumption. The Benetton range is manufactured under licence and sold in Egypt by the local Chorbagi with another Egyptian partner, Intaky for Fashion. Launched in 1988, its casual knitwear has become highly popular among young, affluent Egyptians. As a result, production increased ninefold in the first two years of operation. By 1990 the partnership had launched a second brand, Naf-Naf, under licence from the French manufacturer. Total output in 1990 amounted to 400,000 items, all of which were sold on the Egyptian market. Currently local franchises account for about 30 per cent of the market for ready-made garments.

Exports of ready-made garments in value terms rose sharply from $13.9 million in 1988 to $70.5 million in 1992 (see Table III.15). As mentioned earlier, Egypt enjoys a significant comparative advantage in the export of garments due to the availability of cheap labour. The country's preferential access to lucrative markets is yet another advantage. However, garment manufacturing in general lacks the capability to meet the quality requirements of industrialized markets, especially in woven garments. This was evidenced by the fact that in 1992 actual exports of shirts and blouses to the United States amounted to 646,000 pieces against the United States quota of 773,000 pieces. Underutilization of quotas in lucrative markets is a reflection on the lack of non-price competitiveness of Egyptian garments. Despite the country's long tradition and natural resource endowment in terms of raw material and labour supply, garment manufacturing

still remains largely underdeveloped due to the dearth of modern equipment, skilled supervisors and efficient management.

It is contended that the most competitive product areas for the expansion of garment exports are knitted cotton garments and franchises. These highly labour-intensive activities can make good use of the country's high-quality long-staple cotton. Moreover, firms can also specialize in 100 per cent cotton garments. According to rough estimates, export earnings from garment franchising rose significantly from $10 million in 1991 to $31 million in 1993. With a significant increase in the number of local firms affiliated with franchises, high-quality garment manufacturing will thrive due to good management and strict quality control.

Table III.15. Exports of ready-made garments, 1975-1992, selected years
(Thousand $)

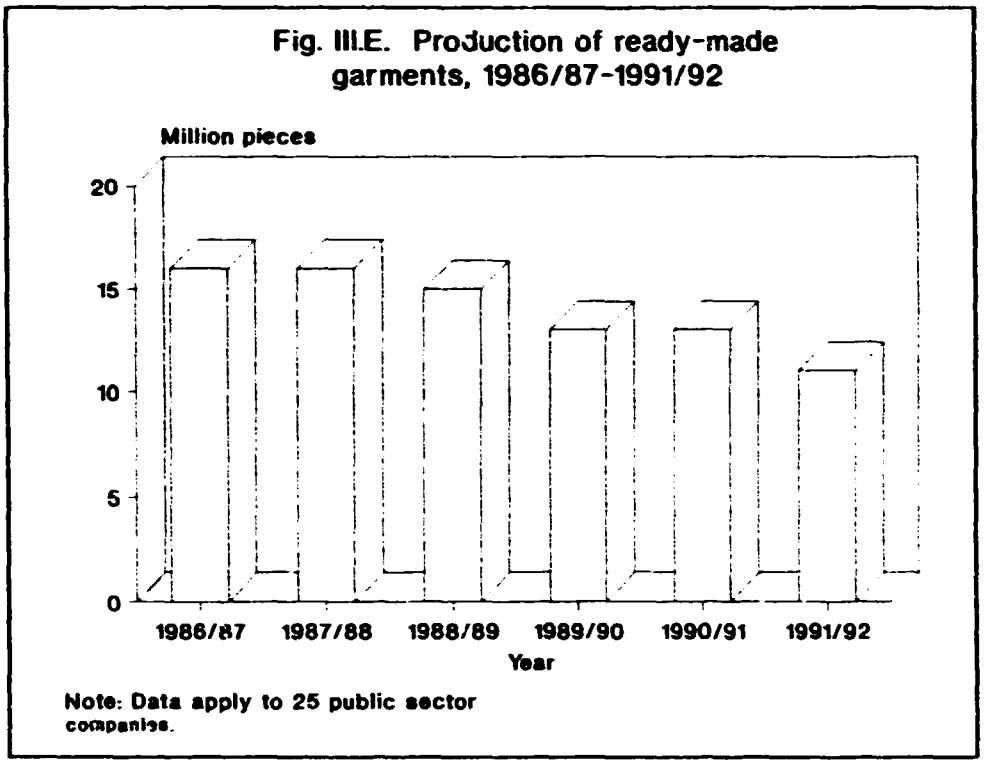
Year	Value
1975	14,057
1980	8,008
1985	5,488
1986	4,288
1987	6,357
1988	13,886
1989	24,297
1990	38,996
1991	52,246
1992	70,539

Source: Cotton Textile Consolidation Fund.

Constraints and prospects

Labour costs in particular remain highly attractive, and are substantially below those prevailing in the industry in Europe and Hong Kong, and only marginally higher than those in India, Morocco, Tunisia and Turkey.[10/] Although the low labour cost advantage is significantly offset by low productivity levels in garment manufacturing, this low labour productivity does not necessarily reflect a lack of aptitude, skills and dexterity. Inadequate training, low standards of supervision and inept production planning are often the principal causes of low labour productivity. In public-sector enterprises the problem of low productivity is exacerbated by overmanning and a work ambience that does not call for efficiency and competitiveness. Labour productivity and operational efficiency of firms are adversely affected by a shortage of trained labour, technicians and managers at all levels due to migration of workers to other countries. The Cotton Textile Consolidation Fund (CTCF) is playing an important role in providing training facilities.

While the reforms in both the agricultural and industrial sectors currently under way will help to provide new opportunities for investment, the existing clothing manufacturing industries in Egypt are set to undergo radical change. Liberalization of trade policies, in particular, will have a significant impact on their current competitiveness, as will development in the international industry as a whole. While much of Egypt's output of clothing will still be dominated by public-sector concerns, liberalization will help to create new markets for brand names and designer items which, by and large, have hitherto been excluded from the Egyptian market by extensive import controls.



The import ban on textiles and clothing is expected to remain in force for part of 1994, and the removal of other protection is to be phased through the mid-1990s. However, local manufacturers have complained that such measures will add to the adverse effects already caused by the increase in cotton prices, by the imposition of new sales taxes, rising energy costs (due to the removal of state subsidies in the sector and the deregulation of electricity prices) and by the increased cost of new capital equipment due to the depreciation of the Egyptian currency in the wake of its convertibility. Some manufacturers have already threatened to close their factories if the reforms are implemented, but talks between them and the government are continuing. As a result, the introduction of the new tariff regime may be delayed.[11/]

PRIVATE-SECTOR DEVELOPMENT IN TEXTILES AND CLOTHING

Table III.16. reveals that spinning, thread and fibre segments attracted private investments to the tune of LE 947 million by June 1993, of which local and foreign investments accounted for LE 689 million and LE 258 million respectively. In terms of the number of enterprises, as many as 56 private enterprises were established in ready-made garments and cumulative private-sector investment as of June 1993 amounted to LE 138 million. The expansion of the private sector is further facilitated by the government's huge programme of privatization. Despite the continued delays, it is providing substantial opportunities for foreign as well as local private investment.

The Holding Company for Spinning and Weaving, which was set up as a start of the programme to rationalize the sector, is due to offer shares for sale in those of its affiliates which are incorporated as joint-stock companies. Five to ten per cent of the capital in these firms will be offered for public subscription.[12/]

Table III. 16. Approved private investment in textiles and clothing to June 1993
(Cumulative investment in million LE)

Activity	Number	Capital invested			Approved investment			Number of persons employed			Wages			Production Value
		Local	Foreign	Total	Local	Foreign	Total	Egyptian	Foreign	Total	Egyptian	Foreign	Total	
Ready garments	56	73	65	138	147	119	266	12,249	168	12,417	25	2	27	400
Socks and gloves	10	3	14	17	13	17	30	786	24	810	7	1	8	49
Woollen blankets	2	31	7	38	38	9	47	524	-	524	1	-	1	31
Carpets and rugs	3	12	51	63	45	64	109	828	12	840	2	-	2	178
Spinning, threads and fibres	16	689	258	947	891	1,094	1,985	45,956	119	46,075	41	1	42	697
Dyeing, printing and embroidery	5	2	34	36	11	34	45	1,115	10	1,125	5	1	6	35
Textiles and materials	17	25	33	58	53	51	104	3,012	25	3,037	6	1	7	118
Total	**109**	**835**	**462**	**1,297**	**1,198**	**1,388**	**2,586**	**64,470**	**358**	**64,828**	**87**	**6**	**93**	**1,508**

Source: General Authority for Investment.

Other firms to be privatized include the large El Nasr Clothing and Textile Company (KABO), the Delta Spinning and Weaving Company, the Uniarab Spinning and Weaving Company, the Daqahlia Spinning and Weaving Company, the Damietta Spinning and Weaving Company and the Alexandria Spinning and Weaving Company, as well as the important clothing retailer, the Consumption Goods and Clothes Company.[13/] Although no firm decisions have been announced, it is also thought possible that other publicly controlled concerns such as the El Sharkia Company for Flax and Cotton, the Port Said Company for Spinning and Weaving and the Arabia Company for Carpets and Textiles may also be partially privatized, with non-government shareholdings limited to 49 per cent.[14/]

Products bearing the Italian knitwear brand Stefanel and the United States brand Joval are produced by the Nile Clothing Company/Utex. Its parent group, the Beleidy Group of companies, also manufactures jeans under the Wrangler label as well as Van Heusen shirts. Nile Clothing produced 1.8 million knit tops, 1.8 million shirts and 1.5 million pairs of trousers in 1989 in four factories in and around Cairo with a total employment of 3,500. A substantial portion of the company's output is exported to the United States and Europe.

Egypt's own free zones, plus attractive incentives for foreign and/or local joint ventures or licenced firms to operate in new industrial areas such as Tenth of Ramadan City, also provide opportunities for both foreign and local private investment. European producers taking advantage of free-zone opportunities include the Italian fashion giant GVB Randolina S.A.E., which has a factory in the Ameriya Free Zone near Alexandria, and exports industrial clothing and fashion sportswear to France, Germany, the United Kingdom and the United States.

In Tenth of Ramadan City, which is one of 11 such cities either operating or planned, 340 industrial projects have already been set up, of which 66 are in the field of textiles and clothing. Most are producing primarily for export to Europe and North America. Incentives include the availability of modern industrial infrastructure, tax holidays, preferential customs duties and access to technical vocational training schemes for workers. Manufactured products include suits, trousers, T-shirts, knitwear, underwear, men's, women's and children's clothing, carpets and curtains, in addition to cotton yarns, cotton cloth, woollen cloth, synthetic fibres and cloth, elastic bands, laces and zip-fasteners as well as the dyeing and finishing of cloth. While wages generally are higher than those paid by public-sector producers in Egypt, they are still highly competitive internationally. At Oriental Weavers, for example, production line workers average LE 500 a month, including incentive pay.[15/]

The location of such a wide-ranging and modernized textile industry in the City has also spawned new initiatives by Egyptian producers themselves in an attempt to expand retail demand. A group of investors from the City has been reported to be looking at the possibility of purchasing the public-sector retail chain, Shemlan, should it be privatized. Further, the well-known French department store chain, Galeries Lafayette, is also said to be considering buying the state-owned Sednaoui group of clothes shops.[16/] Such developments would have a significant effect on improving local demand for Egyptian-made products and would also create further niche markets among more affluent Egyptians for designer and brand-name items produced under licence in Egypt but marketed under international labels.

In line with recommendations made by GATT, as well as the IMF and the World Bank, Egypt has been seeking to harmonize its tariff rate structures to conform with international agreements. However, there are still 78 items which are banned from being imported into Egypt and many others which are subject to quota restrictions and high duties.[17/] The textile and clothing industry, in particular, has been protected by such bans, which cover most textiles and ready-made garments, as well as by the heavy subsidies provided by the government. Removal of such

protection, as demanded by Egypt's aid donors and agreed in principle by the government, will have a negative impact on many state-owned concerns, which will find it extremely difficult to compete with inexpensive imported goods.

Such moves could also remove bottlenecks caused by state-imposed regulations which have prevented the development of related products and services in Egypt. In particular, manufacturers need access to the best of international fashion design, new production techniques, accessories (buttons, zip-fasteners, trim, etc.), patterns, dyes and finishes, as well as marketing and advertising services. While Egypt is already well-placed to serve the European market, for example, through its low labour and transport costs, its ability to provide the quality needed by European importers, as well as to deliver in time and in the quantities needed, has been hampered by the existing regime of excessive government intervention.

The advances already made in producing blends of cotton and synthetic fibres, particularly in the private sector, illustrate the potential competitive edge which Egypt could enjoy given its natural resources of both cotton and the hydrocarbon feedstocks needed to produce polyesters and other synthetics. A recent World Bank study, for example, suggests that the local market could also benefit substantially from the local production of blends designed especially for use in hot climates.[18/] Egypt's proximity to export markets in Saudi Arabia and the Gulf states, where the need to import skilled labour mitigates against the development of their own textile industries, could also help exports if such products were more widely manufactured in Egypt.

Equally important in an international context is the need to reduce delivery times: in knitwear, for example, one survey produced in 1990 indicated that Egyptian manufacturers generally required a lead time of two to five months compared with only 15 to 25 days for firms from Brazil.[19/] With consumer demand changing constantly in the world's main markets, excessively long lead times can prevent a manufacturer from gaining important export orders. It is hoped that the reforms and privatization of some of the larger public-sector ginning and spinning companies will eliminate problems smaller producers have encountered in obtaining the quantities and qualities of yarn and cloth they need, and also reduce the necessity (and cost) of building up expensive stocks and inventories.

C. FURNITURE AND WOODWORKING

The resource base

The furniture and woodworking industries have always been highly dependent on imported woods for raw material. Indigenous timber, which includes tamarisk, acacia and carob, is insufficient to supply the trade, while wood from the ubiquitous date palm has tended to be rejected because of its tendency to split. Egypt spends over LE 1 billion annually on imports of wood and related products (see Table III.17).

In 1992, total imports of wood, charcoal and products made from these commodities amounted to 1,052,517 tonnes, slightly less than in the previous year. In value terms, these imports cost LE 1.34 billion, compared to almost LE 1.4 billion in 1991. Although no details are available on the types of wood imported, it is estimated that about 10 per cent are hardwoods used for the crafting of furniture, floors and windows.[20/]

The most popular imports used in the furniture trade are beech, ash, oak and horn beam, as well both red and white softwoods, such as pine and spruce. Within the furniture and woodworking industry, beech alone accounts for about 90 per cent of total wood used.[21/]

Table III.17. Imports of wood and related products, 1989-1992

Year	Value (Thousand LE)	Quantity (Tonnes)
1989	1,011,605	1,092,171
1990	1,357,151	1,131,215
1991	1,394,079	1,067,177
1992	1,339,765	1,052,517

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

The only public-sector company involved in the trade, the Commercial Woods Company (FABAS), accounts for 30 per cent of the market and specializes in the import of white and red softwoods. FABAS has been seeking new medium- and long-term contracts since the creation of the Commonwealth of Independent States (CIS) and the disruption of its former main sources of supply. The increasing tendency of CIS sources to demand payment in hard currency adversely affected supplies in the early 1990s.

Private importers were adversely affected by the Gulf War in 1990 and in 1991 and by the conflicts in the former Yugoslavia - a main source of beech - since then. They have been seeking to improve their deliveries from Canada, the United States, central Asia and eastern Europe. However, they are reported to have found it difficult to stipulate specifications and delivery dates.[22/]

FURNITURE

Recent trends

The making of furniture and woodworking dates back to ancient times in Egypt: the first known import of timber for furniture making was recorded in the Third Dynasty B.C. Today, about 90 per cent of all furniture produced is made from wood.

Furniture production as an industry developed in the 19th century. European styles such as those modelled after the French Empire period were introduced to supplement the traditional Islamic and Pharaonic designs, although Greek and Roman designs were also popular. While some 200 factories were registered by 1980, a large portion of the output until recently came from small and medium sized workshops, using manual labour.

Mass production increased markedly in the 1980s after the government introduced a ban on the import of foreign-made furniture. Altogether, the industry in 1990 consisted of 8,427 factories and workshops plus 2,000 furniture showrooms and/or display areas. Total employment amounted to 75,000.[23/] The number of larger factories, in turn, had increased to 500, of which 150 were joint ventures, nine owned by the public sector and 26 cooperatives. The remainder were privately owned.

About 40 per cent of the country's furniture is made in the Nile Delta town of Damietta. Of the remainder, factories and workshops in Cairo and Alexandria - the two largest cities - account for about 90 per cent. Most factories, as opposed to workshops, use mass-production methods and employ from 300 to 900 workers.[24/] About 30 medium- to large-size factories specialize in the

production of chairs, some for sale to the hotel and tourism sector, as well as for domestic sales and export.

The wealth of skills accumulated by Egyptians in furniture and woodworking is demonstrated by the performance of the sector during the period from 1975 to 1989, when, despite the prevalence of small-scale production, the gross output of furniture in current prices rose remarkably. The continued rapid growth of the population, combined with the opening of new accessible display areas and rising disposable incomes (especially in the case of Egyptians working abroad and sending back remittances) created substantial demand for furniture. By the year 1989/1990 the value of furniture production stood at LE 814.4 million (see Table III.18).

Table III.18 Production and exports of furniture, 1988/1989 and 1989/1990
(Thousand LE)

	1988/1989	1989/1990
Production	704,190	814,462
Exports	30,607	85,136

Source: Ministry of Industry; Egyptian Federation of Industries; *Business Monthly*, May 1992.

Production in fiscal year 1989/1990 - the last year for which figures are available - was valued at LE 814 million, according to the Ministry of Industry, about 15.7 per cent more than in the previous year. Sales were estimated to have reached LE 1.18 billion in 1989/1990, up from LE 1 billion a year earlier. However, some industry sources say that because of widespread under-reporting by many of the smaller workshops, actual output may be considerably higher than the official figures would indicate, possibly running to as much as LE 2 billion to LE 3 billion in 1989/1990.

Exports in 1989/1990 amounted to LE 85.1 million, about 10.5 per cent of total production. This represented nearly a threefold increase over the 1988/1989 figure in value terms, mainly because of substantial rises in exports to France, Kuwait, Libyan Arab Jamahiriya and the former USSR.

In volume terms, exports rose by 160 per cent to 10,386 tonnes. In 1989/1990, the former Soviet Union formed the leading market, followed by Libyan Arab Jamahiriya, Saudi Arabia, Kuwait, United States and France (see Table III.19). While no official figures are available for later years, supplies to the European Union, to African countries including Morocco, to China and to other Arab countries are believed to have improved significantly, although not on a scale large enough to offset a probable sharp reduction in exports to the former USSR and to eastern Europe.

Constraints and prospects

In the past few years, the furniture and woodworking industries in Egypt have suffered a decline due in part to the rising cost of imported wood. Disruptions to a previous main source for beech, former Yugoslavia, have seen prices rise considerably, especially given the growing competition for contracts with other European buyers. In 1990 a cubic metre of hardwood cost about $430 to import whereas retail prices for the lumber in Egyptian markets ranged from LE 1,700 to LE 2,000 ($510-600), compared with under LE 50 in 1970.[25/] Import prices for softwoods, in turn,

averaged about $258 for red woods and $233 for white woods. By mid-1991, however, the price of a cubic metre of beech had risen within two months from LE 1,900 to LE 2,270 ($570-680).

Table III.19. Exports of furniture by destination, 1988/1989 - 1989/1990
(Thousand LE)

	1988/1989	1989/1990
Former USSR	24,405	70,984
Libyan Arab Jamahiriya	4	4,145
Saudi Arabia	1,569	1,842
Kuwait	773	1,514
USA	936	1,376
France	143	1,283

Source: Ministry of Industry; Egyptian Federation of Industries; *Business Monthly*, May 1992.

Another constraint centres on falling domestic demand in some sections of the market. The spate of economic reforms introduced by the government, while expected to produce positive results in the medium to long term, has depressed both wholesale and retail demand from consumers forced to tighten their belts, and has led to lower sales, industry sources report.

The rising cost of imported raw materials has also led to substantial increases in retail prices for furniture, including areas such as Damietta or Cairo's Al-Mansra district which cater to the popular, lower end of the market. The cost of furnishing an apartment, according to one owner of a company in Damietta, amounted to at least LE 15,000 in 1990, a figure which outstripped the annual income of even upper-middle-class families.[26/] Since then, the imposition of sales taxes, together with continued rises in the cost of imported raw materials, workers' insurance and other producer overheads, has added to the upward trend.

Existing constraints on the training of furniture designers, as well as the lack of incentives for developing craft skills, also serve as a hindrance to the development of Egypt's potential export markets. Design students must be encouraged to create original products, as well as to study furniture styles from specific periods such as Pharaonic, Islamic or French Empire. The mere imitation of styles, while demanded by large sections of the Egyptian buying public, will prevent the industry from expanding into more lucrative markets abroad, particularly given the ostentation of some of Egypt's furniture.

On the other hand, the greater use of hand-crafted skills (given Egypt's competitive edge in terms of wages), provided these are adequately applied to create more value added, could be applied to the production of up-market furniture such as Egypt's indigenous intricate Mashrabiyyeh styles or Pharaonic derivatives, which are expected to be in increasing demand in the neighbouring Gulf states as well as elsewhere in Europe, Asia and North America. Such skills also need to be encouraged if the industry is to reach its potential in the growing tourism sector.

Egypt's Social Fund, set up with international assistance to ease the impact of market-based economic reforms, could also provide indirect investment opportunities in this sector in the next few years. By providing some LE 100 million for artisanal projects in the provinces, as well as other funds for productive family associations, it could play a role in helping craftsmen and family

workshops to upgrade their tools while at the same time gearing their production more towards marketable goods that are in demand either locally or abroad.[27]

WOOD AND WOODWORKING

Recent trends

Despite Egypt's high reliance on imported woods, it is also a small exporter of wood, charcoal and related products. Excluding furniture, these exports amounted to 9,171 tonnes in 1992, worth LE 13.9 million (see Table III.20). Moreover, in value terms this represents an impressive rise from 1989, when exports of wood, charcoal and related products made from these commodities amounted to just LE 5.8 million.

Table III.20. Exports of wood and related products, 1989-1992

Year	Value (Thousand LE)	Quantity (Tonnes)
1989	5,754	7,332
1990	16,704	5,390
1991	15,333	4,596
1992	13,906	9,172

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Figures on current output in this subsector are not available; however, as with furniture, production has grown remarkably in value terms. Gross output at current prices amounted to LE 159.9 million in 1989, compared to LE 11.9 million in 1975.[28] Even allowing for inflation, it is evident that the rapid growth of the population, combined with rising disposable incomes, the repatriation of capital by Egyptians working abroad and the growth of tourism has helped to create demand for sawn lumber and for wood products such as doors, windows, joints and forms used in the building industry as well as for wood handicrafts (such as those sold in the Khan al-Khalili market in Cairo).

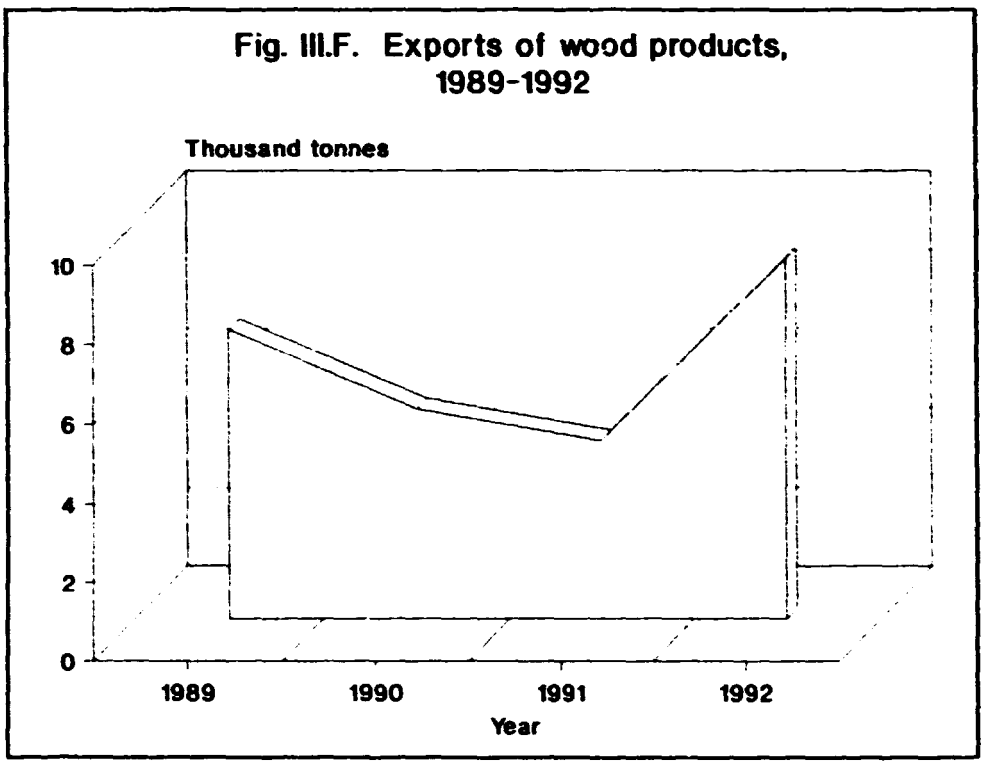
Although much of the production of wood and wood products industries is, like furniture, carried out in small-scale workshops, value added per employee grew by 2.5 per cent from 1981 to 1990, compared with a decline of just under 8 per cent from 1970 to 1980. Expressed in terms of constant 1980 prices, value added for the period 1981 to 1989 showed remarkably good growth over and above inflation.

