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INVESTMENT
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Sectoral Survey 10

MAINTENANCE AND REPAIR FACILITIES AND SERVICES IN EGYPT

1983

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PREFACE

This report on methods and systems for providing repair and maintenance services, is one of a series of ten reports published by the General Authority for Investment and Free Zones and designed specifically to promote the participation of U.S. companies in investment projects in Egypt.

Funded by the U.S. Agency for International Development (U.S. AID) and prepared by the Chase World Advisory Group of Chase Trade Information Corporation, these reports focus on sectors of the Egyptian economy which offer the foreign investor specific investment opportunities in significant areas of the Egyptian economy ranging from pharmaceuticals; the processing and distribution of food crops; and the production and processing of livestock, poultry, and fish products; to construction materials, components, and systems; and non-electrical machinery, such as pumps and compressors.

This report, on the methods and systems for providing repair and maintenance services, was prepared by Leonard R. Hones of the K.W. Tunnell Company, Inc.

INTRODUCTION

Egyptian demand for maintenance and repair (M/R) services has increased significantly over the past decade as the Egyptian economy expands and becomes more complex. Estimates of total expenditures are difficult to make because such services reach so far into all economic sectors. Also, the public sector companies, which create about seventy percent of gross national product, do not separately allocate budgets for maintenance and repair. This report analyzes M/R service needs, ranging from the electrical and mechanical needs in large private apartment buildings and office buildings to mobile equipment such as farm and construction equipment, to industrial needs in plants for machinery such as process pumps and machine tools.

This report covers the maintenance and repair needs in the following categories:

- Large Buildings, Industrial, Commercial and Residential
- Large Civil Works
- Mobile Equipment and Machinery

- o Automotive Equipment
- o Industrial Machinery and Equipment
- o Aircraft and Ancillary Equipment

Each of these M/R categories is subdivided into more specific areas where M/R organizations can be justified and where joint venture partners are available.

Maintenance and repair of buildings, machinery, and equipment have been falling farther behind in most Egyptian economic sectors, particularly in the infrastructural areas. New buildings are constructed, new machinery is purchased, and new utilities are installed, but the lack of preventive maintenance and repair shortens the useful life and reduces productive utilization. Both private and public sector companies recognize this trend and the ultimate undesirable impact that it could have on future business advancement.

Recognition of M/R needs has motivated some companies to start the implementation of preventive maintenance programs. Although these initial steps by some companies are an encouraging sign, the fact remains that M/R needs are compounding annually. During the past five years, total investment in fixed

capital facilities has averaged LE 2.0 billion annually*. Typical annual M/R expenditures in the United States average about 6 percent** of the value of total fixed investment. To match that performance, Egypt would have to be spending an additional LE 120 million annually, or a total of LE 600 million annually just to properly maintain and repair the capital facilities installed during the past five years.

During the course of this study, the potential of six sample M/R categories listed earlier for private sector investment projects was assessed through interviews in Egypt with knowledgeable government and industry sources. These included building owners, industrial plant management, M/R service companies offering such services, and in-country sales representatives of machinery, and equipment builders.

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* LE: Egyptian pound. As of November, 1982, one LE is equivalent to U.S. $1.19 at the official exchange rate.

** Based on actual expenditures made by a sampling of U.S. companies.

Particular research emphasis was given to the following criteria:

- magnitude of in-country demand
- extent of foreign imports (i.e., repair parts)
- availability of trainable labor
- interested Egyptian joint-venture partners
- opportunities for repair parts production

Although each of the six M/R categories scored well according to some or all of these criteria, the needs and joint venture prospects vary considerably from one category to another. This report includes a review of potential investment opportunities and, where possible, identification of joint venture partners. In addition to the potential partners identified, there are undoubtedly a significant number of other Egyptian businessmen or companies who are interested in participation in maintenance and repair service companies. Therefore, interested U.S. investors are encouraged to contact any of the following organizations involved in the continuing review of investment opportunities:

- The Egyptian General Authority for Investment and Free Zones
- Chase Trade Information Corporation

- The Egypt-U.S. Business Council
- The Special Office of the U.S. Trade Representative, and the
- U.S. Department of Commerce.

1. EXECUTIVE SUMMARY

In spite of some quite promising initiatives by certain select public corporations and companies in recent years, maintenance and repair of buildings, equipment and machinery in Egypt has in past years been inadequately planned and funded. With major portions of basic industry nationalized, funding for development of the country's productive capacity was directed to new construction and expansions with increased production receiving high priority. Funding for maintenance and repair was mainly available in emergency repair situations.

Recently, failure of production facilities to reach established performance levels and ratings has highlighted the impact of poorly maintained machinery and the need for development of repair skills and spare parts management within buildings and plants. In addition, large quantities of machinery stands inoperative for lack of diagnostic repair skills and spare parts.

While these conditions continue to exist, the level of capital investment in erecting civil works and industrial plants remains high. The 1982-87 Development Plan and subsequent contemplated plans

anticipate a total of LE 10 billion for new construction, plus budgets of similar size for equipment and machinery in other sectors.

In countries with fully developed industrial bases, it is common to anticipate expenditures of six percent of total fixed investment for maintenance, repair, and repair parts annually, in order to keep fixed or movable assets operating at prescribed performance levels and ratings.

The scope of this sectoral study includes opportunities in large building construction, large civil works projects, industrial production plants, automotive equipment, and commercial aircraft transportation. Expenditures over the next five years in these areas will exceed LE 450 million annually. These estimates, of course, do not include those capital facilities put in place during the 1960s and 1970s which continue to have productive life. Taking into consideration the 1960 to 1970 facilities, more than triple the level of maintenance and repair expenditures needs to be made in the future.

In large building maintenance and repair, cleaning service is handled by management with hired staff. The mechanical, electrical, and ventilating and air

conditioning is a different story. There are no companies in Egypt that offer service contracts for such equipment. Most large building managements secure repair services from the factory dealers for elevators, air conditioning, and other mechanical and electrical equipment. Joint venture companies are needed to handle the full range of service needs of large buildings.

Because of continuous conditions of overloading, maintenance and repair for utilities and large civil projects is currently handled on an as-needed basis and usually takes place as emergency repairs. In such situations, repairs are conducted by construction firms under a specific contract, or by the organization's own maintenance crews who are in most cases inadequate to cope with preventive or protective maintenance schedules. There are particularly great needs for M/R services in this area and joint-venture companies would be welcomed.

Industrial equipment and process equipment also lack maintenance and repair and in many cases the supply of repair parts. Although these conditions are common throughout all Egyptian industry, two industries -- metalworking machine tools and textile machinery --

have particularly pressing problems. These industries need the establishment of repair facilities with "job shop" capabilities to produce repair parts where necessary.

The particular skills needed for such a venture include machine diagnostics, repair, and rebuilding, production of parts, and parts metallurgy so that hardened parts can be produced where necessary. Intermediate level technology exists in the public sector factories and complexes in Helwan. The machine tool factory has parts manufacturing capabilities, and other factories can produce steel castings and forgings and provide heat treating capabilities. U.S. joint-venture partners would need to supply organizational management, diagnostic and technical skills to "trouble-shoot" machines, and parts production. The Egyptian government places high priority on these needs and is prepared to support the formation of a venture in partnership with local private investors and with any publicly operated facility.

This concept of public support has already been successfully demonstrated in the joint venture by the McEvoy Company. This venture produces oil field well-head valves and is supplied with forgings from a

government plant. As part of the joint venture program, a private free-zone plant is utilized by McEvoy for the machining and assembly of valves and other well-head equipment, as well as the repair, building up, and reconditioning of most of this equipment.

The need for maintenance, repair, and parts production is well established in Egyptian construction and industrial sectors. Most important is government's recognition of these needs and willingness to support joint venture projects that can meet these most critical needs.

2. MAINTENANCE AND REPAIR IN EGYPT

Overview

Egyptian industry is struggling to meet the enormous demands that have been placed upon it by the government's 1982-87 Development Plan. Of the anticipated total investment of LE 34.5 billion, about 27 percent or LE 9.4 billion will be spent for industry and mining. Additional amounts are allocated for large buildings and large civil works projects.

This Development Plan calls for substantial public sector capital in areas that have a high need for maintenance and repair. Table 2-1 shows investments by sectors in the Plan.

Despite the large government role implied by the size of industrial investment, government experience with the development planning and funding of maintenance and repair has been sporadic to date, largely because of over-ambitious targets and inadequate coordination among various overnment agencies in charge of project implementation. Given present planning efforts, the prospects for the future funding of maintenance and repair now look somewhat more promising.

Table 2-1

TOTAL PUBLIC AND PRIVATE INVESTMENTS
(DIVIDED BETWEEN THE ECONOMIC SECTORS)
FOR THE FIVE YEAR PLAN
1982/83-1986/87

(LE Million)

Sector	Public	Private	Total
Agriculture, land reclamation, irrigation, and drainage	2,720.7	1,000.0	3,720.7
Industry and mining	6,793.3	2,560.0	9,353.3
Petroleum	1,353.5	-	1,353.5
Electricity	2,844.4	-	2,844.4
Building and construction	526.7	415.0	941.7
Total commodity sectors	14,238.6	3,975.0	18,213.6
Transportation and Suez Canal	5,585.9	330.0	5,915.9
Trade, money, insurance, and tourism	899.8	180.0	1,079.8
Total service products sector	6,485.7	510.0	6,995.7
Habitation	263.2	3,565.0	3,828.2
Public services	2,858.1	-	2,858.1
Other services	2,404.4	150.0	2,554.4
Total service sectors	5,525.7	3,715.0	9,240.7
TOTAL	26,250.0	8,200.0	34,450.0

Source: Ministry of Planning.

Current and Planned Activity

At the present time, maintenance and repair for buildings, equipment, and machinery must be covered under approved government operating budgets. Direct budget line items have in recent years either been reduced or eliminated completely. With the recognition by some segments in the government of the critical nature of M/R in reaching specific production targets, it is apparent that attitudes are changing and future budgets will recognize these needs.

As funding for M/R becomes available, the next step will be to implement M/R programs. Few companies have adequate internal repair staffs and maintenance crews. Specialized firms that are able to supply M/R services on a contract basis will be in increasing demand. In most cases, such specialized M/R companies will require foreign technology and management. As a result, many opportunities for joint ventures exist.

Priority Demand Segments for M/R

- Large Buildings

  M/R can be handled adequately by the large number of construction contractors in both the public and private sectors if funding is available. Although the large building

contractors in Egypt have trade skills in structural, mechanical, and electrical disciplines, many of these companies are forming joint-venture companies with foreign partners in order to strengthen their technical skills. Such skills will be particularly needed for the maintenance and repair of large buildings.

- o Large Civil Works

  M/R can also be handled to some extent by Egyptian construction firms. Fixed investment in potable water, sanitary sewer, electric power generation, transportation, and other similar projects will continue to increase. Here again, domestic construction firms are interested in joint ventures that will strengthen technical capabilities, particularly in the mechanical, electrical, and electronic control aspects of civil projects.

- o Mobile Equipment

  M/R is sometimes handled on an as-needed basis. In these cases, limited preventive maintenance is performed, with much equipment

operated until malfunction occurs. Construction, farm, and other service-type equipment are imported to a large extent. Foreign manufacturers have established local dealers and instituted repair training programs for dealer staffs. Such equipment required skills in mechanical, electrical, hydraulic, and pneumatic "trouble-shooting." Local dealers are backed up by service personnel of the manufacturers where significant numbers of equipment units exist in the country.

- o Automotive

  M/R continues to be a major need in Egypt. Following the expansive increase in personal car usage, dealers have been established, but training for dealer service people has lagged far behind. Similar situations exist for bus and truck M/R. Almost invariably all public bus operators and trucking companies have less than adequate maintenance networks. General Nile Company for Motor Car Repair, a public company, provides contract service for equipment owned by public transport companies.

Additional companies such as this are needed.

- o Industrial Machinery and Equipment

  M/R is one of the most critical needs of Egyptian manufacturers. These needs include repair, rebuilding, and repair parts production. Based on field interviews, machine tools and textile machinery appear to hold the best opportunities. Most government levels truly recognize the impact M/R has on achieving productivity in manufacturing facilities. Joint-venture projects in this area will receive immediate and welcomed reception from government and industry.

- o Aircraft

  M/R is generally handled by Egypt Air, the national airline. Cairo Airport is one of the most active ports in the Mid-East and is the only Egyptian port to accept international flights. Egypt Air M/R facilities at Cairo Airport will supply M/R services to any aircraft. The repair crews have received training at most aircraft manufacturers' facilities and have broad skills in structural, hydraulic, engine, and

navigational repair. Foreign air carriers such as TWA maintain spare parts inventory at the Cairo airport and have service personnel located here. A new joint-venture facility between General Electric and Egypt Air was recently opened in Cairo for servicing aircraft engines, particularly for Airbus aircraft. At this time, few additional opportunities in aircraft M/R exist.

3. THE ROLE OF GOVERNMENT IN MAINTENANCE AND REPAIR

Overview

The Egyptian government plays a major but ancillary role in maintenance and repair in Egypt. Two public companies provide maintenance and repair services on a contractual basis. The El Nasr Company for Reconstruction and Building Maintenance specializes in hospital and institutional M/R. The General Nile Company for Motor Car Repair, as the name implies, provides maintenance, repair and body work for automobiles, buses, and other automotive equipment. However, the largest service need exists in public sector establishment and facilities. Since the government controls and approves the detailed operating budgets of such facilities, it regulates the expenditures for M/R. In both prior and current years, tight operating budgets have not allowed adequate M/R expenditures. As a result, most buildings and equipment are in disrepair and large quantities of machinery are operating intermittently or inefficiently.

Private sector companies are more willing to

allocate expenditures for M/R; however, these companies are small and budgets for repair services are comparable.

Government Recognition of Need

As an indication of the recognized need for M/R services and supporting budgets, the Egyptian government recently sponsored a seminar to formulate a policy for implementing the systems of preventive maintenance in companies of the Ministry of Industry and Mineral Wealth. The seminar was held during March 1982 and reached the following summarized recommendations:

1. To retain and fund the specialists at the Iron and Steel Company to serve as a consulting team to assist other companies with their M/R.
2. To seek financial and technical assistance from international organizations such as the United Nations Industrial Development Organization (UNIDO) to dispense M/R experience to other companies.
3. To fund the Egyptian Iron and Steel team for the development of a master system for use by similar type companies.
4. To fund vocational training programs at the Iron and Steel Company.

5. To fund procurement of outside training materials for distribution to other Egyptian companies.

6. To encourage all participating companies in the preparation of periodic progress reports for dissemination to participating companies.

Programs such as the above will emphasize the dire need for M/R in Egypt and will lead to more adequate budgets.

4. LARGE BUILDINGS

Overview

The purpose of the survey of large building M/R activity in Egypt was to determine whether there are potential opportunities within the country for the establishment of companies specializing in the provision of cleaning and maintenance services on a contractual basis. If so, do these opportunities provide a potential for joint ventures with foreign investors?

The survey was limited to buildings large enough to be candidates for contractual M/R services. These included:

- Hotels of the three-, four-, and five-star class
- Office buildings and business centers, private and governmental
- Large residential buildings
- Hospitals
- Large factory buildings

The Egyptian construction industry was nationalized in 1960. However, in 1974, the "Open Door Policy" was initiated allowing local and foreign private construction companies to be formed. Today, the private sector accounts for nearly one-half of

total direct annual turnover of all contracting companies.

During the decade prior to 1975, construction activity was relatively slow. For example, the number of buildings for housing increased at a net rate of about 1.5 percent per year, from 4.6 million units in May 1966 to 5.4 million units in November 1976*.

After 1975, construction expenditures of all kinds increased rapidly. Total construction spending during the period 1975 through 1981 exceeded LE 7 billion (in 1979 prices) and is expected to increase to an annual rate of over LE 2 billion by 1984 as Table 4-1 indicates.

Of the total construction spending, approximately one-half is expected to be for residential, industrial, commercial, and institutional buildings as indicated in Table 4-2. Large buildings are an increasing percentage of the total. The new facilities generally include modern conveniences such as air conditioning, elevators, and modern plumbing. That the buildings themselves and the systems therein require M/R programs

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* "Urbanization and Agricultural Policy in Egypt," John Parker and James Coyle, U.S. Department of Agriculture, Foreign Agricultural Economic Report Number 169, Washington, D.C., September 1981.

is becoming more accepted by owners than in the past. However, at the present time, most large building owners maintain their own staffs for routine janitorial and cleaning activities, and call in equipment manufacturers or their representatives for repair of air conditioning, elevator, and other equipment.

One factor that contributes to this system of building M/R is the lack of reliable, qualified and economical cleaning and maintenance service companies in Egypt to whom large building owners can turn to obtain the full range of M/R services from one source. This situation prevails for all five types of buildings.

In addition to new construction planned for the next few years, considerable "reconstruction" (rehabilitation) of older buildings is also scheduled. In the days before economic liberalization (prior to 1974), most buildings were owned by the public sector. Users such as public industrial concerns and governmental bodies often paid no rent. The rent on housing was subsidized at very unrealistically low rates. Traditionally, once rental rates are established in the Arab world, they are not raised during the tenant's stay. Landlords, including the government, are therefore reluctant to make

expenditures for M/R. Tenants usually endure the inconveniences caused by lack of maintenance, making absolutely necessary repairs themselves or at their expense.

Table 4-1

TOTAL ANNUAL CONSTRUCTION IN EGYPT
1975-84
(LE Million at 1979 Prices)

Year	Actual	Projected
1975	542	
1976	636	
1977	715	
1978	805	
1979	1,350	
1980		1,465
1981		1,690
1982		1,789
1983		1,913
1984		2,005

Sources: Actual: CTIC, based on data supplied by Ministry of Planning, August 1981.

Projected: Ministry of Planning and Five-year Development Plan, 1980-1984.

Table 4-2

PROJECTED LEVELS OF CONSTRUCTION ACTIVITY FOR RESIDENTIAL, INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL BUILDINGS IN EGYPT, 1980-1984

(LE millions at 1979 constant prices)

Type of Building	1980	1981	1982	1983	1984
Housing	318	445	465	496	536
Industrial	208	229	253	281	311
Commercial & Institutional	169	160	150	140	130
Total	695	834	868	917	977
Percent of Total Annual Construction in Egypt	47.4	49.3	48.5	47.9	48.7

Source: CTIC analysis of Ministry of Planning data and World Bank study, The Construction/Contracting Industry in Egypt, July 1981.

Existing M/R Activities

Hotels

The establishment of Cairo as an international business center and as a center for tourism has created a high demand for hotel rooms of the three-, four-, and

five-star class. International hotel chains such as Sheraton, Hilton, Marriott, and others have all recently completed new hotels in addition to those already existing. These new hotels are of the four- and five-star class and have all modern conveniences, including restaurants, health clubs, swimming pools, and the like. Many three-star hotels, owned and operated by foreign interests other than the United States or by Egyptian interests, are similarly being constructed, while others are being modernized. Government-owned hotels are also being modernized to meet demand. In a study of air conditioning demand by the Miraco Company, figures indicate that 3,646 new four- and five-star hotel rooms were approved by the Ministry of Tourism for 1980-81; 1,140 rooms of the three-star class were also authorized.

The M/R activity of hotels falls into two general categories:

- o janitorial, cleaning, and security services
- o equipment maintenance and repair

Newer, modern hotels obtain both categories of M/R services from their own maintenance crews headed by an engineer. Other engineers and technicians are typically hired from the public sector where they

received their training. This is possible because public sector employment for trained personnel is unattractive because of lower wages and salaries.

For example, the Sheraton Hotel, Heliopolis, is a completely modern 750-room facility and has been occupied since early 1980. It contains restaurants, convention facilities, swimming, tennis, shopping, and a host of other services. A staff of 45 M/R personnel maintains the building on a 24-hour basis. The M/R manager explained that the nature of premium-priced hotel rooms demanded that all building systems and services work perfectly. The Sheraton-Heliopolis M/R staff has developed a complete preventive maintenance (PM) program and schedule for all systems and building structures. Additionally, it performs most repairs. The staff was trained in M/R of the building and systems by suppliers and construction contractors which established preventive maintenance schedules. The staff includes skills in trades such as carpentry, painting, electricity, plumbing, and air conditioning/ refrigeration. Outside contractors in general, according to the M/R manager, could not be relied upon for complete, timely service of both categories. The New Concorde Hotel (French-owned) in Heliopolis and the

very recently opened Ramses Hilton in Cairo have similar arrangements.