Constraints and prospects

As with furniture, prospects for the wood and wood products industries are to a very large extent dependent on the supply and cost of imported raw materials. For this reason, many of the constraints which apply to furniture manufacture also affect the production of wood products.

More promisingly, there has been a significant rise in value added per employee in the wood and woodworking industries that has outstripped the cost of wages and salaries. While value added per employee rose from LE 673 in 1975 to LE 7,462 in 1989, ie almost twelvefold, wages and

salaries per employee were up by only a factor of slightly more than nine, ie from LE 347 to LE 3,287, during the 15-year period.



Egypt's long cultural history and worldwide reputation for its antiquities could provide a competitive edge for the sale of models and replicas, as well as for the production of intricate wood screens, balustrades, tables and artifacts such as those made in the Mashrabiyyeh style common in the Middle Ages, in the inlaid "Damascene" fashion combining mother-of-pearl with various woods, or in "Pharaonic" designs. Private-sector investment in the distribution and marketing of Egyptian wood-based handicrafts, both for local consumption and for export, could provide further opportunities to create employment, especially if the costs of the raw material were stabilized or if indigenous resources, such as date palm wood, tamarisk and other wood products such as fronds and seeds, were used.

PRIVATE-SECTOR DEVELOPMENT IN FURNITURE AND WOODWORKING

In contrast to many other industrial branches, the concentration of ownership in the furniture subsector is already heavily dominated by private investment. Of the total output in 1989/90, valued at LE 814.5 million, LE 810 million was produced by the private sector, according to figures provided by the Ministry of Industry and the Egyptian Federation of Industries. As mentioned earlier, the private sector is predominant in wood processing activities. Fresh private investments approved by the General Authority for Investment as of June 1993 stood at LE 186 million, of which foreign investment accounted for LE 114 million.

While furniture production in Egypt appears to have shown little growth in overall terms in the past few years, the prospect of a rise in consumer demand, an upsurge in remittances sent back by Egyptians working abroad and a revival of export orders, as well as of tourism, should pave the way for additional private investment in the furniture and woodworking sector. Given their long history of furniture making and woodworking, Egyptians have acquired skills and traditions that, combined with their competitive wages, could also give the industry a comparative advantage in international markets despite the dependence on imported raw materials.

The privatization of many of Egypt's luxury hotels and tourist complexes in 1992 and 1993 may also enhance the investment opportunities in furniture, provided production is oriented toward the needs of these purchasers. The production of either mass-produced or hand-crafted chairs, for example, could be combined with the bulk purchase of wood at more competitive prices once import controls are lifted. However, private investment in other wood-based furniture projects oriented either toward the domestic consumer or towards exports is expected to be warranted only if production is carried out in more modern factories with adequate supply and marketing arrangements.

In the short term, private investment in the furniture and woodworking sector is expected to increase dramatically as a result of the expected abolition of the total import ban on furniture. First introduced in the mid-1980s, the ban has effectively served as a government stimulus to local production; its lifting will enable private-sector producers of high-quality goods to compete more effectively both domestically and internationally. In contrast, the smaller workshops, such as those in Damietta, catering primarily to the popular end of the domestic market, could be adversely affected by competing imports of cheaper furniture from countries or territories such as China, Taiwan Province of China, Hong Kong, the Philippines, Romania and other suppliers in eastern and central Europe.

A reduction in tariffs on imported wood and other raw materials such as synthetic foams, nails, glues, upholstery fabrics, fasteners, glass, trims and packaging materials would also provide a significant stimulus to local private-sector producers able to withstand the competition of ready-made furniture, doors, windows, flooring and other wooden products imported from abroad. However, given the lack of sufficient competition in the wholesale trade in both sawn and unsawn timber, plus the continuance of the government regulations affecting the pricing and import of softwoods, it is unlikely that any reduction in tariffs would necessarily be passed on to the producer or retailer. The sector is likely to be dominated increasingly by those manufacturers who operate with mass-production methods and/or have sufficient capital either to buy their wood in bulk or to finance sufficient inventory and storage facilities.

In the medium- to long-term, the furniture sector will also need to expand the use of modern materials, as well as more modern methods of production which emphasize just-in-time delivery (to avoid costly inventories), flat-packed items and stacking furniture.

The use of blockboard, plywood, chipboard and other cheaper wood-based products that are particularly suitable to mass production is one way to expand output while minimizing raw material costs. This would help to cover the substantial volume of unmet demand in Egypt by keeping the final costs to the consumer low. However, research in the United States and Europe has shown that consumer resistance to the use of these materials may be high unless they are accompanied by attractive designs, immediate availability and sufficient promotion and marketing. This in turn entails centralized distribution facilities and large showroom space that is beyond most of the small- to medium-sized producers in Egypt.

Table III.21. Approved private investment in wood industry to June 1993
(Cumulative investment in million LE)

	Number	Capital invested			Approved investment			Number of persons employed			Wages			Production Value
		Local	Foreign	Total	Local	Foreign	Total	Egyptian	Foreign	Total	Egyptian	Foreign	Total	
Furniture projects	6	14	57	71	22	63	85	1,786	3	1,789	5	-	5	52
Carpentry and wooden products	9	21	34	55	50	51	101	1,703	3	1,706	4	-	4	38
Total	15	35	91	126	72	114	186	3,489	6	3,495	9	-	9	90

Source: General Authority for Investment.

The use of materials such as plexiglas, fiberglass and other synthetic plastics, polymers and resins may be another step forward, particularly if furniture made from these is marketed to specific clienteles. Their use would reduce the need to import costly wood in favour of materials that could be manufactured from Egypt's own resources of hydrocarbons. Plexiglas shelving, display stands, side tables, benches, planters and bathroom fixtures, for example, may be promoted as up-market products in line with their image in Europe, or such items may be directed to specialized users, such as offices, shops, galleries and restaurants. Given the competitively lower cost of producing plexiglas products in Egypt, export demand could also be expected to grow if sufficient supplies were produced and if sufficient feedstocks at reasonable prices were made available to manufacturers. Quality control, such as in the final polishing as well as in manufacture and design, is, however, essential.

D. CHEMICALS

PETROCHEMICALS AND HYDROCARBONS

The resource base

The discovery of commercially viable deposits of crude oil and natural gas in Egypt in the early 1970s laid the foundation for the development of a significant petrochemicals and refining sector, which though small by Middle Eastern standards, has transformed Egypt's industrial output and export earnings. Proven reserves of petroleum amounted to 4.5 billion barrels (600 million tonnes) at the end of 1991, representing 0.4 per cent of the world total. Proven reserves of natural gas amounted to 12.4 trillion cubic feet (400,000 million cubic metres), accounting for 0.3 per cent of the world total.

Production of crude oil has risen significantly in the past decade, rising from an average of 725,000 barrels per day (b/d) in 1983 to 925,000 b/d at the end of 1991. Natural gas output has shown an even more dramatic increase, reaching 8.2 million tonnes of oil equivalent (MTOE) at the end of 1991 compared to only 2.4 MTOE in 1983. At 1991 production levels, Egypt had enough petroleum to last another 13.5 years, and of natural gas to provide supplies for just under 39 years.

Egypt's first gas field came on stream at Abu Maadi, in the Nile Delta, in 1974 with an output capacity of 120 million cubic metres a day. Abu Gharadeq, in the Western Desert, began production in 1976 and rapidly became the main source of fuel for the capital, Cairo, as well as for the huge iron and steel complex at Helwan. In 1979 additional output began flowing from the Abu Qir field, which lies off the Mediterranean coast near Alexandria. Subsequently, the field at Ras Shouqair in the Gulf of Suez and two others in the Mediterranean - at Timsah and Port Fouad - as well as in the Western Desert - Sitra and Badr el-Din - were brought on stream. By the end of 1992, the Badr el-Din field, operated by the Badr el-Din Petroleum Company (BAPETCO) in which Shell Egypt is the foreign partner, had produced 160 million cubic feet a day.

The current Five-Year Plan, which runs from fiscal 1992/1993 to 1996/1997, calls for the construction of a new associated gas gathering centre south of the Gulf of Suez, which will pipe gas to the Ras Shuqair processing plant to produce 45 million cubic feet of gas a day, 150 tonnes of LPG a day and 1,000 b/d of condensates. In addition, it also provides for the initiation of phase two of the development of the north Abu Qir field to produce 15 million cubic feet of gas a day and 345 b/d of condensates, as well as the extension of the gas distribution network to 260,000 domestic users in Cairo and 150,000 households in Alexandria.

Projects already under way include the $62 million construction of a Trans-Gulf gas scheme to bring a total of 107 million cubic feet of gas a year from the Belayim and October fields in the

Gulf of Suez to the Ras Shuqair gathering complex. Overall production of natural gas is expected to rise from a total of 8.9 million tonnes in fiscal 1992/1993 (and 7.2 million tonnes in 1991/92) to 11 million tonnes by the end of the Plan period.

International oil companies are also active in the country, and are being encouraged to continue exploration and production of both crude oil and natural gas - as well as providing the required transport and supply systems - for domestic use as both a fuel and as a feedstock and for export. Shell Winning, a subsidiary of Royal Dutch/Shell, is planning to bring on stream in the next year a recently discovered gas field in the Western Desert described by industry sources as "very big", according to the Egyptian General Petroleum Corporation (EGPC). The find was made near Marsa Matruh and initial tests indicate production of 16 million cubic feet a day of gas and 1,600 b/d of condensate. A gas line is being considered to tie the find into the gas distribution network east of the field. Preliminary estimates suggest that the field may contain as much as 1 trillion cubic feet of gas reserves.

Evaluation of a gas discovery by the International Egyptian Oil Company (IEOC), a subsidiary of the Italian company, Agip, in the Western Desert is also continuing. Shell has already discovered another important gas field in the area containing an estimated 150 billion cubic feet of reserves.

As a result, production from the Marsa Matruh area, near the border with the Libyan Arab Jamahiriya, is expected to rise from zero at present to about 371,000 tonnes by the end of fiscal 1995/96, increasing to 391,000 tonnes in 1996/1997. Production from Shell's interests in the Badr el-Din field (as part of APETCO) is set to rise from 1.8 million tonnes in 1992/1993 to 3.3 million tonnes in fiscal 1996/1997. This would represent 30 per cent of the total output of 11 million tonnes projected for that year.

Elsewhere, a significant new gas find has been reported in the Nile Delta area, near the town of Dasuq in the Kafr al-Shaikh governorate. The Atlantic Richfield Company (ARCO) and Phillips Petroleum Company, both of the United States, are the main concessionaires. Initial indications are that production could amount to 26.5 million cubic feet a day of gas in addition to a smaller amount of condensates; however, speculation continues in Cairo that the find may be far larger than so far reported. Earlier in 1993 another find, near Halawa in the Delta province of Dakahliya, was announced by IEOC, along with still another in the Gulf of Suez, close to its concession in the Belayim field. Speculation is also continuing in Egypt that IEOC may announce yet another major discovery in the Port Fouad area off the Mediterranean coast.

The construction of a natural gas grid is also proceeding, linking the Abu Maadi field with the industrial centres of the Delta, the Abu Gharadeq supplies with the Helwan complex and Abu Qir with petrochemical and other heavy industries in the Alexandria region. A 270-kilometre pipeline is under way to bring gas from the Badr el-Din concession, operated by Shell Oil, to Ameriya, west of Alexandria; plans call for a total flow of 1,500 million cubic metres a year at a rate of up to 4.8 million cubic metres a day.

Recent trends

Downstream hydrocarbon industries, which include petroleum refining, the production of liquid petroleum gas (LPG), natural gas liquids (NGLs) and petrochemical feedstocks, as well as petrochemicals themselves, are a relatively new industry in Egypt. Despite the commencement of significant crude oil exports in the mid-1970s, rising domestic consumption (which grew dramatically until the gradual substitution of natural gas as an alternative fuel) reduced the amount available for local processing and, consequently, value added. Domestic consumption of crude oil was also encouraged by high government subsidies on hydrocarbon fuels which, in the case of

petroleum products, reduced their cost to the consumer in the early 1980s to less than one-fifth the average price on world markets.

Refinery construction, aimed initially at reducing imports and at supplying local needs, began in 1972 with the opening of the Ameriya refinery, near Alexandria, with a capacity of 73,000 b/d. The following year another refinery, with a capacity of 15,000 b/d, was commissioned at Tanta in the Nile Delta. By the end of 1987, the number of refineries had reached seven: two at Suez, two near Alexandria (Ameriya and Mex), and others at Mostorod (south of Cairo), Tanta and Wadi Feran. Combined capacity, including subsequent expansion of the initial two facilities, totalled 452,000 b/d in 1987. Output that year averaged 448,000 b/d (22.4 million tonnes), up from 422,000 b/d (21.1 million tonnes) in 1986.

During the following Five-Year Plan (1987/1988 to 1992/1993), the EGPC, the state-owned oil company, built a new refinery at Assiyut in Upper Egypt, operated by an EGPC subsidiary, the Assiyut Oil Refining Company with an initial capacity of 50,000 b/d. Its processing facilities include a 2.5 million tonnes-per-year crude distillation unit, vapour recovery unit, stabilizer and gasoline caustic wash units, as well as storage facilities, piping, infrastructure and utilities. Crude oil for the complex is supplied from the Ras Shuqair oil field in the Gulf of Suez via a 260-kilometre pipeline. Another facility, also with a capacity of 50,000 b/d and equipped with a 2.5 million tonnes-per-year crude distillation unit, was opened in Suez in the early 1990s. Overall refining capacity increased to 523,000 b/d by the end of 1991 and was estimated to have risen to more than 570,000 b/d by the end of June 1993.

In addition to encouraging the development of its own petroleum products industries, the Ministry of Petroleum in the 1980s began building a series of major state-owned petrochemical plants at and near Ameriya, outside Alexandria. These included an integrated polyvinyl-chloride (PVC), vinyl-chloride and chlorine facility where the initial capacity for PVC amounted to 80,000 tonnes a year; an ethylene terminal; a 100,000 tonnes-per-year vinyl chloride monomer (VCM) plant; a caustic soda (sodium hydroxide) and chlorine plant (for a joint venture between Marubeni of Japan and the Egyptian Petrochemicals Company) with a capacity of 66,500 tonnes of caustic soda and 60,000 tonnes of chlorine a year; a complex for Nasr Petroleum to produce propane, butane, light naphtha, high-octane petroleum blending ingredients, benzene and toluene; and a 40,000 tonnes-per-year linear alkyl benzene complex.

In 1991 Egyptian refineries processed 24,976,000 tonnes of crude oil and produced 23,817,000 tonnes of petroleum products. This compares with figures of 24,337,000 tonnes and 23,157,000 tonnes, respectively, in 1990. Exports of petroleum products in fiscal 1990/1991 were worth just over $1 billion; however, with world prices that year pushed up by the Gulf crisis, this trend did not continue in the following year, when export values declined to $883 million. The volume of output also declined over the period, from 24.9 million tonnes in 1990/1991 to 24.7 million tonnes in 1991/1992.

In the 1991/1992 fiscal year, production of fuel oil accounted for the largest output of petroleum products, amounting to 11.5 million tonnes (see Table III.22). Gas and diesel oil came second, with 4.1 million tonnes, followed by kerosene with 2.2 million tonnes; gasoline with 1.9 million tonnes; asphalt with 576,000 tonnes and aviation fuel with 340,000 tonnes. Natural gas output in 1991/1992 reached 7.2 million tonnes, while that of butane gas (which can be produced both from petroleum gas and from refinery throughputs) amounted to 318,000 tonnes.

During the five-year period from fiscal 1987/1988 to the end of 1991/1992, natural gas output rose by 39 per cent, according to figures compiled by the Central Agency for Public Mobilization and Statistics (CAPMAS). Among petroleum products, the output of aviation fuel scored the greatest

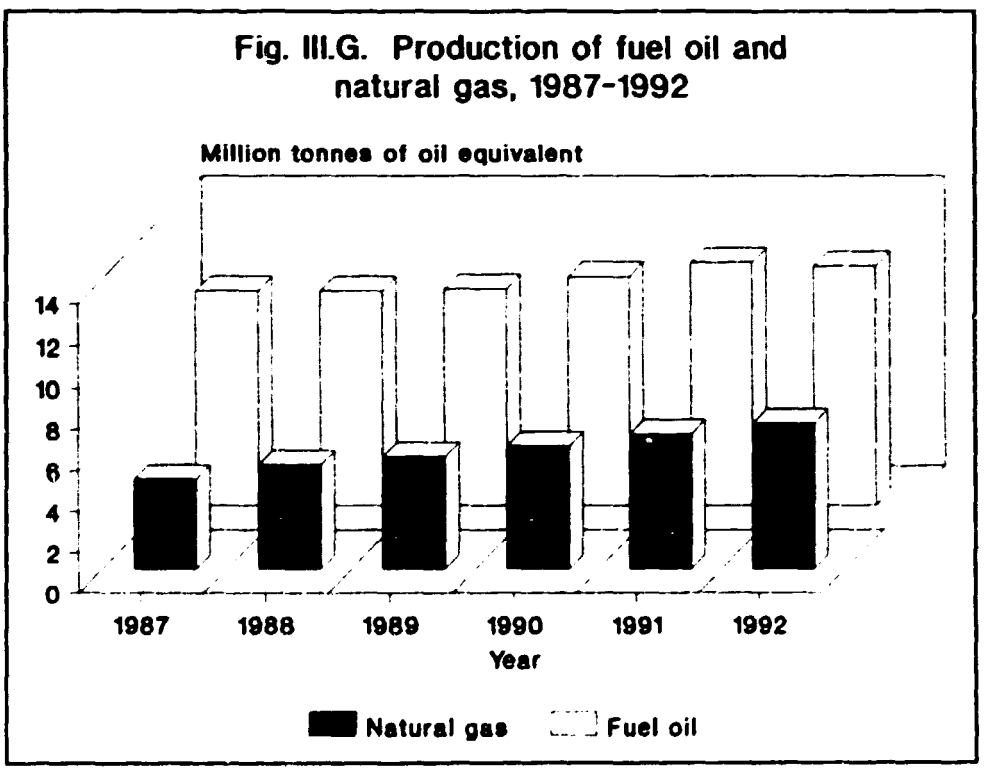
gain, rising by just under 63 per cent. Butane gas production increased by 14 per cent, while fuel, gas and diesel oils were up 12 per cent on average. Declines were registered for gasoline and kerosene; these fell over the period by 15 per cent and 4 per cent respectively.

Table III.22. Production of petroleum products and natural gas, 1986/1987-1991/1992
(Thousand tonnes of oil equivalent)

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
Gasoline	2,090	2,284	2,352	2,179	2,253	1,932
Kerosene	2,325	2,325	2,385	2,398	2,304	2,226
Aviation fuel	168	209	236	319	406	340
Gas and diesel oil	3,604	3,673	3,777	3,702	4,030	4,118
Fuel oil	10,353	10,302	10,431	11,005	11,707	11,536
Butane gas	274	279	287	316	338	318
Natural gas	4,491	5,148	5,504	6,035	6,620	7,160
Asphalt	597	549	580	592	651	576

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Exports of refined petroleum products showed a slight decrease in fiscal 1991/1992 in volume terms, falling from 24.9 million metric tonnes the previous year to 24.7 million tonnes. In value terms, they were worth $883 million in fiscal 1991/1992, compared to $1,008 million in fiscal 1990/91, when prices were inflated by the Gulf crisis.



Exports of petrochemicals have risen considerably since the late 1980s as new plants have been commissioned. Exports of plastics and artificial resins, for example, have increased threefold, from just 2.8 million to 9.1 tonnes in the four-year period between fiscal 1989 and fiscal 1992 (see Table III.23). Even higher outputs were recorded in fiscal 1990 and 1991 due, once again, to accelerated worldwide demand as a result of the Iraqi occupation of Kuwait. In value terms, the rise has also been impressive: at the end of fiscal year 1991/1992, these were worth LE 60.7 million, compared to just LE 13.7 million at the end of fiscal 1988/1989.

With demand for most petroleum products and petrochemicals rising rapidly in Egypt as well, the government is under considerable pressure to increase refinery output further. A major expansion of the Assiyut refinery inaugurated in May 1993 is expected to double output to 100,000 b/d (5 million tonnes). Carried out by two EGPC subsidiaries, Petrojet and ENPPI, it is to cost $230 million.

Table III.23. Exports of plastic materials and artificial resins, 1988/1989-1991/1992

	1988/89	1989/90	1990/91	1991/92
Value (Thousand LE)	13,742	28,666	62,595	60,718
Quantity (Tonnes)	2,845	10,797	12,308	9,130

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

A new isomerization unit is also being installed at the Mostorod refinery along with another project at the complex to regenerate spent oils for lubrication. The isomerization unit will process 2,000 tonnes of light naphtha a day and enable the refinery to produce high-octane gasoline without using tetraethyl lead (TEL), a substance which is both costly and environmentally hazardous. Similar facilities are planned for the existing refineries at Suez and Alexandria.

ENPPI is also considering the construction of two new lube-oil plants in Alexandria, one for blending the oils and the other to regenerate them. The first is for the Misr Petroleum Company and the second for the Alexandria Petroleum Company (APC), which is also considering plans to expand its existing lube-oil production facility. Further expansion of refinery capacity is planned to help provide for the needs of three new power plants due to come on stream in the mid-1990s; each will require 450,000 tonnes of fuel oil a year, officials report. Additional plans announced in 1993 called for the construction of a new refinery on the Mediterranean coast and of another in the Red Sea area, south of Suez.

The current Five-Year Plan (1992/1993 to 1996/1997) envisages a new gas processing plant at the Ameriya refinery to handle rising supplies from the Badr el-Din and Abu Sinan fields; construction of a 200,000-tonnes-per-year ethylene unit, a 130,000-tonnes-a-year polyethylene unit and a 100,000-tonnes-a-year propylene plant at the Ameriya complex; a new lube-oil unit and two oil recycling plants, each with a capacity of 30,000 tonnes a year, at each of the refineries in Alexandria and Suez. The total output of condensates was targeted to reach 1.4 million tonnes, up from 1.2 million tonnes in 1992/1993, while LPG production is expected to amount to 13.1 million tonnes, compared with 10.7 million tonnes in 1992/1993.

Constraints and prospects

The production of petroleum products and petrochemicals depends vitally on adequate supplies of crude oil and natural gas for both industrial fuels and feedstocks. While production of crude oil is holding steady at about 870,000 b/d, production from existing fields, excluding extensions and enhanced recovery procedures, is set to decline by about 300,000 b/d over the next five years.[29/] New fields will therefore have to be brought on stream as soon as possible if the cost of fuel imports is not to rise still further. In the short term, some 75,000 b/d will come from extensions and new finds in the Gulf of Suez, including British Gas's significant discovery at the Zaafarana field.

In the longer term, Egypt's prospects for exporting hydrocarbon products to its important markets in Europe will also depend on upgrading its own processing facilities to take European consumer preferences into account, and on proposals currently circulating in the European Union aimed at increasing the share of "green" fuels in the energy mix. The huge French oil conglomerate, Elf, for example, has already started marketing ETBE, or ethyl-tertiary-butyl-ether. A mixture of ethanol, made from sugar beet or cereals, and isobutane, it is mixed with unleaded petrol, usually in the ratio of 5 parts ETBE to 95 parts of petrol, to help further reduce carbon dioxide pollution and - given France's own agricultural resources - the dependence on fuel imports.

Moves afoot in the European Union to extend tax concessions throughout its 12 member states to such fuels could have a negative impact on petroleum product exports from Egypt, as well as elsewhere in the Arab world, and on exports of both methanol - which is used to produce MTBE - and MTBE itself, the additive used to increase the octane rating of unleaded petrol. Future planning for refinery modernization and expansion and for the construction of new petrochemical plants in Egypt will need to take such possible moves into account if the sector's manufacturers are to be prepared for changes in their major export markets in the mid- to late-1990s. EGPC itself is expected to spend some $1.2 billion during this period on refinery modernization and expansion to meet local demand, to comply with international environmental standards and to improve its marketing facilities and services.

Although the country's reserves of natural gas are substantial, and the pace of new discoveries more encouraging than in the oil sector, government plans to use the fuel to generate 95 per cent of the country's electricity needs are also creating pressures to ensure that new finds are brought into production quickly, and that the pace of discoveries is maintained. As a result, consumption of natural gas in Egypt has been rising markedly, creating greater competition for supplies needed by industrial users: in 1991 local consumption as a whole, including utilities and residential users as well as industry, rose by 12 per cent to 6,862,000 tonnes, up from 6,127,000 tonnes in 1990.[30/]

Fortunately, as a result of current exploration and production activities, condensate and LPG production from the Western Desert is due to rise markedly. From zero in 1992/93, condensate output from the Marsa Matruh fields is targeted to rise to 81,000 tonnes by the end of the Five-Year Plan period, while LPG from both areas will rise from zero to 95,000 tonnes annually by 1997. Condensate output from Badr el-Din, averaging about 152,000 tonnes a year, is expected to remain about the same over the period.

Finance from neighbouring Arab states may also help to bring new petrochemical plants into production to take advantage of these sources of supply. For example, the Arab Petroleum Investments Corporation (APICORP), which groups several Arab governments and is based in Saudi Arabia, is reported to be considering providing finance for an ethylene project planned by EGPC. However, no details have been announced.[31/]

Domestically, the current wide-ranging economic, financial and social reforms will have a mixed effect on the petroleum products and petrochemicals sector. Recent measures to eliminate exchange controls and to ensure international convertibility of the Egyptian pound have encouraged foreign investment in the exploration and production of natural gas, but could have an adverse impact on state-run refineries, processing plants, petrochemical facilities and fertilizer companies as the cost of inputs rises in line with world prices. While these may fall in the next few years in line with an expectation of lower crude oil prices worldwide as additional supplies from Iraq and other newly developing areas come on stream, the net effect is expected to lead to a considerable reorganization of hydrocarbon-based manufacturing industries over the medium term.

Potential shortages of petroleum products are a major concern, particularly if the refinery expansion programme falls behind schedule. Gasoline rationing has already occurred in Egypt, and the government's reliance on hard-currency revenues from the export of petroleum products, as well as crude oil, is adding to the concern. Subsidies on energy, due to be phased out, have, on the other hand, mitigated against foreign interest in hydrocarbon processing and distribution for the domestic market; however, the removal of these subsidies is expected to provide a more attractive climate for investors.

In addition, growing concern about the environmental damage caused by high lead levels in the atmosphere is already leading to a major modernization of refineries in Egypt. Lead levels in gasoline, a major contributor to the pollution, currently vary considerably in the country: distribution points able to obtain sources from modernized refineries in Cairo, for example, have far lower lead content in gasoline than those in Upper Egypt which have no access to such supplies. On average, the lead per litre of 80 octane fuel in Egypt varies between 0.07 and 0.71 grams and for 90 octane between 0.11 and 0.62 grams, according to EGPC officials. Of the total refinery output in 1991 of about 2.1 million tonnes a year, only about half had reduced levels of lead produced from plants using catalytic reformers. EGPC currently operates three refineries with such reformers, but estimates that at least another two, costing some $200 million each, are needed.

Additional measures to remove the current limitations on car imports will add to domestic demand for gasoline in general and could help encourage the conversion of passenger cars, small commercial vans, and possibly heavy trucks, to the use of compressed natural gas (CNG) as an alternative fuel, provided supplies are readily available and reliable. Moves toward this end can be expected to occur first in the public sector's bulk purchasing policies, extending to individual and commercial fleet operators later.

FERTILIZERS

The resource base

Fertilizer production in Egypt is based on the use of its hydrocarbon feedstocks to produce aziotic fertilizers made of ammonia and urea. In addition, it produces organic fertilizers from its own indigenous supplies of phosphate and gypsum. This is supplemented by the import of certain other types of fertilizers such as potassium sulphates - which are used for sugar cane and potato crops - and ammonium sulphate, which is generally applied in horticultural cultivation.

Recent trends

Production of fertilizers has been dominated until recently by six large state-owned companies which were set up in the 1960s and which received subsidies for raw materials and energy supplies

from the government. Given the country's dependence on its limited supplies of arable land and the loss of natural fertilization from the Nile river due to the construction of the Aswan High Dam, the manufacture, trade and distribution of fertilizer was regarded as virtually a strategic industry, subject to intense regulation and control. Farmers were eligible for subsidized fertilizer inputs according to strict quotas, partly to compensate for the low prices they received for their crops under government pricing and purchasing schemes.

Since 1990, however, the government's economic reform programme has had a considerable impact on the sector. Fertilizer companies have been allowed to adjust fertilizer prices to reflect more accurately the true costs of production; subsidies on both imported and domestically produced fertilizers have been reduced or, in some cases, removed entirely; public distributors' commission fees have been revised to reflect market rates; the private sector has been allowed to purchase and distribute fertilizers; and measures have been enacted to ensure the free, unregulated transport and marketing of all non-subsized fertilizers and fertilizer compounds.

This, in turn, has had a mixed impact on the actual output of locally manufactured fertilizers. While those of calcium nitrate compounds rose from 4.3 million tonnes in fiscal 1986/1987 to 5.3 million tonnes in fiscal 1991/1992 (see Table III.24), ie by about 23 per cent over the six-year period, output of superphosphate fertilizers actually declined, from 957,000 to 826,000 tonnes during the same period. That of mixed fertilizers, ie those combining ammonia and urea, remained relatively steady after 1986 except for a huge jump in 1989, when output rose more than fourfold to 3.5 million tonnes.

Table III.24 Production of fertilizers, 1986/1987-1991/1992
(Thousand tonnes)

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
Calcium nitrate	4,282	4,387	4,539	4,600	4,339	5,342
Superphosphate	957	986	1,021	1,095	1,060	826
Mixed fertilizers[a/]	738	830	3,544	753	..	..

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Ammonia and urea.

The decline of superphosphate production is partially explained by the huge rise in its prices - and consequent reduction in demand - which occurred after 1987, when the average price amounted to LE 75 a tonne; by 1993, this had climbed more than fivefold, to LE 400 a tonne. Although the government and some industry sources attribute the huge increase to the reforms, particularly since they led to a rise in the cost of raw materials and of energy inputs, other analysts say that the privatization of distribution channels was a major reason: being unable to attract private dealers meant a loss of market share for superphosphate producers in the new open climate for the fertilizer trade. By October 1993, for example, one major manufacturer, the Maleyah Company, had reduced production of superphosphate fertilizers from an average of 60,000 tonnes to just 10,000 tonnes a month.[32/]

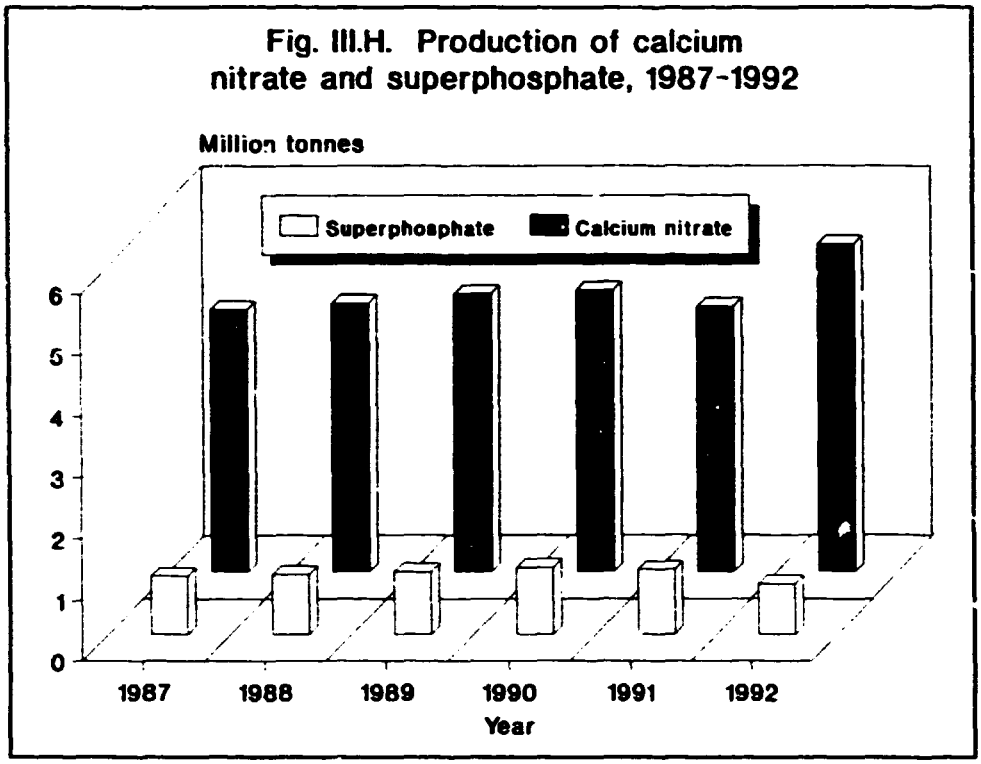


Fig. III.H. Production of calcium nitrate and superphosphate, 1987-1992

The shift from organic to inorganic fertilizers, however, was also a factor. Hydrocarbon feedstocks had been used in a number of state-owned fertilizer plants since 1976, when the Talkha I complex in lower Egypt began production of nitrogenous fertilizers in 1976. Talkha II opened in 1979 to produce ammonia and urea, i.e. mixed or aziotic fertilizers using gas from the Abu Maadi field. Since then, the government has opened a complex in Suez City producing nitrogenous fertilizers from Abu Gharadeq gas; another at Dikheila which uses gas from the Abu Qir field to produce ammonium nitrate and urea; and the Abu Qir works in Alexandria.

Expansion at the latter has taken productive capacity up to 1,000 tonnes of ammonia, 1,800 tonnes of nitric acid and 2,300 tonnes of ammonium nitrate a year. The output of Talkha I averages 380,000 tonnes of fertilizers a year; that of Talkha II 396,000 tonnes, that of Suez 250,000 tonnes and that of Dikheila 500,000 tonnes of urea and 100,000 tonnes of ammonium nitrate a year. Overall, the production of nitrogenous fertilizers rose from 4,482,000 tonnes in fiscal 1985/1986 to 4,650,000 tonnes in fiscal 1990/91.[33/]

Constraints and prospects

Studies carried out by the Federation of Egyptian Industries in mid-1993 indicate that while the country is self-sufficient in phosphate fertilizers (thanks in part to adequate reserves of phosphate rock), significant changes can be expected by the year 2000. Taking into consideration changes in crop areas and in food-consumption patterns, local demand for aziotic fertilizers (ammonia and urea) is projected to reach 6.5 million tonnes per year. This is forecast to be slightly less than total productive capacity at that time of 7 million tonnes, assuming adequate hydrocarbon feedstocks.

Local production of phosphate fertilizers is expected to amount to 1.3 million tonnes in the year 2000. However, unlike the situation with aziotic fertilizers, demand will outstrip local supply: according to the Federation, demand is projected to reach 1.6 million tonnes a year by the end of the millennium.

In the medium term, ie up to the end of the century, Egypt is also expected to benefit from new export opportunities created by the dissolution of the former USSR, the reduction in exports from eastern and central Europe, and the consequences of the Gulf conflict. While cheap exports from the Commonwealth of Independent States (CIS) may have depressed world fertilizer prices in the late 1980s and early 1990s, the lack of investment in their plants, as well as those in eastern and central Europe, is expected to enhance the trend toward rising world prices for fertilizers. Moreover, this is expected to be reinforced by the decline in exports of raw materials such as ammonia and urea from major petrochemical producers such as Iraq and Kuwait.

Having opened the Abu Qir complex at, in retrospect, an extremely fortuitous time, Egypt may now be in a position to benefit from both a rise in world fertilizer prices and a capacity to export. Abu Qir, for example, has already produced a surplus of some 300,000 tonnes which has been directed toward international markets. Its privatization, which allows it to market output in the most lucrative outlets, may further enhance its presence in international trade.

PHARMACEUTICALS

The resource base

Production of pharmaceuticals in Egypt is almost completely dependent on imported raw materials which are then processed locally into various products. Manufacture is carried out under licence by transnational pharmaceutical companies as well as by state companies. In addition, the country imports substantial amounts of prepared pharmaceuticals and medicines. These were estimated to have been worth more than $700 million in 1992, up from $448.1 million in 1988.

Recent trends

Although pharmaceuticals have been produced in Egypt since the 1940s, the industry only began to develop fully during the 1960s, when government policies focused on the provision of high-quality, low-cost medicines for a rapidly growing population. By 1993 there were 16 pharmaceutical companies operating in Egypt. Of these, seven belonged to the public sector, including one set up by the military.

The involvement of transnational corporations expanded when Pfizer began operations in Egypt in 1961. By 1993 the company employed some 500 people with a local turnover of around LE 85 million. Other companies set up by transnationals include Swisspharma (operated by Sandoz-Wander and Ciba-Geigy), Hoechst and Squibb. The government has a 60 per cent shareholding in the Swisspharma, Hoechst and Pfizer concerns.

By the year 1988/1989 local production accounted for 89.5 per cent of local demand, which was estimated to have reached LE 1.4 billion a year by the early 1990s, or about LE 25 per head. By 1989/1990 domestic output supplied 91.1 per cent of local demand.[34/]

Private-sector output increased from LE 77 million in 1981 to just under LE 600 million by 1990, the last year for which figures are available. Public-sector production rose from LE 178 million to LE 608 million over the same period.[35/]

Exports, mainly to other developing countries in Africa and Asia, have also grown substantially. By 1990 these were worth LE 56.7 million in the case of public-sector companies, up from LE 9.5 million in 1989. For private-sector concerns, they had reached LE 18 million, LE 4 million more than in 1989. Total pharmaceutical exports in 1992 amounted to LE 105 million, compared with LE 74.7 million in 1990.[36/]

The private-sector producers concentrate on special drugs such as cardio-vascular medications as well as on anti-infectives, and by the mid-1980s accounted for about 27 per cent of the total market share of locally produced drugs. Of the remainder, gastro-intestinal preparations form the largest category of production.[37/]

The value of drug production has continued to show a steady rise, reaching just over LE 1 billion in 1989/1990. In comparison, it was worth LE 894.6 million in fiscal 1988/89, LE 715.7 million in 1987/1988 and only LE 589.2 million in 1986/1987.[38/]

Exports continue to account for a significant portion of production, and are expected to reach LE 200 million by the end of the decade, double the 1992 figure of LE 105 million, according to the chairman of the Holding Company for Pharmaceuticals. The improved performance is expected as a result of the opening of new markets for Egyptian products in Europe, the United States and the Russian Federation.

Constraints and prospects

Despite indications of rising productivity, the industry is reported to be operating at a loss. Commercial debts owed by pharmaceutical companies to local and foreign banks were estimated to have reached LE 700 million by the beginning of 1993. Interest payments on this debt amount to some LE 108 million a year. Pfizer alone estimates that its losses in the two-year period from 1991 to 1993 amounted to LE 12 million.[39/]

The losses stem primarily from the continuation of government price controls on pharmaceuticals at a time when the cost of imported raw materials has been rising, which has also resulted in a steady increase in government subsidies, especially for the more expensive drugs such as those used to control heart disease, cancer and diabetes. By 1993 the cost of such subsidies, most of which are provided to public hospitals, public clinics and government-run medical centres, amounted to some LE 150 million a year.

Nevertheless, Egypt has significant potential to become a major pharmaceutical producer if these problems can be resolved. The industry is already the largest in the Middle East, although other countries in the region, such as Islamic Republic of Iran, Saudi Arabia and Turkey, are also beginning to make important inroads in terms of local production.[40/]

The Middle East market for pharmaceuticals is expected to be worth nearly $5.6 billion by 1997, according to a recent study.[41/] At present, it is one of the most rapidly growing in the world, with the annual rate of growth amounting to 9 per cent in 1992, up from an average rate of 7 per cent in the five-year period from 1986 to 1991.

The study, which covered the six Gulf Co-operation Council (GCC) states, Islamic Republic of Iran, Iraq, Jordan, Lebanon, Libyan Arab Jamahiriya, Syrian Arab Republic, and Turkey as well as Egypt, notes that the rapid population growth in the region, improved relations with western exporters, the easing of business regulations and of import controls in some countries is fuelling the rising demand. Per capita consumption in 1992 ranged from a low of $3.30 in Iraq to $77.7 in the United Arab Emirates. Sales in over-the-counter (OTC) medicines are increasing, it adds,

and transnational firms are expanding their operations to meet the projected increase in demand in the 1990s.

Egypt, with its wealth of un- and underemployed university graduates, skilled medical personnel, highly trained technicians and industrial talent, should be in a prime position to exploit these opportunities in the region, just as it has found new export markets in Europe, the United States, the Russian Federation and other countries of the former USSR, Asia and Africa. Given its early entry into the field of local production, and the experience which both its private- and public-sector firms have relative to their neighbours, Egypt stands in a very good position to meet the rising regional demand through exports, provided investment at home can be encouraged.

To achieve this, the constraints causing delays in the registration of new drugs, the impediments limiting R & D and government regulation of imports, as well as on price controls, may need to be reviewed. While the consumer does need to be protected in such a vitally important product area with regard to both quality and costs, the existing situation may limit the ability of private-sector firms to provide the latest up-to-date medicines to those sections of the population that may be willing to pay higher prices in return for access to the most modern drugs available. For these reasons, local firms may also endeavour to expand their market share in the neighbouring countries, as well as to expand exports generally.

The difficulties arising from the high cost of interest payments appear to be easing given the climate of economic reform which has seen interest rates, and inflation, decline recently. However, the government's intention to fully deregulate electricity and energy prices may paradoxically add to the industry's costs, thereby obliging the firms to face the realities of market forces. Reforms in government policies which would allow prices for specific products to be changed to allow for increased production costs are considered helpful to the industry, as demonstrated by the government's decision, in June 1993, to raise pharmaceutical prices by 10 to 20 per cent.

Public-sector bodies from elsewhere in the region, notably in Saudi Arabia, have also expressed interest in joint ventures or in other forms of mutual cooperation with their counterparts in the industry in Egypt. The governments of Egypt and Saudi Arabia agreed in 1990 to carry out a number of studies, in collaboration with United Nations agencies, aimed at increasing bilateral cooperation in pharmaceuticals. UNIDO in Vienna has recommended the establishment of a joint database on industry-specific information needs for the two countries; the improvement of existing manufacturing processes in pharmaceutical industries in Egypt and Saudi Arabia; and the harmonization of policies between the two states.

The aim, the UNIDO proposal explains, is to enhance the acquisition of foreign technologies in the industry, the upgrading of good manufacturing practices (GMP), expansion of research and development (R & D) in existing firms and the mastery of quality assurance (QA), and the establishment of stable government policies to support local manufacturing and to control costs.[42/] Investment to finance these measures, the study added, could be encouraged by licensing the proposed master files of the database to private- and public-sector firms in other Arab countries.

PRIVATE SECTOR DEVELOPMENT IN THE CHEMICAL INDUSTRY

The prospect of reducing the state's role in the industry is enhancing interest in the industry on the part of regional and international investors. By the end of June 1993, a total of LE 700 million had been invested in 56 pharmaceutical projects in the country, of which LE 465 million came from foreign investors and LE 235 million from local investors (see Table III.25).

Table III.25. Approved private investment in chemicals to June 1993
(Cumulative investment in million LE)

Activity	Number	Capital invested			Approved investment			Number of persons employed			Wages			Production Value
		Local	Foreign	Total	Local	Foreign	Total	Egyptian	Foreign	Total	Egyptian	Foreign	Total	
Plastic and leather products	76	147	326	473	255	461	716	14,802	160	14,962	35	3	38	1,399
Liquid and dry batteries	2	6	10	16	13	23	36	395	3	398	2	-	2	23
Paints, polish and inks	13	40	32	72	82	65	147	911	13	924	3	1	4	122
Detergents and pesticides	10	26	48	74	65	90	155	1,452	16	1,468	8	1	9	127
Cosmetics and aromatics	12	37	292	329	75	297	372	2,490	41	2,531	12	2	14	152
Stationery and paper products	29	44	643	687	138	1,636	1,774	2,824	71	2,895	18	3	21	872
Adhesives	4	8	30	38	20	68	88	746	15	761	3	1	4	77
Glass fibres and formica	5	5	11	16	20	21	41	291	2	293	1	-	1	15
Chemicals, sulphur and salts	22	27	103	130	99	182	281	1,638	50	1,688	11	2	13	221
Plastic furniture	4	1	6	7	6	9	15	263	18	281	3	1	4	17
Others	5	2	12	14	4	14	18	-	-	-	-	-	-	-
Total	**182**	**343**	**1,513**	**1,856**	**777**	**2,866**	**3,643**	**25,812**	**389**	**26,201**	**96**	**14**	**110**	**3,115**

Source: General Authority for Investment.

International companies, many of them privately owned, have been extensively involved in oil and gas exploration and production in Egypt. During the period 1981 to 1991, a total of 113 agreements for oil and gas exploration were signed with foreign firms, resulting in 217 new discoveries.[43/] Despite this, refining and petrochemicals remain almost entirely in the hands of the public sector.

The domestic demand for petroleum products is likely to expand considerably as more cars are imported and manufactured locally; the consequent pressures on the government to expand refinery output and/or the use of compressed natural gas (CNG) as a substitute, as well as natural gas in general, is likely to result in policies aimed at encouraging more private investment in the sector. Additional incentives for such encouragement include the government's concern to reduce the high cost of imported fuels, feedstocks and petrochemicals.

The current Five-Year Plan calls for total investment - both domestic and foreign - in oil projects worth $9.6 billion, of which $5.7 million is expected to come from international oil companies currently involved in exploration and development activities in the country. While the government to date has shown considerable success in drawing on finance from foreign merchant banks and government export-credit agencies to fund its project developments, these sources are not expected to be sufficient to meet the plan targets. Foreign companies, along with private local and regional investors, which can provide finance, technology, skills and access to markets will find considerable investment opportunities in the sector as a result during the next few years.

This may also be accompanied by a gradual opening of operations formerly confined to the public sector, or which combine exploration and production agreements (i.e. upstream investments) with downstream activities such as the manufacture, distribution and marketing of gasoline, propane, butane and other petroleum products as well as of petrochemicals and plastics from gas feedstocks. Such opportunities have already been enhanced by an improvement in the government's terms for certain foreign companies already involved in the hydrocarbon sector in Egypt.

Shell, for example, negotiated a significant new sales agreement with the Ministry of Petroleum in early 1993. Under its terms, prices will be related to those of crude oil, rather than fuel oils, a move which the company feels will in effect mean that the prices paid by the government for gas will be roughly in line with those paid in western Europe. Shell and some of the other foreign operators are reported to be hoping that this new cooperative attitude of the Ministry will lead to the extension of their opportunities to develop other hydrocarbon-related activities in Egypt, such as the opening of service stations.

The government's eagerness to conserve its oil reserves could also produce opportunities for investment in gas distribution and processing, as well as in the manufacture of new equipment. Between 1981 and mid-1992, the gas distribution network in the greater Cairo region was extended to 437,000 households which consume some 96 million cubic metres of natural gas a year, which has helped to reduce costly imports of LPG by about 75,000 tonnes a year. Further government plans to reduce the rising demand for gasoline by equipping local buses with CNG engines and to convert public-sector vehicles to CNG use will add to these opportunities, especially if the trend is taken up by private and commercial vehicle drivers as an alternative to gasoline.

Further afield, the change of official policy could also lead to additional openings in petrochemicals manufacturing as a whole, although at present companies from the United States, Europe and Asia have not shown as much interest in investing in this sector as have local investors and others from the region. One exception is Marubeni of Japan which has built a caustic soda and chlorine plant in Ameriya in a joint-venture arrangement with the Egyptian Petrochemicals Company. It has a capacity of 66,500 tonnes of caustic soda and 60,000 tonnes of chlorine a year.

Egyptian commercial banks, for example, have expressed a willingness to provide finance and investment for the ethylene and polyethylene plants due to be built, as well as for a hydrocracker proposed in 1992 for Suez. They are also reported to be interested in a planned LPG project in Ameriya, outside Alexandria. The hydrocracker will use 3 million tonnes of fuel oil a year as feedstock to make light products such as diesel which are presently imported. Additional private finance is being sought.[44/]

One reason for the lack of interest among western companies may be the greater attraction of investment in neighbouring Saudi Arabia, where international corporations such as Exxon, Texaco, Mobil, Chevron and Celanese of the United States, Hoechst of Germany, Nesté of Finland and Ecofuel of Italy are already heavily involved in huge joint-venture schemes for the production of methanol, ethylene, ethylene glycol, propylene, polypropylene, butadiene, benzene, ammonia, urea, and other petrochemicals, as well as in other proposed activities such as the production of methyl-tertiary-butyl-ether (MTBE), the gasoline additive.[45/]

Nevertheless, the growth of world competition in petrochemicals and the consequent need to reduce costs - a trend which has encouraged the location and start-up of plants close to the feedstock sources in the Gulf - could rebound favourably on Egypt, especially if western and Saudi Arabian partners active in the petrochemical sector in Saudi Arabia are encouraged to look westward toward a country that enjoys the distinct advantage of a readily available supply of highly skilled professional and technical labour at extremely competitive wages, as well as good geographic access to affordable feedstocks. Saudi Arabia's signature of a bilateral agreement with Egypt in 1992 to lower tariffs on industrial commodities, as well as the already close ties which exist in the oil sector, could further enhance such a prospect.

One immediate consequence of the reforms initiated in the early 1990s was the privatization of fertilizer distribution channels which, as indicated above, has had significant consequences on production. The state-controlled Principal Bank for Development and Agricultural Credit (PBDAC), which had enjoyed a virtual monopoly on the distribution of both locally produced and imported manufactures since the mid-1970s, has seen its market share decline from 100 per cent to 40 per cent since 1990. In contrast, the private sector now accounts for about 45 per cent of distribution, with the remainder taken by agricultural cooperatives.[46/]

Even more important has been the privatization of the Abu Qir complex, the main producer of aziotic, or mixed, fertilizers in Egypt. Since its shares have been floated on the stock market, its average price per share has risen from about LE 25 pounds to a peak of nearly LE 55 in the spring of 1993. Although its share prices since then have fallen back, the anticipated flotation of other privatization stocks able to soak up liquidity is expected to lead to a more realistic appraisal of share values.