Older hotels and three-star hotels usually have a small staff for janitorial and cleaning work. However, they rely on contractors to perform much of the equipment repair and PM work. The older Sheraton-Cairo operates under this arrangement but has experienced considerable difficulty in breakdowns and deterioration, according to the general manager. Hyatt Hotels in Egypt are experiencing considerable difficulty in its hotels for lack of a good M/R program, according to the president of a Cairo contract M/R company. Public sector hotels such as El Nil have, perhaps, more profound problems in that the public sector M/R loses its best qualified personnel to the private sector.

In general, M/R services for modern elevators are consistently contracted to suppliers such as Schindler-Egypt and Otis. Commonly, the agreement of sales specifies elevator M/R by the supplier. Cleaning and housekeeping of hotels is usually performed by an in-house hired staff. However, Care Services, a Cairo-based concern, offers cleaning services as well as security services. Several of the larger hotels employ Care for security services as well.

Preventive maintenance (PM) awareness in Egypt is increasing. The need for timely repairs is particularly felt by older and smaller hotels not having a full M/R staff. The general consensus of industry officials was that the older and smaller private sector hotels would avail themselves of contract M/R services if they were available. According to the officials, repair services would more likely be accepted than PM due to their immediate need and the effects of the cost of PM on profit structure and room rates. Until the recent construction of new hotel facilities, little PM was done.

Probably holding the greatest need for M/R services are the hotels operated by the public sector which may, under government regulations, employ outside contractors when public sector services for repairs are not available. A full M/R contract package may be difficult for public sector hotels to justify, however, since they are subsidized and offer cheaper room rates than their private competition.

Office Buildings

Prior to the mid-1970s, most office space in Egypt was owned and occupied by the public sector. This space continues to be used by government, industry, and

business. Most of these office buildings range from 15 to 35 years old. The buildings are usually in disrepair, day to day cleaning services are fairly good. Few, except those recently constructed, approach being modern by Western standards. Many do not have glazed windows, for example, only shutters. Most have "tired" building systems such as plumbing, inoperative elevators, and old electrical wiring. Some buildings of this variety have been rehabilitated and modernized by private Egyptian and foreign business interests and by foreign diplomatic missions.

The scarcity of existing modern office and administrative space resulted in recent years from the influx of new business, banking, and diplomatic interests into Egypt. As a result, planning and construction of new office buildings has increased significantly in the past three to five years. The Egyptian Investment Authority approved nine new administrative office projects for 1980-81. One such building, the Cairo Center, houses such clients as the USAID offices, Bank of America, Overseas Bechtel, Inc., and the United Arab Realty Company. The building was completed in 1979 and the M/R services are provided by the owner-hired M/R staff. The staff consists of two

engineers, an assistant engineer, and nine technicians who provide service 24 hours per day. A security manager and a staff of 12 personnel provide security and fire protection services. A staff of 15 persons performs cleaning functions; and the supplier of the elevators maintains them on a contractual basis.

The maintenance manager and staff perform most routine repairs and do a planned PM program developed from construction drawings and supplier operating and maintenance manuals. The Carrier Company performs major repairs on the central A/C system. The owner opted for an in-house M/R staff since no other reliable service was available and "the type of clients in the building are very sensitive to the building they occupy." The M/R manager has recently begun a program to stock repair parts for the building in order to perform M/R effectively on a timely basis.

Higgs and Hill, a multinational construction company headquartered in Great Britain, is the prime contractor for the Cairo Plaza. The Cairo Plaza will be the largest building in Egypt in terms of floor space and number of floors (39). The building will have multiple uses -- hotel, condominium residences, retail shops, and offices. Higgs and Hill has had

experience in other large office buildings in Cairo. According to its Cairo manager, new office building owners generally maintain their buildings by choosing one of the following options:

(1) Contract with equipment suppliers and local contractors for M/R services

(2) Establish a staff M/R organization

(3) Hire an M/R management organization which manages (1) or (2) above.

The above method of obtaining M/R services may be accompanied by contract or staff cleaning and security services. According to the Higgs and Hill Cairo manager, office owners are likely to begin M/R activity with (1) above since contractors and suppliers perform M/R during the warranty period. Later, as these contractors and suppliers become less enthusiastic, option (2) or (3) is instituted. In general, as was the case with the Cairo Center, owners choose to hire their own staff since contract M/R or management is not widely available and is thought to be more expensive.

Prospects for joint ventures to perform contract M/R are good. According to most officials interviewed, the general awareness of the necessity for proper maintenance has become more widespread among building

owners. This awareness will become more universal as properly maintained, newer buildings become more available and compete with older, poorly maintained buildings on aesthetics rather than on price only.

The acceptance of contract M/R by owners of older office buildings, perhaps even with an awareness of need, is less clear. The traditional rent structure (rents are not raised until a new tenant occupies the space) precludes most such owners from obtaining proper M/R services. Tenants often perform their own maintenance, but usually only for the most urgent repairs, or endure inconveniences and dilapidation. Most officials felt that contract M/R by a cooperative of office tenants might be viable for "common areas." However, the historical independence of Arab people in their lives and businesses may make cooperatives difficult in terms of agreement by all parties.

An area within the general concept of contract M/R for older office, historic, and institutional buildings, which many officials felt to be very much needed and for which interest has been shown, is in rehabilitation. Excerpts from articles appearing in The Egyptian Gazette indicate some of the interest in rehabilitation.

April 22, 1982: "The Prime Minister, Dr. Fuad Mohieddin, will today reinaugurate the Egyptian Museum in Tahrir Square (Cairo) at a ceremony marking the completion of the first stage of its renovation project."

April 23, 1982: "The local Council of Qena Governorate has earmarked LE 48,000 to finance a project for renovation of 12 mosques in Kous, Luxor, and Naga Hamadi."

Basically sound, but dilapidated buildings have been modernized for use by diplomatic missions, banks. and private corporations doing business in Egypt. Many owners of these rehabilitated buildings accept contract M/R since new tenants may be charged higher rents or the owners themselves wish to project a good image.

Residential Buildings

Egypt is experiencing an acute shortage of urban housing. According to the 1976 census, the number of dwelling units in the country's urban areas was 3,587,000. Of this number, 2,853,000 units were classified as flats and 734,000 units were classified as rooms. The National Census further shows that in the same year there was a crude housing deficit of

555,000 units, a shortage estimated to have reached the one million mark at the present time. In addition, it is estimated that some 900,000 units of the existing housing stock in Egypt were built before the beginning of the present century. Field observations reveal that most of these old urban dwellings are in very poor condition and require immediate renovation, if not total replacement.

Severe housing shortages in Egyptian urban centers have arisen as a result of:

- Migration of agricultural workers to urban centers in hopes of higher wages and standard of living
- Expansion of public sector industry and the proliferation of private industry and businesses, largely in or near urban centers
- The phenomenal increase in population over the past many years, with annual increases of nearly 1.2 million persons per year currently, about a 3 percent growth rate.

The Egyptian government, recognizing the need for new housing and for reconstructing existing housing, has launched ambitious plans. In 1979, the Ministry of Housing estimated that housing needs were as follows:

- The present shortage of housing units is 831,000.
- Existing housing that must be replaced due to age or condition will be in the area of 590,000 units by the year 2000.
- Requirements for housing to meet the population growth from 1981 to 2000 will be 2,180,000 new units.

The housing plan for 1981-2000 aims at constructing 3.6 million housing units or about 180,000 annually to meet the needs enumerated above. Figures for the construction of new units and reconstruction of existing older housing units in the 1980s are not available at this writing. However, the attention paid in previous years to the creation of dwellings by the public and private sectors is demonstrated in Table 4-3.

Table 4-3

SUMMARY OF URBAN HOUSING DEVELOPMENT IN EGYPT
1977 and 1978

	LE Million Invested		000's Units Finished		000's Units in Construction	
Sector	1977	1978	1977	1978	1977	1978
New Housing*	45.5	45.1	15.5	18.4	13.8	14.7
Reconstructed* Housing	12.3	15.2	.4	.7	3.2	8.7
Private** Housing	95.5	56.0	34.6	15.0	14.6	9.6
Cooperative**	6.0	5.2	1.0	.2	3.0	1.2
Total	159.3	121.5	51.5	34.3	34.6	34.2

* Public Sector (Government financed and owned).

** Private Sector (Private financing and ownership).

Source: Federation of Egyptian Industries Yearbook 1979.

The housing being constructed at present and in the previous few years has been of the multi-story apartment building variety, largely in clusters, in planned residential/commercial areas outside major urban centers or in "new cities" developed around industrial areas. The buildings are attractive and offer modern conveniences to renters. Cooperative

housing is essentially condominium-like apartments and are purchased by the dwellers. Some are purchased as an investment and leased for profit. Government-owned new and reconstructed housing is rented at subsidized but higher rates than older public sector housing.

The older housing, which has not been rehabilitated, receives practically no M/R attention. These dwellings are occupied largely by the less affluent who cannot afford repairs. The landlords, mostly the government, cannot afford repairs due to low rents or preference for investment elsewhere. New construction and rehabilitated housing experience many repairable problems due to poor workmanship and/or materials. Leaking water closets and sinks, which may not be repaired by the government or the tenant, later cause structural problems, according to one Ministry of Housing official. Privately funded new rental units far better in that landlords add some M/R cost to the basic rent, but probably not enough. Cooperatives have not been very receptive to contract M/R due to the general disagreement among the individual owners as to what M/R should be done and what costs should be shared. In all cases, the repair and maintenance of large residential building units is generally left to

the individual residing in the unit, who sometimes hires help for repairs. Common areas may or may not receive M/R attention, depending on factors such as age, amount of rent, image, and so forth. It is worth mentioning here that hired help for repairs is becoming scarce due to immigration of Egyptian skilled labor to the oil-rich Arab countries.

Private and public sector officials unanimously concede that there is a great need for M/R of all types in the residential housing sector. They also unanimously agree that the Egyptian renters and owners alike need to be made aware of or to become concerned about the long-run advantages of proper maintenance and repair, perhaps through a national campaign. Changes in government policy regarding housing might be necessary but require greater investment of capital and operating funds in M/R which are also needed in a myriad of other economic development plans. Traditional private landlord/renter relationships would be difficult to change. A considerable public relations educational program on the subject of M/R and a demonstrated successful project would appear to be in order. If these obstacles could be overcome, the market for maintenance and repair services of all types

would be substantial for newly constructed and rehabilitated residential buildings. The market for the years 1981-2000 (3.6 million new units projected) would be phenomenal. This is particularly true since very little organized contract M/R for residential buildings exists currently.

The most likely areas for residential contract M/R are probably in new privately-owned rental buildings and possibly in new foreign-financed cooperatives where rents or purchase prices include M/R costs. Another related area for contract M/R might be in the area of refurbishing and renenting older (but not ancient) residential buildings. Such opportunities would be enhanced should legislation be issued which requires that lease or purchase agreements for new residential buildings include, as a separate item, an M/R charge annually.

Hospitals

Among the many Egyptian socioeconomic development plans, high priority is placed on the improvement of health and the health care delivery system. The planning includes improvement in the manufacture of pharmaceuticals and medical supplies and in the quantity and quality of health care delivery, including

hospitals and clinics. The plan, issued in 1981 and entitled "Health Care for All by the Year 2000," has as some of its goals:

- o "Adequate health care delivery within the reach of each individual's capability, irrespective of any socioeconomic or other constraints."
- o "Health insurance should cover a broader sector of the population (at least 80 percent) in a practical way, modified for the needs of each sector."
- o "Priorities in health plans should focus on:
  - Basic health services
  - Sectors and areas deprived of services
  - Preventive, ambulatory, and emergency services."

Hospitals in Egypt fall into three general categories, according to the pharmaceutical and health care sector survey report by Chase Trade Information Corporation (CTIC) of 1981:

a. Government hospitals under the authority of the Egyptian Ministry of Health

b. Government hospitals under the authority of the Egyptian General Organization for Hospitals and Educational Institutes

c. Public sector and private hospitals under the authority of the General Organization for Health Insurance.

Medical services are available to all citizens in government hospitals free of charge or at quite nominal fees. The General Organization for Health Insurance has the objective of covering the entire population (at least 80 percent by 2000), and to gradually replace free medical care. Currently, about 20 percent of the labor force, estimated at 10.4 million in 1979,* is covered by government health insurance. Table 4-4 below presents data as to the number of hospital beds available in Egypt in 1979.

Table 4-4

HOSPITAL BEDS IN EGYPT, 1979

Sector	No. of Beds
Ministry of Health Hospitals	57,160
Other Government Hospitals	12,260
Public Sector & Private Hospitals	10,980
Total	80,400

* Federation of Egyptian Industries, Yearbook, 1979.

Source: CTIC Survey Report: "Pharmaceuticals and Health Care in Egypt."

Of the 80,400 hospital beds available in 1979, 8,800 were located in 2,361 rural clinics and treatment centers. In 1981, approximately 82,500 beds were available, of which 5,250 were in private hospitals. Clearly, government hospitals in other than rural areas dominate the health care market, particularly those under the authority of the Ministry of Health. The Ministry of Health Five-Year Plan, 1980-1984, lists planned investments in hospital care as indicated in Table 4-5 following:

Table 4-5

EGYPTIAN FIVE-YEAR PLAN FOR INVESTMENT IN HEALTH CARE
1980-84

Service Sector	LE Million		
	Local	Foreign	Total
Ministry of Health	222.5	61.9	284.4
General Organization for Hospitals & Educational Institutes	32.8	7.0	39.8
General Organization for Health Insurance	33.9	3.5	37.4
Subtotal	289.2	72.4	361.6
Other	105.5	40.9	146.4
Grand Total	394.7	113.3	508.0

* Source: CTIC Survey Report: "Pharmaceuticals and Health Care in Egypt."

It is not clear at this writing how health care investments for 1982-1988 would be allocated. However, discussions with health care officials indicate that modernization and rehabilitation of existing hospitals and construction of new health care space is indicated. Table 4-5 indicates that foreign funds are expected as investments in Egyptian health care services. In December 1979, the Ministry of Health announced in its "Memo Number 7" that the five-year plan would include an open policy for encouraging private sector and foreign investment in socioeconomic development.*

Several new hospitals have or will soon open in the Cairo area, including Cairo Medical Center in Heliopolis, and the International Medical Center in Mohandesseen. The new 300-bed As Salam Hospital in the Maadi section of Cairo is an example of foreign and private investment in Egyptian health care. The hospital was constructed by a Korean firm for the owners -- Egyptian Awkaf Authority, El Shark Insurance Company, Nasser Social Bank, 60 Egyptian physicians,

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* Egyptian Gazette, April 21, 1982.

Saudi Arabia, Qatar, and a group of Egyptian citizens. The hospital is among the most modern and sophisticated in Egypt with extensive building systems such as boilers, transformers and switchgear, distillation system, central air conditioning, and elevators. While the original American Medical International (AMI) Corporation has decided to freeze the management contract and withdraw, it is still essentially operating under the ground rules established by AMI.

According to the Managing Director of As Salam, at the time of this survey, his greatest unsolved problem was that of maintenance and repair of the building and its systems. The builders, since departed, provided few maintenance manuals and no M/R instruction prior to leaving. The Director would have welcomed contract M/R, preventive and repairs, if these services were available.

In the case of government hospitals, many rely on local contractors for repairs of their less sophisticated facilities. Many are not airconditioned, for example. A public company, El Nasr Company for Reconstruction and Building Maintenance, manages M/R for some hospitals and other medical facilities on a contractual basis in the Cairo area. The company

employs about 150 persons of a technical nature but does not actually perform any maintenance itself. Instead, El Nasr Company acts as a general contractor and supervisor employing subcontractors to complete required work.

Existing hospital facilities observed were aged and appeared to be lacking in sophistication. Medical care delivery improvement for all Egyptian citizens is a high priority goal of the Egyptian Government, with LE half billion earmarked between 1980-1984. The rehabilitation and modernization of existing hospital space, as well as the construction of new facilities, will consume much of the funds allocated. Existing, modernized, and new facilities, will require extensive M/R programs to provide reliability in delivering health care as planned by the Egyptian Government. This fact is becoming evident to health authorities who have begun to employ contractual M/R services from at least one public sector company. The encouragement by the government of investment in health care by private and foreign firms bodes well for joint venture M/R service companies and companies capable of rehabilitation/modernization of hospital facilities.

Factory Buildings

Industrial Development in Egypt. Prior to the economic reforms of the mid-1970s, the Egyptian economy was largely agricultural. Egypt's natural resources are limited to relatively moderate reserves of petroleum, phosphates, and iron ore. Because water, cultivable land, and natural resources are not abundant, Egypt has concentrated upon developing an industrial economy. Recent economic reforms now encourage private Egyptian and foreign investment in industries, whereas all industry had previously been state-owned. Public and private funds have contributed to industrialization projects which are steadily increasing industrial output and industrial employment. Table 4-6 shows planned investment in industrial sectors for the years 1973 and 1978. In actuality, total industrial investment has been increasing 15 percent annually.

Egypt's five-year socioeconomic plan for the industry sector states:

> "There is no doubt that industrialization is a national necessity and that the industry sector is one of the leading sectors in the economic and social development process.... The plan

underscores continuation of the policy on overhauling the major factories as initiated with some of the spinning, dyeing, and printing mills at El-Mahalla, El-Kubra, and Kafr El-Dawar, with the aim of renovation, development, and increase of the production capacities to keep pace with the modern technological progress."*

Table 4-6

INDUSTRIAL DEVELOPMENT PROJECTS

(Approved by the General Authority for Industrialization)

Year	No. Projects	Investment
1973	504	LE 71.1 Million
1978	818	LE 167.2 Million

Source: Federation of Egyptian Industries Yearbook, 1979.

* Federation of Egyptian Industrial Yearbook, 1979.

Total investment in manufacturing facilities and equipment was over LE 300 billion in 1978, with 57 percent of the financing coming from foreign and private investors. The World Bank projects industrial construction growth in the next few years at about 10 percent annually.* Clearly, the need for M/R services and PM in the 1980s will become a major factor in the industrialization of Egypt.

M/R Activities. Older Egyptian public sector industrial buildings are quite different from their Western counterparts. Egypt's temperate climate and infrequent precipitation permit the building of "open air" plants which have few walls. Raw materials and some finished goods are sometimes warehoused without a roof covering. Some plants operate on dirt floors. Air conditioning and heat are not commonly provided. Because the raw materials for concrete and brick are abundant in Egypt, manufacturing plants were constructed from these materials. However, such construction methods required several years to complete

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* See CTIC Report: "Construction Materials, Components, and Systems in Egypt, 1982."

a building because of inefficient scaffolding, conveyors, and mixing equipment. Structural steel was not only expensive to manufacture or import, but the technology required to erect a structural steel building was not easily available, only two companies, Steelco and Heliopolis, having the required capabilities.

These older buildings are not well maintained by Western standards. Repairs to the building and to building systems are often neglected or done only in absolute necessity. While most public sector manufacturing facilities employ a M/R department, they are largely involved in equipment repairs rather than in buildings. The level of technical skill of the M/R-related personnel in these departments is below western standards. Generally, there are very few trained maintenance engineers and technicians in major industrial sectors with the exception of the petroleum, iron and steel, textiles, and cement. M/R departments in other industries are made up mostly of unskilled labor who receive lower wages and incentives than production workers. Public sector industries are required to employ set numbers of workers and they apparently assign some of the less skilled to M/R duties.

Newer public sector facilities are more modern and more sophisticated in that they tend to manufacture more sophisticated products than their older counterparts; food products, pharmaceuticals, and clothing are examples. These company buildings have more modern systems which are maintained by in-house M/R departments having less than optimal technical skills. In-house M/R departments are more oriented toward manufacturing equipment maintenance and often require the services of contractors for buildings.

Private sector industry accounted for about 30 percent of gross domestic product in 1979 according to data provided by the Ministry of Industry and Mineral Wealth. These industries are generally involved in manufacturing products which are or have been mostly imported, such as food products, cosmetics, and electronics. Not constrained by requirements to employ set numbers of workers, private industrial companies often rely on outside contractors for building maintenance rather than having in-house M/R personnel, according to officials interviewed. These companies usually rely on suppliers, often foreign, for equipment maintenance except for minor repairs.