In this regard, the prospect of a rise in exports from the Abu Qir complex is expected to continue to produce healthy returns. In addition to benefiting from an open market, the Abu Qir plant can expect to reap gains from the demise of fertilizer exports internationally from both the former USSR and from eastern Europe. Moreover, competition from major exporters of petrochemical products such as ammonia and urea in Iraq and Kuwait has been virtually neutralized as a result of the loss of capacity following the Iraqi occupation of Kuwait in 1990/1991. This means that private investment in the production of ammonia and urea compounds is likely, as indicated above, to be accelerated as a result of both Egypt's economic reform programme, as well as changes in worldwide supplies of inorganic compounds.

Opportunities for private investment, whether foreign or local, in the pharmaceuticals industry in Egypt will depend to a large extent on the degree to which the industry is removed from the

current climate of almost total government regulation. The government raised the prices of 33 pharmaceutical products by between 10 and 20 per cent in June 1993. There are indications that other initiatives are under way.

However, the government has announced plans to privatize a limited number of companies in the industry. These are reported to include the Alexandria Company for Pharmaceuticals and Chemical Industries, the joint-venture Egyptian International Pharmaceuticals Company (EPICO) and the Arab Drugs Company, as well as the Medical Packing Company.[47/] Nevertheless, by the end of 1993, no details on these measures had been announced, and it is not known whether the government intends to turn them over to the private sector fully, or whether the plans centre primarily on simply increasing private equity in the companies while retaining a significant shareholding for the state.

In the meantime, at least one company, the Amoun Pharmaceutical Industries Company, which is privately owned, has sought successfully to raise capital through a public share subscription.[48/] Misr International Bank agreed to handle the issue in the autumn of 1993 with the aim of increasing paid-up capital in the firm from LE 17.9 million to LE 40 million.

Another encouraging sign for the private sector has been the increase in subdistributors and of pharmacies, although sales to public-sector institutions still form the largest part of the pharmaceutical market. By the end of 1989/1990, the number of pharmacies had risen to 11,250, up from 10,042 in 1988/1989. As a result, the number of practising pharmacists has also increased markedly, from 23,116 in 1984/1985 to 27,104 in 1987/1988 and 29,453 in 1989/1990.[49/]

In the medium term, the government may also move more readily to encourage private-sector development in the industry in an effort to reduce the high cost of subsidies provided to public-sector pharmaceutical companies. Progress on removing price controls, an essential factor for private investment, may be slow, however, given the government's reluctance to add to the cost of pharmaceuticals in view of consumers' relatively low disposable incomes. Protection of public-sector manufacturers, therefore, may be deemed, at least in the short term, to have a higher priority than reducing the costs of the subsidies.

Moreover, the independent producers already manufacturing pharmaceuticals in the private sector under licence from the large multinational companies appear content to absorb their financial losses for the time being. This is reportedly due to the fact that many see Egypt as a future base to supply the expanding demand in the Middle East region as a whole. The potentially large size of the domestic market, combined with the prospect of substantial profits should the market be opened to direct imports in a regime devoid of price controls is also said to be a major factor in their continuation of production in Egypt despite the current limitations.

E. METALLURGY AND BUILDING MATERIALS

IRON AND STEEL

The resource base

Egypt has several known deposits of iron ore, of which the most important are located in the Aswan area of southern Egypt and the Bahariya oasis in the Western Desert. Both of these have been exploited commercially, although mining at the Aswan site has been discontinued because of the remoteness of the deposit and the declining iron content of the ore. The Bahariya ore, though still being mined, is also of comparatively low quality, with a high manganese content and a high degree of salt contamination. None of the other deposits have begun to be worked as yet,

although a number are being evaluated and one particularly important find at El-Quseir on the Red Sea coast has already come to be regarded as having a high potential for future development.

Ferrous scrap also represents an important resource base for the Egyptian iron and steel industry. Indeed, much of this industry was established on the basis of the availability of large volumes of such scrap in the Western Desert, which had been an important theatre of war in the 1940s and had witnessed some of the most extensive armoured battles of the Second World War. Although all of this scrap has long since been utilized, substantial quantities continue to be generated within Egypt, especially in Cairo and the heavily urbanized Nile Delta, and are used as a raw material by several major producers of iron and steel. Significant quantities of ferrous scrap are also imported, however, with about 20 per cent of local demand having to be covered by imports.

Of the other major inputs for iron and steel production, Egypt is well endowed with limestone, which is found at various locations throughout the country. Several coal fields have also been discovered, especially in the Sinai peninsula, but following the closure of the Maghara deep mine after the 1967 war no coal has been mined in the country. Although plans to reopen the Maghara mine are under consideration, most of the country's other coal reserves are thought to be of limited economic value. Adequate alternative sources of energy are available, however, especially in the form of natural gas, which is already being used as a fuel for iron and steel production.

Recent trends[50/]

Egypt has a comparatively well-developed iron and steel industry. The most important liquid steelmaking facility is the Egyptian Iron & Steel Corporation (EISC) at El-Tabbin Helwan on the right bank of the Nile some 40 kilometres south of Cairo. Another important upstream producer is the Alexandria National Iron & Steel Corporation, known by the initials ANSDK, located in the industrial township of Dikheila on the Mediterranean coast about 15 kilometres to the west of Alexandria. In addition, the industry comprises three scrap based mini-mills: Delta Steel, located at Mostorod, 15 kilometres northeast of Cairo; the National Metal Industries (NAMETIN) at Abu Zaabal, about 50 kilometres northeast of Cairo, and a steel plant belonging to Egyptian Copper Works (ECW) in the Hagar el-Nouatia suburb of Alexandria. These large-scale plants are supplemented by a small number of rerollers, which for the most part produce reinforced bars (rebars) and sections for the construction industry from domestically procured or imported steel billets. Preliminary steps have also been taken to establish a large-scale plant for the production of special engineering steels, the Arab Special Steel Corporation, at Sadat City, a new development mid-way between Cairo and Alexandria.

Egypt's oldest iron and steel producers are NAMETIN and Delta Steel, which commenced operations in 1946 and 1947 respectively. Their inauguration was followed in the early 1950s by the opening of two open hearth furnaces and a mill producing steel bars at ECW, which had been established in 1936 as a small plant to reroll copper scrap but expanded into steel production in order to take advantage of the vast quantities of war materiel left behind at the end of the Second World War. A further expansion of the iron and steel industry occurred in the latter half of the 1950s with the construction of the integrated EISC mill at Helwan, the first stage of which was completed in 1958. The last of the major existing steelworks, ANSDK, was founded in 1982.

With the exception of some of the smaller rerollers, many of which have become operational since the mid-1980s, the Egyptian iron and steel industry is almost entirely state owned. The early metal processing enterprises, including NAMETIN, Delta Steel and ECW, were established by the private sector but were nationalized in the 1960s. The EISC, by contrast, was funded by the state from the outset, although it had an equity-based capital structure with private shareholders being permitted a minority stake. Since 1984 the government's ownership of these companies has been

transferred to the Metallurgical Industries Corporation (MICOR), a state-owned holding company reporting to the Ministry of Industry. The government, through a number of state-owned manufacturing and financial institutions (including EISC, Delta Steel, ECW and NAMETIN), also holds a 72 per cent share in ANSDK, with the firm's staff association holding 13 per cent, Japanese investors 10 per cent and the International Finance Corporation the remaining 5 per cent.

By far the largest and most important of Egypt's iron and steel plants is EISC, which was founded in 1954 and built largely with financial and technical support from the former USSR. At the time of its commissioning in 1958, the EISC complex consisted of two 570 m^3 blast furnaces, two Bessemer converters, two small scrap-based 12-tonne electric arc furnaces, and mills for the production of blooms, slabs, plates and heavy sections. The plant has been substantially expanded and modernized in subsequent years, with a light section mill having been added in 1963 and a hot and cold strip mill in 1968. This was followed in the 1970s by the construction of a sinter plant, two large 1,033 m^3 blast furnaces and three 80-tonne LD converters to replace the existing Bessemers. In October 1991 a curved mould slab caster installed by the Austrian firm Voest Alpine was inaugurated to supplement the company's three existing USSR-built slab casters. In addition, the company also has three USSR-built billet casters and an old hot-dip galvanizing unit with an annual production capacity of 12,000 tonnes.

Until the early 1970s the EISC plant was fed exclusively with iron ore from the Aswan deposit. Following the installation of the two new blast furnaces in 1973, however, ore from the Bahariya deposit began to play a progressively more important role. Extracted in an EISC-owned mine, the Bahariya ore has in the meantime completely replaced the Aswan ore, which was becoming increasingly uneconomic because of its remote location and comparatively low iron content. Although the Bahariya ore is also not ideal because of its high levels of salt and manganese, EISC is continuing to use it because of its easy accessibility and low recovery costs.

In addition to the Bahariya iron ore mine, EISC also operates its own dolomite quarry at Adabia near Suez and a limestone quarry at Beni Khaled some distance further upstream along the Nile. While the iron ore is brought in by rail, the dolomite is trucked in and the limestone transported by barge. Coke is obtained from a coking company established adjacent to the steelworks in the 1960s, which produces the coke from imported coal and delivers it directly to the top of EISC's blast furnaces by conveyor.

Despite its age and provenance, the plant and equipment installed in the EISC steelworks appears to be performing relatively well. This reflects in part the policy of continuous selective improvement pursued by the company, which has, inter alia, had the blooming mill rehabilitated by the German firm Krupp and decommissioned one of the older, smaller blast furnaces. In 1993 it awarded a $28 million contract to Voest Alpine to modernize the 25-year old hot strip mill and install a number of computerized controls, including an automatic gauge control and a width adjustment control system.

The EISC has a total installed crude steel production capacity of 1.2 million tonnes per year, but this is seldom reached because of insufficient demand. Its principal products are pig iron for use by local foundries; hot-rolled coils, strips sheets and plates; hot-rolled bars, beams and angles; cold-formed sections; and rails, sleepers and fishplates for the Railway Authority. The bulk of the firm's output is sold on the domestic market, although about 5-10 per cent of its annual production has often been exported.

Egypt's second integrated steel mill, ANSDK, is of much more recent origin, having come on stream in May 1986 after a construction period of about four years. It consists of four major

plants - a facility for the production of directly reduced iron (DRI), a steelmaking shop, a bar mill and a rod mill. The steelmaking plant was the first of these four units to be brought into production, followed by the bar mill and the direct reduction plant. The rod mill was not commissioned until April 1987 because of delays in deciding its specifications. In addition, ANSDK has its own oxygen, water-treatment and lime-calcining plants, as well as a repair and maintenance shop. It does not have a machine shop, however, as a result of which all spares have to be bought in.

Unusually, the plant was not constructed as a turnkey project, its individual units being tendered separately instead. Apart from the rod mill, the contract for which was awarded to the German firm Schloemann Siemag, all of these contracts were won by Japanese companies. A consortium of the three Japanese firms Nippon Kokan (NKK), Kobe Steel and Toyo Menka also took a 13 per cent stake in the company, and were awarded the bulk of the orders. In order to ensure that these orders were awarded on merit, however, British Steel Overseas Services was retained as a consultant.

The Japanese firms' equity participation in the company was tied to the condition that they be granted overall responsibility for the engineering of the project, and also be awarded a five-year management contract. Once ANSDK's nominal production capacity was reached about two years after the plant came on stream, however, the Japanese consortium's management contract was converted into a consultancy contract, with the number of Japanese personnel on site gradually being reduced from an initial complement of 90 to less than 20 by the middle of 1992. In addition, the Japanese consortium reduced its equity stake to 10 per cent, with the International Finance Corporation (IFC) taking over the remaining 3 per cent. A further capital restructuring, involving an increase in the company's total issued capital (from LE 233.5 million to LE 700 million, was undertaken on 12 May 1994. This resulted in the IFC's equity share being raised to 5 per cent, although the share of the Japanese consortium remained unchanged.

The direct reduction (DR) plant, a single-module Midrex with an annual capacity of 600,000 tonnes, is fed with iron ore pellets. These are generally imported from Brazil or Sweden and unloaded at the Dikheila harbour adjacent to the steelworks, which is operated by the Alexandria Port Authority. The harbour has a direct conveyor belt link to the DR plant and storage space for 300,000 tonnes of oxide pellets, sufficient to cover the plant's requirements for about two months. Fuel for the DR plant is provided by the Abu Qir natural gas field about 45 kilometres offshore.

The steelmaking plant consists of four 70-tonne NKK electric arc furnaces with a combined annual production capacity of 1 million tonnes. These use a charge comprising 75 per cent locally produced DRI, sometimes supplemented by imported hot briquetted iron (HBI), and 25 per cent scrap. The scrap is bought domestically for the most part, with the bulk of it originating from local dealers in Alexandria and the remainder being brought in from elsewhere in the country. Railway scrap forms a large proportion of the plant's total scrap usage, although some scrap is also obtained from the shipbuilding and breaking industry.

The liquid steel produced in the furnaces is transferred by means of a 130-tonne ladle supported by an overhead crane into three four-strand continuous casters. These produce billets of 130 millimetres x 130 millimetres weighing about two tonnes each. Some of this output is occasionally sold on the local market, although the bulk of it is processed further in the company's own bar and rod mills, which are located next to each other near the end of the casters in order to enable them to use a single set of roll repair facilities. They have a combined nominal capacity of 750,000 tonnes per year, although actual throughput has often exceeded this figure.

The 16-stand bar mill has been built by NKK and has a final speed of 10 metres per second. Its output consists primarily of bars with a diameter of 10-20 millimetres and a length of 12 metres. The 25-stand Morgan-type rod mill, by contrast, is highly sophisticated and equipped with a 10-stand no-twist block, a controlled water cooling system and a Stelmore cooling conveyor. It can produce rods of varying diameter between 5.5 millimetres and 13 millimetres in coils of two tonnes, which are formed at a double mandrel coil-forming station located at the end of the production line. At its lowest product diameter the plant has a maximum speed of 90 metres per second.

Steel rebars represent the principal output of ANSDK, although the plant also produces numerous varieties of rod, including wire-quality rod. Most of the output is manufactured to Egyptian standards, but the factory also produces a proportion of its output to international standards. The firm is extremely quality conscious, and is actively seeking recognition under the ISO 9000 standard. As part of its continuous efforts to improve quality it has introduced the "quality circle" system developed in Japan, under which workers are encouraged to make recommendations aimed at improving production systems and processes.

The bulk of ANSDK's production is sold on the domestic market, with only about 5-10 per cent being exported. The countries of destination have included Finland, Germany, Italy, Japan, Spain and the United States, but the lion's share of the company's exports goes to neighbouring Arab states, such as Saudi Arabia and Syrian Arab Republic. Though facing increased competition from producers in eastern Europe and Cuba in recent years, the company's management is keen to keep up its export sales as a means of ensuring that high-quality standards are maintained.

The large-scale integrated production facilities at EISC and ANSDK are, as noted above, supplemented by three mini-mills belonging to the Egyptian Copper Works (ECW), the National Metal Industries Company (NAMETIN) and the Delta Steel Mill. These plants make a significant contribution to the Egyptian steel industry, enhancing both the volume and diversity of its output. Like EISC, they are formally owned by the state-owned holding company MICOR, which coordinates their production, expansion and marketing strategies.

The NAMETIN works was established with an open-hearth furnace and a steam-driven rolling mill, imported from France, for the production of steel reinforcing bars. Although the plant has been expanded significantly in the meantime, and now also turns out a range of other products including steel billets, square rolled sections and a variety of steel castings, reinforcing bars of various diameters have remained its principal output. The company uses locally sourced scrap as its main raw material.

The Egyptian Copper Works began producing steel in 1952 in order to take advantage of the large quantities of wartime scrap in the Western Desert. Its initial steelmaking installations consisted of a 15-tonne open hearth furnace and a bar/rod mill, which were supplemented by a second 15-tonne open hearth furnace in 1954. Since that time the size of the two open hearth furnaces has been expanded to 30 tonnes and 50 tonnes respectively, and two additional furnaces - a 25-tonne electric arc furnace and a 30-tonne ladle furnace - have been installed, taking the company's electric melting capacity to 120,000 tonnes per year. In addition, the firm now has a wire drawing plant, a steel wire rope plant, a plant for the production of baling hoop, two Sket hot-dip galvanizing lines to coat wire, a patenting line to heat-treat wire after galvanizing, and a continuous billet caster. The company consequently has a much more diversified product range than most other steel producers in Egypt, including ordinary and high-tensile reinforcing bars, rods, wire and wire rope of various kinds, netting, baling hoops (produced from sheet bought in from EISC) and cast mill rolls in both iron and steel.

The Delta Steel Mill, finally, was established with two 3-tonne electric arc furnaces and a bar mill. Its equipment has since been expanded to include six electric arc furnaces (of which one has been converted to foundry use), a ladle furnace, a 3-strand billet caster and a steel and cast iron foundry. Its product range comprises hot rolled bars, rods and sections (including ordinary, high-tensile and high-strength reinforcing bars); cold drawn bars and wire (including galvanized wire and welded wire mesh); steel and iron castings (including sanitary cast-iron pipes) and cement grinding balls.

In addition to these liquid-steel producers, MICOR also operates several companies manufacturing iron and steel products. The El Nasr Steel Pipes and Fittings Company at Ein Helwan produces a variety of long welded and spirally welded steel pipes as well as structural sections, cast pipe fittings and clamps, and lamp posts. The El Nasr Castings Company, which operates a plant at Giza near Cairo and two at Alexandria, produces ductile iron pipes, rolls and valves, high-pressure pipes and fittings, hot moulded soil pipes, ingot moulds for the iron and steel industries, steel castings and a range of spare parts for the textile and chemical industries. The Egyptian Ferro Alloys Company, finally, produces a variety of alloys, the most important of which is ferro-silicone. The company exports a proportion of its output, and in 1993 came under investigation for alleged dumping in the United States but was eventually acquitted by the United States International Trade Commission.

A major project for the establishment of a special steels plant was launched in the early 1990s by the newly formed Arab Company for Special Steel (Arcosteel), a joint venture set up under Law 230 between MICOR and other Egyptian public-sector interests, the Riyadh-based Arab Investment Company and the Italian firm Danielli & Company. This plant, the first of its kind in the Arab world, is to be located at a 475,000 m^2 site at Sadat City, midway between Cairo and Alexandria. It is projected to come on stream by early 1966, and to have an initial capacity of 100,000 tonnes per year, which is to be raised over time to 150,000 tonnes per year. Its output is expected to consist primarily of six special steels for which a particularly high level of demand has been identified in Egypt: general engineering steels, spring steels, bearing steels, high-tensile steels, welding electrode steels and stainless steel pipes with diameters of 8-70 millimetres.

Preliminary work on the establishment of this new plant has already begun. The site has been acquired and site preparation initiated, and in May 1992 a tender document was issued by MICOR inviting offers of consultancy services for the construction of the works. This tender was won by Daido Steel of Japan, and was followed in late 1993 by an invitation to tender for the construction of the plant, which attracted the interest of 19 foreign contractors, including the Italian firm Danielli & Company and the German firms Mannesmann Demag and SMS Schloeman Siemag. Following a lengthy prequalification procedure, ten of these companies were invited on 20 April, 1994, to place final bids for the construction of the plant. These bids will be evaluated with the assistance of NKK, while project supervision and management services will be provided by the Indian firm MN Dastur & Company according to a contract signed on 29 January, 1994.

Official data published by the Central Agency for Public Mobilization and Statistics (CAPMAS) indicate that the Egyptian iron and steel industry as a whole recorded a broadly favourable production performance between the 1986/1987 and 1991/1992 fiscal years (see Table III.26). With the exception of cast iron products, the output of which fell dramatically during this period, and reinforced steel, which recorded a more modest but nevertheless significant decline in output, production of most major categories of iron and steel increased substantially. The output of steel billets and sections, which represent the single largest product category, increased by 27.5 per cent from 316,000 tonnes to an estimated 403,000 tonnes, while production of steel sheets increased by 248 per cent from 23,000 tonnes to 80,000 tonnes, with most of this growth occurring between

1986/1987 and 1987/1988. Production of steel wire also increased very rapidly between 1986/1987 and 1987/1988, and continued to grow at a more measured pace in most of the following years.

Despite its substantial iron and steel manufacturing base, Egypt remains a significant importer of iron and steel products. Unpublished data provided by CAPMAS suggest that imports of these products have consistently exceeded 1 million tonnes per year between 1989 and 1992 (see Table III.27), equalling or surpassing the installed capacity of the country's largest integrated iron and steel producer, EISC. At the same time, however, Egypt is also a modest exporter of iron and steel products, having supplied some 275,000 tonnes per year in 1989-1992. The bulk of these exports are shipped to neighbouring Arab states, although markets have also been developed in North America, Europe and Asia.

Table III.26. Output of selected steel products, 1986/1987-1991/1992
(Thousand tonnes)

Product	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]
Steel billets and steel sections	316	349	334	333	402	403
Steel sheets	23	77	83	88	83	80
Cast iron products	147	131	112	108	113	60
Reinforced steel	296	296	244	221	158	270
Nails	40	43	45	51	53	53
Wire	44	69	71	72	82	79

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.

Table III.27. Exports and imports of iron and steel products, 1989-1992
(Thousand tonnes)

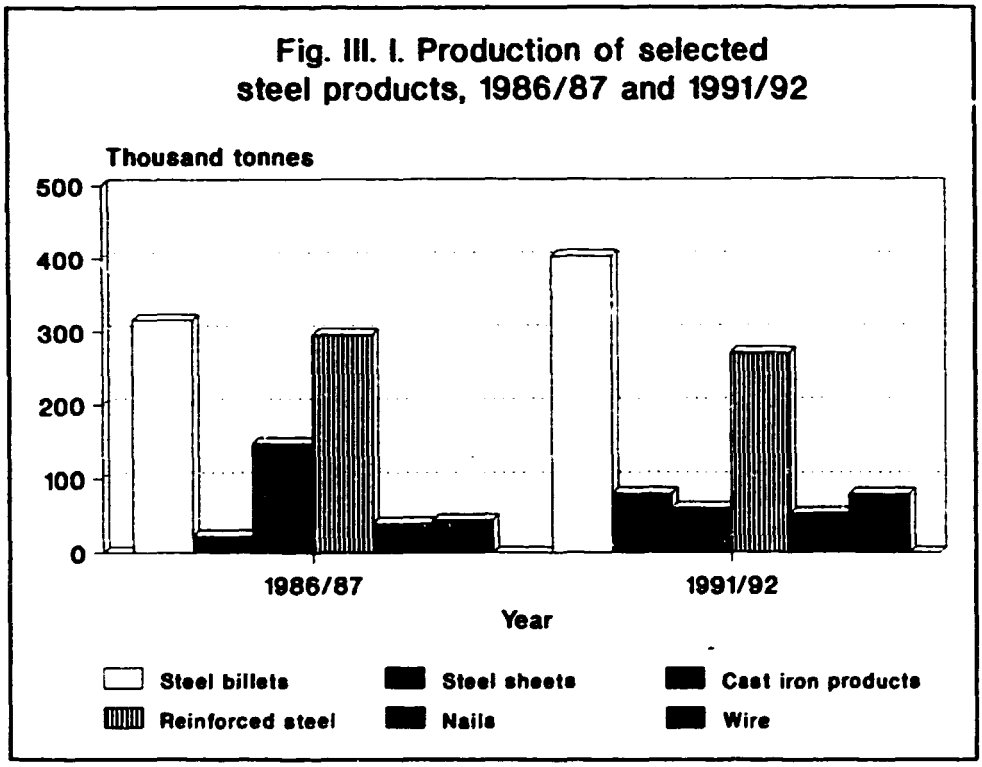
Year	Exports	Imports
1989	162.8	1,073.0
1990	245.1	1,514.0
1991	196.5	1,323.3
1992	503.8	1,042.8

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Constraints and prospects

The Egyptian iron and steel industry, though large and expanding, continues to face a number of constraints, which are preventing it from realizing its full potential. These include inadequate domestic demand, difficulties in penetrating export markets, increasing external competition and raw material shortages. Efforts are being made to overcome these constraints, however, primarily

through an upgrading of existing production facilities in order to increase their efficiency and to diversify their output range to match the varied requirements of their customers.



One of the most serious constraints faced by the industry is an inadequate level of demand in the domestic market, towards which it is largely oriented. This frequently forces the various enterprises to restrain their output at levels below their installed capacity, thereby preventing them from optimizing their production performance. Efforts to overcome this constraint through increased exports have also had only modest success so far because of the prevailing glut in the international steel market and the Egyptian industry's limited competitiveness in terms of both cost and quality, and the absence of official export support policies in Egypt.

In recent times this lack of international competitiveness has even begun to threaten the industry's position in the domestic market as the lowering of protectionist barriers has allowed local customers to meet their needs from imports. Significant volumes of low-priced steel have begun to enter Egypt from the Czech Republic, Poland, Slovakia, the Commonwealth of Independent States, and some neighbouring Arab countries. Particularly large quantities have begun to be imported from the Libyan Arab Jamahiriya following the inauguration of the Misurata steelworks in that country, which produces well in excess of Libyan domestic requirements and is able to market much of its surplus production in Egypt, which levies no customs duties on imports from the Libyan Arab Jamahiriya.