Attitudes toward industrial M/R. Public and

private industrial officials are becoming very aware of the need for M/R on their buildings. The neglect shown to buildings in the past has caused some public industrial companies to lose capacity and/or efficiency due to older building and building system failures or inadequacies in modernizing. Few PM programs for industrial buildings appear to be in operation. Those that do exist are directed more toward manufacturing equipment than toward buildings. However, investment by the Egyptian government and by private interests in refurbishing, modernizing, and constructing new facilities for manufacturing is expected to bring about more interest in PM and M/R for buildings as well.

The reaction by chairmen and other high public industrial officials was that of skepticism to the concept of contract M/R. Since public companies are required to employ set numbers of workers, some of whom work in M/R functions, these companies could not justify contract maintenance. The justification is made more difficult by the fact that the selling price of the products manufactured by public companies is often subsidized to make them affordable to the Egyptian public.

These same officials, however, would welcome

reliable M/R services from any source if they could be economically justified and be compatible with government employment policy. They would welcome building maintenance as a part of a total equipment and facilities maintenance package. (Industrial equipment M/R is discussed in report section 8.) Officials were enthusiastic at the suggestion that a U.S./Egyptian joint venture possibility could involve hiring the in-house M/R department, training them, and setting up a contract M/R and PM program.

Private sector industry officials appeared to regard M/R as a "necessary evil" for which their companies are not technically prepared. Several had some M/R capability but limit the size of the M/R department in the interests of not increasing overall manufacturing costs. Private sector executives expressed considerable interest in the contract M/R and PM concept. They believed that the service would be timely and that a combined building and machinery M/R service would be in demand if the cost could be shown to improve productivity.

The general industrial awareness of the importance of M/R as regards buildings and equipment has greatly increased under the five-year industrialization plan.

The plan envisages improvements in capacity, particularly in the areas of refurbishing and overhauling existing facilities. The prospects for joint M/R ventures in building refurbishment would appear to be bright in view of limited Egyptian capacity to provide such services.

Opportunities for Firms Specializing in Contract M/R for Large Buildings

Potential Egyptian Joint-Venture Partners

Four Egyptian companies have expressed interest in forming joint ventures with foreign companies to provide maintenance and repair services to owner or occupants of large buildings in Egypt on a contract basis:

o CARE Services Ltd. is a joint venture owned 60 percent by private Egyptian partners and 40 percent by Pritchard Services of the United Kingdom and Switzerland. CARE's main activity is to provide security guards and armored car service for cash deliveries. Clients include owners and occupants of office buildings, banks, and hotels. CARE also provides cleaning services to Cairo Airport, but this is a minor part of its business. CARE was formed in 1979 and has about 1,000 employees.

Although CARE would not like to diversify too far away from security services, the CARE group of investors has been considering forming another joint venture in the building management field, possibly with a foreign firm specializing in this activity and the Egyptian public sector company, COMAG (see below).

CARE's Marketing Department has surveyed and catalogued major buildings in Egypt as to ownership, sales and rental conditions, state of financing, equipment installations, and other items of interest. These data would be provided to a potential joint-venture partner as part of a joint feasibility study.

o COMAG Company, a public sector firm, provides restoration, plumbing, electrical, carpentry, masonry, steel erection, painting, plastering, and similar services to both public and private sector companies.

The company is also a joint owner in a fairly large workshop producing complete air conditioning ancillary units, i.e., chillers, coolers, fans, condensing units, and ducts including steel fabrication. It is also a joint owner in an armature rewinding workshop capable of up to 50 horsepower, and has a general purpose workshop with a variety of machinery, such as lathes and shapers. COMAG also

produces office and general home furniture made of brass, steel and timber.

The company has completed extensive external and internal renovation of the Nile Hilton Hotel. It has supplied and executed air conditioning systems for several industrial, commercial, and institutional clients.

COMAG is also interested in a joint venture with a foreign firm, possibly with CARE, to establish a fully integrated contract maintenance, repair, and refurbishing service for hotels, offices, residential, and institutional buildings.

The company, like CARE, is looking for a foreign partner who would provide management, technical guidance, and training of service personnel for a variety of building equipment. Equity participation is also possible.

o The El Nasr Company for Reconstruction and Building Maintenance, a public company, is the only Egyptian company now involved in contract building maintenance and repair of any significance. Actually, the company manages M/R activities primarily through subcontractors. The company employs about 150 engineers, architects, technicians and supervisors to

oversee subcontract work.

The company specializes in providing hospital M/R services although other types of facilities are included in its list of clients. These include:

El Moniera Hospital

Helwan Hospital

Road El Farg Hospital

Manshiet Al Bakry Hospital

Alglaa Hospital

Agricultural College of Cairo

Experimental Animals Center, Helwan

Medical Supply Warehouse, Aassia

Abul Fednh Office Building

The Vice President of El Nasr expressed an interest in pursuing a joint-venture feasibility study. The firm would like to expand its services to other types of facilities and to refurbish older buildings.

o The Engineering General Company (EGC) is a public sector concern with two operating divisions. One, the Commercial Division, distributes a wide variety of industrial machinery and equipment and construction equipment. The other is the Construction Division which builds steel frame factories, warehouses, and power generating facilities on a

"turnkey" basis. The Construction Division employs 1,050 construction workers in all craft trades. The company maintains two large workshops and a forging facility in Cairo. It also has three electrical and machine shops in Alexandria.

When EGC completes a turnkey construction project, the company leaves an M/R team of eight to ten technicians on the site for M/R for a full year. Initially, the team performs M/R and over the year trains factory personnel. Generally, a preventive maintenance program is developed.

The Technical Director for EGC was enthusiastic regarding a new venture to perform contract M/R for industrial buildings, industrial machinery and/or power generating equipment, and construction equipment.

5. AUTOMOTIVE EQUIPMENT

Overview

The Egyptian motor vehicle fleet has shown steady growth, particularly in the past six years. Prior to the 1974 announcement of President Sadat's "Open Door Policy," imports of motor vehicles were limited and only handled by public sector companies. Egyptian automotive production was accomplished by a few public sector companies, principally El-Nasr Automotive Manufacturing Company. Since 1974, dealerships in many varieties of imported automotive equipment and increased local production have provided a competitive supply of automotive equipment in all price ranges.

Factors which have increased the demand for automotive equipment include the following:

- o A large migration of the rural population to urban centers. The need for bus and taxi transportation in these urban centers has greatly increased.
- o Remarkable increases in the quantities of goods produced and imported have greatly increased the need for truck transportation.
- o Much of the automotive equipment stock in the early to mid-1970s was quite old, as old as 20

years. In recent years, much of the older fleet of vehicles has been scrapped and has required replacement.

- The general population in Egypt has undergone significant changes in individual values and attitudes to a more Western style. Per capita incomes have enjoyed considerable increases in recent years. The demand for and availability of many choices in private automobiles has thus increased. Egypt's per capita ownership of automobiles is low by world standards (10.3 autos per 1,000 population in 1981). As the economy continues its rapid growth, first-time ownerships, the rate of replacement, and ownership of more than one automobile are expected to develop at a rapid pace.
- The locations of existing and planned industrial plants are typically removed from living centers. Most industrial plants provide company-owned bus transportation for employees. Egyptian economic goals include industrialization to the point of self-sufficiency and to becoming a net exporter. At the same time, the economic plans call for providing considerable

new housing for a rapidly increasing population. New population centers will require transportation to and from living and industrial centers for industrial workers.

The composition of the Egyptian automotive fleet is discussed in this study in groups.

Passenger Cars

Passenger cars are numbered in 1982 at 512,300. Of these, approximately 75 percent were privately owned, 22 percent were taxis, and 3 percent were otherwise employed. Taxis are typically owned and operated by individuals who may or may not belong to a cooperative. The distribution of passenger cars in Egypt, geographically, is as indicated in Table 5-1. The table indicates that Cairo and the Nile Delta to the north contain 93.4 percent of the private cars and 83.6 percent of the taxis.

Table 5-1

GEOGRAPHIC DISTRIBUTION OF PASSENGER CARS
1982

Area	Private	Taxi
Lower Egypt		
Cairo	186,240	48,477
Alexandria	85,360	22,374
Giza	58,200	6,215
Nile Delta	31,040	27,346
Subtotal	360,840	104,413
Upper Egypt	15,520	13,673
Suez Canal	7,760	3,729
Others	3,880	2,485
Total	388,000	124,300

Source: CTIC estimates.

Table 5-2 shows a dramatic 15.15 percent average annual growth for passenger cars from 1974 through 1980 and a projected growth of 7.84 percent for 1981 through 1985.

Table 5-2

ACTUAL AND PROJECTED GROWTH OF
LICENSED PASSENGER CARS POPULATION IN EGYPT
1970-1985

Year	No. of Licensed Passenger Cars*	Percent increase	Motorization Index (Cars per 1000 Inhabitants)
Actual			
1970	133,963	-	4.0
1971	146,207	9.14	4.3
1972	156,705	7.18	4.5
1973	165,537	5.64	4.6
1974	182,005	9.95	5.0
1975	212,472	16.74	5.7
1976	241,752	13.78	6.3
1977	278,546	15.22	7.1
1978	324,125	16.36	8.1
1979	363,795	12.24	9.0
1980	442,947	21.76	10.3
Projected**			
1981	466,193	5.3	10.3
1982	512,300	9.0	10.6
1983	558,200	9.0	10.7
1984	602,200	7.9	10.7
1985	650,400	8.0	10.5
Average Actual Rate of Growth (74-80)			15.15%
Average Projected Rate of Growth (81-85)			7.84%

* Includes Taxis - Excludes Buses and Trucks.

** Projections are vehicles at year end.

Source: CTIC estimates based on survey interviews and other independent sources.

According to Egyptian National Transport Planning Authority estimates, approximately 72 percent of the growth in passenger car population until 1985 would be imported and 28 percent locally produced.

Table 5-3 summarizes the relative importance of countries of origin for imported cars. Table 5-4 provides detailed unit statistics by country of origin and model number.

Table 5-3

IMPORTED PASSENGER CARS - COUNTRY OF ORIGIN
1977-79

Country of Origin	Total Cars Imported	Relative Importance
Italy	51,678	1
France	10,689	2
West Germany	9,860	3
Japan	8,916	4
Eastern Bloc	6,503	5
USA	3,945	6

Source: Egyptian National Transport Planning Authority.

Currently, the existing Egyptian passenger car productive capacity (1981) is 20,000 vehicles per year, which are manufactured and assembled by the El-Nasr Automotive Manufacturing Company (NASCO). The produced automobiles are of Fiat design, basically Fiat Model 128. Existing and contemplated capacity for future years is presented in Table 5-5.

Table 5-4

SOURCES, MAKES, AND MODELS OF IMPORTED PASSENGER CARS, EGYPT 1977-1979

Source	Make	Model	Quantity 1977	1978	1979
Italy	Fiat	128	3,950	4,930	6,875
		124	850	1,012	1,600
		125	1,365	2,036	3,150
		131	1,840	2,136	3,250
		132	2,463	2,984	4,380
	Ritmo		--	--	18
	Other		1,960	2,886	3,993
France	Puegeot		1,296	1,310	1,521
	Renault		855	1,600	1,984
	KryzlerSimca		450	495	612
	Citroen		210	206	150
West Germany	Mercedes		1,200	1,353	780
	BMW		9	4	457
	Other		2,420	2,117	1,533
Japan	Honda		1,160	1,100	900
	Mazda		542	603	720
	Datsun		745	480	620
	Toyota		120	150	180
	Other		440	706	690
USA	Chevrolet		380	470	506
	Ford		166	217	80
	Dodge		123	69	57
	Buick		325	290	270
	Pontiac		246	310	250
	Plymouth		102	38	46

Source: Egyptian National Transport Planning Authority.

Table 5-5

EXISTING AND CONTEMPLATED PASSENGER CAR PRODUCTION CAPACITY IN EGYPT 1984-1990

(000's)

Company	Existing	1984	1985	1986	1987	1988-90
Nasco-Fiat	20.0	30.0	32.0	34.0	39.0	39.0
VW	-	-	5.0	7.5	10.0	10.0
Daimler Benz	-	-	-	0.5	0.8	1.0
Peugeot	-	-	-	-	8.0	8.0
Renault	-	-	-	-	20.0	20.0
Total	20.0	30.0	37.0	42.0	77.8	78.0

Source: CTIC estimates, 1981.

The distribution of passenger car brands in the greater Cairo area, as determined by a sample survey conducted by the Chase Trade Information Corporation, June 1981, is presented as Table 5-6.

Table 5-6

PASSENGER CAR BRAND DISTRIBUTION IN CAIRO AREA

(1981)

Brand	Country of Origin	Private Car Frequency	Taxi Frequency
Nasr	Egypt	33.6%	44.0%
Fiat	Italy	20.5	33.0
Seat	Spain	12.1	-
Peugeot	France	7.2	4.4
Mazda	Japan	5.5	0.7
V.W.	Germany	4.9	-
Mercedes	Germany	4.0	3.0
Buick	US/Europe	2.1	-
Honda	Japan	1.8	-
Toyota	Japan	1.7	-
Chevrolet	U.S.A.	0.9	-
Datsun	Japan	0.7	4.0
Renault	France	0.7	9.0
B.M.W.	Germany	0.3	-
Pony	So. Korea	-	1.6
Other	Various	4.0	0.3

Source: CTIC Survey and Central Traffic Department.

Table 5-6 indicates that Fiat, imported and locally produced, currently comprises greater than 50 percent of the passenger car population. Table 5-6 also indicates that Fiats comprise about 77 percent of the taxi population.

The maintenance and repair of passenger cars, until quite recently, has historically been accomplished by small private shops along streets and roads. Often, the shop is too small to accommodate a car inside the shop and the work is completed in the street or road. In general, these shops effect repairs as they occur rather than perform preventive maintenance. Parts are often fashioned in the shop or in cooperation with small private machine, welding, and electrical shops. Common high volume parts, such as spark plugs, are sometimes available through automobile dealers and distributors. Few auto parts dealers exist as they are known in the United States. In the early days of the open door policy, individuals importing cars were urged to also import several years' supply of repair and maintenance parts. The possession of the parts did not necessarily result in effective M/R since Egyptian automotive mechanics may not have been trained in the make/model or perhaps could not read maintenance

manuals written in foreign languages.

The late 1970s and early 1980s have seen some improvement in the passenger car M/R situations. As dealerships for imported cars were established in Egypt, requirements for stocking common repair and maintenance parts were also established. There are disincentives, however, for such dealers to import and stock a full line of parts. These include:

- A relatively high tariff on automotive M/R parts at 15 to 40 percent. The tariff cost on top of purchase and shipping costs requires a considerable investment.
- Governmental regulations limit the markup on most M/R parts when sold to customers. This undoubtedly inhibits the establishment of "auto stores" retailing auto parts. Dealers and shops effecting M/R do obtain markups, however, by adding them to the labor costs.

Many such dealerships have also inaugurated service centers. These service centers provide M/R during warranty periods and have been successful in follow-up M/R for imported passenger cars on the make in which they deal. Few dealers accept M/R work on automobiles outside the scope of their dealership.

Dealer technician training is normally obtained by sending a relatively few Egyptian trainees to the country of manufacture. These trained personnel subsequently train others.

The public sector of the passenger car industry also is establishing M/R centers. NASCO has a center in Cairo and one in Alexandria. According to NASCO officials, the centers provide warranty M/R for a period of three months or 5,000 kilometers, whichever is sooner. Service following the warranty period is also provided at a cost to the automobile owner. This service has not been too successful as the private small shops are familiar with NASCO automobiles and are generally cheaper (at least in the short run).

In addition to NASCO's effort, the General Nile Company for Motor Car Repair, a public company, was established in 1964, initially to service the public sector transportation system buses and trucks. In recent years the public sector transport companies have undertaken their own maintenance and stocking of spare parts. The General Nile Company is currently engaged in maintenance, repair, and rehabilitation (body work) of passenger cars, buses, and other automotive equipment. The company has electronic tune-up

capabilities. In addition, General Nile provides road service for breakdowns and towing. The company stocks fast-moving parts for most makes of passenger cars obtained from NASCO and abroad. General Nile has three "service stations" located in the Delta region and a main workshop in Alexandria. Engineers, technicians, and unskilled workers are trained in General Nile's own training program.

According to government and industry officials, M/R facilities, technicians, repair parts, and preventive maintenance awareness are very much needed throughout Egypt. Governmental concern regarding the poor M/R capabilities existing in Egypt is expressed in the following item from the official government newspapers.

Follow-up Committees for Maintenance Centers of the Public Sector Companies

Minister of Industry, Eng. Fouad Abu Zaghla, decided to set up a "follow-up committee" to supervise the improvement of the services provided by the maintenance centers of the public sector companies producing: automotive machinery,

refrigerators, washing machines, television sets, and wet cells. Also, "follow-up committees" will be set up within these companies for the same purpose. The Minister said: "The customer has the right to have a good maintenance service for the goods produced by the industrial public sector."*

Many of the same officials felt that the manufacture of repair parts in Egypt was of paramount importance. Restrictive tariffs and regulations on imported parts could act as an incentive to manufacture or assemble such items from "raw materials" (which do not have high tariffs and restrictive regulations). Examples of raw materials might include unmachined pistons and unassembled starters.

Cairo University recently published a research paper regarding the costs of transportation in terms of vehicles, roads, and other factors. In this research, selected vehicles were analyzed in terms of maintenance and repair costs that would be incurred in the operation. A summary of these statistics is instructive as to the overall market for M/R services in Egypt. Table 5-7 presents a summary of findings for

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* Al-Ahram, April 26, 1982.

maintenance and repair of vehicles, including private passenger cars and taxis.

Table 5-7

MAINTENANCE AND REPAIR COSTS OF TYPICAL EGYPTIAN VEHICLES, 1982

Type Vehicle	Base Price Exclusive of Taxes/Finance Charges (LE)	Cost of M/R Parts/1000 km (LE)		Cost of M/R Labor/1000 km (LE)		Average Annual Mileage (1000 km)	Expected Total M/R Cost/Year (LE)	
		Urban	Paved	Urban	Paved		Urban	Paved
Small Passenger Car (Fiat 128)	4,250	4.9	4.3	1.4	1.3	25,000	158	140
Intercity Taxi (Peugeot 504)	10,000	11.7	10.2	1.5	1.6	100,000	1,320	1,180
Pickup Truck (Mazda 1600)	4,840	6.1	5.3	2.2	1.9	25,000	208	180
Small Bus (42 seats)	21,500	35.1	35.1	14.4	14.4	60,000	2,970	2,970
Large Bus (52 seats)	53,330	68.1	68.1	14.4	14.4	80,000	6,600	6,600
Small Truck (8-Ton payload)	16,640	17.1	17.1	9.0	9.0	40,000	1,044	1,044
Small Truck and Trailer (20-Ton payload)	23,140	20.2	20.2	10.8	10.8	50,000	1,550	1,550
Large Truck and Trailer (30-Ton payload)	50,830	39.3	39.3	10.8	10.8	75,000	3,757	3,757
Truck - Semi Trailer (40-Ton payload)	61,390	39.3	39.3	10.8	10.8	75,000	3,757	3,757

Source: Cairo University.

For the approximated 240,000 Fiats operating in Egypt in 1980 alone, an annual urban M/R cost of LE 158 each amou ts to approximately LE 40 million annually. The overall market for passenger car M/R could very well be on the order of LE 80 million using 1980 statistics, and LE 160 million using 1985 estimates of licensed passenger cars (see Table 5-2).

Buses

The bus population of Egypt is, for practical purposes, entirely owned, operated, and maintained by public sector transportation interests and by large industrial companies. The transportation of the general public in Alexandria and Cairo is governed by transportation authorities, while regional intercity bus transportation is governed by public sector transport companies. The six main operators of general bus transportation are:

Cairo Transport Authority	2,046 Buses
Alexandria City Transport Authority	6,614 "
East Delta Bus Company	1,020 "
Middle Delta Bus Company	370 "
West Delta Bus Company	550 "
Upper Egypt Bus Company	860 "

In addition to the above, most industrial

companies, utility companies, government organizations, schools, and the like operate and maintain a privately-owned bus fleet for the transportation of employees to and from housing remote from their place of work. This practice has become rather universal in view of deteriorating general public transportation systems.

The geographic distribution of buses in 1974 is depicted in Table 5-8.

Table 5-8

GEOGRAPHIC DISTRIBUTION OF BUSES
1974

Area	No. of Buses
Lower Egypt	
Cairo	1,479
Alexandria	104
Giza	190
Nile Delta	7,965
Upper Egypt	4,114
Suez Canal	327
Others	57
Total	14,240

Source: CTIC Survey of the Automotive Industry and Market, June 1981.

Little information is available as to the current number of buses in operation in Egypt. Some idea as to the demand may be gained from Table 5-9, which presents numbers of imported and Egyptian-produced buses for the years 1977 through 1980.

Table 5-9

SOURCES AND NUMBERS OF IMPORTED AND PRODUCED BUSES
1977-80

Source	Quantity			
	1977	1978	1979	1980
Imported				
Yugoslavia	67	97	83	105
Spain	42	170	59	154
United Kingdom	84	68	11	N/A
Italy	36	43	45	N/A
West Germany	532	521	144	106
France	58	82	106	119
Japan	49	405	486	280
United States	603	336	568	823
Subtotal	2,262	3,025	1,799	1,797
Produced				
NASCO	475	465	552	432
Total	2,737	3,490	2,351	2,239

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

Table 5-9 reflects an uneven growth due to occasional decisions by bus operators to renew or expand the fleet and/or scrap older equipment.

In its sectoral survey on The Automotive Components, Parts, and Accessories Industry in Egypt, 1982, CTIC projects the contemplated bus/microbus inventory for future years. This data is presented in Table 5-10.

Table 5-10

CONTEMPLATED BUS/MICROBUS INVENTORY
1981-85

Year	Inventory	% Increase Over Previous Year
1980	17,000	N/A
1982	21,100	19.4
1983	23,300	10.4
1984	25,600	9.9
1985	27,900	9.0

Source: CTIC estimates.

These figures would indicate an imported and locally-produced annual growth in the bus population of 11 to 12 percent.

The maintenance and repair of the bus fleet prior to the open door policy of 1974 was largely done by the public sector company, General Nile Company for Motor Car Repair. The company was established for the purpose of servicing the general public transportation bus fleet. Following 1974, public transportation companies began to elect to maintain their own fleets, due in part to a wider variety of equipment that became available. The bus transit authorities and companies, previously discussed, set a pattern for industrial, governmental, and institutional private bus fleets to be established and to maintain the equipment. Few private M/R companies perform maintenance or repairs on buses as a result. The El-Nasr Automotive Manufacturing Company offers M/R services, as does the General Nile Company, but they are often relegated to refurbishing buses as opposed to providing preventive maintenance and repairs.

Table 5-7 indicated that for smaller buses, about LE 3000 per year is required for parts and labor. For larger buses, LE 6600 is required. At these rates and assuming the projected inventory of buses shown in Table 5-10, the market for M/R services for 1985 lies between LE 83 million and LE 173 million annually.

Trucks and Trailers

In 1974, when the open door policy was established, Egypt's truck fleet consisted mainly of imported, built-up heavy trucks and trailers supplemented by some Egyptian production. Table 5-11 presents the numbers and geographic distribution of trucks and trailers in 1974.

Table 5-11

GEOGRAPHIC DISTRIBUTION OF TRUCKS AND TRAILERS
1974

Area	Trucks	Trailers
Lower Egypt		
Cairo	10,215	2,021
Alexandria	7,435	1,142
Giza	2,040	334
Nile Delta	7,035	2,234
Upper Egypt	2,852	419
Suez Canal	1,262	329
Others	556	48
Total	31,474	6,531

Source: CTIC Survey of the Automotive Industry and and Market, June 1981.

Since 1974, imports and Egyptian production have risen to meet the demand for truck transportation. The open door policy removed some restrictive regulations inhibiting imports and resulted in truck and trailer local production in greater variety to meet foreign competition. The main producer of fully assembled trucks in Egypt is El-Nasr Automotive Manufacturing Company (NASCO), whose production for the years 1977 through 1980 was as indicated in Table 5-12.

Table 5-12

NASCO PRODUCTION OF TRUCKS
1977-80

Truck	Payload (Tons)	1977	1978	1979	1980
(Magirus Deutz)					
M 112 D 9 AL	4.5	900	1,173	323	151
M 125 D 13 K	8.5	103	-	70	30
M 125 D 13 L	9.0	365	-	1,910	1,040
M 260 D 22 FAL	12.0	322	-	-	-
Total		1,690	1,173	2,303	1,221

Source: CTIC Survey of the Automotive Industry and Market, June 1981.

The total demand for commercial trucks in categories of GVW for selected years and the forecasted demand for 1985 appear in Table 5-13.

Table 5-13

HISTORICAL AND FORECASTED COMMERCIAL TRUCK DEMAND IN EGYPT
(Units)

Industry Totals By GVW Groups (Lbs.)	Actual Production Plus Imports				Forecast
	1975	1976	1977	1980	1985
0 - 3,000	362	1,727	2,000	2,000	3,000
% Group	3.3	10.7	11.9	12.0	12.0
3,001 - 6,000	3,195	3,388	4,500	5,600	7,500
% Group	29.1	25.4	26.7	28.0	30.0
6,001 - 10,000	187	614	700	700	500
% Group	1.7	4.6	4.1	3.5	2.0
10,001 - 19,500	132	520	530	600	1,200
% Group	1.2	3.9	3.1	3.0	4.8
19,501 - 26,000	3,887	4,708	6,000	5,900	6,200
% Group	35.4	35.3	35.7	29.5	24.8
26,001 - 33,000	1,032	1,774	2,200	2,400	2,900
% Group	9.4	13.3	13.1	12.0	11.6
Over 33,000	2,184	907	900	2,400	2,700
% Group	19.9	6.8	5.3	12.0	14.8
Total: Industry	10,979	13,338	16,830	20,000	25,000
%	100.0	100.0	100.0	100.0	100.0

Source: CTIC Survey of the Automotive Industry and Market, June 1981.

Current truck inventory information is less than complete. However, the growth of the population of trucks of all sizes was calculated by CTIC at 23.6 percent annually for the five years, 1976 through 1980. By extrapolation from 1974 (Table 5-11) the population of commercial trucks could be estimated at approximately 112,000 for 1980.

Table 5-14 categorizes trucks as pick-ups, small trucks, and large trucks and estimates the cost of M/R for these vehicles. Using the data of Tables 5-13, 5-7, and an estimated 1980 truck population of 112,000, the 1985 market for M/R services for trucks is estimated in Table 5-14 at approximately LE 156 million. The 1985 market would be conservatively estimated at double the 1980 market.

Table 5-14

ESTIMATED 1980 MARKET IN EGYPT FOR TRUCK MAINTENANCE

Truck	Percent of Population *	Estimated 1980 Population	Annual M/R Cost per Vehicle (LE) #	Total Annual M/R Cost per Vehicle Type (LE)
Pick-up Truck 0-10,000 lbs. GVW	44.0	49,280	208	10,250,000
Small Truck 10,001 - 26,000 lbs. GVW	29.6	33,150	1,044	34,610,000
Large Truck 26,001 lbs. and Higher GVW	26.4	29,570	3,757	111,090,000
Total	100.0	112,000		155,950,000

* See Table 5-13

\# See Table 5-7

Maintenance and repair services for trucks are offered by foreign distributors and by NASCO. In general, owners of fleets of trucks establish their own M/R facilities, personnel, and stock of spare parts. Industrial complexes employing truck transportation also provide their own M/R requirements. The main

problems of truck M/R in Egypt are lack of skilled technicians and the scarcity of repair parts.

Opportunities for Automotive M/R Services

In general, there is a great need for automotive maintenance and repair services at a reasonable price. Obstacles to be overcome in the market are the scarcity or difficulty of obtaining and stocking repair parts and the lack of trained automotive technicians. If these obstacles could be overcome, joint venture prospects in automotive M/R would, without doubt, be highly successful. Public awareness of the need for maintenance is becoming more widespread, particularly as the variety of makes and models of automotive equipment proliferate.

Passenger car automotive repair centers, conveniently located to the general public and taxi owners, would, undoubtedly, be most welcome and popular. Officials of industrial concerns generally applauded the concept of contract M/R for their bus and truck fleets provided the service was cost effective.

Most government and private officials feel that there is a great need in Egypt to locally manufacture automotive repair parts and automotive after market items. Many officials believe that preferential

treatment by Egyptian industrial authorities would be given to a foreign firm seeking a joint venture. Incentives for entering such a venture are high tariffs on imported repair parts and exemption from restrictions on the markup of these items when imported.

Chapter 10 of this report provides summary "profiles" of opportunities for joint ventures. There are two such opportunities in the automotive sector.

- Passenger car M/R service centers as a joint venture with NASCO (a public company). This project is currently being studied in further detail by NASCO.
- Automotive M/R services to owners of bus and truck fleets as a joint venture with the General Nile Company for Motor Car Repair, a public company.

Reference should also be made to Sectoral Survey 7. The Automotive Components, Parts and Accessories Industry in Egypt, 1982. That report discusses joint-venture projects in the production of automotive original equipment parts and repair parts.

6. INDUSTRIAL EQUIPMENT AND MACHINERY

Overview

Throughout Egyptian industry, the maintenance and repair of capital equipment and machinery is critical to future operation and expansion of industrial production.

At the present time, most Egyptian machinery, equipment, and buildings receive marginal maintenance and repair. Certain industrial sectors, such as metalworking plants, have hundreds of machine tools which are inoperable. In many cases, the reasons why the machines are inoperable have not been determined because of the lack of diagnostic skills. In other cases, repair parts are not available.

In this sector study, the following types of machinery were reviewed for maintenance and repair needs:

- Process Machinery
- Metalworking Machinery
- Textile Machinery
- Large Motors and Drives
- Computers

Interviews were conducted with a sampling of public and private sector companies and government

organizations to determine current maintenance and repair practices and the needs for such services. It was apparent that companies in many basic industries had machinery and equipment put into service during the 1950s and 1960s. For such machinery, basic documentation such as parts lists and prints, operating manuals, and repair and maintenance manuals do not exist. Without such documentation, preventive maintenance has not been performed and repair parts are difficult to order. To further exacerbate the situation, much of the machinery was built in Eastern Europe and repair parts are not available, if ordered. Under present circumstances, Egyptian industry needs assistance from companies with the following capabilities:

- Machinery "trouble-shooting" (diagnosis)
- Repair part production/duplication
- Machine repair and rebuilding
- Development of preventive maintenance schedules.

However, it should be recognized that because of the critical nature of the maintenance and repair needs, some Egyptian companies are developing some internal skills in the four capability areas mentioned

above. Egyptian Iron and Steel Company has taken major steps to develop computerized preventive maintenance schedules in its metalworking shops.

This company has also recently formulated a training seminar to educate other Egyptian companies in the importance of preventive maintenance and the methods applied in such a system. Recommendations have been made to the Egyptian Minister of Industry and Mineral Wealth for support of this seminar training. Other organizations that are supporting the seminar program include the following public sector companies:

- Egyptian Iron and Steel Company - Mines
- El Nasr Automotive Company
- Alexandria Shipyards Company
- Delta Steel Company
- El Nasr Steel Pipes and Accessories Co.
- El Nasr Cement Company
- Alexandria National Paper Company
- Egyptian Sugar & Distillers Company
- Tanta Oil & Soap Company

All of these companies are developing their own staffs for repair and maintenance of buildings and machinery. Companies with newer facilities and equipment have worked with suppliers to insure

documentation and repair service availability.

Industrial Capital Investment

In recent years, industrial capital investment in Egypt has averaged LE 2.4 billion annually, excluding public utilities, transportation, and building construction.

Table 6-1 shows industrial fixed investment in the industrial sector for the period 1977-82.

Table 6-1

GROSS FIXED INVESTMENT IN EGYPTIAN INDUSTRY*
1977-1982

Year	LE Billions
1982 est	4.5
1981 est	3.8
1980 est	2.9
1979	2.3
1978	1.7
1977	1.3

* Excludes public utilities, transportation, and building construction.

Source: Egyptian Ministry of Planning. Estimates by CTIC.

Process Industries

The process industries (petroleum refining, paper, fertilizers, petrochemicals), have the most sophisticated scheduled maintenance and overhaul programs in Egypt. In addition, equipment suppliers, plant designers, and construction engineers are supplying in-plant services and training of plant personnel. On critical components such as high pressure pumps and compressors, such manufacturers as Ingersoll-Rand (I-R) supply repair services. I-R, through its distributor-selling to the petroleum industry, has a successful M/R service contract for gas compressors. It maintains a 30-man on-site crew for M/R on compressors. I-R also operates a training facility for its own and customer personnel. Although some customer personnel leave Egypt for other Arab countries after training, the process industries have in general been able to keep this problem within acceptable limits by paying relatively higher wages than the rest of Egyptian industry.

At the present time, almost all process equipment and machinery is imported. Because of critical design and operating tolerances, replacement and repair parts will continue to be imported. M/R for such equipment

is critically needed; however, public companies are only beginning to budget funds. Private companies are more likely to fund M/R, but capital investment in the private sector is much smaller.

Since the M/R field is only developing in Egypt, American companies interested in joint venture opportunities should contact CTIC or the Egyptian Authority.

Metalworking Machinery

It is estimated that metalworking machinery purchases in Egypt were about $22.5 million during 1980. Domestic production met 21 percent of this demand and imports covered 78 percent. With imports of over $17.6 million, Egypt is interested in strengthening this industrial manufacturing base through improved machine design, lower manufacturing costs, and improved machine quality.

It has been estimated by the Helwan Machine Tool Company that over 20,000 machine tools in Egypt lack adequate repair and maintenance. According to the chairman of the company, this may represent about 30 to 40 percent of all machine tools in Egypt. All of these machines are manually operated types, such as milling machines, lathes, drill presses, pedestal grinders, and

small stamping presses. However, in the large machine shops such as those of the Egyptian Iron and Steel Company, shipyards and ship repairing companies, and Egyptian Republic Railways, larger and more complex machines are operated. Machines in these facilities include horizontal boring, vertical turning, gear hobbing, and planer-milling types. Many of these machines were installed during the 1950s and 1960s and were built in Eastern European countries. Documentation for these machines (i.e., parts list and prints, maintenance manuals) do not exist. Also, repair parts are no longer available for these machines.

The Egyptian metalworking machinery industry holds excellent opportunities for U.S. manufacturers of basic machine tools and producers of precision parts for such machines. Reference should be made to Sectoral Survey 4, The Non-Electrical Machinery Industry in Egypt, 1982, which covers opportunities in the Egyptian machine tool industry.

It has been suggested that an outside group (possibly financed through the Ministry of Industry) conduct a detailed inventory of the machine tools now in Egypt to determine which are beyond repair and

should be scrapped. The remaining machine tools needing repair should be categorized as to what type of repair is needed, and what parts must be obtained to complete the repair. Then a detailed plan should be worked out for implementing repairs.

Such a survey would reveal whether and how a contract M/R service could be established. There definitely are opportunities for joint ventures to repair machine tools (and other machinery) and to produce parts. However, the cost of the above inventory would most likely be prohibitive for potential private investors to undertake on their own.

The Helwan Iron and Steel Company would like to form a joint venture with a foreign company to repair machinery in Egyptian industrial plants. Several private sector companies are also interested. Further details of the potential joint venture opportunity are given in Chapter 10, Profile 6.

Textile Machinery

The textile industry in Egypt is one of the most important sectors, employing almost 300,000 workers in the public sector. In addition, there are about 200 small private sector establishments. During 1979, the total value of spun and woven products manufactured in

Egypt was LE 830 million. Total value of production is expected to exceed LE 1.0 billion by 1985. In recent years, the textile industry has accounted for almost one-third of the value of all goods exported from Egypt.

Textile operations are fully integrated in the public sector, including spinning, weaving, dyeing, and knitting. In addition, the manufacture of garments, ranging from knit underwear to men's suits, takes place in this industry. The majority of manufacturers use cotton and wool fibers, but some synthetic fiber usage is underway.

Private sector textile companies are generally family owned and operated, producing specialty items including hand woven rugs. Many of the looms in the private sector are hand operated.

With exports holding such an important position in this industry, public sector companies have strong interest in expansion and upgrading textile machines for higher production.

It is currently estimated that over 5,000 textile machine units are in disrepair. Preventive maintenance programs are starting in this industry, but the demand for repair service on older machines is compounding

daily. Also, the need for machine repair parts is similar to machine tools, including the diagnosis of repair needs.

There are several individuals in Egypt that have shown an interest in the establishment of a joint-venture company to produce loom parts. Preliminary analysis has been made of the industry needs for one specific loom part called heddles. Heddles are used to guide warp threads in a loom. Contacts for loom parts opportunities can be obtained through CTIC.

Large Motors and Drives

Usage of large motors and drives is increasing significantly in Egypt. Most large motors and drives are currently imported. Some smaller motors ranging from one to ten horsepower are manufactured by a public sector company.

In addition, the Egyptian Iron and Steel Company operates a repair facility with the capability to completely rewind and rebuild large motors and drives. This facility was established to repair and maintain motors for steel plant equipment, but it also repairs motors for other government-owned plants.

There are no private Egyptian companies adequately

positioned for a joint venture project. However, private investors do exist and cooperative opportunities exist with the public companies.

Computers

The number of computer installations in Egypt is small. Large capacity systems do exist within the government. These systems have been imported from the United States. U.S. government export statistics show the value of exports of computers and peripheral equipment to Egypt at about $7.5 million. Computer systems are also being installed within the military factory complex, NASCO, the major oil companies, and the Suez Canal Authority. Egypt Iron and Steel Company is leading in systems development and anticipates computerizing such functions as order entry, production scheduling, inventory, materials requirements planning, and preventive maintenance programs.

At the present time, the computer systems in operation are maintained by the manufacturers. No joint venture possibilities are foreseen.

7. AIRCRAFT AND RELATED EQUIPMENT

Overview

This sectoral study reviewed the need for aircraft maintenance and repair principally at the Cairo Airport but also considered needs at Alexandria, Luxor, and Aswan. Joint-venture opportunities were also reviewed, but it was determined that few good investment opportunities exist.

The Ministry of Civil Aviation has anticipated expansion at the Cairo airport and has supported development of Egypt Air, the domestic airline. Egypt Air handles maintenance and repair of the company's aircraft and provides similar services to other major international air carriers, as well as private aircraft using the Cairo facilities.

At the present time there are no privately-owned aircraft in Egypt. Government and military aircraft are serviced under separate contracts with the aircraft builders. International airlines, such as TWA and BOAC with registry in Egypt, maintain spare parts inventory at Cairo Airport and have trained service crews capable of handling all but major repairs. Crews are trained in electrical, electronic, navigation, and structural repairs. Under critical repair situations, these

airlines also rely on Egypt Air shops for repair support or use of special repair equipment. Egypt Air also supplies interior cleaning service to all aircraft using Cairo and other airports.

Table 7-1 shows civilian air transport activity at the Cairo Airport in recent years and projections through 1985.

Table 7-1

CAIRO CIVILIAN AIRCRAFT ACTIVITY
1979-1985

Year	Average Daily Landings and Take-Offs*
1985 proj.	58
1984 "	52
1983 "	48
1982 "	43
1981	45
1980	39
1979	36

* Excludes Egyptian government & military aircraft.

Source: CTIC estimates.

Aircraft activity has averaged 10 percent annual growth in recent years and this growth is expected to continue through 1985.

Table 7-2 shows the increase of passenger kilometers flown on all domestic and international flights from Egyptian airports.

Table 7-2

CIVILIAN KILOMETERS FLOWN BY
AIR CARRIERS REGISTERED IN EGYPT
1977-1985

Year	Kilometers (millions)
1985 proj.	29.8
1984 "	28.6
1983 "	27.8
1982 "	27.5
1981 "	26.2
1980	25.8
1979	24.5
1978	23.2
1977	23.7

Source: Projections for years 1981-85, CTIC.

At the present time, aircraft maintenance and repair in Egypt is adequately handled by commercial airlines maintenance staffs or at Egypt Air facilities. In addition, a new joint-venture facility was established in Cairo involving Egypt Air and the U.S. firm, General Electric. This venture is to service aircraft engines, particularly for the Airbus. It is anticipated that private aircraft activity such as corporate jets will increase significantly in the late 1980s as U.S. and European industrial companies become more involved in joint ventures. U.S. companies having interest in aircraft M/R should contact the Ministry of Civil Aviation at the Cairo Airport or CTIC.

8. INFRASTRUCTURE FACILITIES

Overview

As a rapidly developing nation, Egypt's requirements for civil works, public development and other infrastructure projects are enormous. These requirements arise from the following factors:

- In its determination to industrialize, to become self-sufficient, and to become a net exporter of manufactured goods, Egypt has and will continue to encourage new industrial development. The emerging industrial complex places large demands upon power generating systems, water supplies and distribution networks, transportation systems, and communications networks.
- Egypt currently imports about 50 percent of its food requirements. In 1980 food imports were $3.4 billion and are expected to be in the area of $15 billion by 2000. Imported food is required to feed a population of about 46 million, which is increasing at about 1.2 million per year. Combined with more efficient agricultural production methods, the Egyptian government plans vast land reclamation

and irrigation projects to reduce its dependence on imported foods.