With much of the Egyptian iron and steel industry having been based on the reprocessing of ferrous scrap, tightening supplies of this resource are also imposing an increasingly severe constraint. The shortage of scrap has become particularly acute in Alexandria, where both

ANSDK and ECW use scrap. Prior to the opening of ANSDK in 1986 the local availability of scrap was sufficient to supply ECW, but since that time scrap has had to be brought in from increasingly further afield.

These constraints notwithstanding, the Egyptian iron and steel industry is continuing to develop. Apart from the proposed establishment of a facility for the production of special steels discussed above, several other projects to upgrade the industry have been approved in recent years. These include the installation of a vacuum arc refining unit at NAMETIN and a new 3-strand continuous billet caster at Delta Steel, as well as the modernization of the hot strip mill at EISC. In addition, it has been reported that the Aswan iron ore deposits are currently being re-evaluated and the possibility of establishing a small-scale steel mill in the Aswan area is under consideration.[51/]

OTHER METAL PROCESSING

The resource base

Egypt has reserves of a variety of metallic minerals, including manganese, elmenite (the main source of titanium), copper, lead, zinc, tin, chromite, uranium and gold. The most important manganese deposits are located in the Um Bogma area of the Sinai Peninsula, while elmenite is found principally at Abu Ghalaaga in the South-eastern Desert and the black sands along much of Egypt's Mediterranean coast. The main deposits of copper, usually found in association with other ores such as lead, zinc and nickel, are located in the Eastern Desert and the Sinai. Uranium has been found at several locations in both the western and eastern deserts, while gold occurs at more than 90 sites throughout the country. Few of these mineral deposits are exploited on a commercial scale as yet, and the output of those that are being exported tends to be processed to only a very limited degree within Egypt.

Recent trends

Egypt's non-ferrous metal processing industry consists principally of three large-scale enterprises, the Egyptian Copper Works (ECW), the General Metals Company (GMC) and the Aluminium Company of Egypt (EgyptAlum). All of these firms are state-owned, with the first two having been nationalized in the 1960s and the last having been established as a public enterprise in the early 1970s. Together, they produce a wide range of upstream and downstream metal products. With the exception of domestically collected and recycled scrap, they mostly use imported raw materials.

As noted above, ECW was established in 1936 in Alexandria as a reroller of copper scrap, and began melting and refining copper scrap in 1940. The availability of substantial volumes of aluminium scrap after the Second World War prompted the company to establish melting and sheet rolling facilities for aluminium, and to manufacture aluminium utensils for the domestic market. Although the company's output of iron and steel, which it began producing in 1952, now exceeds its production of copper and aluminium, these two metals remain important components of its product range.

The plant produces approximately 15,000 tonnes per year of aluminium products, using both secondary aluminium from its own furnaces and billets bought in from EgyptAlum. The output consists of strips, foils, sheets, discs, tubes and wire, with the discs being processed further into domestic utensils and tubs for washing machines. About 20-25 per cent of the company's output of aluminium products is exported, with the bulk going to neighbouring Arab countries and a small proportion to some European markets.

The company's production of copper and copper alloy amounts to about 5,000 tonnes per year, and consists of bars, tubes, profiles, sheets and discs, wire and cable for electrical use, and brass wire. A particularly important item in its product range is condenser tube for use by the sugar milling industry. Production operations have in the past been hampered by problems with the firm's USSR-built horizontal extrusion press installed in 1971. These resulted in a recent decision to acquire a new unit with an annual capacity of 2,000 tonnes in the near future.

The General Metals Company was established in 1937, a year after ECW, and now operates plants at Tabbin and Maksar el-Khashab. It manufactures a wide range of aluminium, copper, lead and zinc products, including alloys, sheets, discs, coils, strips, pipes, wires, seals and oxides. In addition, it also produces silverware and silver tableware. The bulk of its output is consumed in the domestic market, although modest quantities are also exported.

EgyptAlum was established in 1975 at Nag Hammadi in Upper Egypt as a primary aluminium smelter with an initial capacity of 40,000 tonnes. Following a major expansion in the late 1980s and early 1990s, the firm now has a total capacity of 240,000 tonnes per year. It uses bauxite imported from Australia and Guinea, and produces aluminium ingots, billets, slabs, T-bars, sheets, coils, wire rod and alloys, both for export and for the domestic market.

Despite its substantial domestic production capacity for non-ferrous metal products, Egypt continues to import significant volumes of such products (see Table III.28). Although some domestically manufactured non-ferrous metal products are also exported, these exports are, for the most part, relatively modest. The only non-ferrous metal of which Egypt is a significant net exporter is aluminium, which it supplies both to its neighbouring Arab countries and to other markets further afield.

Table III.28. Trade in non-ferrous metals, 1989-1993
(Tonnes)

	1989	1990	1991	1992	1993[a/]
A. Imports					
Copper	13,192	13,495	17,130	14,218	15,418
Aluminium	3,994	7,739	6,057	10,200	59,127
Nickel	140	206	274	209	142
Lead	8,463	12,936	16,985	14,067	3,696
Zinc	9,929	8,868	9,545	8,498	10,974
B. Exports					
Copper	5,395	6,962	4,854	4,440	..
Aluminium	120,615	119,396	100,602	139,044	..
Nickel	3	35	21	5	..
Lead	15	2	-	-	..
Zinc	982	520	..	385	-
Tin	..	477	..	60	..

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimates.

Constraints and prospects

Egypt's already significant non-ferrous metal processing industry is on the verge of a substantial further expansion. As noted above, ECW is proposing the establishment of a new copper extrusion press, which will help it to overcome the production constraints imposed by the existing unit. In addition, it has invited tenders for an aluminium foil mill with an annual capacity of 4,000 tonnes. This latter plant, which is likely to be located on the outskirts of Alexandria because of a shortage of space at ECW's existing site, is projected to export half of its output. EgyptAlum, meanwhile, is in the process of installing a new flat products rolling mill, which will have an initial production capacity of 60,000 tonnes per year of flat and corrugated aluminium sheets, although this is subsequently expected to rise to 100,000 tonnes per year.

BUILDING MATERIALS

The resource base

Egypt's heritage demonstrates its great tradition of quarrying construction materials and of construction activities. A relatively large number of minerals used for the production of building materials are available but mostly on a limited scale, with the notable exceptions of gypsum, clays and to some extent ornamental stones including marbles and granites. Gypsum reserves, estimated at 20 million tonnes, are found at Ras Malaab, located around 100 kilometres south of Suez on the eastern side of the Gulf of Suez. The thick layers at Ras Malaab in Sinai constitute the country's largest source of gypsum. Gypsum deposits are also found in the shallow lakes of Mariout, Manzala, El-Ballah and also at El-Hammam near Alexandria. Additional deposits exist at some depth by the Red Sea coast and the Gulf of Suez, as well as near Beni Suef.[52/] Proven reserves of kaolin and white clays, estimated at over 20 million tonnes, are found at Musaba Salama and El-Dehissa. Um Bogma and El Khaboba and Wadi Musaba are known for substantial reserves of glass sand.

The domestic resource base for the production of construction materials can be gauged from data pertaining to domestic supplies of raw materials (see Table III.29). Following three consecutive years of faltering growth, the production of gypsum rose dramatically in 1991/1992. There was a significant upswing in the production of granite in the late 1980s. Production figures for 1991/1992 indicate a sharp fall in the production of granite, basalt, common sand, limestone, gravel, clay and sandstone, compared with the respective production levels in 1990/1991. Kaolin production recorded a steady increase for four consecutive years, but its production of 203,000 tonnes in 1991/1992 was less than the peak (204,000 tonnes) achieved in 1987/1988. In the face of inadequate domestic supplies of building materials, the country depends heavily on imports. In 1992 Egypt imported LE 39.2 million worth of stones, cement and asbestos.

Recent trends

Despite erratic supplies of domestic raw materials, the production of a number of building materials has risen significantly over the years. One of the striking features of construction material production in recent years has been the dramatic increase in the production of cement, rising from 8.7 million tonnes in 1986/1987 to 15.4 million tonnes in 1991/1992 (see Table III.30). Egypt currently produces over 16 million tonnes of various kinds of cement. The production of red bricks stood at 105 million in 1991/1992, compared with 10 million in 1986/1987. The production of brick substitutes, such as clay bricks, cement, gypsum and light-weight lyca, was estimated to have exceeded 1 billion units in 1991/1992. Following its peak production of 26,000 tonnes in 1989/1990, the production of glass sheets faltered for two consecutive years. The public-

sector enterprise El Nasr Glass & Crystal Co is the biggest Egyptian company producing glass. It manufactures 85,000 tonnes of assorted glass annually.

Table III.29. Production of selected items required for the manufacture of construction materials, 1986/1987-1991/1992

Item	Unit	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992
Granite	Thousand cubic metres	2	4	15	15	10	9
Basalt	Thousand cubic metres	1,004	1,294	873	1,371	1,016	763
Limestone	Million cubic metres	15	17	16	16	18	17
Sand (common)	Million cubic metres	13	10	11	13	16	14
Gravel	Million cubic metres	12	10	12	14	8	7
Sand (white)	Thousand cubic metres	233	223	216	410	317	264
Clay	Thousand tonnes	5,508	5,933	5,796	7,534	10,775	10,041
Gypsum	Thousand tonnes	1,088	1,337	1,309	1,279	1,239	1,425
Sandstone	Thousand cubic metres	417	305	316	242	182	113
Kaolin	Thousand tonnes	126	204	122	149	186	203

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

The government of Egypt used to subsidize the production of construction materials by providing cheap fuel and electricity. Under the IMF-sponsored economic reforms the production of building materials is no longer subsidized. The price of cement, which is determined by the government for both private- and public-sector firms, has been increased three times in the 1980s. According to Suez Cement Company, the only private-sector cement company in Egypt, the price of cement increased from LE 53 per tonne in the early 1980s to LE 150 per tonne by the year 1993.

Table III.30. Production of selected building materials, 1986/1987-1991/1992

Item	Unit	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992
Glass sheets	Thousand tonnes	23	22	22	26	25	24
Safety glass	Tonnes	1,232	1,296	1,393	1,370	1,287	1,298
Ceramics	Tonnes	3,450	4,714	6,050	6,600	7,200	7,550
Sanitary appliances	Thousand LE	..	..	18,441	17,448	15,439	15,300
Refractory bricks	Thousand tonnes	141	150	129	137	153	141
Clay pipes	Thousand tonnes	28	28	27	29	32	32
Concrete pipes	Thousand tonnes	34	27	30	36	25	..
Asbestos sheets and pipes	Thousand tonnes	31	66	90	80	72	..
Red bricks	Million	10	25	38	70	95	105
Sand bricks	Million	88	91	114	79	58	66
Tiles	Million square metres	91	12	15	17	17	19
Gypsum	Thousand tonnes	524	644	660	523	601	589
Cement	Thousand tonnes	8,762	9,794	12,480	14,111	16,073	15,454

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Recent increases in the prices of building materials have largely been the result of rising fuel and energy costs and the removal of subsidies. The devaluation of the Egyptian pound has also contributed to the rise in the prices of building materials. Despite the soaring material costs, a number of enterprises seem to have recorded profits. In the year ending June 1993, Helwan Portland Cement Company and Tora Portland Cement Company earned net profits of $9.7 million and $7.2 million, respectively. In that year they each produced around 2.8 million tonnes of cement.

Constraints and prospects

The problem of rising energy costs is exacerbated by inefficiency in the use of energy in a number of enterprises engaged in the production of building materials. According to a UNIDO study a substantial proportion of heat generated in the productive process in one of the glass producing enterprises is lost.[53/] Much of the waste heat can be reused to increase the thermal efficiency of the furnace and reduce the energy intensity of production.

Projected demand for construction activities seems to augur well for a further expansion of the production of construction materials. According to official sources, almost 300,000 new housing units will be needed nationwide every five years. The newly created cities - Tenth of Ramadan, Fifteenth of May, Sadat City, New Burg El Arab, Sixth of October, Salheyah, New Noubareyah, New Damietta, Obour, Badr, New Beni Suef, and New Menya - are expected to house around 6 million people. During the current Five-Year Plan (1993-1997) the government plans to invest $5.5 billion for the construction of 1.2 million new houses, of which 220,000 units will be constructed in 1993/94.

The growing demand for building materials also stems from a number of infrastructural projects including public utilities, such as the expansion of potable water systems and sanitary drainage facilities, tourism facilities, port expansion, reconstruction in the Suez Canal area, and infrastructural projects in the agricultural and industrial sectors. Egypt has an ambitious programme for the development of the Sinai peninsula, the north-western coast, the New Valley, Lake Nasser, and the Red Sea and Suez Canal regions. The government also plans to complete infrastructural projects in 14 new cities in the near future. The estimated $85 million contract awarded in March 1994 to a joint-venture company for the construction of a twin commercial and residential complex on the west bank of the Nile at Giza is symbolic of the rapidly expanding construction activities, growing at an annual rate of over 20 per cent. Of the 31 public-sector contracting firms, 11 firms perform major project works. The private sector's involvement in construction activities is predominant. Out of 36,000 private-sector medium and small sized construction contractors, 150 firms are well known for undertaking multi-million contract projects.

PRIVATE-SECTOR DEVELOPMENT IN METALLURGY AND THE BUILDING MATERIALS INDUSTRY

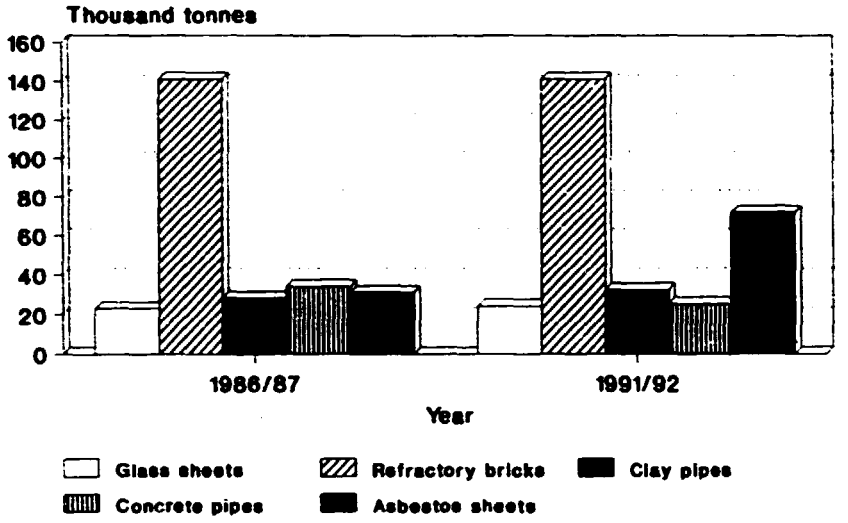
Although the mainly state-owned metallurgical enterprises were not slated for privatization when the wave of privatization swept across some manufacturing subsectors, private-sector investment in the production of building materials has been significant in recent years. As of June 1993 the General Authority for Investment (GAFI) had approved 101 private investments in the production of building materials (see Table III.31), of which 30 were in brick production, followed by marble and by-products (14), ceramic and sanitary wares (10), refractories (10), prefabricated buildings (9), cement production (7), concrete manufacturing (7), other building materials (5), and gypsum (3). Private investment as of June 1993 amounted to LE 872 million, with foreign investment accounting for 54 per cent. Refractories attracted as much as LE 278 million in terms of foreign investment.

Table III.31. Approved private investment in building materials to June 1993
(Cumulative investment in million LE, unless otherwise specified)

Activity	Number	Capital invested			Approved investment			Number of persons employed			Wages			Production Value
		Local	Foreign	Total	Local	Foreign	Total	Egyptian	Foreign	Total	Egyptian	Foreign	Total	
Ceramic and sanitary wares	10	53	88	141	111	224	335	3,485	29	3,514	8	1	9	352
Marble and by-products	14	12	21	33	23	47	70	1,302	15	1,317	3	-	3	36
Tiles	6	2	7	9	5	7	12	404	2	406	1	-	1	19
Bricks	30	83	23	106	110	81	191	1,851	25	1,876	3	-	3	68
Pre-fab. buildings	9	9	10	19	20	12	32	1,119	5	1,124	7	1	8	57
Cement and by-products	7	108	9	117	125	62	187	574	12	586	2	1	3	68
Concrete	7	14	15	29	25	29	54	1,071	4	1,075	2	-	2	43
Gypsum	3	6	5	11	13	13	26	221	-	221	-	-	-	5
Refractories	10	106	278	384	104	492	596	1,723	20	1,743	9	2	11	245
Other	5	8	15	23	9	15	24	-	-	-	-	-	-	-
Total	**101**	**401**	**471**	**872**	**545**	**982**	**1,527**	**11,750**	**112**	**11,862**	**35**	**5**	**40**	**893**

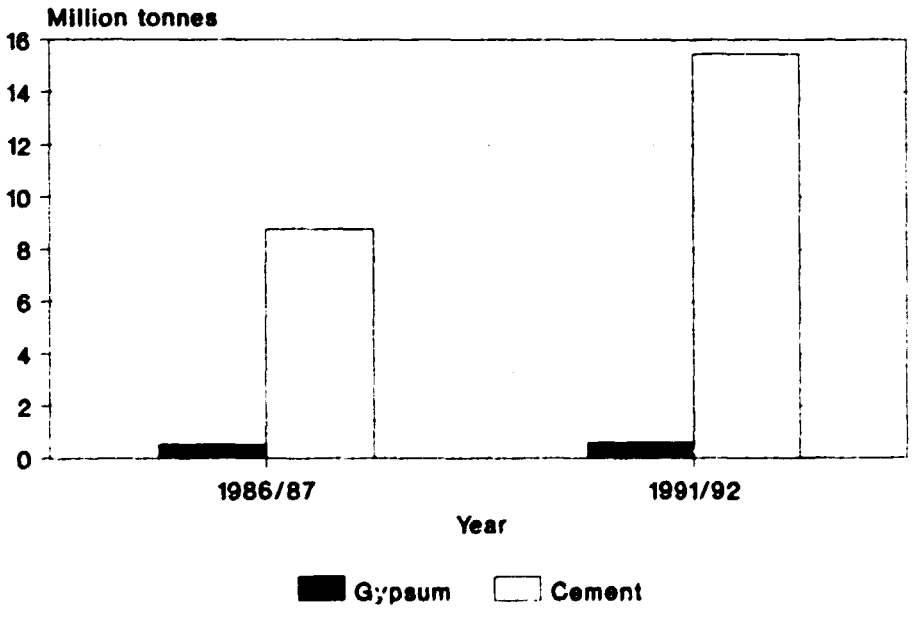
Source: General Authority for Investment.

Fig. III. J. Production of selected building materials, 1986/87 and 1991/92•



Data for concrete pipes and asbestos sheets are for 1990/91.

Fig. III. K. Production of gypsum and cement, 1986/87 and 1991/92



The shares of three state-owned cement companies, Helwan Portland Cement Company, Tora Portland Cement Company and the Holding Company for Mining, Refractories and Building Materials, are scheduled to be offered for public subscription with a view to increasing environment-friendly production capacity. The modernization of two state-owned companies is being funded by international donors, including the World Bank. A number of enterprises currently being planned for privatization are expected to undergo significant improvements in terms of modernization and financial restructuring.

The infusion of foreign capital into a private cement enterprise is an encouraging development. According to reliable sources, the Explorer Fund, a new unit trust backed by a number of New York institutions, has taken a stake worth $5 million in Suez Cement Company. Its stock is traded on the Cairo capital market.

F. TRANSPORT EQUIPMENT

The resource base[54/]

When Egypt first decided to assemble automobiles prior to the 1952 revolution, there was no proper feeder industry for the supply of components in spite of the fact that a moderate industrial base had already been established in iron and steel, pipes, castings and forging, batteries, springs and textiles. In the early stages of the automotive industry's evolution, local sourcing of inputs was marginal and assembly operations, to a large extent, were based on imported parts and components. By the late 1980s a number of public and former military factories were engaged in ferrous and non-ferrous castings and forging as well as in the production of steel sheets and raw bars, coiled springs, bearings and bushes, air filters, wires, rear wheel hubs, truck platform containers, locks, paints, surface treatment chemicals, plastic parts, artificial leather, batteries, tyres, safety glass, fibreglass, and polyester parts. A number of private enterprises are also engaged in the production of mufflers, filters, truck platform containers, safety glass, foam sheets, and truck seats.

Egypt's large pool of cheap labour constitutes an important resource base for automotive industry assembly operations and component manufacturing activities. By the late 1980s the number of persons employed in the industry reached 77,823 compared with 29,600 in 1975. While wages and salaries increased by less than six times, labour productivity increased almost sevenfold during the period. A significant increase in labour productivity in the automotive industry is a reflection of the fact that the country's labour force can be easily trained to handle complex operations. The groundwork done by the big international car makers in the country to establish reliable sources of supply for their assembly lines, and to upgrade quality control standards, provides an excellent foundation for the horizontal development and integration of production and product development. Financing from local banks is also readily available to suitable clients.

COMPONENTS

Recent trends

The experience of the state-owned El Nasr Automotive Manufacturing Company (NASCO) typifies the state of the country's automotive component industry. From its establishment in 1961, NASCO began manufacturing spare parts for cars - engines, chassis parts, power transmissions, steering units and certain body parts - with the assistance of the Italian automotive firm Fiat, but production in the 1960s and 1970s was continually plagued by a shortage of hard currency to finance the necessary imported inputs. The manufacturing operations also suffered due to the small scale of operations necessitated by the relatively small domestic demand at the time. It was

originally hoped that the local content of cars would increase from NASCO's average of 20-22 per cent (including batteries, tyres, springs, glass and exhaust systems) to about 60 per cent through the establishment of related joint-ventures to undertake the domestic manufacture of components such as gearboxes, brake drums, shock absorbers, alternators and starters. By virtue of its large production base for components and parts, the local content of bus production exceeds 75 per cent at NASCO. The percentage of locally produced components used in the manufacturing of passenger cars was expected to increase from 30 per cent in 1989 to 40 per cent by the early 1990s. The development of the automotive feeder industry is supported by the government's requirement that new ventures should have a local content of 40 per cent.

The following list of major automotive feeder industries indicates the type of components and parts produced in Egypt:

1. Public-sector and former military factories
   - Ferrous castings
     - Helwan Iron Foundries (former military factory)
     - El Nasr Castings Company, Alexandria
     - El Nasr Company for Pipe Fittings
   - Non-ferrous castings
     - General Company for Non-Ferrous Metals - aluminum- and copper-based castings
     - Helwan Company for Non-Ferrous Castings (former military factory)
   - Forging
     - El Nasr Forging Industries
   - Steel sheet and raw bars
     - The Egyptian Iron and Steel Company
     - The Egyptian Company for Springs and Transport Vehicles - leaf and coiled springs equipment for trucks and buses
   - Miscellaneous components and inputs
     - Helwan Diesel Company (former military factory) - bearings and bushes
     - The Aeronautics Factory (former military factory) - air filters, wheel housing for buses and trucks
     - The Engine Factory (former military factory) - engine valves, nozzles and injectors
     - The Egyptian Cable Company - wires
     - Alexandria Shipyard Company - rear hubs for agricultural tractors
     - Misr Engineering and Tools Company - truck platform containers
     - The Engineering Projects Company - truck platform containers
     - Sabi Company - locks and abrasives
     - The Paints and Chemical Industries Company - paints and surface treatment chemicals
     - The Egyptian Plastics and Electrical Industries Company - plastic parts, artificial leather and batteries
     - The Transport and Engineering Company - tyres
     - El Nasr Glass and Crystal Company - safety glass, fiberglass and polyester parts
2. Private-sector
   - Arab Aluminum Company - aluminium parts
   - El Sadd Aluminum Company - aluminium parts
   - Alumisr Company - aluminium parts
   - Abu Youssef Engineering Company - mufflers, filters and truck platform containers
   - Sicro Misr - glass
   - Taki Company - foam sheets and truck seats
   - Foamad Company - foam sheets and truck seats

Both local and foreign companies have set up manufacturing facilities to produce car components such as batteries and tyres. By the end of 1991, three concerns - Egyptian Plastics, National Plastics and Chloride - were producing storage batteries for the automotive sector in Egypt. Chloride, a joint venture of Chloride, the General Company for Batteries and the American University in Cairo's Education Fund, began operations in 1982, and in 1991 manufactured 450,000 units a year, just under half the local market demand. Production has been facilitated by a ban on the import of batteries introduced in the mid-1980s.

Tyre production in Egypt dates back to 1956, when the Transport and Engineering Company (Trenco), an agent of both Chrysler and Peugeot, set up a production plant using technical assistance provided by the Mansfield Tyre Company of the United States. It was nationalized in 1961 and the company has enjoyed a government monopoly on tyre production since then. In 1980 it began producing tyres under licence from Dunlop and by 1991 output had risen to some 1.5 million tyres a year, about 40 per cent of local market demand. Production ranges from car, truck, bus and tractor tyres to others for bicycles.