- Egypt's population has become more urban as agricultural workers migrate to obtain higher paying industrial and service employment. These citizens, along with traditional urban dwellers, are adopting Western-like life styles with expectations of a general higher standard of living. Running potable water, electrification, sewage treatment, telephones, and public transportation are demanded. Rural communities are also becoming electrified, being supplied with potable water, and receiving other public works and utility services which are relatively new.
- Egypt is emerging as an international business, banking, trade, and tourist center. These interests demand and receive utility and other services comparable with those of their country of origin, typically Europe.
- The expanding population and migration of agricultural workers to urban and industrial centers has created the need for housing. The Egyptian government, the nation's largest

housing landlord, is constructing and has plans for 3.6 million housing units by the year 2000, including several new cities.

This section examines the development plans and their implications for maintenance and repair for each of the following infrastructure categories:

- o Transportation
- o Agricultural support
- o Potable water and sewage
- o Electricity generation and distribution
- o Communications

The infrastructure facilities in each of these categories are almost entirely planned, developed, and managed by the government sector. However, in some instances, the government subcontracts with private firms to provide some of the construction, maintenance, and repair services.

This section deals with the facilities themselves, while the next section (Chapter 9) is concerned with the acquisition, utilization, and maintenance of construction and agricultural equipment.

Transportation

The transportation network in Egypt consists of various roads, railroads, ports, waterways, airports,

and the Suez Canal. In 1979, the Egyptian government allocated LE 1.2 billion pounds for the operation and development of these systems versus LE 920 million in 1978. These allocations were divided between operations and capital outlays as follows (in millions)*:

	1978	1979
Operating Funds	LE 384	LE 556
Capital Funds	535	624
Total Funds	LE 919	LE 1,180

The allocations for operations include funds for maintenance and repair, most of which is undertaken by government organizations.

The five-year plan for 1980-1984 indicated that planned fixed investment for transportation systems would total LE 3.3 billion. However, as indicated in Table 2-1 (page 8), the new five-year plan for fiscal 1982-83 through fiscal 1986-87 allocated nearly LE 6 billion for fixed investment in transportation systems. Detailed breakdowns as to how these allocations would be divided among the various transportation alternatives were not available, nor was

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* Ministry of Finance.

there an estimate of future operating budgets. However, some indications of the funding requirements were available and are discussed below.

In 1982 there were about 21,000 kilometers of paved roads in Egypt plus about 23,000 kilometers of unpaved roads. A conservative annual maintenance program for the paved roads is LE 844 per kilometer for urban roads and LE 1,200 per kilometer for desert roads.*

It was also estimated that the cost of upgrading unpaved roads to paved roads is LE 20,000 per kilometer for urban roads and LE 35,000 per kilometer for interurban roads. The total investment in the country's road network is expected to be LE 180 million in 1983. Thereafter it will increase reaching an annual level of LE 305 million by 1997.

Virtually all of the road maintenance and upgrading will be accomplished by public sector construction companies on contract to the Ministry of Transport.

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* Sector Survey No. 3, Construction Materials, Components, and Systems In Egypt, CTIC, 1982.

According to a study prepared for the Ministry of Transport by Netherland Engineering Consultants, other planned construction schemes in the land transportation sector include the Cairo Urban Transport Project, with an estimated cost of LE 36 million in 1983, and, also in 1983, the improvement of the railroad network at a cost of LE 12 million.

Rail Transportation

The Egyptian Railroad runs from Alexandria to Cairo and then south along the Nile to Aswan. There are a total of 4,700 kilometers of track and about 770 stations. In 1979 the railroads had the following equipment:*

Diesel Locomotives	758
Passenger Coaches	2,406
Freight Cars	18,285

Repair and maintenance of this equipment and the roadbeds are the responsibility of the public railroad company, Egyptian Republic Railroads. In 1983, the government is expected to invest LE 12 million to improve the railroad network. This is new investment and does not include operating and maintenance costs.

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* CAPMAS, Statistical Yearbook, 1980.

Other Transportation Facilities

The construction of various port facilities, waterways, airports, and the Suez Canal works is estimated to require a total of LE 200 million per year during the 1980-1984 period.

This does not include maintenance costs, however.

Conclusion

Although the amount of funds allocated for maintenance and repair of the Egyptian transportation is large, most of the work will be done by public sector companies. The study team did not uncover any Egyptian interest in or any specific opportunities for a Public Law 43 joint venture maintenance and repair service company in this sector.

Agriculture Support

The most serious constraint on food production in Egypt is the lack of sufficient agricultural land. Of a country land area of 238 million feddans,* only 6 million (or 2.5 percent) are cultivated. The agricultural land currently produces only 50 percent of

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* A feddan is equal to 1.038 acres.

Egypt's food requirements, with the population expected to grow from about 46 million in 1982 to about 70 million by the turn of the century.

Land reclamation projects have resulted in the addition of over one million feddans reclaimed from the desert since 1952. However, agricultural experts point out that past investment in repair and maintenance of irrigation and drainage has been insufficient to compensate for deterioration. This, combined with other losses of arable land due to urbanization, abandonment, and conversion to non-agricultural uses, has resulted in virtually no change in the total agricultural acreage since 1952. Table 8-1 presents figures illustrating this point. However, the Egyptian government has ambitious plans to reclaim three million additional feddans of land by the year 2000.

Table 8-1

LAND UNDER CULTIVATION IN EGYPT
1952-80

Year/Period	Thousands of Feddans		
	Land Added	Land Lost	Total Land
1952			5,900
1952-64	600	100	
1964			6,400
1964-1980	500	1,000	
1980			5,900

* Source: CTIC Report: Food Field Crops in Egpyt, 1980.

The value of new construction work in agriculture has increased significantly in recent years, from LE 50 million in 1975 to LE 160 million in 1980. The 1982/83-1986/87 plan gives high priority to agriculture. Total public and private investment in agriculture, land reclamation, irrigation, and drainage during the five-year period is expected to be LE 3.7 billion.

Maintenance of the irrigation system is carried out under the direction of the Ministry of Irrigation. Four public sector companies perform maintenance and repairs, including aquatic weed control to the 50,000 kilometer canal network. They include:

- o The Egyptian Dredgers Company
- o General Company for Mechanical Dredging
- o Upper Egypt Dredgers Company
- o Aud el Beheira Dredging Company

The piping and pumping stations of the irrigation network are maintained by "maintenance units" in each governorate.

According to the Ministry of Irrigation, there is a lack of trained labor force to operate and maintain equipment.

Agricultural experts maintain that past investment in repair and maintenance irrigation systems has been insufficient to compensate for the losses due to deterioration. There is therefore considerable need in Egypt for the repair and maintenance of irrigation works, agricultural roads, and related buildings.

However, land reclamation and system maintenance in Egypt is undertaken in accordance with overall national development policies and as a result of an

integrated approach by the Ministries concerned. The works involved are executed by public sector companies who operate at highly competitive rates so it is unlikely that any private joint-venture company with a foreign partner could enter into the activity.

Potable Water and Sanitary Drainage

The Egyptian Potable Water Authority was responsible for all public water works and their maintenance except for those in Cairo and Alexandria. As a result of a two-year study completed in 1981, the National Authority for Potable Water and Sanitary Drainage (NAPWSD) replaced the Egyptian Potable Water Authority and is responsible for 22 governorates. The cities of Cairo, Alexandria, Suez, Ismalia, and Port Said each have their own authorities. Each governorate was, according to the study recommendations, to set up a water company to operate and maintain its own network. The Al-Beheira Governorate Company was established January 1982; Kafr El Sheikh will be established in the near future, and others will follow to the year 2000. Governorates are expected to comply as funding, training, and instruction are completed. NAPWSD administers funding of the individual governorate's water networks and is the authority for

wastewater disposal. The companies will operate on a commercial basis.

Egypt's national investment program for potable water to the year 2000 projects investment in the governorates at LE 1.7 billion. These expenditures are summarized in Table 8-2 below.

Table 8-2

NATIONAL INVESTMENT PROGRAM FOR POTABLE WATER FOR 22 GOVERNORATES TO THE YEAR 2000

(at 1979 Prices)

Allocation	LE Million	% of Total
Complete Works Started in 1980-84	26.2	1.5
Rehabilitate Existing Works	199.0	11.7
Develop New Sources & Works	261.3	15.4
Develop New Storage & Transportation	1,069.7	62.9
Maintenance Facilities & Land	140.1	8.2
Consultants	4.4	0.3
Total	1,700.7	100.0

Source: National Authority for Potable Water and Sanitary Drainage, Report on Potable Water, 1981.

Initial priority has been placed on completing the works already started, rehabilitating existing works, and constructing buildings for maintenance and offices.

In addition to expenditures for the governorates, investment in potable water supplies for the "new cities" planned or being constructed is shown in Table 8-3.

Table 8-3

NEW CITY WATER SUPPLY DEVELOPMENT COSTS
(at 1979 Prices)

New City	LE Million	Population Served
10th Ramadan	17	250,000
Sadat City	16	250,000
New Ameriyah	12	150,000
Cairo Satellite Cities		
6th October	26	350,000
El Oboour	16	250,000
El Amal	19	250,000
15th May	9	150,000
Total	115	1,650,000

Source: National Authority for Potable Water and Sanitary Drainage, Report on Potable Water, 1981.

Wastewater disposal investment by the Egyptian government will depend on the numbers of households to be serviced and the method of service. According to NAPWSD officials, there is a great shortage of qualified water and sewage works engineers and technicians. Since the typical engineer or technician is able to obtain higher earnings in other Arab countries, much of the water and sanitary network is in lack of repair. With an allocation of about 12 percent of the potable water investment to year 2000 for rehabilitation and 8 percent for maintenance, training programs will have to be established to provide the needed skills.

NAPWSD has recognized the need for qualified water/sewage works managers, engineers, operators, and maintenance personnel. Its plan to year 2000, includes an ambitious training effort which began in 1981. The established Al-Beheira Governorate Water Company and the next to follow, Kafr el Sheikh, will provide an "on the job" training ground.

The NAPWSD officials also view the lack of repair parts as a substantial problem. In particular, there is a shortage of PVC and ductile iron pipe. These shortages could impede the progress of the investment

program both in the development of new works and in the priority rehabilitation of existing facilities.

The NAPWSD projects the costs of operating and maintaining water and sanitary drainage for the years 1981-85 as listed in Table 8-5. The officials at NAPWSD complain that the maintenance funds are insufficient.

Table 8-4

PROJECTED OPERATING AND MAINTENANCE COSTS FOR NAPWSD 1981-85

Year	LE Million
1981	3.4
1982	6.5
1983	9.7
1984	13.1
1985	16.4

The conclusion drawn from Table 8-5 is that greater attention will be paid to water and sanitary works operation and maintenance. These costs are expected to increase fivefold in the four years following 1981.

Electricity Generation and Distribution

All electric generation, transmission and distribution facilities in Egypt are owned by the government. The Ministry of Electricity and Energy has overall responsibility for the facilities. There are 16 electric authorities and companies affiliated with the Ministry. The two most important are the Egyptian Electric Authority (EEA) which manages, operates and maintains the power facilities and constructs new projects related to the electric power system; and the Rural Electrification Authority (REA), which supervises the construction of electrical transmission and distribution facilities in rural areas. After each REA project is completed, it is turned over to the EEA for operation and maintenance.

At present, Egypt relies heavily on the High Dam and the older Aswan Dam downstream on the Nile for its energy. In 1979, hydroelectric power accounted for 60 percent of the 16.5 billion kwh generated in the country. Hydroelectric installations currently account for over half of the nation's installed capacity of 4,600 megawatts; the remaining 2,250 megawatts is thermal.

To meet future demands for power, estimated to

increase by 20 percent per year, the government is launching a massive program to build several large thermal power stations. The 1980-1984 Development Plan envisages more than doubling the current installed thermal capacity to 5,000 megawatts. All generating units will be convertible to gas in anticipation of the expansion of the local gas industry. A number of generating units, using natural gas from the Abu Kir field, already have been converted.

The Egyptian Electric Authority plans to increase electric generation capacity by a factor of 6.3 between 1980 and the year 2000. Costs have been calculated on the basis of LE 6 million per 100 kwh capacity. It is estimated that the cost of generating plants will amount to LE 1,238 million, or 55 percent of total investment in this sector for the duration of the Plan.

Although there do not appear to be opportunities for specialized maintenance and repair company joint ventures for electric utilities in Egypt, there are several opportunities for joint ventures to produce parts and structures for the electricity sector. These opportunities are described in CTIC's sector report on the electronic and electrical equipment industries in Egypt, which was prepared for the Egyptian Investment

Authority.* These include plants to produce:

- o Porcelain insulators
- o Low and medium voltage power fuses
- o Steel transmission towers, and, possibly
- o Distribution capacitors.

Communications

The communications systems of Egypt are in serious need of modernization and expansion. A recent U.S. AID funded study conducted by the U.S. firm, Continental Telephone Company, estimated that it will cost about $20 billion over a twenty year period just to modernize the telephone system. Currently a $1.8 billion quick-fix program is underway as a first step in rehabilitating the system.

The Egyptian telex system also is costly and performs poorly. As a result the existing facilities are underutilized.

The government agency responsible for these systems is the Arab Republic of Egypt National Telecommunications Organization (ARENTO). This organization also maintains the system. Consequently

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* Sectoral Survey No. 9, Electronic and Electrical Equipment Industries, CTIC, 1982.

there does not appear to be opportunities for private M/R service in this area. However, as was the case in electricity distribution system, there are several opportunities for the production of communications equipment. These are also discussed in the CTIC report on the electronic and electrical equipment industry in Egypt. Products which appear to offer opportunities for joint venture manufacturing are:

- o electronic telephone exchanges, telephone sets, key telephone systems and intercom systems
- o HF and VHF equipment including power supplies
- o electronic switching systems
- o "jelly-filled" communication cables.

Of course, the various communications systems utilize testing and metering equipment for proper operation and maintenance, providing another possible category of equipment which might be produced in Egypt through a Law 43 joint venture.

9. MOBILE AGRICULTURAL AND CONSTRUCTION EQUIPMENT

Farm Equipment

According to a recent study, demand for farm tractors is expected to be in the range of 5,000 to 6,000 units annually.* The Nasr Automotive Manufacturing Company (NASCO) will assemble 46 percent of total units domestically. The remaining units will be imported from a variety of countries, including Czechoslovakia, Rumania, Yugoslavia, Italy, Japan, and the United States.

Nasr tractors are assembled from components imported from companies in Yugoslavia, Rumania, and Canada. Locally produced components include tires, batteries, and similar type items.

Currently, there are several joint-venture projects under study for the in-country production of farm tractors using locally-produced components so that only 40 percent of component value is imported. Such a joint venture is particularly attractive since it will provide the opportunity for in-country production of repair parts, which will help to further reduce the quantity of imports into Egypt.

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* Source: Sectoral Survey 4, The Non-Electrical Machinery Industry in Egypt, CTIC, 1982.

Nasr tractors, as well as imported tractors, are currently sold and serviced by local companies functioning as farm market distributors or dealers. These companies usually handle a range of farm equipment, including tractors, farm implements, spraying equipment, portable generators, and irrigation pumping equipment. Such dealers stock repair parts and have some service personnel who have received equipment repair training at the factory. Dealers are usually underfinanced and are short on technical skills. The major strength held by these organizations is their knowledge of the farm market and the attitudes and practices of local farmers.

Table 9-1 shows estimates of Egypt's total consumption of farm tractors from imports and in-country assembly. During the five-year period shown, 29,100 new tractor units entered the market. It is currently estimated that farm tractors in use total 65,000 units and that this unit population will increase to 100,000 by the end of this decade.

U.S. manufacturers interested in farm tractor joint ventures can be assisted by the Investment and Free Zones Authority and also by NASCO in identifying partners either in tractor parts production or the

repair and maintenance of farm equipment.

Table 9-1

EGYPTIAN FARM TRACTOR CONSUMPTION*
1976-80

Year	Total Units	Imported units	In-Country Assembled Units
1980	5,200	2,700	2,500
1979	5,400	2,600	2,800
1978	8,800	5,800	3,000
1977	6,200	3,400	2,800
1976	3,500	1,800	1,700

* Excludes tractors less than 50 hp.

Source: CTIC estimates.

Agricultural Machinery Services

In view of land fragmentation on the old land and the expected development of much of the new land into units of 50-150 feddans it is likely that there will be a growing demand for agricultural machinery pools. There is a general interest in the formation of companies to provide these services. Private sector renting stations have, to date, proved much more effective than similar public sector organizations and their machinery utilization is thought to average 1,400

hours annually as against 600. FAO projects exist to select machinery and develop mechanization in a way suitable for local needs. Sugarcane mechanization is also attracting the attention of equipment rental companies.

Irrigation Equipment

A number of studies have been made to examine the possibility of manufacturing irrigation equipment in Egypt to service the 3,000,000 feddans of land scheduled for reclamation within the next 20 years. Opportunity exists for companies to undertake the manufacture or service of such equipment with an eye also to export to other parts of the Middle East.

Construction Machinery and Equipment

Construction machinery and equipment play a key role in the current performance and future development of the construction industry in Egypt. Egypt's fleet of construction equipment today consists of over 40,000 pieces of mobile equipment such as bulldozers, front-end loaders, and earthmovers, with an estimated value of LE 1.4 billion. This equipment has been almost exclusively imported from the United States, Europe, Russia, and Japan. Unfortunately, a large percentage of this equipment is either obsolete or in

need of major repair and maintenance. This equipment requires preventive maintenance and repair in disciplines including mechanical, electrical, hydraulics, pneumatics, and internal combustion engines (usually diesel).

The Egyptian companies which handle construction equipment can be grouped into three major categories:

(1) Public sector companies involved mainly in agriculture, irrigation, land reclamation, and drainage works.

(2) Public sector companies active in general building and civil work, such as roads, bridges, fly-overs, and so on.

(3) Private contractors involved mainly in building construction.

The Ownership and Utilization of Equipment

The public sector construction firms involved in agriculture, irrigation, and land reclamation projects in Egypt are highly mechanized, and achieve up to 80 percent utilization on the equipment they own and operate.

The public companies active in general building and civil work, the second group identified above, own and operate about 50 percent of Egypt's equipment fleet, but their equipment utilization is unusually low. In building works, for example, equipment utilization ranges between 20-30 percent, and in bridge and other civil works it is only slightly higher than this. The combined equipment utilization rate in general building and civil work construction is estimated to average about 40 percent. A comparison of this rate with the minimum international standard utilization rate of 60 percent suggests that construction equipment in Egypt is underutilized.

The private sector contractors of the third group are known to attain fairly high rates of equipment utilization. In addition to this group, there is a large number of smaller private contractors who have generally little or no access to construction equipment and limited experience in operating it.

Although Egypt's supply of construction equipment may be physically sufficient to handle current and planned construction projects, its substandard productivity dictates large-scale replacement over the next few years. A recent World Bank survey on Egypt's

construction fleet has found that, if current equipment productivity levels are to be maintained, at least half of the existing machines will have to be replaced during 1980-1984 Plan.

Underlying the low equipment utilization rate among large public sector companies is a shortage of spare parts. This is most evident in the operation of a giant construction company such as Arab Contractors, which owns about 400 different types of equipment purchased from over 250 foreign equipment manufacturers. Some efforts are underway by Arab Contractors and other major public sector companies to unify and standardize their equipment so as to reduce the need for maintaining numerous and diverse spare parts for various non-compatible items of equipment.

Another major problem is the shortage of equipment operators and maintenance personnel. To avoid the operational problems associated with the shortage of skilled labor in the construction market, large public sector contracting companies often train their own equipment operators and technicians at high cost. This practice, however, has its own drawbacks inasmuch as company-trained technicians often leave a public firm for more lucrative jobs in the private sector. Arab

Contractors, for example, is reportedly losing about 20 percent of its trainees to other contractors.

Egyptian contractors often purchase equipment direct from foreign manufacturers and suppliers, thus bypassing local agents. The major disadvantages of purchasing directly are that the responsibility for operator training and equipment maintenance is placed entirely on the contractor, and unnecessary and costly amounts of spare parts are stockpiled to cope with frequent equipment breakdowns.