An increase in customs duties on imported tyres in the early 1990s, from 20 to 30 per cent, combined with the imposition of a 10 per cent sales tax on the product, led to the establishment in 1991 of a retreading and rubber recycling plant operated by Bridgestone of Japan. Bridgestone at the time accounted for about 40 per cent of the imported tyre market and suffered from competition with Trenco, whose prices averaged between 30 to 80 per cent lower than those for imported brands. Relaxations of customs duties since then have, however, changed the market prospects considerably.

Constraints and prospects

Despite the emergence of a number of enterprises in automotive component manufacturing, nearly 75 per cent of the country's automotive component requirements are met by imports. While the government's insistence on mandating a percentage of local content will help to develop an integrated manufacturing subsector, some teething problems can be expected. While Egyptian labour is skilled, extensive overmanning is a constraint. Despite the wide-ranging programme of privatization, the state sector remains powerful. This may result in pressure on private-sector firms to maintain higher levels of employment than might otherwise be needed and will also affect government policy on the proposed new tariff levels for imported cars, imported kits and spare parts and accessories. While much red tape has been eliminated, regulations affecting the licensing of new product lines, imports, access to foreign exchange and the employment of foreign personnel remain in force.

The new feeder industries, in particular, will need to maintain higher standards than have generally been the case previously if locally produced cars are to compete successfully with imported vehicles. Upholstery, tyres, batteries, paints, metal alloys and electrical goods (air conditioners, lights, fuses, cabling), for example, will need to be subject to the kind of quality controls that are imposed in Europe, Japan or the United States and to take into consideration the particular conditions in Egypt - the hotter weather and the poor state of the roads in particular. Most of the new joint ventures involving foreign car makers are investing heavily in providing training, technical advice and finance for this subsector.

AUTOMOBILES

Recent trends

Although the production of automobiles commenced before the 1952 revolution, when Ford of the United States began to assemble medium-sized vehicles at a plant in Alexandria, the modern car industry dates back to 1961 when the state-owned NASCO signed a contract with Fiat of Italy to assemble several Fiat models under licence. At that time NASCO was the only car assembly plant in the Arab world and in Africa. In 1971 NASCO began producing Fiat's 128 model followed by the 125 incorporating a locally-made 1500 cc petrol engine produced under licence through Polmot of Poland. By the late 1970s the company was assembling improved versions of both the 128 and 125 as well as the Fiat 131/1300, 131/1600 and 133. In 1982 NASCO introduced the Fiat Ritmo 65 and Seat 127 in both three- and five-door versions. The following year witnessed the launch of the new Polonez, also equipped with a locally made 1500 petrol engine, to replace the Fiat 125.

A proposal by General Motors of the United States to manufacture cars at the NASCO plant in Helwan using integrated processes, supply facilities and foreign subcontractors and financing was rejected, although in 1986 the company had been given government approval to begin the assembly of cars and to establish parts-making factories in a package costing $700 million. The cars would have been made under licence from Opel, the German subsidiary of General Motors. Subsequent negotiations with the company led to the establishment of a facility producing light trucks and buses on a greenfield site in Sixth of October City with a capacity of 18,200 vehicles a year. It is operated by General Motors Egypt (GME), a consortium in which General Motors of the United States has 31 per cent of the shareholding; a subsidiary of the Japanese firm Isuzu Motors Limited has 20 per cent; private Egyptian interests have 33 per cent and investors from Kuwait and Saudi Arabia have 16 per cent.

At the time of GME's foundation in 1985, General Motors products accounted for about one-third of the Egyptian truck market through its sales of Bedford GM and Isuzu trucks. The plant's establishment marked the first time since the revolution that the private sector had been allowed to assemble and/or manufacture vehicles in Egypt. By 1990 GME was estimated to have increased its share of the Egyptian market to just under 54 per cent. Production in 1991 totalled 9,500 units, including 5,700 pick-up trucks. The export of minibuses using bodies designed by Hungary's Ikarus company to Saudi Arabia and Syria also began in the early 1990s.

By the end of fiscal year 1982/1983, total car production in Egypt reached 24,000, including 3,000 Ritmos assembled at a plant owned by Arab American Vehicles Corporation (AAV), which also produced about 3,000 Jeeps a year under licence from the American Motor Corporation (AMC) of the United States. By the end of the 1985/1986 fiscal year, however, the figure had fallen to 19,243 units, less than two-thirds of the annual capacity of 30,000.

In 1987 a local private company, Ghabbour Brothers, began manufacturing buses to supplement its existing assembly operations. Established in 1949, the company was already one of Egypt's leading firms producing automotive tyres, batteries and spare parts as well as home appliances. Current facilities include two factories near Cairo producing luxury tourist buses through Scania of Sweden and Mercedes do Brazil, minibuses and chassis for GME minibuses. Scania and Mercedes supply engines and axles for the larger buses; the mini and micro versions are built on GME chassis in return for the provision by Ghabbour to GME of rear bodies for GME pick-up trucks.

Production in 1991 amounted to about 200 Scania buses and 500 minibuses, although total capacity at the time was said by company officials to total 25 buses and 50 minibuses a month. In 1991

about 60 per cent of output was exported to Libyan Arab Jamahiriya, Romania, Saudi Arabia and Tunisia. Exports to the Syrian Arab Republic began in 1992. In 1991 the company estimated that it had a share of about 50 per cent in the Egyptian market for minibuses.

Suzuki Egypt began operations in 1989 under a partnership that includes investors from Egypt (51 per cent), Saudi Arabia (29 per cent) and Suzuki of Japan (20 per cent). Production of small vans, pick-up trucks, dump and refrigerated trucks, ambulances and passenger minibuses amounted to 3,000 units by 1990. Prices ranged between LE 20,000 and LE 40,000; local content was expected to reach 40 per cent by 1991 and 45 per cent by 1997. Plans at the time of start-up called for an increase in plant capacity by the mid-1990s to between 7,000 and 8,000 units a year, including the production of a passenger car.

The Arab American Vehicle Corporation (AAV), which helped NASCO produce the Fiat Ritmo, began production of military Jeeps in the early 1980s in addition to assembling USSR-made tractors, Suzuki vans and pick-up trucks, Polonez cars and Vespa scooters on a contract assembly basis for other Egyptian companies. Total production for the Egyptian market was expected to amount to about 1,500 units in 1993; exports of military vehicles to neighbouring Arab states are continuing. Originally formed in 1977 by the American Motors Corporation (AMC) of the United States as a joint venture with the Arab Organization for Industrialization (AOI) under a decree from the People's Assembly, it is now 49 per cent owned by Chrysler Corporation of the United States - which bought out AMC in 1987 - and 51 per cent by AOI, itself a consortium of investors from Egypt, Saudi Arabia and the United Arab Emirates.

After its takeover, Chrysler financed a $2 million investment project in 1990 to enable the AAV factory to produce long- and short-wheel-base vehicles such as the Wrangler and Cherokee for civilian use. The Wrangler-L was priced at LE 69,310 in 1991, with production amounting to about 250 vehicles that year. The Wrangler-S version was priced at LE 62,310 and the Cherokee at LE 106,000. Local content accounted for about 27 per cent, including tyres, windshields, upholstery and some metal and plastic parts.

Although the public-sector monopoly in the production of commercial vehicles is breaking down, both NASCO and the Egyptian Light Transport Company (ELTRAMCO) continue to assemble and manufacture these vehicles in the public sector. NASCO began producing trucks and buses in 1959, trailers in 1961 and related air- and water-cooled diesel engines in 1962. Initially, the buses and trucks ranged from 5 to 8 tonne payloads, along with four-by-fours under an agreement with Klockner-Humboldt-Deutz of Germany. Later a wider range was introduced following the conclusion of a licensing agreement with Iveco of Italy and Germany's Magirus Deutz. Additional agreements were signed in the mid- and late-1980s with related companies in Romania and former Yugoslavia.

By 1985, with the local market for heavy, medium and light trucks estimated to total 54,500 units a year, NASCO was producing some 3,200 trucks and about 700 buses, as well as 6,200 diesel engines annually. Trailer output amounted to just under 200 units a year. The local content had risen to about 75 per cent by 1991, according to NASCO officials, with locally procured items including pressed body parts, gears, power transmissions, steering components, crank shafts and cases and drivers' cabins. Imported parts included ball bearings, starters and alternators. Prices in 1991 amounted to LE 100,000 for minibuses, LE 150,000 for luxury buses, LE 390,000 for heavy buses, LE 70,000 for light trucks, LE 90,000 for medium-sized trucks and LE 300,000 for the heavy versions.

ELTRAMCO manufactures the "Rama" brand of microbuses, vans and light pick-up trucks under licence from Zuk of Poland. Plans were under way in 1991 to expand the company's annual

capacity from 2,400 units to 3,000. The company also manufactures some 30,000 motor cycles a year under licence from Jawa and CZ, both of the former Czechoslovakia, as well as some 100,000 bicycles a year under licence from Raleigh of the United Kingdom. Additional motor cycles and bicycles are produced from the company's own fabricated tubes, which are also exported to several neighbouring Arab countries.

By the year 1991/1992 - the last year for which official figures are available - Egypt's total production of trucks, buses and cars had fallen sharply, compared with 1986/1987 figures (see Table III.32), primarily due to the lack of foreign exchange to purchase imported supplies, labour problems and upheavals in Eastern Europe. Truck production amounted to only 1,529 units, compared with 2,580 units in fiscal 1986/1987. The number of buses produced in 1991/1992 reached only 760, compared with 1,493 in 1989/1990. Passenger car production in fiscal 1991/1992 amounted to 6,831 units compared with 17,939 units in 1986/1987.

Table III.32. Production of motor vehicles, 1986/1987-1991/1992
(Units)

	1986/1987	1987/1988	1988/1989	1989/1990	1990/1991	1991/1992
Cars	17,939	19,358	13,134	9,650	8,878	6,831
Trucks	2,580	1,745	1,475	1,317	1,127	1,529
Buses	968	1,136	1,406	1,493	1,128	760
Tractors	4,077	1,893	3,132	1,737	1,103	1,616

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Although imports of cars had been severely limited to protect local manufacturers, and agreements with Eastern European suppliers overcame some of the shortages of hard currency for imported parts, growing labour problems together with the small size of the local market were having an adverse effect on output in the mid-1980s. As a result, the government revised its strategy for passenger car assembly and manufacture. Henceforth, output would be concentrated on two models with higher, and therefore more economic, production volumes. Eleven international companies were invited to submit offers for the local manufacture of one-litre and half-litre cars. Bidders included Peugeot and Renault of France, Volkswagen and Opel of Germany (the latter a subsidiary of General Motors of the United States), Honda, Nissan, Mazda and Toyota of Japan and Austin Rover of the United Kingdom.

In the early 1990s, NASCO attempted to surmount some of the problems in importing components and kits by reaching an agreement with Tofas of Turkey to produce their 1,600 cc Dogan models, a version of the Fiat 131, as well as their Shahin models. Delivery of the first batch of cars to buyers began in August 1991; the original contract, agreed in September 1990, called for the import of 3,000 kits.

There has been a dramatic rise in the number of vehicles registered in Egypt in the past few years. From 2.5 million in 1988, it rose by 15 per cent in 1989, and by 1990 had hit a record high of 3 million. Ronald Nardi, Chairman and Managing Director of GME, expects the number of registrations - which includes motor cycles and bicycles as well as cars, trucks and buses - to rise by about 10 per cent a year in the next few years.

However, despite these figures, a crucial factor in the future success of the sector's expansion through its opening to private investment and the establishment of joint ventures (as well as licensing agreements), will be the government's attitude toward imports. In 1991, shortly before the agreement with General Motors on the production of passenger cars in Egypt was reached, import restrictions were severe. Those allowed to seek approval for such imports included only the following:

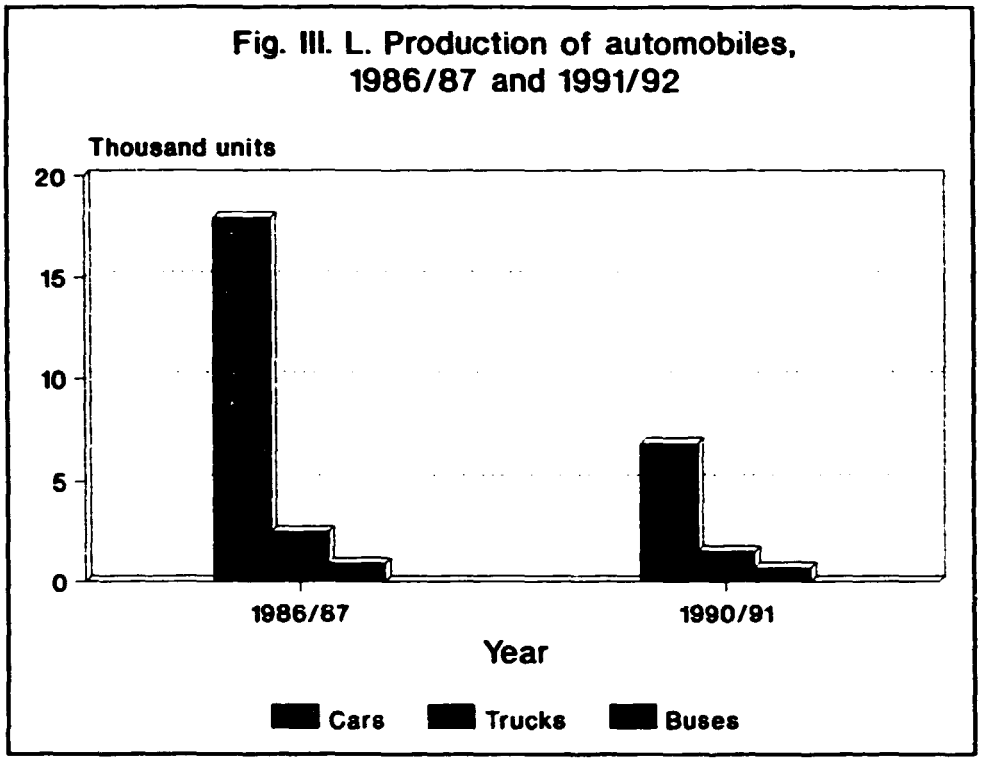
Foreign embassies and international organizations;
Branches of foreign companies;
Companies working in the petroleum sector;
The People's Assembly, Shoura Council and their affiliates;
Exporters whose exports totalled at least LE 1 million;
Factories with an output worth more than LE 1 million;
Agricultural, animal and fishery projects, or projects in duty-free zones with land of more than 10 feddans or investments worth more than LE 100,000;
Banks;
Certain schools, cargo transporters, charities, consulates, undertakers and institutions requiring transportation.

Restrictions on the type and size of vehicles - i.e. cars, trucks or buses - allowed to each concern were extensive, and imports were generally restricted to every four years only. Individuals seeking to import vehicles had to prove that they were members of diplomatic missions, consulates or international organizations, or the families of such agencies; foreign residents; foreign students; handicapped; working, training or studying abroad or residents of Port Said for at least a year. An important exception, however, allowed Egyptian workers, students and teachers, returning from their foreign contracts or study abroad to import cars, or to reserve one, within six months of their re-entry provided they had not imported a car in the previous four years. Imports by all others not meeting these conditions were banned, although in 1992 expatriate workers were allowed to import cars for temporary use.

In 1992, however, it appeared that the government was seriously considering ending the restrictions altogether. This, together with the gradual withdrawal of privileges granted to NASCO in the form of reduced tariffs on raw material inputs, will provide a far more competitive environment for the local manufacture of vehicles than has been the case in the past four decades. Additional government measures to privatize state-owned firms and to sell its holdings in others should add to the attractive climate for investment. While most industry analysts expect the pace to be relatively slow, ELTRAMCO has already been named as one of the first to be sold off. While companies like General Motors and Citroën favour greenfield sites, privatization offers investors the opportunity to acquire existing plant and equipment at a relatively lower cost.

Constraints and prospects

Despite the rapid transformation of the automotive sector in Egypt and its opening to foreign and private investment, caution remains the watchword. Analysts have pointed out that while both consumer and commercial demand is high, the market is, as yet, relatively untested. Production at home may help to make cars, especially the smaller versions, more affordable to middle class Egyptians and to small- and medium-sized companies looking to develop a fleet of vehicles through bulk purchasing, but it is not yet clear whether the extensive economic reforms currently under way will increase the general standard of living and disposable incomes sufficiently to guarantee that this demand can be realized.



The low incomes of government employees and the prospect of significant redundancies among skilled workers, technicians and managers in the large number of state-owned enterprises could act as a significant restraint on market development. So, too, will the high levels of unemployment and underemployment among university and technical college graduates. While the restructuring of public-sector debt and the improvement in government finances could help to spawn significant new sales to ministries, government agencies, state and urban transport authorities, hospitals, schools and the military, the recent decline in the tourism industry, if prolonged, could counteract any such improvement.

More broadly, the development of other manufacturing operations in the region, particularly in the Islamic Republic of Iran and Turkey, will be a mixed blessing. Toyota of Japan has broken the tradition in Turkey of producing long-discontinued models behind impenetrable tariff barriers and now has a 40 per cent shareholding in a new venture, Toyotas, which also includes the local Sabanci Group and Mitsui & Company of Japan. Production beginning in 1994 is set to rise to 100,000 vehicles a year.

Overall, total vehicle production in Turkey rose by 10 per cent, from 239,862 vehicles in 1990 to 263,571 in 1991. Development of the new projects currently under way could take this figure up to 500,000 a year by the mid-1990s. New production lines also benefit from a five-year tax holiday where output is 100,000 vehicles or more a year, an incentive that enables the largest producers to give consumers a distinct price advantage over their competitors. While exports will be directed at eastern Europe, central Asia and the CIS, marketing will also be targeted on the Gulf states and other Arab countries. This could provide a new competitive factor for Egyptian companies seeking to export vehicles to countries such as Jordan and the Syrian Arab Republic, as well as to Saudi Arabia, Kuwait and other [illegible].

Two other major constraints arise from the relative lack of car-financing schemes in Egypt and the lack of adequate after-sales service, maintenance and diagnostic services. While some of the local commercial banks have expressed an interest in providing financing packages once the car, small van and pick-up truck market is opened up to the general public, vehicles sales will benefit over the longer-term only if the manufacturers, distributors and/or agents themselves help to provide attractive financing terms and adequate warranties. Their involvement in setting up showrooms, sales and service centres, workshops, warehouses and training centres for mechanics, technicians, sales and administrative staff, marketing agents and distributors will also be crucial for the longer-term success of the sector.

Finally, while the size of the Egyptian market for both passenger cars and commercial vehicles is potentially very attractive to foreign manufacturers and investors, manufacturers will need to be assured over the medium term that sales are sufficient to meet the economies of scale needed to compete in a rapidly developing, and increasingly open, economy. In addition to sales taxes, the supply of petrol, lubrication oils, transmission fluids and other necessary fuels at an affordable price - and increasingly in conformity with international environmental standards - is essential. Parts of the country, such as Upper Egypt, that are poorly served by gasoline stations and sales and maintenance facilities will also need more attention if the market is to grow to its full potential.

The danger remains that the market, should demand be slow to materialize or production hindered by bottlenecks, will continue to be split into segments. This in turn would help to give credence to those who argue that the country's best needs are met by an efficient system of public, rather than private, transport. NASCO's determination to upgrade its production lines and to find sources of imported kits that can be purchased at costs that enable it to keep prices down for local consumers is a step in the right direction, but it may be difficult to maintain over the medium to longer term.

PRIVATE-SECTOR DEVELOPMENT IN THE TRANSPORT EQUIPMENT INDUSTRY

In the past two years, significant moves have been made in opening up the automotive sector to both foreign and private local investment. As a result, major new projects are under way and, by mid-1994, Egypt will be producing a wide range of cars in joint-venture schemes with companies such as Citroën and Peugeot of France, Suzuki of Japan and Hyundai of the Republic of Korea, as well as General Motors. Production of local components is also rising sharply, as is the domestic market for cars, trucks, buses and spare parts.

Citroën is operating through a local firm, JAC Car Makers of Egypt. Awarded a licence by the General Authority for Foreign Investment (GAFI) in March 1993, the partnership hoped to open a newly built factory in Obour City, north of Cairo, in October. Production was due to begin in the first half of 1994, with output scheduled initially to reach 2,000-3,000 Citroën AXs a year. Production of Citroën ZXs is to start in 1995; output for both models is due to rise to 22,000 annually by 1998.

In line with the terms of the agreement with GAFI, both JAC and Citroen suppliers of components. The terms call for an initial local content of 30 per cent, rising to 40 per cent after the first year of production. Negotiations for the supplies also involved Citroen's French subsidiary, Sogedac, its main suppliers in Europe.

The factory will produce the Citroens using imported kits provided by the French car maker. JAC will distribute the vehicles through its own network, which it is setting up with technical help from

Citroën. Although Citroën has no equity stake in the partnership, it will receive a royalty in addition to lump-sum payments for the kits.

Peugeot already has a large number of cars on Egyptian roads, with imported vehicles accounting for a substantial share of the estimated one million cars operating in the country. More recently, Automobiles Peugeot has taken a 51 per cent share in Peugeot Egypt to produce modified versions of the 1,500-cc Peugeot 405s. Another 30 per cent will be held by the French company's main Egyptian dealer, the Centre for Development and Trade, with the remainder being held by the local affiliates of two French banks - Banque National de Paris's Banque du Caire et de Paris and Société Générale.

Production lines formerly used by AAV, part of AOI, will be used, as will the already wide-ranging network of existing Peugeot sales and service centres and distribution points. Production was due to begin by mid-1993; initial output was expected to be 1,500 units the first year, rising to 3,500 by mid-1994 and possibly to as many as 10,000 a year by 1998.

Suzuki Egypt gained the distinction of being Egypt's first privately owned local company to produce passenger cars since the 1952 revolution when its Suzuki Swifts rolled off the assembly line at its Sixth of October City plant in 1992. The 1,300-cc sedan is priced at LE 39,500-LE 46,000. The plant also produces light trucks and vans.

State-owned NASCO itself is also following the trend. In early 1993 it announced that it was to begin producing Hyundai Excel passenger cars at its plant in Helwan, south of Cairo in cooperation with the local firm, Ghabbour Brothers, who are also agents for imported Hyundais. For this purpose NASCO will retool its assembly plant, previously used to produce Fiats from kits supplied by Zastava of former Yugoslavia. Production of the Excels, ranging in size from 1,300 to 1,600 cc, is to start at 6,000 units a year, rising to 15,000. Prices are expected to start at LE 45,000. Ghabbour will handle the distribution.

In September 1992, NASCO signed an agreement with a company in the Russian Federation to assemble Aliko 1,600-cc cars using imported kits made under licence from Renault of France Initial production was set at 3,000 cars a year. Production of Turkey's Dogan automobiles, also made with imported kits, had risen to about 8,000 units annually at the time. The new Aliko will help to replace the Zastava model, output of which was extensively curtailed after the break-up of the former Yugoslavia.

Talks were also held in 1993 between NASCO and its original foreign kit suppliers, Fiat of Italy, demonstrating NASCO's determination to retain its position in the local manufactured car market despite the proliferation of competitive models. It has already agreed a new arrangement with Iveco of Italy to produce its luxury long-distance coaches.

GME's new car, due to begin production in the second half of 1993, will be an Opel Vectra saloon, using kits supplied from its German subsidiary, Opel. This follows a landmark agreement reached with the government in June 1991, which broke up the state monopoly of passenger car production. Production will take place at the existing factory in Sixth of October City, where the output of trucks and buses had risen to 10,000 units a year by mid-1993 (see above.). However, total capacity is estimated to be nearly double that figure, leaving room for the car lines. The cars will also be exported to the Libyan Arab Jamahiriya and the Syrian Arab Republic; Ghabbour already exports its buses and trucks to these two Arab countries as well as to the Gulf states.

Meanwhile, Ghabbour is also expanding its output of trucks and buses. Its plant in Qalyoub, near Cairo, is being enlarged and output of luxury buses should rise to 1,000 a year. By mid-1993, these

buses had a local content of almost 70 per cent. The firm is also planning another project, to produce air conditioners for cars and trains, in a joint venture with Convecta of Germany. Production will be carried out at Sixth of October City. Convecta has an equity stake of 51 per cent in the joint venture, with Ghabbour and other local partners holding the remaining 49 per cent.

Other moves to expand vehicle parts manufacture include plans to set up a carbon black factory in Alexandria to produce 20,000 tonnes a year. Output from the plant will be used, in turn, to expand the production of tyres and other rubber products for cars, trucks, buses, trailers, tractors, motor cycles and bicycles. Partners in the $15 million venture include the Alexandria Tyre Company, the Saudi-based Arab Petroleum Investments Corporation (APICORP) and the World Bank affiliate, the International Finance Corporation, as well as two companies from India: Grasim Industries and Indo-Bharat. Technical assistance will be provided by the Witco Chemicals Corporation of the United States. Production was due to begin in mid-1994. Newcomers to tyre production in Egypt, such as Union Carbide of the United States, will also benefit.

As can be seen by the pace and scope of foreign investment in local vehicle manufacture, the scene is gradually being set for a complete change in this sector during the coming few years. Aside from the commitment already shown by the likes of General Motors, Citroën, Peugeot, Suzuki, Hyundai and others, their development of domestic feeder industries - needed to meet agreements on local content - is paving the way for a considerable expansion of related manufacturing activities such as forging and casting, metal pressing and body working, machining, textiles and upholstery, rubbers and plastics, paints, sprays and oils, glass and electronics. Given the significant unmet consumer, commercial and government demand for vehicles of all kinds, such a development can only further enhance the investment climate in general provided that quality is maintained and the prices are affordable.

G. ELECTRICAL APPLIANCES AND ELECTRONICS

ELECTRICAL APPLIANCES

The resource base

The production of electrical appliances in Egypt is highly dependent on imported equipment. This includes condensers, resistors, discrete semi-conductors, integrated circuits and electromechanical units, as well as compressors, copper pipes and timers.[55/] In the case of local assembly, imported kits are the dominant source of components. However, some low-tech inputs, such as wood cabinets, are produced domestically. Although valves and transistors, metal and plastic parts were also produced for appliances in the past, the use of kits has reduced the importance of these components in favour of imports.

Recent trends

Before the "open door" policy in 1974, two state-owned companies, Koldair and Delta Industries Company (Ideal), dominated the subsector. After 1974, several privately owned firms and joint ventures were established which currently produce a range of white goods (such as washing machines and refrigerators) and brown goods (radios and television sets) as well as air-conditioners, electric fans and vacuum cleaners.

Production in fiscal 1992 amounted to 9,429 air conditioners, 232,000 refrigerators and 197,000 washing machines, according to government figures (see Table III.33). However, this reflected a considerable decline in output for all three categories of goods in recent years. This was most

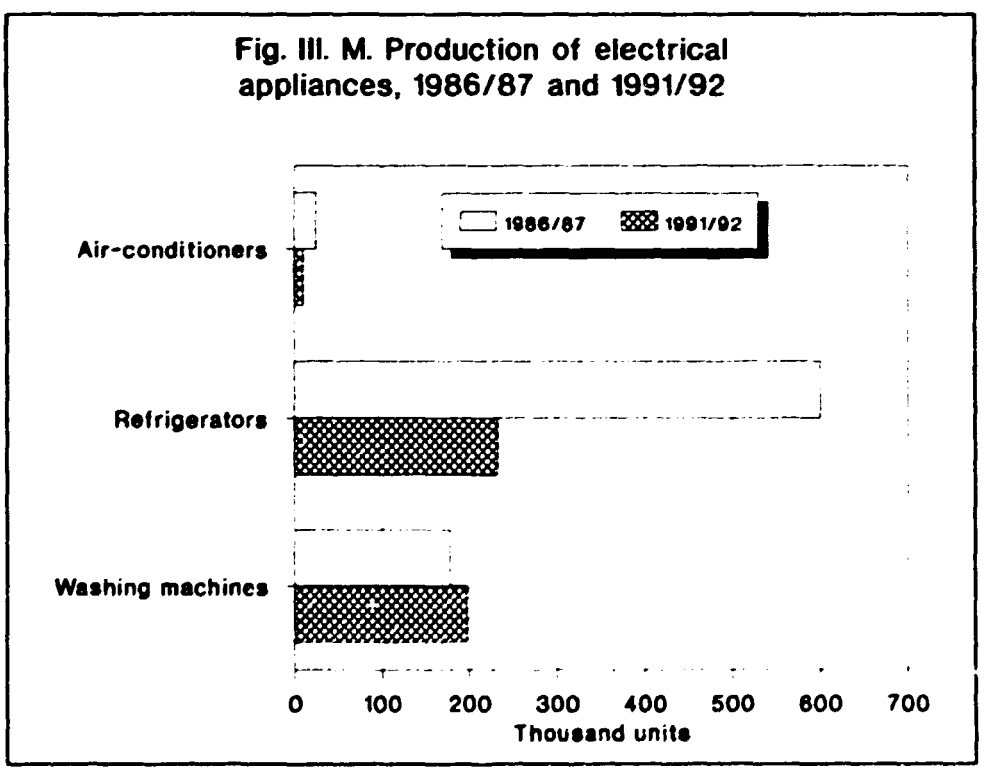
dramatic in the case of air-conditioners and refrigerators: the fiscal 1992 level for air-conditioners represented only 40 per cent of output in fiscal 1986/87, while for refrigerators the figure was just under 39 per cent. In the case of washing machines, production in fiscal 1991/92 was well below the peak of 248,000 reached in fiscal 1987/88, but still above the level of 178,000 recorded six years earlier.

Table III.33. Production of selected electrical appliances, 1986/1987 - 1991/1992

		1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992
Air-conditioners	Units	23,802	25,221	30,189	23,735	15,462	9,429
Refrigerators	Thousand units	601	693	477	246	260	232
Washing machines	Thousand units	178	248	212	179	202	197

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Until 1992, the government imposed a ban on the import of most domestic electrical appliances, including washing machines, refrigerators, radio and television sets and electrical fans. Driers and dishwashers were excluded, but subject to import duties of 110 per cent together with a 25 per cent consumption tax.[56/] Trade reforms initiated in 1992 have eliminated most of these bans, but the tariffs on these goods remain high, ranging from 85 per cent to 100 per cent.[57/]



Constraints and prospects

Egypt's dependence on imported components and kits, and the licencing requirements for brand name items, have tended to create a proliferation of products in the market but have prevented the development of a healthy, integrated productive sector. Local producers of brand-named goods are tied to specific foreign brands and designs. Higher pricing policies by the joint ventures and privately owned companies, together with restrictions on consumer credit, have suppressed the growth of indigenous demand.

In the public sector, the lack of quality control has hindered the growth of exports as well as local production, although the ability of some of these companies to offer government-sponsored credit schemes has moderated the decline in domestic sales. As regulations concerning issues such as product standards, environmental controls and safety issues are tightened in the European Union - Egypt's main export market - access to, and conformity with, international standards is becoming more vital to export performance. The expansion of manufacturing under licence from European and United States producers is helping to alleviate some of the previous bottlenecks in this area, but locally incorporated companies - particularly those in the public sector - will fail to reach their potential, and suffer lost market share, if they fail to give sufficient attention to these requirements.

The elimination of bans on imported goods will create greater competition in the market, especially for the public-sector companies. As elsewhere, Egyptians are familiar with international advertising of brand names, and the quality of locally produced, locally designed goods seems to be regarded as inferior to those which are imported or which are made locally under licence with recognized names such as Philips, Kelvinator or Carrier. While the high cost of imported goods, given the scarce access to foreign exchange, was a significant factor in preserving market share for public-sector industries, the completion of reforms to make the Egyptian pound convertible internationally is expected to lead to a reduction in the cost of imported kits, and so of locally produced branded items made under licence, over the medium term.

Foreign investment in components industries is also increasing as a result of the economic reforms. The Washington-based International Finance Corporation (IFC) has agreed to provide $17 million in equity and loans to build Egypt's first refrigerator compressor factory. Operated by the Misr Compressor Manufacturing Company and sponsored by the Dallah International Holding Company, the Egyptian subsidiary of the Jeddah-based Dallah Al Baraka Group, it is designed to produce about 1 million compressors especially suited for tropical climates per year. Total investment in the factory is expected to reach $79 million. Other shareholders include the state-owned Delta Industrial Company (Ideal) of Egypt. Technical assistance under licence and management expertise is to be provided by Industrie Riunte Eurodomestici, the Italian subsidiary of Whirlpool of the United States.[58/]

In the medium term, the development of tourism (especially of tourist villages), together with government plans to build some 1.2 million new housing units by the end of the current Five-Year Plan, will create additional local demand for air-conditioners and other electrical home appliances.[59/] So too will the expansion of the country's telecommunications network (see below) with regard to demand for radios and television sets. The growth of incomes may also lead to a higher rate of demand for goods with newer technology; the replacement of black and white television sets with colour sets, for example, could lead to a substantial market in these products alone.

ELECTRICAL GOODS AND TOOLS

The resource base

Raw materials for this subsector are imported, although some metal fabrications, plastic parts, coils, relays and transformers used in the manufacture of products such as heat-exchangers, solar heaters, generators, control panels and satellite dishes are produced locally. Some electromechanical inputs for the production of dial (analogue) telephone handsets and crossbar switches are manufactured domestically, as are aluminium and fibre glass used in the production of satellite dish antennas (see Table III.34).

Table III.34. Major companies producing electrical equipment and tools

Company	Ownership	Main Products
El Nasr Company for Electrical Transformer Manufacturing	Public	Transformers
Egyptian-German Company for Electrical Products (Siemens)	Joint-venture	Electrical equipment
Electric Cables Egypt	Public	Cables
Arab Contractors Electrical Industries	Joint-venture	Transformers, control panels, electrical equipment
Helwan Company for Non-Iron Industries	Public	Conductors
El Nasr Boilers Company	Public	Heat-exchangers
REFCO	Joint-venture	Solar heaters
Arabian HETCO	Joint-venture	Solar heaters
Helwan Company for Diesel Manufacturing	Public	Generators

Source: Ministry of Industry.

Consumer communications equipment

Recent trends

The production of electrical communication goods dates back to the 1960s when the government encouraged the development of these products for military reasons, using inputs imported from eastern Europe. In 1961, the Nasr TV factory used technology licenced from RCA of the United States to produce transceivers, carrier sets, amplifiers, regulators etc. as well as monochrome television sets and, subsequently, television picture tubes. The Philips electrical factory, a joint venture between the Egyptian government and the Dutch electronics concern, also began producing electrical lamps as well as radios and televisions (see "Electrical appliances" above.)

Later in the 1960s, a factory to assemble dial telephone sets and crossbar exchange equipment was established at Helwan using technology supplied by Ericsson of Sweden. Substantial facilities to produce metal and plastic parts as well as relays, coils and transformers were also incorporated, along with manual assembly and test lines. An easing of import policies in the early 1980s reduced the use of local components, however, and led the way to the use of kits made by Japanese companies such as Sanyo and NEC. In 1992 the Egyptian-German Electrical Products Company, which involves the state telecommunications company, Arento, in partnership with Siemens of Germany, began producing telephone-exchange equipment at Tenth of Ramadan City.

Also in 1992, Egypt inaugurated its first satellite television channel capable of transmitting local programmes as well as receiving international programmes from around the world. This in turn has spawned the growth of a new subsector to produce satellite dish antennas. Production, using aluminium or fibre glass, is carried out by both public and privately owned companies. A 1.2-metre dish is produced by the state-owned Arab Organization for Industrialization (AOI), and private firms produce 1.8- and 2.4-metre dishes. In July 1993 AOI was estimated to have a 30 per cent market share for the 1.2-metre dish, the most popular at the time due to its lower price.[60/]

Production of dial telephone handsets remained fairly constant throughout most of the 1980s at about 70,000 units a year.[61/] Imports of handsets in 1991 were estimated to account for 75 per cent of the total market. The market as a whole was valued at $320 million.[62/] Production of satellite dish antennas was valued at $1.4 million in 1991, $2 million in 1992 and an estimated $2.6 million in 1993. Imports, however, outstrip by far local supply, amounting to $21 million in 1991, $30 million in 1992 and an estimated $39 million in 1993 (see Table III.35).

Table III.35. Production and imports of satellite telecommunications equipment, 1991-1993 (Million $)

	1991	1992	1993[a/]
Production	1.4	2.0	2.6
Imports	21.0	30.0	39.0

Source: United States Foreign and Commercial Service, Cairo.

a/ Estimates

Constraints and prospects

Egypt's telecommunications network has been developed over nearly 35 years, resulting in a mix of technologies that are currently being modernized. The oldest generation, which at the end of the 1980s accounted for about one-third of the total network, combines dial telephones, low-count coaxial cables and crossbar switches. The use of analogue electronic exchanges and of higher-count coaxial cables as well as analogue microwave links, while increasing in the recent past, is now being phased out in favour of totally digitalized equipment.

This will have a negative effect, in the medium term, on the local demand for dial telephone sets, although in the short term the huge, unmet demand for telecommunications links of all kinds is leading to the continued use, and production, of the older generation of consumer handsets, especially in rural areas where the modernization programme has lagged behind. The commencement of the Siemens/Arento production of telephone exchanges in 1992, which is expected to lead to the output of some 200,000 digitalized versions a year, will, however, lead to rapid changes in the urban areas.

Digitalization, together with the enhanced use of microprocessors and personal computers (see "Electronics" below), will also lead to a substantial increase in local demand for other subscriber-end equipment such as intercoms, small private exchanges, computer interfaces (modems), telex/fax attachments for computers, fax machines and local area network (LAN) equipment, as well as for digitalized handsets and extension telephones.

Improvements in the local production of 1.8- and 2.4-metre dishes to make them conform to international specifications are also anticipated, especially given the skill of Egyptian engineers. This should open up a huge market, both locally and regionally, although Saudi Arabia, a main receiver of the Egyptian Satellite Channel (ESC), banned satellite dishes in early 1994. Both models allow viewers to receive a far larger number of channels than the smaller 1.2-metre versions. Equipped with rotating motors and suitable decoders, the larger dishes will also help to meet demand from wealthier viewers, whether individuals or institutions, seeking access to international transmissions carried by United States networks such as Cable News Network (CNN) or Star Television of Hong Kong.

Insulated cables

Recent trends

Insulated cables for the transmission of electrical power and for telephone use are manufactured by a public-sector company, Electric Cables Production. However, three private concerns have recently entered the field as well.

In mid-1992 the total domestic demand for insulated cables was estimated to be 2 million pair/km a year.[63/] Local production, which consists of both medium- and high-tension power cables as well as telephone cables, was valued at about $35 million in 1993, or about 15 per cent of the total home market value of $233 million. Exports in 1993 were estimated at $12 million (see Table III.36).

Since 1990, production has been rising steadily, though the pace of the increase has declined. Exports have shown a similar trend in recent years.

Table III.36. Production and exports of insulated cables, 1991-1993
(Million $)

	1991	1992	1993[a/]
Production	29	32	35
Exports	8	10	12

Source: United States Foreign and Commercial Service, Cairo.

a/ Estimate.

Constraints and prospects

While significant progress has been made recently in increasing local production, the gap between domestic output and market demand is still estimated at some 850,000 km a year. Electric Cables Egypt, the large public-sector concern, is planning to increase its production of long-distance telephone cables and of jelly-filled marine cables in order to reach a total output of 360,000 km a year. However, even if these plans go ahead, the gap is still expected to be some 500,000 km annually.[64/] Moreover, this excludes demand from the Ministry of Defence, which uses a significant, but unpublished, amount of cables each year.

MICROCOMPUTERS AND ACCESSORIES

The resource base

Although in the past most microcomputers were imported, assembly projects began to be launched in the late 1980s. Semi-knocked-down kits were imported from the United States and were combined with locally manufactured computer cases made of plastic. Production of completely-knocked-down versions to the motherboard level began in 1990, again using inputs imported from the United States.

Recent trends

In 1989 assembly production under licence based on semi-knocked-down kits was carried out by a joint venture between a United States company, American Computers and Electronics (ACE) and an Egyptian private concern, Electro George. By 1990, when output began using the fully-knocked-down inputs, Electro George's factory had an annual capacity of 10,000 units of microcomputers of the XT and AT types. About half of total production was exported to Gulf states, particularly Kuwait, Qatar and the United Arab Emirates. By 1992 production was estimated to have reached 25,000 units.

One key factor in favour of local production stems from the lack of Arabized data processing equipment, ie computer software. While Egypt may need to rely on imported hardware parts to produce microcomputers, its wealth of skilled and bilingual (English and Arabic) engineers, together with its skilled technicians means that the prospects for the development of software suitable to local use is good. Table III.37 presents data pertaining to the production and exports of computer software during 1990-1992.

Table III.37. Production and exports of computer software, 1990-1992 (Million $)

	1990	1991	1992[a/]
Local production	0.52	0.65	0.74
Exports	0.14	0.18	0.22

Source: United States Foreign and Commercial Service, *Automated Data Processing Equipment: Computer Software*, Cairo, July 1992.

a/ Estimate.

Constraints and prospects

The government's plans to build the Pyramids Technology Valley (PTV) in particular are crucial to the future development of the electronics sector. An initiative taken in 1987 was delayed considerably. However, by early 1993 some 12,000 feddans of land in Sixth of October City had been allocated for the project. Aimed at stimulating the establishment of high-tech industries in Egypt, including computer-based electronics industries and advanced manufacturing systems, and at creating an environment where innovation can flourish, it will include the setting-up of an institutional environment aimed at simplifying registration, licensing and export procedures for

investors, together with a review of customs regulations and taxes and the provision of the required incentives.

The PTV will be accompanied by measures to promote scientific education and research institutes in fields related to high-tech industries, such as software, microbiology, biotechnology, materials and pharmaceuticals as well as engineering and microelectronics.[65] In particular, it would enhance Egypt's prospects as an international producer of advanced consumer electronic goods such as CD-ROM players as well as industrial process controls. Given that the assembly and testing of CD-ROM players, an increasingly important component of computerized multi-media systems, is highly labour-intensive and requires skilled workers, Egypt would appear to have a specific competitive advantage in this field. Moreover, as one of the largest producers of music and film in the Arab world, the use of CD-ROM technology produced in Egypt would find a ready market in other Arab countries. Production and/or assembly of such players would also facilitate the development of advanced computer systems such as imaging, especially for Arabic documents and Arabic applications.

PRIVATE-SECTOR DEVELOPMENT IN ELECTRICAL APPLIANCES AND ELECTRONICS

Egypt has encouraged foreign investment in the production of electronic goods and household durables manufactured domestically under licence since the early 1980s. United States companies such as Carrier, York and Philco, for example, produce air-conditioning and refrigeration equipment in Egypt.[66] Zanussi of Italy, together with the state-owned firm, Delta Industrial Company (Ideal), manufactures automatic washing machines both for local use and export.

Cumulative private investment in air-conditioning, home and electrical appliances until the end of June 1993 amounted to LE 244 million (see Table III.38). Of this, LE 183 million was provided by foreign investors and LE 61 million by private investors in Egypt.

Table III.38. Private investment in air-conditioning units, home and electrical appliances to June 1993
(Million LE)

	Local	Foreign	Total
Capital invested, of which:			
Air-conditioning units	6	20	70
Home and electrical appliances	55	163	218
Investment costs, of which:			
Air-conditioning units	32	25	57
Home and electrical appliances	112	208	420

Source: General Authority for Investment.

The government's current privatization programme covers its own shareholdings in joint ventures as well as public-sector companies producing electrical appliances which are currently part of the Holding Company for Engineering Industries. These include the El Nasr Electronics and Engineering Company, licenced by Philips of the Netherlands; the El-Nasr Engineering and

Refrigerating Company, makers of Koldair brand-named appliances; and the Delta Industrial Company (Ideal), the country's largest producer of refrigerators.[67]

Both the Philips and Koldair ventures were expected to be offered for sale by the end of fiscal 1993/94, while the third was due to be sold in the following year after the evaluation of its assets and the formulation of plans regarding the method of its sell-off.[68] Another firm targeted for privatization is the Egyptian-German Electrical Products Company, which manufactures electrical appliances under licence from Siemens of Germany.[69] The company began producing digitalized telephone exchanges. This will open the door to private investment in the production of components, most of which will be sold to the State Telecommunications Organization, Arento. Valuation of its assets began in 1993, but no date for its sale, or the amount of the government shareholding to be sold, was announced.

Once privatized, these companies, together with the smaller private-sector companies already producing brand named goods under licence, can expect to benefit considerably in the next few years from the elimination of controls on foreign exchange, the convertibility and stability of the Egyptian pound and the trade reforms. Although competition from imported appliances, particularly from Asian producers, may increase substantially, local private-sector manufacturers and assemblers have an advantage insofar as they can, or are willing to, offer after-sales service, access to spare parts and greater information to the customer. The retention of high tariff duties on imported appliances will also give them a benefit in what is an extremely price-conscious market.

Private-sector producers of satellite dishes such as AGB International in Tenth of Ramadan City are expected to benefit considerably from rising demand for such equipment in Egypt, especially for the larger 1.8-metre and 2.4-metre dishes which they manufacture and which can receive many more channels now becoming available from transmissions from Europe and Asia as well as within Egypt itself. Reductions in the cost of raw material inputs and in the cost of imported decoders are also expected to encourage an expansion of output by the private sector, especially insofar as imports from countries such as the United States are becoming relatively more expensive.

In insulated cables, El Giza Cable Company is considering expanding its product range to include TC 154 A FEO and TC 135 A Part 3 versions which meet Arento specifications. This will supplement its current output of jelly-filled telephone cables, self-suspending telephone cables, long-distance telephone cables and marine jelly-filled cables, all of which are produced to international specifications.

Another private-sector firm, The International Wire and Cable Company, is reported to be seeking a joint-venture partner to produce fibre optic cables. At present, there is no production of these in Egypt.

Official figures show that cumulative private investment in lighting and electrical tools up to the end of June 1993 amounted to LE 139 million, of which just under half, ie LE 66 million, came from domestic sources and LE 73 million from foreign investors (see Table III.39). Total investment costs for the 15 projects involved amounted to LE 303 million, LE 166 million of which came from foreign funding.

Electro George's relatively early initiative in assembling United States-designed computers demonstrates the potential that exists for private manufacturers of hardware and for private sector companies supplying software. The advent of multi-media computer systems, which include CD-ROM drives, modems for communication (including electronic mail systems and access to international databases) and electronic scanners, provides an opportunity for Egypt to use its wealth of skilled professionals and technicians, as well as its supply of skilled labour.

Table III.39. Private investment in lighting and electrical tools to June 1993
(Million LE)

	Local	Foreign	Total
Capital invested	66	73	139
Total value of projects	137	166	303

Source: General Authority for Investment.

For the period up to the end of June 1993, 12 projects involving private and/or foreign investment had been approved. The total capital invested amounted to LE 69 million, of which about 60 per cent, or LE 41 million, came from local Egyptian investors and the remainder from foreign investors (see Table III.40). Total investment costs for these projects amounted to LE 181 million. However, of this, the majority, LE 136 million, was provided by funding from outside Egypt.

Private-sector developers, whether in hardware or software, can now take advantage of the revised import regime, under which import duties on raw materials are to be assessed at a maximum of 50 per cent in the future, in compliance with the General Agreement on Tariffs and Trade. This should make assembly of advanced electronics both feasible and profitable.

Table III.40 Private investment in computers and electronics to June 1993
(Million LE)

	Local	Foreign	Total
Capital invested	41	28	61
Investment cost	45	136	181

Source: General Authority for Investment.

NOTES TO CHAPTER III

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3/ Simon Brindle, "Changes in the Dairy Industry", *Business Monthly*, November 1993.

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ANNEX A
STATISTICAL TABLES

Table A-1. Output of selected food products, 1952-1991/1992, selected years

Product	Unit	1952	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]	Percentage change 1987/1988-1991/1992
White sugar crystal	Thousand tonnes	..	472	449	454	476	525	510	13.6
Refined sugar	Thousand tonnes	189	369	419	408	331	366	419	0.0
Glucose	Thousand tonnes	5	52	51	48	46	58	55	7.8
Chocolate	Tonnes	1,600	5,309	7,390	8,064	8,328	7,155	7,279	-1.5
Pastries	Thousand tonnes	18	204	234	134	43	45	49	-
Preserved vegetables	Tonnes	-	7,238	8,484	9,689	9,324	10,700	10,225	20.5
Candies	Thousand tonnes	56	93	103	120	128	133	123	19.4
Tomato paste (canned)	Tonnes	400	7,109	3,717	8,875	5,019	2,356	5,173	39.2
Vegetables (canned)	Tonnes	600	7,430	4,941	5,118	7,162	8,061	7,960	61.1
Yeast	Tonnes	840	24,135	24,945	26,048	23,929	22,623	23,369	-6.3
Soft drinks	Million bottles	156	2,837	2,544	2,417	2,164	1,858	1,620	-36.3
Starch	Thousand tonnes	5	25	26	28	29	28	31	19.2
Beer	Million litres	10	47	51	49	50	44	42	-17.6
Non-alcoholic beer	Thousand litres	-	2,108	2,100	7,600	7,900	8,300	7,400	252.4
Alcoholic drinks	Thousand litres	1,447	175	100	..	275	227	71	-29.0
Cotton seed oil	Thousand tonnes	100	277	289	355	317	357	312	8.0
Oilseeds (cakes)	Thousand tonnes	410	440	431	370	322	319	n.a.	-
Molasses	Thousand tonnes	100	362	364	382	215	217	219	-39.8
Tobacco	Tonnes	-	9,953	11,279	14,426	21,477	22,945	24,513	117.3
White cheese	Thousand tonnes	109	189	178	185	194	202	215	20.8
Processed cheese	Thousand tonnes	2	15	13	11	12	15	14	7.7
Pasteurized milk	Thousand tonnes	-	69	52	33	22	19	17	-67.3
Hydrogenated oils	Thousand tonnes	12	171	145	140	130	102	88	-39.3
Sardines, canned	Tonnes	-	5,200	5,300	5,142	3,207	3,979	2,305	-56.5

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.