At the time of purchase, many Egyptian contractors spend as much as 20 percent of the cost of the new equipment on spare parts, compared with 5-8 percent in the United States. One reason for the massive stockpiling of spare parts is the lower customs duty levied on spare parts when they are ordered in conjunction with the original equipment. Another reason is the failure of local agents of foreign equipment manufacturers to stock sufficient spares to meet contractors' needs.

Lease/Rental of Equipment

The high cost and specialized nature of construction equipment make it almost impossible for many small contracting firms in Egypt to purchase such

equipment and utilize it in the most cost-effective manner.

The development of equipment rental companies would allow these contractors to expand their activities substantially without large capital expenditures. Such rental companies could be established either within existing large contracting firms, or preferably, as independent firms serving the entire construction market.

Most private sector contractors interviewed indicated a pressing need for the establishment of equipment rental companies, which, in addition to their primary function, could undertake or facilitate the tasks of repairing, servicing, maintaining, and even operating construction equipment. In addition, they could act as regional clearing houses for surplus stocks of equipment, components, and spare parts. In short, these firms could reduce the peripheral activities of contractors, thereby providing them with the opportunity to concentrate on principal contracting activities.

10. A REVIEW OF POTENTIAL INVESTMENT OPPORTUNITIES

Overview

This report identifies potential joint-venture opportunities in the maintenance and repair of Egyptian buildings, civil projects, and industrial machinery and equipment. A summary of these opportunities is presented in Table 10-1. Many of these opportunities are in the preliminary investigatory phase; others are further advanced. Following Table 10-1 is a series of "Profiles" summarizing potential opportunities that may be of particular interest.

Reference should also be made to the following other sectoral surveys which cover ancillary opportunities:

Sectoral Survey 3 - Construction Materials in the Egyptian Economy

Sectoral Survey 4 - Non-Electrical Machinery Industry in Egypt

Sectoral Survey 6 - Integrated Agricultural Business in Egypt

Sectoral Survey 7 - The Automotive Components, Parts and Accessories Industry in Egypt

Sectoral Survey 9 - The Electronic and Electrical Industries in Egypt

Because the need for maintenance and repair services is increasing steadily, new project opportunities are continually being advanced. Interested U.S. investors are therefore encouraged to remain in contact with the Egyptian Investment Authority.

Table 10-1

JOINT VENTURE POSSIBILITIES IN REPORT ON M/R SERVICES

Project	Egyptian Interest in Public Law 43 Joint Ventures	Reference
1. Contract and "On-Call" M/R services for large hotel, office and residential buildings	CARE Services Ltd. - Private Company currently conducting maintenance services in Cairo	Chapter 4; Profile No. 1
2. Contract and "On-Call" M/R services for hospitals and institutional buildings	El Nasr Company - Public Company with concentration of work with hospitals and medical facilities	Chapter 4; Profile No. 2
3. Contract M/R for industrial buildings and machinery	Engineering General Company (EGC) - a Public Sector company	Chapters 6, 8; Profile No. 3
4. Passenger car M/R service centers	Nasr Automotive Manufacturing Co. (NASCO). Also Private Investors	Chapter 5; Profile No. 4
5. Automotive M/R services to owners of bus and truck fleets	General Nile Company for motor car repair	Chapter 5; Profile No. 5
6. Diagnostic and M/R for industrial machinery	Helwan Iron and Steel Company, Helwan Machine Tool Company and private investors	Chapter 6; Profile No. 6

APPENDIX

Profiles of Investment Opportunities

Profile 1

CONTRACT AND "ON-CALL" M/R SERVICES FOR HOTEL, OFFICE, AND RESIDENTIAL BUILDINGS

Description:	New venture to establish an integrated contract and "on-call" cleaning, security, gardening, building refurbishing, and equipment M/R service for hotel, office, and residential buildings.
Egyptian Interest:	A joint venture between the privately-owned CARE Services Ltd. currently supplying contract security services to Egypt and the Middle East, and the COMAG Company, a public sector company, which now performs maintenance and renovation services throughout Egypt.
Role of Foreign Firm:	To provide management, technical guidance, and training of service personnel for a wide variety of machinery. Also, possibility of equity participation.
Project Status:	Both CARE and COMAG have expressed interest in a joint venture with a U.S. firm. CARE's Marketing Department has surveyed and catalogued major buildings in Egypt as to ownership, rent, sales conditions, state of financing, equipment installed, etc. This information is available for a joint feasibility study.
Investment:	No estimates have been developed. This would be done as part of a feasibility study.
Market:	The concept of M/R and other building services is emerging as important in Egyptian thinking. Building system failures and general dilapidation caused by lack of M/R in the past are a matter of concern to both Egyptian

government and business officials. The influx of foreign interests has created a demand for buildings of all types and a need by those foreign interests for properly maintained space. The refurbishment of older but architecturally pleasing dilapidated buildings is also a growth M/R area.

Competition: The El Nasr Company for Reconstruction and Building Maintenance, a public sector company, is currently the only firm involved in contract M/R. The company specializes in M/R of medical facilities.

Profile 2

CONTRACT AND "ON-CALL" M/R SERVICES FOR HOSPITALS AND INSTITUTIONAL BUILDINGS

Description: A new venture to perform contract and "on-call" M/R on hospitals and institutional buildings.

Egyptian Interest: El Nasr Company for Reconstruction and Building Maintenance, a public sector company, is the only firm which manages M/R on a contract basis. The company's clients include:

El Moniera Hospital
Helwan Hospital
Road El Farg Hospital
Manshiet Al Bakry Hospital
Alglaa Hospital
Agricultural College of Cairo
Experimental Animals Center, Helwan
Medical Supply Warehouse, Aassia
Adul Fedah Office Building

El Nasr Company employs about 150 engineers, architects, technicians and supervisors. The company subcontracts all work which it manages.

Role of Foreign Firm: To provide management, technical guidance, and training of service personnel. Also, possibility of equity participation.

Project Status: The Vice President of El Nasr expressed an interest in pursuing a joint-venture feasibility study. The firm would also like to expand its services to other types of facilities and to refurbish older ones.

Investment: To be determined during feasibility study phase.

Market: Since El Nasr is a public company, the principal market would be the public

sector building authorities for both contract M/R services to government buildings and for the refurbishing of older government buildings. In addition, the firm would specialize in marketing this service to private hospitals and medical facilities.

Competition: Currently none of any significance.

Profile 3

CONTRACT M/R SERVICES FOR
INDUSTRIAL BUILDINGS AND MACHINERY

Description:	A new venture to perform contract M/R services for industrial buildings, industrial machinery, power generating equipment, and construction equipment.
Egyptian Interest:	Engineering General Company (EGC), a public sector firm, has two operating divisions. One, the Commercial Division, distributes a wide variety of industrial machinery and equipment and construction equipment. The other is the Construction Division which is a builder of steel frame factories, warehouses, and power generating facilities on a "turnkey" basis. The Construction Division employs 1,050 construction workers in all craft trades. The company maintains two large workshops and a forging facility in Cairo. It also has three electrical/machine shops in Alexandria. When EGC completes a turnkey construction project, the company leaves a M/R team of eight to ten technicians on the site for M/R for a full year. Initially, the team performs M/R and over the year trains factory personnel. Generally, a preventive maintenance (PM) program is developed.
Role of Foreign Firm:	To provide management, technical assistance, and training, as well as an equity position.
Project Status:	The Technical Director for EGC was enthusiastic regarding the contract M/R concept. He stated that he could unequivocally express interest in a

joint venture for his Chairman. However, no preliminary studies have been conducted.

Investment: To be determined as part of the feasibility study.

Market: Private sector industry would welcome reliable M/R services on a contract basis. Many officials feel that industry has an M/R awareness and that "the time is right" for offering M/R services. Public sector industries perform much of their own maintenance but are more oriented to equipment than buildings. Since EGC is a public company, building maintenance may receive acceptance by public sector industries.

Competition: No contract M/R service for industrial buildings is now available in Egypt through local firms. However, foreign machinery suppliers do provide M/R services to their customers.

Profile 4

PASSENGER CAR M/R SERVICE CENTERS

Description:	New venture to establish a chain of passenger car service centers throughout Egypt.
Egyptian Interest:	Egyptian Comany for Car Services and Maintenance, a joint venture between Nasr Automotive Manufacturing Company (NASCO), and other Egyptian public and private sector interests.
Role of Foreign Firm:	Provide management and technical know-how, training, and some equity.
Project Status:	NASCO is currently engaged in two studies to determine the feasibility of the venture. The results were not complete at this writing in late 1982.
Investment:	To be determined as part of feasibility study.
Market:	Privately owned passenger cars and taxis. The number of vehicles is growing at an annual rate upwards of 15 percent, with the total number in 1985 projected at 990,000. The market for maintaining these automobiles is estimated at about 160 million Egyptian pounds annually ($182 million at June 1982 exchange rate).
Competition:	Currently NASCO is the major organized M/R entity in Egypt servicing about 25,000 cars annually. Small, individually owned and operated shops dominate the passenger car repair market. These shops are limited, however, to mostly very basic repair work, often using patched-up parts, cannibalized parts, or parts made in the shop. Foreign car dealerships offer M/R service for automobiles in

which they deal. After the warranty period, many automobile owners opt to obtain M/R services from the small shops as they are generally less costly. The new NASCO joint venture has already initiated discussions with foreign companies on the establishment of repair parts manufacturing operations in Egypt.

Profile 5

AUTOMOTIVE M/R SERVICES TO OWNERS OF BUS AND TRUCK FLEETS

Description:	A new venture to provide contract automotive M/R services to owners of bus and truck fleets.
Egyptian Interest:	General Nile Company for Motor Car Repair, a public company.
Location:	Abassieh.
Role of Foreign Firm:	Provision of management and technical know-how, plus equity participation.
Project Status:	The project is conceptual at this writing. A market survey and feasibility study would be necessary to determine the acceptance of contract M/R by truck and bus fleet owners.
Investment:	To be determined as part of a feasibility study.
Market:	Currently, owners of truck and bus fleets are the six public bus transport authorities, large industrial company employee bus transport and trucking vehicles, and miscellaneous organizations which provide transportation for school children, government employees, etc. The bus fleet in Egypt is expected to grow at 11 to 12 percent per year and total 28,000 in 1985. The value of the market for bus M/R is estimated to be between 83 and 173 million Egyptian pounds annually by 1985, depending on the mix and size of buses. The Egyptian truck fleet of all sizes is currently growing at an estimated rate of about 24 percent annually with about 112,000 trucks in use in 1980.

Of these trucks, other than pickups comprise some 63,000. Assuming these trucks to be the market for M/R services, the value of these services would be on the order of 146 million Egyptian pounds in 1980 and perhaps more than double that by 1985.

Competition: The General Nile Company is the only firm providing contract M/R bus and truck services. For the most part, owners of fleets do their own M/R. They would apparently welcome the service if the costs were acceptable and if the service was reliable.

Profile 6

DIAGNOSTIC AND M/R FOR INDUSTRIAL MACHINERY

Description:	New venture to repair existing machinery in Egyptian industrial plants and to produce repair parts for older machines. Areas of primary interest include machine tools and textile machinery.
Egyptian Interest:	Helwan Iron and Steel Company and Helwan Machine Tool Company; both public sector companies. In addition to these companies, there are some private investors with knowledge of market needs, but lacking in technical solutions to the repair and production complexities. Managements of the above-mentioned Helwan companies are eager to function as catalysts for such a venture and can assure availability of facilities and government receptivity.
Role of Foreign Firm:	Several options exist in the machinery area: (1) The Helwan Machine Tool Company, which produces basic milling machines, lathes, shapers, floor drills, and pedestal grinders, is seeking a joint-venture partner with current machine designs and manufacturing engineering capabilities to guide the production development of a new line of tools; (2) the present shop facilities can function as a "job shop" to produce repair parts for older machine tools in many other metalworking plants in Egypt. Older machines lack repair parts documentation and diagnostic repair skills are not available. The Helwan shop facilities provide a base of operation for diagnostic crews.

Project Status:	A detailed feasibility study is needed to determine the best organizational structure needed to capitalize on facilities and technical capabilities that exist within the Helwan complex. It should also be recognized that steel casting and forging capacity is also centered in the military complex at Helwan.
Output:	The domestic demand for new machine tools in the Egyptian market is expected to exceed 2,800 units annually by 1985. Reference should be made to Sectoral Survey 4, The Non-Electrical Machinery Indust y in Egypt. In addition there are reportedly over 20,000 machine tools that are in need of repair, repair parts, and diagnostic evaluation.
Investment:	Detailed investment analyses have not been made, but primary needs are management and technical skills.
Market:	Demand and need is large for diverse types of industrial machinery. In particular, existing machine tools requiring parts and service exceed 20,000 units and textile machines needing similar service exceed 5,000 units.
Competition:	Essentially no competition. Some repairs are handled internally in plants having large numbers of machines; also, some small independent shops can make repairs but technical and particularly diagnostic skills are limited.

PLEASE NOTE:

Some of the information provided in this section, although accurate at the time it was written at the beginning of 1982, has by the end of the year become dated. More recent statistics, the names of new Egyptian Government Ministers, and a description of new legislation (particularly the New Companies Law No. 159 and the Egypt-U.S. Investment Treaty) will be found in a revised Guide which will be published early in 1983 by Chase National Bank Egypt, S.A.E. Copies of the Chase Guide will be sent at no charge to all recipients of the sectoral surveys.

A GUIDE

TO

DOING BUSINESS IN EGYPT

CONTENTS

1. EGYPT: AN ATTRACTIVE BUSINESS ENVIRONMENT

There are numerous advantages and opportunities available to foreign businesses for trade and investment in Egypt. Among them are:

- o the largest market in the Arab world
- o an established infrastructure
- o a diversified, expanding economy
- o a skilled labor force
- o a positive balance-of-payments position

Perhaps most important of all is the dedication of the Egyptian government to the growth of the private sector and the encouragement of foreign business.

Recent Economic Reforms

In October 1981, following the death of President Anwar El Sadat and the election of Hosni Mubarak as President of Egypt, the "open door" policy instituted by President Sadat in 1974 was reaffirmed. This policy, which replaced rigid, centralized economic planning with a system emphasizing incentives, efficiency, and entrepreneurship, has revitalized both the public and private sectors with an infusion of technical know-how and management reforms and the encouragement of domestic capital formation.

The framework for private sector participation in Egypt's economic growth was provided by "Law Number 43 of 1974 Concerning the Investment of Arab and Foreign Capital and the Free Zones," which was instituted in June 1974. Later amended and complemented by Law 32 of 1977, this legislation encouraged the transfer of Western capital and technology in joint ventures operating either inland or in regional public or private "free zones." To promote, implement, and expedite foreign investment, Law 43 also provided for the establishment of the Investment and Free Zones Authority, which furnishes numerous investor services to the foreign business community.

Government Organization

Egypt, by constitution, is a democratic socialist state. As head of government, the president exercises executive authority with a cabinet. The executive branch also includes administrators at the central, governorate, district, and village levels. There is an independent judiciary, and a directly elected People's Assembly serves as the country's legislative body. The 26 provincial governors operate with considerable discretionary authority.

The cabinet is headed by the Prime Minister, Dr. Ahmad Fouad Mohieldin, and five Deputy Prime Ministers:

Fikry Makram Ebeid	Deputy Prime Minister for People's Assembly and Consultative Assembly Affairs
Ahmad Ezzeldin Hilal	Deputy Prime Minister for Production and Minister of Petroleum
Kamal Hassan Aly	Deputy Prime Minister and Minister of Foreign Affairs
Mohammed Nabawi Ismail	Deputy Prime Minister for Public Services and Minister for Local Governorates
Mohammed Abdel Fattah Ibrahim	Deputy Prime Minister for Economic Affairs and Minister for Investment and International Relations

The cabinet also includes 28 cabinet ministers. In addition, there are four cabinet committees, as follows:

- Planning and Economic Policies Committee, headed by the Prime Minister and including the five Deputy Prime Ministers
- Production Committee, headed by Ahmad Ezzeldin Hilal
- Public Services Committee, headed by M. Nabawi Ismail
- Legislative Committee, headed by the Minister of Justice, Ahmed Samir Sami

Investment and Development Priorities

In addition to the promulgation of Law 43, Egypt has provided a variety of other incentives for private sector investors by decentralizing investment allocation authority to the governorates and allotting them some L.E. 280 million in the 1980-1981 budget, and by creating a National Investment Bank.

The Bank, which is represented in all the governorates, was established for the purpose of stimulating local financing and disbursing the governorates' allocations of public sector investment funds. With an authorized capital of L.E. 3.2 billion, the Bank serves as the country's development fund, assuring continuity in the financing of public sector investment projects from one fiscal year to the next.

Egypt's five-year Development Plan (1980-1984) has shifted the emphasis of government investment from basic industry to agriculture and infrastructure. Although the industrial sector will remain the economy's chief source of growth, the government has made this change of emphasis in recognition of the need to balance the various sectors of the economy. Accordingly, the current five-year plan accords priority to three specific sectors:

- Agriculture and food security

- Housing, utilities, and new communities
- Communications and transportation

In the public sector, investment priority is being given to agro-industry, new urban communities, power, communications, and transportation. Private sector emphasis is directed to housing, construction, agriculture, and light industry. Emphasis is also being placed upon sectors--such as tourism, the oil industry, and the Suez Canal--that, by generating foreign exchange, help support Egypt's balance of payments.

SECTORAL ALLOCATIONS UNDER
FIVE-YEAR DEVELOPMENT PLAN (1980-1984)

Sectors of the Economy	Allocations (L.E. millions) Public	Private	Total	Percentage of Total
Agriculture and food security	3,600	775	4,375	19.7
Agriculture and land reclamation	1,000	200	1,200	
Irrigation and drainage	1,200	-	1,200	
Fertilizers, food processing, and storage	1,400	575	1,975	
Housing, utilities, and building materials industries	2,880	1,750	4,630	20.9
Reconstruction and new communities	900	300	1,200	5.4
Transport and communications	3,000	250	3,250	14.7
Power	1,500	-	1,500	6.8
Industry	2,000	500	2,500	11.3
Export sectors	1,800	300	2,100	9.5
Oil	800	-	800	
Suez Canal	500	-	500	
Tourism	500	300	800	
Social services	1,600	-	1,600	7.2
Education	1,000	-	1,000	
Health	300	-	300	
Other services	300	-	300	
Local governments	1,000	-	1,000	4.5
TOTAL	17,380	3,575	20,955	100.0

Source: Ministry of Planning.

The Growth of the Private Sector

Between 1960 and the mid-1970s, Egypt's public sector dominated an increasing number of productive enterprises until it generated approximately 75 percent of the country's gross domestic product. The "open door" policy began to neutralize this process. Private industry, which now contributes 30 percent of industrial production, is also expected to account for 17.5 percent of total investments between 1980-1984.

Today, although the government remains firmly committed tc public enterprise in specific sectors, Egypt continues to emphasize private sector investment. The general pattern of the economy is now one of "privatization," a gradual but increasing reliance on the private sector for goods and services previously supplied by government-controlled public enterprises.

In addition to promoting private industry, the government is encouraging more public sector companies to join the private sector. Some joint ventures between public sector companies and foreign investors have already been undertaken, and the sale of public company shares to private investors is under consideration. Further, a new companies law, Law 159 of 1981, provides a more favorable environment for the incorporation of private sector

companies. It also permits Egyptian public sector companies to form joint ventures with Egyptian companies in the private sector.

2. THE EGYPTIAN ECONOMY

A Growing Marketplace

In less than 30 years, Egypt's national production has almost quadrupled. The most dramatic advances have occurred in the industrial sector, which has achieved a growth rate of over 12 percent per annum. Gross domestic product in 1980, supported chiefly by agriculture, services, and industry (including mining, construction, and electricity), amounted to approximately L.E. 15.6 billion. The overall growth rate of gross domestic output (at constant prices) has been 5 percent per annum over the last 25 years. More recently, GDP has been growing at the rate of 8 percent per annum.

Egypt is committed to achieving even higher growth rates in both production and income. The current Five-Year Development Plan, which provides for total investment of L.E. 22 billion ($27 billion) projects an average annual growth rate of 10 percent through 1985. This ambitious target must be achieved in the context of a high population growth rate.