Table A-2. Production of selected textiles, 1952-1991/1992, selected years

Product	Unit	1952	1986/1987	1987/1988	1988/1989	1989/1990	1990/1991	1991/1992[a/]	Percentage change 1987/1988-1991/1992
Cotton yarn	Thousand tonnes	56	251	249	249	307	306	316	26.9
Cotton textiles	Million LE	40[b/]	658	671	776	882	1,375	1,504	124.1
Wool yarn	Thousand tonnes	2	19	18	19	19	20	20	11.1
Wool textiles	Million tonnes	-	14	17	17	30	23	23	35.3
Synthetic textiles	Million LE	2[c/]	67	70	75	76	108	108	84.3
Jute yarn	Thousand tonnes	4	26	26	26	25	24	24	-3.8
Jute textiles	Thousand tonnes	2	26	27	27	26	24	24	-25.9

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.
b/ Thousand tonnes.
c/ Million metres.

Table A-3. Output of selected minerals and mineral products, 1952-1991/1992, selected years

Product	Unit	1952	1986/1987	1987/1988	1988/1989	1989/1990	1990/1991	1991/1992[a/]	Percentage change 1987/1988-1991/1992
Crude petroleum	Million tonnes	2.3	43	44	43	43	45	44	0.0
Phosphate	Thousand tonnes	478	1,310	1,330	1,347	1,505	1,865	2,089	57.1
Iron ore	Thousand tonnes	245	2,048	2,109	2,562	2,405	2,144	2,392	13.4
Salt (common)	Thousand tonnes	498	1,233	1,849	1,162	1,125	891	936	-49.4
Kaolin	Thousand tonnes	-	126	204	122	149	186	203	-0.5
Quartz	Thousand tonnes	-	19	21	19	36	86	91	333.3
Asbestos and fermacolite	Tonnes	60	313	204	584	400	732	930	355.9
Granite	Thousand cubic metres	6	2	4	15	15	10	9	125.0
Basalt	Thousand cubic metres	200	1,044	1,294	873	1,371	1,016	763	-41.0
Alabaster	Thousand cubic metres	6	28	33	28	40	58	62	87.9
Limestone	Million cubic metres	2	15	17	16	16	18	17	0.0
Sand (common)	Million cubic metres	1	13	10	11	13	16	14	40.0
Gravel	Million cubic metres	1	12	10	12	14	8	7	-30.0
Sand (white)	Thousand cubic	-	233	223	216	410	317	264	18.4
Clay	Thousand tonnes	-[b/]	5,508	5,933	5,796	7,534	10,775	10,041	69.2
Gypsum	Thousand tonnes	180	1,088	1,337	1,309	1,279	1,239	1,425	6.6
Sandstone	Thousand cubic metres	-	417	305	316	242	182	113	-63.0
Dolomite	Thousand tonnes	-	1,564	1,230	749	927	910	838	-31.9

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.
b/ Thousand cubic metres.

Table A-4. Production of selected building materials, 1952-1991/1992, selected years

Product	Unit	1952	1986/1987	1987/1988	1988/1989	1989/1990	1990/1991	1991/1992[a/]	Percentage change 1987/1988-1991/1992
Sheet glass	Thousand tonnes	4	23	22	22	22	25	24	9.1
Safety glass	Tonnes	-	1,232	1,296	1,393	1,370	1,287	1,298	0.2
Ceramics	Tonnes	-	3,450	4,714	6,050	6,600	7,200	7,550	60.2
Sanitary appliances	Tonnes	-	5,480	-	-	-	-	-	-
	Thousand LE	-	-	-	18,441	17,448	15,439	15,300	-
Refractory bricks	Tonnes	8	141	150	129	137	153	141	-6.0
Clay pipes	Thousand tonnes	4	28	28	27	29	32	32	14.3
Concrete pipes	Thousand tonnes	18	34	27	30	36	25	..	-
Asbestos sheets and pipes	Thousand tonnes	7	31	66	90	80	72	n.a.	-
Red bricks	Million	520	10	25	38	70	95	105	320.0
Sand bricks	Million	22	88	91	114	79	58	66	-27.5
Tiles	Million square metres	1	91	12	15	17	17	19	58.3
Gypsum	Thousand tonnes	117	524	644	660	523	601	589	-8.5
Cement	Thousand tonnes	951[b/]	9,762	9,794	12,480	14,111	16,073	15,454	57.8

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimates.
b/ Portland cement.

Table A-5. Output of selected petroleum products, 1952-1991/1992, selected years
(Thousand metric tonnes unless otherwise specified)

Product	1952	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]	Percentage change 1987/1988-1991/1992
Benzine (gasoline)	186	2,090	2,284	2,352	2,179	2,253	1,932	-15.4
Kerosene	219	2,325	2,325	2,385	2,398	2,304	2,226	-4.3
Jet fuel		161	209	236	319	406	340	62.7
Gas oil and diesel oil	131	3,604	3,673	3,777	3,702	4,030	4,118	12.1
Fuel oil	1,702	10,353	10,302	10,431	11,005	11,707	11,536	12.0
Butane gas	4	274	279	287	316	338	318	14.0
Natural gas	..	4,491	5,148	5,504	6,035	6,620	7,160	39.1
Asphalt	51	597	549	580	592	651	576	4.9

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimates.

Table A-6. Production of selected chemicals, 1952-1991/1992, selected years

Product	Unit	1952	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]	Percentage change 1987/1988-1991/1992
Soap	Thousand tonnes	63	302	292	329	328	289	290	-0.7
Glycerine	Tonnes	550	7,021	7,392	11,299	11,268	9,091	9,239	25.0
Detergents	Thousand tonnes	..	77	47	70	89	81	68	44.7
Sulphuric acid	Thousand tonnes	25	60	54	60	92	101	111	105.6
Caustic sode	Thousand tonnes	3	54	55	51	53	58	59	7.3
Paper	Thousand tonnes	20	187	194	195	193	197	204	5.2
Super phosphate fertilizer	Thousand tonnes	106	957	986	1,021	1,095	1,060	826	-16.2
Calcium nitrate fertilizer	Thousand tonnes	111	4,282	4,387	4,539	4,600	4,339	5,342	21.8
Ferro silicon	Tonnes	-	7,691	7,806	6,907	7,921	7,596	6,725	-13.8
Mixed fertilizers	Tonnes	-	738	830	3,544	753	n.a.	n.a.	-
Triple phosphate	Thousand tonnes	-	99	111	117	105	85	50	-55.0
Tyres	Thousand tyres	-	1,798	1,771	1,913	1,758	1,814	1,440	-18.7
Tubes	Thousand tubes	-	1,613	1,657	1,478	1,576	1,795	1,931	16.5
Rubber products	Thousand LE	500	19,410	20,271	25,836	32,407	36,513	40,915	101.8
Pencils	Thousand LE	-	6,320	6,421	8,184	10,303	9,865	7,757	20.8
Oxygen	Thousand LE	150	2,180	1,677	2,588	3,289	5,013	8,534	408.9
Acetylene	Thousand cubic metres	300	1,399	1,036	911	954	1,015	945	-8.8
Chlorine	Thousand tonnes	3	11	11	8	10	10	12	9.1
Carbon dioxide	Thousand tonnes	2	16	16	15	15	16	16	0.0
Insecticides	Million LE	..	67	76	73	70	76	88	15.8
Tanned leather	Million LE	8	92	176	228	337	355	411	133.5
Glue	Thousand tonnes	1	3	4	4	6	6	6	50.0
Pharmaceuticals	Million LE	1	571	680	869	993	1,207	1,521	123.7
Cosmetics	Million LE	1	162	165	201	232	265	362	119.4
Matches	Million LE	..	37	50	52	58	71	83	66.0

Source: Central Agnecy for Public Mobilization and Statistics (CAPMAS).

a/ Estimates.

Table A-7. Production of selected metal, machinery and engineering goods, 1952-1991/1992, selected years

Product	Unit	1952	1986/ 1987	1987/ 1988	1988/ 1989	1989/ 1990	1990/ 1991	1991/ 1992[a/]	Percentage change 1987/1988-1991/1992
Steel billets and steel sections	Thousand tonnes	-	316	349	334	333	402	403	15.5
Steel sheets	Thousand tonnes	-	23	77	83	88	83	80	3.9
C.I. products	Thousand tonnes	17	147	137	112	108	113	60	-54.2
Reinforced steel	Thousand tonnes	50	296	296	244	221	158	270	-8.8
Nails	Thousand tonnes	2	40	43	45	51	53	53	23.3
Wires	Thousand tonnes	-	44	69	71	72	82	79	14.5
Cars	Units	-	17,939	19,358	13,134	9,650	8,878	6,839	-64.7
Trucks	Units	-	2,580	1,745	1,475	1,317	1,127	1,529	-12.4
Buses	Units	-	968	1,136	1,406	1,493	1,128	760	-33.1
Tractors	Units	-	4,077	1,893	3,132	1,737	1,103	1,616	-14.6
Air conditioners	Units	-	23,802	25,221	30,189	23,735	15,462	9,429	-62.6
Refrigerators	Thousand units	-	601	693	477	246	260	232	-66.5
Washing machines	Thousand units	-	178	248	212	179	202	197	-20.6
Bicycles	Thousand units	-	93	71	72	90	90	40	-43.7
Diesel engines	Thousand LE	-	4,586	10,882	2,746	16,062	12,233	22,645	108.1
Water heaters	Thousand units	-	45	59	56	61	70	78	32.2
Electric heaters	Thousand units	-	84	72	60	46	38	40	-44.4
Railway wagons	Thousand LE	-	53,368	43,772	83,791	78,800	93,263	132,723	203.2
Butagaz stoves	Thousand LE	-	35,577	44,074	52,138	59,625	62,809	77,347	75.5
High pressure pipes	Thousand LE	-	8,388	20,368	79,819	89,528	94,220	93,923	361.1
Butagaz containers	Thousand units	-	378	562	622	519	532	718	27.8
Sewing machines	Thousand LE	-	270	188	609	431	470	1,045	455.9
Metal structures	Thousand LE	240	56,141	58,603	58,603	87,692	91,094	119,535	104.0
Metal furniture	Thousand LE	330	28,333	31,784	32,017	39,878	42,583	45,004	41.6
Wire mesh	Thousand LE	-	2,137	2,185	2,649	2,817	3,090	3,197	46.3
River tugs	Thousand LE	100	14,237	26,927	50,533	92,495	74,342	54,069	100.8
Pumps centrifugal	Thousand LE	8	1,760	2,300	3,900	4,095	4,970	5,200	126.1
Steel castings	Thousand LE	-	3,690	3,655	5,176	6,798	11,096	9,151	150.4
Water meters	Thousand units	..	194	239	213	243	351	266	11.3
C.I. castings	Thousand LE	..	21,455	25,548	22,216	32,607	45,366	43,154	68.9
Lead products	Thousand tonnes	1	7	7	6	-	-	-	..
	Thousand LE	-	-	-	-	24,180	28,106	25,454	-

Table A-7. Continued.

Insulated and non-insulated cables	Thousand tonnes	-	51	88	96	92	86	82	-6.8
Electric metres	Thousand units	-	319	314	335	396	628	672	114.0
Accumulators	Thousand units	18	535	582	601	626	..	..	..
	Thousand LE	..	..	..	..	-	66,436	67,070	..
Torch dry batteries	Million units	-	45	47	27	22	24	18	-61.7
Bergman tubes	Thousand LE	-	51	56	60	65	74	69	23.2
Bergman tubes	Tonnes	280	-	-	-	-	-	-	-
Electric bulbs	Million units	2	56	77	[illegible]	80	84	83	7.8
Electric heaters	Thousand LE	-	4,500	4,700	4,900	5,000	6,800	8,006	70.3
Radios	Thousand units	-	189	161	43	59	40	36	-77.6
T.V. sets	Thousand units	-	333	315	186	334	264	260	-17.5

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

a/ Estimate.

Table A-8. Exports and imports of cereal, flour and starch preparations, 1989-1992 (Thousand LE)

Year	Exports	Imports
1989	5,669	25,084
1990	9,489	11,348
1991	34,197	11,132
1992	16,610	19,583

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-9. Exports and imports of processed vegetables and fruits, 1989-1992 (Thousand LE)

Year	Exports	Imports
1989	6,887	66,221
1990	19,524	20,918
1991	27,645	20,020
1992	11,283	41,939

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-10. Exports and imports of animal and vegetable fats and oils, 1989-1992 (Thousand LE)

Year	Exports	Imports
1989	10,854	551,080
1990	6,473	606,728
1991	20,197	435,062
1992	20,718	892,623

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-11. Exports and imports of meat and fish products, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	336	46,158
1990	531	93,581
1991	1,097	107,462
1992	2,124	98,266

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-12. Exports and imports of tobacco, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	4,346	182,480
1990	3,590	276,537
1991	1,070	387,481
1992	2,484	516,083

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-13. Exports and imports of footwear, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	18,496	3,638
1990	47,270	3,842
1991	69,743	2,881
1992	71,928	5,094

Source: Central Agency for Public Mobilization and Statitics (CAPMAS).

Table A-14. Exports and imports of pearls and precious stones, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	697	7,387
1990	737	12,750
1991	877	9,848
1992	2,100	15,680

Source: Central Agency for Public Mobilization and Statitics (CAPMAS).

Table A-15. Exports and imports of boilers and machinery, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	7,360	2,040,431
1990	16,664	2,876,460
1991	45,387	3,191,607
1992	43,441	3,749,497

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-16 Exports and imports of transport equipment, 1989-1993
(Thousand LE)

Year	Exports	Imports
1989	3,025	737,377
1990	3,661	1,164,602
1991	12,267	1,017,312
1992	10,135	1,260,114
1993	6,046	1,138,486

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-17 **Imports of pulp and paper products, 1989-1992**
(Thousand LE)

Year	Imports
1989	477,821
1990	780,641
1991	1,061,938
1992	1,017,970

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-18. **Exports and imports of copper and related products, 1989-1992**
(Thousand LE)

Year	Exports	Imports
1989	26,192	73,077
1990	32,458	134,881
1991	27,216	172,300
1992	32,683	140,488

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-19. **Exports and imports of aluminium products, 1989-1992**
(Thousand LE)

Year	Exports	Imports
1989	573,796	44,623
1990	597,021	92,247
1991	531,226	94,221
1992	657,908	162,036

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-20. Exports and imports of nickel and nickel products, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	65	4,893
1990	77	6,182
1991	51	8,703
1992	20	6,067

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-21. Exports and imports of lead and lead products, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	17	14,135
1990	10	29,338
1991	..	35,528
1992	..	38,816

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-22. Exports and imports of zinc and zinc products, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	1,819	37,109
1990	994	39,910
1991	131	36,532
1992	626	38,689

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

Table A-23. Exports and imports of iron and steel products, 1989-1992
(Thousand LE)

Year	Exports	Imports
1989	159,779	1,354,939
1990	264,468	1,984,069
1991	248,715	2,234,176
1992	555,604	1,780,065

Source: Central Agency for Public Mobilization and Statistics (CAPMAS).

ANNEX B
CONTACT POINTS FOR INVESTORS

ANNEX B: IMPORTANT CONTACT POINTS

Egyptian Ministries and Government Agencies

Ministry of Industry 2 America El Latinia St., Garden City, Cairo	Tel: 3543600/3557034/3554826 Fax: 3548362
Ministry of Electricity and Energy Extension of Ramses St., Cairo	Tel: 2616299/2616514/2616317 Fax: 2616302
Egyptian Environmental Affairs Agency 11 Abul Feda Street, Zamalek, Cairo	Tel: 3417152/3401963 Fax: 3401963
Ministry of Reconstruction and New Communities 1 Ismail Abaza St., Cairo	Tel: 3557013/3597978 Fax: 3557836
Ministry of Scientific Research 101 Kasr el-Aini St. Bab El-Louk, Cairo	Tel: 3545205/3547642 Fax: 3545250
Ministry of Transport 104 Kasr el-Aini St., Cairo	Tel: 3555566/67/68
Ministry of Tourism Misr Tower Abbasia Sq., Cairo	Tel: 2828430/8439 Fax: 2829771
Ministry of Irrigation and Water Resources El Sheikh Rihan St., Cairo	Tel: 3545884 Fax: 3558008
Public Sector Authority for Foreign Trade 17 Abdel Salam Aref St., Cairo	Tel: 3938756/3938359 Fax: 3922525
Egyptian General Petroleum Corp. (EGPC) Palestine St., 4th Sector, New Maadi, Cairo	Tel: 3531441, 3531438, 3531439
New and Renewable Energy Authority Extension of Ramses St., Abbassia, Cairo	Tel: 2602480
Public Sector Authority for Power Distribution 4 Moussa Ebn Nosseir St., Nasr City, Cairo	Tel: 611206 Fax: 2602543
General Authority for Investment and Free Zones 8 Adly St., Downtown, Cairo	Tel: 3906796/6804/1017 Fax: 3907315
General Authority for Export and Import Controls 1 Ramses St. Atlas Building, Cairo	Tel: 742830, 750749

General Organization for International Exhibitions and Fairs
Nasr City, Cairo
Tel: 2607810/19/34
Fax: 2607845

General Organization for Industrialization
6 Khalil Agha St.
Garden City, Cairo
Tel: 3540677/8/9

Foreign Chambers of Commerce

American Chamber of Commerce in Egypt
Marriot Hotel, Suite 1541
Zamalek, Cairo
Tel: 3408888/1541
Fax: 3414955

French Commercial Section
10 El-Aziz Osman St.
Zamalek, Cairo
Tel: 3415701/5702
Fax: 3414955

German-Arab Chamber of Commerce in Egypt
2 Sherif Pasha St.
Downtown, Cairo
Tel: 3931754/769237

Italian-Arab Chamber of Commerce in Egypt
33 Abdel Khalek Sarwat St.
Downtown, Cairo
Tel: 3922275
Fax: 3912503

Japanese External Trade Organization
56 Gameat el-Dowal
El-Arabia St.
Mohandesseen, Cairo
Tel: 3409942

Egyptian Business Organizations

The Federation of Egyptian Industries
26 A Sherif St.
Immobilia Bldg., Cairo
Tel: 3928319
Fax: 3928075

Federation of Egyptian Chambers of Commerce
4 Midan El Falaky, Cairo
Tel: 3558261

Cairo Chamber of Commerce
4 Midan El Falaky, Cairo
Tel: 3548491/3924025
Fax: 3541132

Alexandria Chamber of Commerce
31 Chamber of Commerce St., Alexandria
Tel: 4834157/4820812
Fax: 808993

Alexandria Businessmen's Association
18 Avenue El Horreya, Alexandria
Tel: 4836902/4834210
Fax: 4829576

Chamber of Engineering Industries
13 Sherif Street, Cairo
Tel: 3938904
Fax: 3921238

U.S. Government Sources in Egypt

U.S. and Foreign Commercial Service
3 Lazoughly St.
Garden City, Cairo
Mailing Address:
American Embassy
Unit 64900, Box 11
APO AE 09839-4900
Tel: 3572255/3572330
Fax: 3558368

USAID Business Development Programmes

International Executive Services Corps (IESC)
c/o Nile Hilton Center - Suite 22
Corniche El Nil
Cairo
Tel: 776771/779164
Fax: 760874

Private Sector Feasibility Studies
Nile Tower Building, Floor 16
21 Giza Street
P.O. Box 265 Orman
Giza, Egypt
Tel: 627006
Fax: 623120

U.S. Investment Promotion Office
21 Giza Street, Nile Tower Bldg.
Giza, Egypt
Tel: 627006, 623120
Fax: 623120

Commodity Import Programme
Small Business Office
Agency for International Development
Washington, D.C. 20523
Tel: (703) 235-1720

Holding companies

Spinning, weaving and ready garments
7 Taher Street
Abdeen, Mohamed Farid
Cairo
Tel: 3905153-3906056
Fax: 3903235

Consumer goods
90 Ahmed Orabi Street
Mohandesseen, Giza
Tel: 3027597-3028273
Fax: 3027597

International trade and cotton
25 El-Horriya Street, Alexandria
6 El-Giza El-Wasta Street
Zamalek, Cairo
Tel: 4934154 (Alexandria)
Fax: 4919811 (Alexandria)

Engineering industries
26 Adly Street
Cairo
Tel: 3930133-3921956
Fax: 3921956

Metallurgical industries
5 El-Toulembat Street
Garden City, Cairo
Tel: 3557221-3544532
Fax: 3557221

Mining, refractories and building materials
Arab Lawyers League Street
Garden City, Cairo
Tel: 3544172
Fax: 3557916

Chemical industries
5 Toulembat Street
Garden City, Cairo
Tel: 3492312
Fax: 3557475

Food industries production and distribution
20 Salem Street
El Agouza, Giza
Tel: 712033
Fax: 3604026

Rice mills
6 Bab El Louk Street
Cairo
Tel: 3552154
Fax: 3564850

Agricultural development and animal husbandry
Marriout-Ameriya
Alexandria
Tel: 03-980111/980112
Fax: 03-980070

Public works and land reclamation
El Moukhayam El Dayyem Street
Nasr City, Cairo
Tel: 602001
Fax: 601968

Reconstruction
Commercial Center Building
Misr Reconstruction Company
Heliopolis Housing Project
Cairo
Tel: 269052
Fax: 2692973

Construction and electricity distribution
3 Moussa Ibn Nousseir Street
Nasr City, Cairo
Tel: 611205
Fax: 2602543

Housing, tourism and cinema
4 Latin America Street
Garden City, Cairo
Tel: 3562457
Fax: 3552056

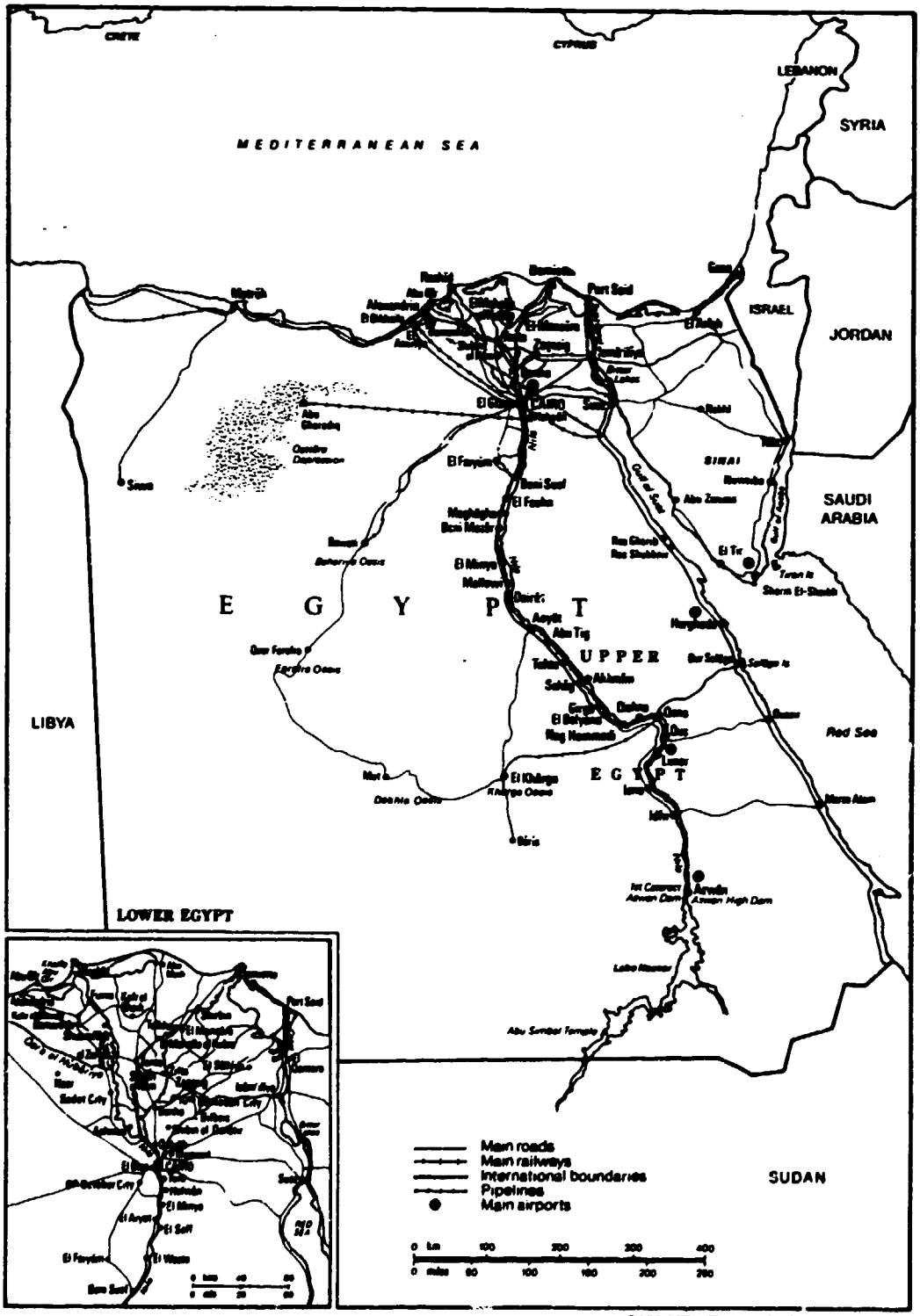
Land and river transportation
105 Kasr El Eini Street
Cairo
Tel: 3557443
Fax: 3547073

Maritime transportation
8 El Horreya Street
Alexandria
Tel: 769977
Fax: 3432647

Pharmaceuticals
12 Waked St. (from El Alfy Street)
Cairo
Tel: 912825
Fax: 916866

INDUSTRIAL MAP

Egypt



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