FIVE YEAR DEVELOPMENT PLAN:
GDP GROWTH TARGETS, 1979-1984

Sector	Average Annual Growth Rate, 1979-1984	Sectoral Structure (percent) 1979	1984
Agriculture	3.2	25.4	18.3
Other services	12.5	17.8	19.7
Oil and products	12.5	16.5	18.4
Industry and mining	10.2	14.5	14.5
Trade and finance	10.5	10.6	10.8
Transport and communications	11.1	4.3	4.5
Construction	14.9	4.1	5.1
Suez Canal	18.5	3.9	5.7
Housing and utilities	11.9	1.9	2.0
Power	10.3	1.0	1.0
GDP at factor cost	10.2	100.0	100.0

Source: Ministry of Planning.

Population

Egypt's population of over 43 million is concentrated on the relatively small area which comprises the Nile Delta and Valley. Population density in the Valley and Delta has reached over 1,000 persons per square kilometer, the highest in the Middle East. The country's population, the largest in the Arab world, is increasing at the rate of from 2.5-3.0 percent per annum.

Despite the importance of agriculture to the economy, Egypt is highly urbanized. Some eight million people live in Cairo and almost three million in Alexandria, the country's two principal cities.

In an effort to inhibit the acceleration of urban sprawl and achieve a better balance in the distribution of productive facilities, satellite cities--such as Nasr City near Cairo, Tenth of Ramadan City near Ismailia, and Sadat City on the desert road to Alexandria--have been established in a number of areas. These new urban areas, which are designed to provide convenient sites for the location of new business ventures, are encouraged by the Law of New Urban Communities. This law (Law 59 of 1979) provides ten-year tax holidays, customs duty exemptions on imports, and other benefits to concessionaires, developers, contractors, and consultants. Foreign participants also

are covered by this law.

Labor Force

Egypt has an abundant supply of unskilled labor and semiskilled workers who can be rapidly trained. Its relatively advanced literacy rate and well-developed system of free higher education--including vocational training centers and universities--have generated a labor force of 13.8 million, the most skilled and trainable in the Middle East. As many as 2.5 million skilled Egyptian workers are employed in other Arab countries, and the equivalent of L.E. 900 in goods or transfers that each of them remits to Egypt annually constitutes a major contribution to the country's balance of payments.

Foreign demand for skilled labor and the opening of the economy to foreign investment have led to rapidly increasing wage and salary scales. However, because the government subsidizes basic food and housing requirements, the cost of labor in Egypt, even in private sector and joint-venture enterprises, is low in comparison to other countries in the region.

Sample salary ranges for key jobs in private sector companies are as follows:

SAMPLE SALARY RANGES, 1981

Job Title	Salary Range (L.E.)
Manager	400-600
Assistant manager	250-450
Bilingual secretary	300-450
Secretary	100-300
Accountant	100-300
Clerk	90-150
Purchasing agent	100-200
Sales area supervisor	200-350
Salesman	50 plus commission (normal range: 100-300)
Senior engineer	350-500
Engineer	150-350
Technician	100-250
Worker	60-150

Source: CTIC, based on field interviews.

It should be noted that, in addition to these base salaries, a company pays social insurance amounting to 20 percent of the base salary, all medical fees, bus transportation to and from work (or a transport allowance for senior personnel who use their own cars). No overtime is paid and bonuses are given on a merit basis only.

Consumption and Investment

Patterns of consumption and investment are changing dramatically in Egypt, and the government is taking numerous steps to rationalize resource allocation and decision-making and to reduce the gaps between production costs and the prices of commodities.

The country's relatively high rate of domestic inflation is attributed by most sources to the annual 30-percent increase in the money supply that is generated by government subsidies and related social benefits. Because of these subsidies, Egypt is undeniably subject to some apparent cost-price distortions. There have been strong pressures for price increases, for the gap between production or importation costs and government-subsidized prices for specific commodities has grown. There is great public sensitivity to price increases, however, and because of this the government has been unable to make, in a single dramatic move, the adjustments required to allow real economic costs to determine prices. Subsidized commodities (such as wheat, flour, sugar, rice, oil, tea, and butane gas), the products of public sector companies, increased minimum wages, and reduced electricity rates for some consumers therefore continue to impose a heavy burden on the government. In 1981-1982, this is expected to amount

to some L.E. 1.5 billion.

Egypt is making a concerted effort to shift domestic resources from consumption to investment. In 1974, gross investment was only 16 percent of GNP (at market prices). Between 1978-1980, this percentage rose to 28 percent. Annual public sector investment under the current Five-Year Plan is expected to rise from L.E. 3.2 billion in 1980 to L.E. 5 billion in 1984, an increase of 61 percent. Private sector investment is also expected to increase--from about L.E. 800 million in 1980 to over L.E. 1 billion in 1984.

The private sector has played a dominant role in consumption. In 1979, private sector spending on consumption exceeded spending on investment by a 10-to-1 ratio. To encourage investment and the use of local content in production, the government recently established higher deposit requirements for the private sector when opening letters of credit covering imports of consumer goods.

Balance-of-Payments Position

From a $4.1 billion deficit in 1979, Egypt's balance of trade deficit (exports minus imports) shrank to $3.7 billion in 1980. In view of a 14-percent increase in the value of imports, this drop represents a remarkable achievement.

Egypt's oil exports are the major factor in its ability to reduce its trade deficit. In 1980, oil exports rose to $2.5 billion. In addition, although the trade balance deficit has been substantial, it was offset by

- o $2.7 billion in workers' remittances
- o $780 million from tourism
- o $660 million from Suez Canal tolls
- o $700 million in cotton and textile exports

In 1980, these contributions forced the current account deficit on the balance of payments down to $680 million.

The reduction in Arab aid after the Camp David accord in 1978 has been offset to a degree by substantial investment and foreign aid. This ranges between $2-2.5 billion and is contributed by OECD countries, the World Bank, and U.S. AID. U.S. AID, the major contributor, committed over $1 billion in fiscal 1981. Of this sum, $500 million represents grants and $600 million represents soft loans with an interest rate of 2-3 percent, repayable over 40 years with a ten-year grace period.

In 1980, Egypt's debit service on medium and long-term debt amounted to no more than 16 percent of earnings on goods and services. At the same time, the country's greater utilization of official (mainly concessional) aid has contributed to a better-balanced debit maturity structure.

3. BANKING AND FINANCE

That the banking and finance sector of the Egyptian economy has benefited greatly from the passage of Law 43 is attested to by the fact that over 45 new banks have been established since the law was passed in 1974. These banks have stimulated competition, improved services, and facilitated the financing of many new projects.

The Central Bank of Egypt

The Central Bank is responsible for controlling the country's banking system. It directs monetary credit and general banking policies, using the standard controls of discount and interest rates, and liquidity and reserve ratios. The Central Bank also sets the commission structure to be applied on letters of credit, letters of guarantee, loans, and so forth.

Specialized Banks

Three specialized banks have been established to provide specific financial services to the economy.

National Investment Bank

Founded in 1980 with an authorized capital of L.E. 3.2 billion, the National Investment Bank was established to fund the existing operations of public sector companies and to facilitate the financing of large-scale projects.

Development Industrial Bank

The Development Industrial Bank (DIB), founded in 1976, has paid-in capital of L.E. 15 million. It receives its funding chiefly from the World Bank and U.S. AID, and has committed L.E. 160 million to local projects.

National Bank for Development

Established in 1980 as a Law 43 joint venture between public sector banks and institutions and private Egyptian shareholders, the National Bank for Development (NBD) has paid-up capital of $50 million. It offers standard foreign commercial banking services, makes private equity investments backed by a line of credit from the Central Bank of Egypt, and serves as agent for the National Investment Bank in financing projects in the public sector. NBD also assumes responsibility for affiliated national development banks in the governorates.

Commercial Banks

State Commercial Banks

Egypt's banking sector is dominated by four state banks: the National Bank of Egypt, the country's largest bank; Banque du Caire; Bank of Alexandria; and Bank Misr. Nationalized in 1960-1961, these banks have

significant foreign currency deposits, which, in June 1980, were estimated in excess of $3.3 billion.

Traditionally, these banks have enjoyed a monopoly of public sector business that has only recently been terminated. A significant proportion of their loans are made to public sector companies and are short term in nature.

Joint Venture Banks

Several international banks--including Chase Manhattan Bank, Barclay's Bank, Societe Generale, Credit Commercial de France, and Banque National de Paris--have entered into joint ventures with the four state commercial banks. If it wishes to conduct business in Egyptian pounds as well as other currencies, a joint venture bank must have a majority Egyptian partner, who holds 51 percent or more.

With the advent of joint venture banks, the banking system has developed an increased capacity to arrange medium-term financing in both local and foreign currencies. The joint venture banks have generally played a significant role in arranging major syndications for projects requiring substantial financing.

Private Banks

Several private banks established since 1974 engage

in activities similar to those performed by the joint venture banks. In most cases, these banks, which include the Nile Bank, Al-Ahram Bank, and the Mohandes Bank, are owned exclusively by Egyptian shareholders.

Foreign Banks

In addition to joint venture banks, several international banks conduct other operations in Egypt which fall into two major categories: branches, such as Citibank and Credit Suisse, that can deal only in foreign currency, and representative offices, such as those of Chemical Bank and Societe Generale.

Insurance Companies

The large public sector insurance companies, Al-Chark, Misr Insurance, and National Insurance, are playing an increasingly important role in financing new industrial projects through equity participation. Insurance has been opened to privately owned Egyptian companies; reinsurance is open to foreign investors as well as to private Egyptian capital. Joint ventures in this field are regulated by Law 43 as amended by Law 32.

The Stock Exchange

Since 1958, the Cairo and Alexandria stock exchanges have played only a minor role in raising capital for general investment. The Capital Market Authority,

established in 1979, is leading an effort to reinvigorate the trading of securities and is currently working with other agencies to make it attractive for companies to register their shares.

4. FOREIGN EXCHANGE

Overview

Egypt has made great efforts to rationalize its foreign exchange regulations. In the early 1970s a "parallel exchange rate" was put into operation alongside the "official exchange rate." In 1979, these two rates of exchange converged in the "unified exchange rate." The unified exchange rate applied to all foreign currency transactions is controlled by the Central Bank of Egypt. In July 1981, this rate was set at 0.84 Egyptian pounds to the U.S. dollar.

The "own exchange market" (occasionally referred to as either the "gray" or "free" exchange market) evolved after 1976 as a market in which Egyptians could use foreign currencies held in Egypt or abroad to finance the purchase of goods for importation into Egypt. In 1980, imports financed by the own exchange market accounted for over 20 percent of total imports.

The differential between the unified exchange rate and the own exchange market rates can be substantial. This is due in part to the gap between interest rates on dollar and pound deposits, which was one of the causes for the creation, in 1981, of a two-tier official currency valuation system--namely, 70 P.T. per U.S. dollar for Central Bank transactions and 84 P.T. for commercial

bank transactions. Since June 1980, the government has taken several measures to reduce this differential, the most significant of these being the abolition of Decree 600, thus permitting customs duties previously payable only in foreign currency to be paid in Egyptian pounds. Subsequently, payment in pounds was also permitted for deposits on certain letters of credit.

By October 1981, the own exchange market rate was in excess of U.S. $ = L.E. 0.90.

Availability of Foreign Exchange

Foreign exchange control is administered by the Committee for Foreign Exchange, a department of the Ministry of the Economy. The ministry "authorizes" various banks to buy and sell foreign exchange at the unified exchange rate.

Each transaction must be approved as being consistent with the exchange control regulations. Each must also conform to annual foreign exchange allocations to government and public sector entities that are established by the Ministry of Economy.

Public sector companies and government authorities have been the principal beneficiaries of the unified exchange rate. These entities have not been allowed to deal with the own exchange market. On the other hand, private manufacturing and trading companies generally do

not have access to foreign currency at the unified exchange rate.

As the own exchange market evolved under Law 97 of 1976, individuals became entitled to retain all foreign exchange earnings from transactions other than tourism and the export of goods. They were also allowed to undertake any foreign exchange transactions (including inward and outward transfers), provided these were carried out through registered banks.

The availability of these funds has been critical to the growth of finished goods imports by private sector traders. These funds have also been essential to purchases of raw materials by private manufacturing companies. Egypt's Law 156 of 1981 (dated October 1981) will give certain public sector companies access to the own exchange market.

Local Currency Accounts

Local currency accounts can be maintained only in banks 51 percent or more of which are Egyptian-owned.

Ordinary current and time deposit accounts may be opened in the name of any individual or company, Egyptian or foreign, to cover local expenses. For foreigners, such accounts can be funded either through the sale of goods or services paid for in Egyptian pounds or through the conversion of foreign currency into Egyptian pounds.

For Egyptians, these accounts can be freely funded from any source.

Foreign Currency Accounts

The various types of foreign currency accounts that may be maintained in banks with commercial operations in Egypt are outlined briefly below. Because the regulations governing these accounts may change, it is essential that any individual or company interested in opening a foreign currency account seek legal counsel and the opinion of an expert on foreign exchange.

"Free" Accounts

As the term implies, "free" accounts in foreign currency permit individuals and companies (except for government and public sector entities) of all nationalities to hold and utilize funds without restriction. Account holders are free to transfer these funds abroad.

Usually, free accounts can be funded only by means of transfers and checks in foreign currency from overseas sources or transfers and checks drawn on other free accounts held in Egypt. Foreign currency proceeds from exports or tourism may not be used to fund free accounts. Cash deposits may be made into the account if accompanied by a customs declaration.

Law 43 Corporate Accounts

The establishment and operation of Law 43 Joint Venture and Free Zone corporate bank accounts is covered by separate legislation. Before the legal establishment of a joint venture or free zone company, an "under formation" account must be opened with an Egyptian bank registered with the Central Bank of Egypt. This account receives the entity's subscribed share capital. Only one account is required if the subscribed capital is in foreign currency; a second account is required if part of the subscribed capital is in Egyptian pounds. Such accounts bear the proposed legal title of the company followed by the caption "under formation," and are "blocked accounts."

On receipt of the subscribed capital, the bank issues a certificate to the Investment Authority confirming that a subscribed capital payment has been received and is being held in an "under formation" account. This certificate is required as part of the process of establishing the company. Only after the company has been established can funds held in the "under formation" account be released.

Upon the establishment of the company, "capital" accounts are set up, in both currencies if required, to receive the subscribed capital as well as any loans that are being used to finance the investment costs of the project. Disbursements may be made from these accounts

to cover the costs of plant, building, machinery, and working capital requirements.

"Operating accounts" are also established in both foreign and local currency. The foreign currency "operating accounts" are funded by revenues from export sales and foreign currency purchased through the own exchange market. Disbursement from these accounts can be used to pay for raw materials and spare parts purchased overseas, installments of principal and interest due on loans, and profits of the venture transferred abroad as approved by the Investment Authority.

Local currency "operating accounts" are used to receive sales revenues. The major disbursements from these accounts are for purchases of foreign currency through the own exchange market, purchases of locally sourced raw materials, and the payment of wages.

5. AGRICULTURE

Agriculture contributes about 25 percent of GDP to the Egyptian economy. Through exports of raw cotton and produce, it plays a major role in the economy as an earner of foreign exchange. It also provides the foundation of several major industries, such as textiles and food processing. Nevertheless, the agricultural sector of the Egyptian economy has grown slowly, and it is subject to severe pressures from population growth. Once a net exporter of food, Egypt now must import between 40-45 percent of its food requirements.

Resources

Population

In 1970, the population of Egypt was 45 percent urban and 55 percent rural. These proportions are now reversed. The implications for agriculture of this reversal are fairly serious, for despite the increasing population, agricultural labor is not always in abundant supply.

Land

Roughly 96 percent of Egypt is desert. Its primary land resources are located in the small area along the Nile Valley and Delta. Here water for irrigation is readily available, and the soil is fertile. However, the very availability of water has led to over-

irrigation, which, when combined with inadequate drainage, has caused waterlogging, salinity, and alkalinity.

In the past, the government has attempted to increase production through extremely ambitious land reclamation projects and government-sponsored resettlement programs--costly approaches that have not been effective. Sixty-six percent of the over 900,000 acres reclaimed since 1952 have either reverted to wasteland or proven marginal.

The emphasis now, therefore, is on achieving higher productivity in existing cultivated areas, particularly in areas producing wheat, barley, maize, and legumes. Greater efforts also are being made to improve drainage, crop rotation, and extension services.

In addition, the government's role in agriculture is being refocused. Although it remains responsible for major canals, irrigation, drainage, and the reclamation of unpopulated desert land, it is strongly encouraging the private sector and foreign companies, cooperatives, and joint ventures to lease or buy reclaimed land and further develop production in populated areas.

Production

Government supervision of agriculture has been extensive in Egypt. It includes determining the type and timing of crops, and even nominally private enterprise

has been subject to price controls, import allocations, and production controls.

International trade in all major agricultural commodities also is government-controlled: the Ministry of Supply controls all basic food imports, and the major state trading companies are the exclusive exporters of the country's cash crops.

The sectoral surveys on Egyptian agriculture which are being prepared for the Investment Authority provide detailed information on current activity and potential development in three major areas of Egyptian agriculture. These are:

- The Processing and Distribution of Food Crops
- The Production and Processing of Livestock, Poultry, and Fish Products
- Integrated Agribusiness

6. INDUSTRY AND TOURISM

Egypt's industrial output is increasing very rapidly. It now contributes about 15 percent to GDP and is considered the key to the country's development. Real industrial output has been increasing by over 10 percent per annum.

Egypt's rapid industrial growth has accelerated demand and stimulated the rest of the economy. Most industrial expansion has been in import substitutions, but this has not improved the country's overall balance-of-payments position inasmuch as the demand for imports in other areas has been stimulated simultaneously.

The Structure of the Industrial Sector

Virtually all large industrial factories were nationalized in the early 1960s. The public sector companies established at that time now report to the Ministry of Industry and coordinate their activities through High Sectorial Councils, each of which has a Technical Secretariat. Investment and expansion decisions are made at the ministerial level through the Government Organization for Industrialization (GOFI).

Private sector and joint venture enterprises have multiplied rapidly since 1974. Today, as shown in the following table, the leading industrial sectors of the

Egyptian economy are textiles, food processing, metallurgy, chemicals, and engineering industries.

ESTIMATED INDUSTRIAL OUTPUT, 1980
(L.E. millions)

Sector	Value Added
Textiles and apparel	439.3
Food processing	279.7
Metallurgy	277.2
Chemicals, leather, and rubber	199.2
Engineering industries	180.1
Wood and paper	101.9
Other	93.7
Mining	44.9
Total	1,616.0

Source: Ministry of Planning.

Individual surveys on important segments of these industries have been prepared for the Investment Authority. They are as follows:

Food Processing

- The Processing and Distribution of Food Crops
- The Production and Processing of Livestock, Poultry, and Fish Products

Chemicals

- o Non-Food Chemical Process Industries
- o Health Care Products and Supplies

Engineering Industries

- o Non-Electrical Machinery and Equipment
- o Electrical and Electronic Machinery and Equipment
- o Automotive Components

Textiles

Historically, textiles have accounted for about 30 percent of Egypt's total industrial output. The spinning and weaving industries have been monopolized by the public sector since the early 1960s. Smaller private sector companies play a greater role in the production of finished goods and apparel.

Textile manufacture has attracted foreign investment on a large scale. Among the more notable undertakings are a major building program at the National Spinning and Weaving Company. funded by a $69-million World Bank loan; U.S. AID rehabilitation programs; and several joint ventures for large integrated mill projects and clothing manufacture.

Minerals and Metals

Among Egypt's mining and metals industries, the most important are phosphates, iron, and steel. Aluminum also

is performing well.

Phosphates

Phosphates are produced and exported from operations in Esna, Upper Egypt. In 1980, an estimated L.E. 3 million in revenues were anticipated from the export of phosphates. Consideration is being given to the development of sites in Qena and in El Samedan (Eastern Desert) as well as to a project to develop a billion tons of phosphate ore in the Western Desert.

Iron and Steel

Egypt's considerable reserves of iron ore are estimated at 136 million tons. Iron and steel (rolled stock, billets, sheets, sections, wire, nails, etc.) play an important role in the country's industrial development, and a major effort is underway to increase, particularly, the production of steel.

The Egyptian Iron and Steel Company (HADISOLB) at Helwan runs the country's major steel plant. Over L.E. 500 million are being invested in this facility in an attempt to upgrade the production of pig iron and liquid steel and to increase production to its capacity of over 1.5 million tons.

A new steel rolling mill with a designed capacity of 750,000 tons is planned for Sadat City, and an

integrated steel mill is to be completed at Dikheila, near Alexandria, in 1984. The latter project, which is expected to cost over $500 million, will be owned by the Egyptian government with participation by a Japanese consortium.

Aluminum

The cornerstone of Egypt's aluminum industry is the Nag Hammadi complex, which realized sales of $143 million in 1979. This plant, with a designed capacity of 100,000 tons, is being expanded to produce an additional 66,000 tons of aluminum alloy.

Joint ventures in the aluminum industry include the Arab Aluminum Company (Egypt, Kuwait, and the United States) and a project of Reynolds Aluminum and ICON, formerly Arab Contractors Employees Company.

Petroleum

Usually treated separately from the various industrial sectors, the petroleum sector, which is growing remarkably fast, has great potential and is one of the brightest spots on Egypt's economic horizon. As noted earlier, the petroleum industry has already had a major impact on the country's balance-of-payments position. As a result of both price and volume increases, export revenues rose from $1.8 billion in 1979 to $2.5 billion in 1980.

Proven recoverable reserves are estimated at about

4.3 billion barrels. In 1980, under the direction of the Egyptian General Petroleum Corporation (EGPC), production of crude oil reached 30 million tons. More than 80 percent of this production comes from the Gulf of Suez. Output by 1982 or 1983 is ambitiously projected to grow to some 50 million tons--about 350 million barrels, or 1 million barrels per day. L.E. 800 million have been allocated for investment in this sector between 1980-1984.

Unlike other areas of Egypt's economy, petroleum investments are not regulated by Law 43. In this sector, foreign investment is governed by individual concession agreements concluded between foreign companies and the EGPC.

Between 1973 and 1980, 79 such agreements were made (24 of them in 1980 alone), with a total commitment of $1.5 billion in exploration expenditure. These agreements also serve as umbrellas for contractors and subcontractors, who are eligible for all formal privileges of the concession, including

- special tax treatment
- arbitration of disputes
- duty-free entry of machinery, equipment, vehicles, supplies, consumables, and movable property

Egypt's major petroleum fields are run by GUPCO, a

joint venture between EGPC and Amoco. GUPCO, which accounts for about 80 percent of total production, takes some 475,000 barrels per day from the Gulf of Suez and 16,000 barrels per day from the Western Desert.

Among EGPC's joint ventures with other companies are the Suez Oil Company (SUCO), which it has formed in a 50-50 partnership with a consortium led by Deminex, and a joint venture in the Western Desert with Philips (WEPCO).

Foreign investment in petroleum generally takes the form of a production-sharing agreement in which the foreign company receives 40 percent of oil produced as cost recovery. After this, production is split 80 percent/20 percent between EGPC and the foreign partner. These percentages have differed in certain agreements on the basis of case-by-case negotiations. In the case of exploration and development of the Western Desert, additional incentive is offered to foreign participation by changing the ratio to 75 percent/25 percent.

Egypt also receives significant foreign currency earnings--approximately $70 million in 1978--from the Suez Mediterranean (Sumed) Pipeline, which runs from Ain Sukhna on the Gulf of Suez to Sidi Kreir, west of Alexandria.

Gas

To offset the natural decline in oil production and

provide for the increasing consumption of fuel required by the country's economic development, Egypt is concentrating special attention on the production of gas.

Egypt's proven gas reserves are estimated at nearly 5.5 trillion cubic feet. Current gas production is approaching 300 million cubic feet per day. To encourage the use of gas rather than crude oil whenever possible, a large pipeline is now being laid between the Gulf of Suez and Suez City. Liquid petroleum gases will be extracted for domestic use, and associated gas will be used for industrial purposes. Because butane gas is a government-subsidized commodity, replacing imported butane with domestically produced LPG is expected to have a highly beneficial impact on the national budget.

Tourism

Tourism is one of Egypt's major earners of foreign exchange. The country's extraordinary combination of historical interest, geographical location, and mild climate have spurred the rapid expansion of this sector, which today has an annual growth rate of 25 percent.

Until recently, Egypt's tourist industry has been limited only by the lack of sufficient hotel accommodations. Hotel occupancy rates have ranged over 90 percent. However, almost 3,000 new rooms were added in

1980, and revenues jumped from L.E. 156 million in 1976 to L.E. 780 million in 1980, when the country was visited by over one million tourists.

The Ministry of Tourism is responsible for the development of this sector. Its principal operating agency, the Egyptian Company for Tourism and Hotels (EGOTH), owns and operates many leading hotels, participates as a partner in others, and maintains standards for the entire industry.

Government investments of L.E. 500 million are planned for the tourist industry between 1980-1984. Tourism is an attractive area for foreign investment, and the government provides many incentives towards this end--among them, the "Tourist Law," which provides a five-year tax holiday for certain hotel and tourist establishments designated by the Ministry of Tourism.

7. PUBLIC SERVICES

Housing

The current Five-Year Plan allocates a total of nearly L.E. 4.7 billion to the construction and housing sector. Of this amount, L.E. 2.9 billion comes from the public sector and L.E. 1.8 billion from the private sector.

Egypt's housing shortage, which amounts to some 1.5 million units, is acute. By the end of 1984, the government plans to build 615,000 units. In 1980, in its L.E. 245-million appropriation for infrastructure, Cairo alone provided for the building of 22,500 new homes.

As noted earlier, the government is attempting to delay the urbanization of further arable land and divert the increasing population from already congested cities by establishing new developments elsewhere. Major foci of the housing program are the Suez Canal rea, the central zones of the Western and Eastern deserts, the Sinai peninsula, and the "satellite" desert cities around Cairo and Alexandria.

To encourage more foreign investment in housing and construction and strengthen moves to mechanize the industry, Egypt has liberalized its investment regulations. Thus, 1977 amendments to Law 43 permit approved projects in

additional areas as well as the establishment of joint venture companies for construction contracting. Such companies require no less than 50 percent Egyptian capital.

Building materials industries--including cement, glass, brick, porcelain, lime, and gypsum--also are being given substantial encouragement. Despite the fact that cement output, for example, has increased (by 23 percent, to 3.7 million tons), it still cannot keep up with demand (six million tons). To help meet demand, innovative plans for a number of new cement plants therefore are now underway.

A notable venture in this area is the Suez Cement Company, which was established to build two cement plants under Law 43, with major assistance from U.S. AID. New facilities are also projected for Qattemaya and Sadat City, and investments of $100 million were planned in 1981.

Egypt is also building brick works; gypsum-processing facilities; ceramics plants; and other, related facilities such as a sheet glass plant in Tenth of Ramadan City. This Law 43 venture is also to receive funds from U.S. AID under its Private Investment Encouragement Fund.

A detailed survey on construction materials, components, and systems has been prepared for the Investment Authority.

Transport and Communications

The transportation and communications sector is to receive 15 percent of allocations under the Five-Year Plan, an investment of over L.E. 3.6 billion.

Roads

Egypt's road network of about 28,000 kilometers covers the Delta area and the coastline of the Red Sea. As it is upgraded and extended, special emphasis will be given to the links between the major cities and the new satellite towns. A number of highways (between Cairo, Port Said, and Ismailia, for example) are planned, and construction has started on a number of major tunnels.

Railroads

As for railroads, total track, with major links from Alexandria to Aswan and to the Libyan border and the Suez Canal, amounts to about 7,000 kilometers. Railroads carry about 50 percent of all freight and 30 percent of all passengers in Egypt. However, despite its importance, much of Egypt's rail system is in need of rehabilitation and new equipment. Over L.E. 140 million have been allocated for this purpose.

Waterways

Inland navigation, another important facet of Egypt's transportation network, is comprised of the 1,600-kilometer

Nile River system and ancther 1,600 kilometers of navigable canals.

Telecommunications

Egypt is making enormous investments in developing telecommunications systems. A major contract, worth $1.8 billion, for the development of the national network has been awarded to Siemens West Germany, Siemens Austria, and Thomson CSF (France). The governments of all three countries are expected to aid in financing a five-year project which calls for the installation of 500,000 new telephone lines and the rehabilitation of another 250,000 existing lines.

This program is of the utmost importance inasmuch as the country's telecommunications system is vastly overburdened. Interruptions in domestic service are not infrequent, and although the National Telecommunications Organization (ARENTO) can install about 10,000 new lines annually, waiting lists for telephones number in the hundreds of thousands.

In contrast, Egypt's international communications system, particularly telex, is relatively good.

Power

Energy is in good supply in Egypt. Two large hydroelectric stations (Aswan and Aswan High Dam) provide

50 percent of installed capacity and about 60 percent of the country's 16.5 billion KWH power output. By 1980, installed capacity amounted to 4,600 MW--a ten-fold increase over the 400 MW figure of 1952.

Thermal capacity of 2,250 MW is provided by ten thermal plants and five gas turbine plants. The current Five-Year Plan places great emphasis on the development of thermal power and projects a doubling of installed thermal capacity by 1984.

A number of new gas turbine and thermal plants are being constructed, and a rural electrification program to link 2,000 villages also is underway. It is estimated that, by the end of 1981, 900 villages received new or rehabilitated lines. Equipment also will be installed in satellite towns and in 34 cities. U.S. AID and the World Bank are involved in several of these programs.

There is a major project also to upgrade the Aswan station, add a 300 MW generator to the Shubra el Khaima thermal station, and add 7,000 kilometers of lines to Egypt's power infrastructure. But despite these improvements, over the next 20 years power output may have to be trebled to meet projected demand. The Egyptian government therefore is negotiating with the U.S., French,

and German governments to construct between eight and ten nuclear power plants with a total capacity of 9,600 MW.

Project Officer: STEFFI MEYER
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BUSINESS SUPPORT AND INVESTMENT
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1-1-01	:	Concept Papers & PID - including documents from the investment climate
1-1-02	:	Letters (General)
1-1-03	:	Telegrams (General)
1-1-04	:	Telexes (General)
1-1-05	:	Memos (General), Statement of Investment Climate Emb/Econ 1982 Invest. Climate Info., NE Bureau Summary of Private Sector Activities, Bentley-Suma memo on IC projects, Local Govt. in Egypt, Papenek Summary
1-1-06	:	Joint Business Council
1-1-07	:	Accounting and Auditing
1-1-08	:	Capital Markets, T. Reilly-Suma Summary Memo
1-1-09	:	Investment Authority
1-1-10	:	Legal and Financial Infrastructure

1-1-11	:	PP Guidance Cable, USAID Interim Response Cable
1-1-12	:	Egyptian Private Sector Contacts, Proposed Draft Constitution of U.S. Chamber of Commerce in Egypt
1-1-13	:	Investment Negotiation Seminar
1-1-14	:	USAID Executive Comittee Info.
1-2A-01	:	Contract and Related Info. (IDA)
1-2A-02	:	Thompson Contract Correspondence (IDA)
1-2A-03	:	Advertisements and Annual Programming for IDA
1-2A-04	:	IDA Report
1-3-01	:	Pre-Authorization Waiver Requests (IFC/NAA)
1-3-02	:	VDMcCutcheon-Iskandar letter for PIEF and Private Sector Feasibility Studies
1-3-03	:	Final and Draft Decrees for Pr. Sctr. Steering Committee (in Arabic), Mubarak Speech (Economic Content) 7/27/82, MIIC Presidential Decree
1-3-04	:	Congressional Notification
1-3-05	:	Pre-Project Correspondence

2-1-01	:	Project Paper and Authorization
2-1-02	:	PP Drafts
2-1-03	:	Project Agreement
2-2A-01	:	Capital Markets Authority Activity
2-2A-02	:	CMA - PILs
2-2B-01	:	Accounting and Auditing Activity (Syndicate)
2-2C-01	:	Investment Authority
2-2D-01	:	Technology Transfer (IESC)
2-2E-01	:	Legal and Financial Infrastructure
2-3-01	:	PILs (Overall Project)
2-7-01	:	Programmatic Documents
2-7-02	:	Financial Reports

8. EGYPT'S INVESTMENT ENVIRONMENT

The "Open Door" Policy

The passage in 1974 of Law 43 ("Concerning the Investment of Arab and Foreign Funds and the Free Zones") heralded the beginning of a new chapter in Egypt's economic history.

With the understanding that foreign and private investment would have a profoundly beneficial effect on the nation's economy, Law 43 was adopted to encourage the transfer of Western technology and know-how to joint ventures with Egyptian capital. Although the law allowed in very exceptional cases for full foreign ownership, its full benefits originally were extended to Egyptian capital (i.e., Egyptian pounds) only when such capital was joined with foreign capital.

Under the amendments introduced by Law 32 (1977), projects established entirely with Egyptian capital now enjoy some privileges under specific articles. Subject to the approval of the Investment Authority, Law 43 can also apply to certain companies established before 1974 and subsequently expanded through an increase in equity shares.

Benefits under Law 43

Under certain conditions and with Investment Authority

approval, Law 43 offers a broad array of benefits to prospective investors:

- o specific regulations regarding the repatriation of profits
- o repatriation of capital five years after its importation
- o allowance to sell shares of a venture for foreign currency which can be repatriated immediately
- o tax holidays for five years, with possibilities of extension
- o the right to purchase foreign currencies in the own exchange market
- o freedom from local taxes for free zones projects (except V.A.T.)
- o freedom from duties on goods transported between free zones and foreign countries
- o exemption from government regulations on labor participation in management, profit-sharing, and board composition
- o expatriate wage repatriation of up to 50 percent of gross earnings
- o customs exemptions or deferment for all or part of the capital assets of a

project (by presidential decree, on the recommendation of the Authority)

The General Authority for Investment and Free Zones

Since Law 43 was passed, outside of the petroleum sector, most foreign investment in Egypt has been made under the provisions of this legislation, which is administered by the Investment and Free Zones Authority. Well over 1,200 companies have been established, and it is estimated that, in 1980, approximately $1.1 billion in private foreign investment entered the country.

Although all kinds of foreign investment are encouraged, priority is given to projects with

- o foreign exchange earnings potential (exports, for example, or tourism)
- o foreign exchange savings potential (import substitution, for example)
- o advanced technology and product innovation

Under Law 43, foreign investors can undertake either "inland" projects or "free zones" projects. Although the former usually require the participation of Egyptian investors, the latter do not. All projects under Law 43 are considered private sector projects even though they include public sector equity. In fact, even if public sector participation is close to 100 percent, if any private sector equity is

involved, a project is considered private. Because of the many advantages of Law 43, public sector companies have significant incentives to expand or to develop new projects as Law 43 joint ventures with private investors, both local and foreign.

The "New Economic Policy"

Shortly after the inception of Law 43, it became apparent that prospective investors, who frequently attempted to do business without expert advice, perceived a number of difficulties: bureaucratic delays in obtaining final government approval for a project, questions regarding the interpretation of customs regulations and lengthy clearing processes with customs, complicated tax interpretations and procedures, conflicts with public sector industries concerning market shares and pricing policies, difficulties determining site location, and conflicts over the provision of infrastructural services to projects.

To address these problems, a number of corrective measures have been taken. First, in June 1977, the People's Assembly amended Law 43 with Law 32. This amendment expanded the areas of activity for joint ventures, added new exemptions from the Companies Law, extended some of the benefits of Law 43 to enterprises utilizing Egyptian capital exclusively (whether or not in joint ventures),

and established a single exchange rate (the unified exchange rate) for inflows and outflows of foreign currency.

Second, by Decree 375 of 1977, the Minister of the Economy, who serves as Chairman of the Investment Authority, stipulated that:

- The Authority must submit its report on the application of a prospective foreign investor within two months after the completion of the application.
- A project would be considered approved by any technically competent agency that failed to reply one month after the Authority's request for an opinion.

The Decree also clarifies the rules concerning transfer of profits and foreign currency accounts.

The Authority itself also has taken a number of steps to dispel confusion among investors. These include a simplification of the approval process so that applications can be processed by the Authority in conjunction with relevant government agencies and submitted for approval to the Authority's board.

Further, the Authority has set up offices at many of the agencies concerned with documentation (the General Notary and Commercial Registry, for example).

Since the institution of these economic reforms in mid-1980, the Egyptian government's intensive encouragement of private investment and its reduction of bureaucratic and regulatory obstacles to such investment has been referred to as Egypt's "New Economic Policy."

Considering a Joint Venture

Generally speaking, it is obviously extremely important to know in detail the government's role in the industry in which investment is being considered. The government often provides Egyptian companies (public and private) with subsidized inputs to which the Law 43 joint-venture company may not be entitled. These include electricity, fuel, and water as well as principal raw materials. The government may also directly or indirectly influence the prices that can be charged for the company's output as well as where or how the product can be marketed.

It may not always be appropriate to organize a joint venture under the terms of Law 43. For example, the New Companies Law (Law 159 of 1981) and the Law of New Communities may be more appropriate in certain cases. On the other hand, the Law 43 company has many advantages with regard to taxes, labor regulations, and other matters, as noted earlier in this chapter.

In any event, before deciding to invest in Egypt, the U.S. company should examine carefully the alternatives open to it.

A company considering a joint venture in Egypt must also be prepared to specify in a written proposal the terms necessary to make the investment attractive. These terms may include guarantees with regard to price, quantity, and quality of raw materials; availability and prices of utilities, land, and infrastructure; marketing terms, including prices of products and quantities to be purchased by government organizations and companies; sales and price policy in the open market in Egypt; import and export terms and constraints. A firm proposal covering these and other matters is of particular importance in food industries inasmuch as the government plays such an important role in that sector.

Aids to Private U.S. Investment

In addition to the new economic legislation, U.S. investment in Egypt has been facilitated by the Egypt-U.S. Business Council and U.S. AID.

The Egypt-U.S. Business Council was established in 1974 to provide a forum for business and government leaders to discuss and resolve problems of bilateral business cooperation. The Council, which has its U.S. headquarters at the Chamber of Commerce in Washington, D.C., has identified bureaucratic and other obstacles to U.S. investment in Egypt and has encouraged official efforts to remove them.

In addition, an office has recently been established in Cairo to assist U.S. firms in project analysis, approval, and implementation.

Among the most recent U.S. AID projects that have been designed to assist prospective foreign investors are:

- an Investment Information Center to be established within the Investment Authority that will provide reliable information on economic, financial, and legal questions to private companies studying or implementing new investment projects
- a Private Investment Encouragement Fund that provides concessionary dollar financing for private sector investment projects involving U.S. equipment
- a Private Sector Feasibility Studies project that (a) will help the Investment Authority to identify investment opportunities for U.S. companies in ten sectors of the Egyptian economy, and (b) will provide direct reimbursement to these companies for part of the cost of making initial reconnaissance visits to Egypt and of doing full-scale feasibility studies

Examples of Private U.S. Investment

The following table lists examples of U.S. investment projects established in Egypt since 1977.

EXAMPLES OF U.S. INDUSTRIAL
INVESTMENT PROJECTS UNDER LAW 43

Sector	Number of Projects	Selected U.S. Companies
Agriculture and food processing	6	International Multi Foods, Warner Lambert
Oil and gas field services	6	J. Ray McDermott, McEvoy, Texas Instruments, Tri-State Oil Tools, Schlumberger
Chemicals and pharmaceuticals	7	Colgate Palmolive, Johnson Wax, Squibb, Union Carbide
Engineering, mechanical, and metallurgy	17	Ford, Otis Elevator, Xerox, Reynolds Metals, General Motors
Other manufacturing	11	Gillette, Warner Lambert
Construction and contracting	5	Brown and Root, Raymond International, Sam P. Wallace
Other services	26	Carrier International, Dynavision, I.B.M., N.C.R., Parsons Brinckerhoff
Total	78	

9. REGULATION OF FOREIGN INVESTMENT

Inland Investments under Law 43

For the most part, projects approved under Law 43 are joint ventures in participation with public or private Egyptian capital. Law 43 makes distinctions between foreign, Arab, and Egyptian capital, opening some fields to joint ventures only by the latter two (commercial housing projects, for example). On the other hand, some fields (such as industries with high technology) do not require Egyptian capital to enjoy the benefits of the law. Solely Egyptian projects in any business sector may enjoy limited benefits under Law 43.

The law contains provisions prohibiting nationalization and confiscation of projects or seizure of their assets. It extends very liberal benefits to projects such as those as listed above, and it classifies projects as being in the private sector, thus removing them from the regulations applicable to public sector companies.

Egypt is a signatory of the International Convention for the Settlement of Investment Disputes, and the right to arbitration of commercial disputes with the government is recognized by law.

Since 1973, Egypt and the United States have had an investment guarantee agreement that provides for political risk insurance for U.S. private investment in Egypt. This is administered through the Overseas Private Investment Corporation (OPIC). In addition, a bilateral investment treaty is being negotiated between the two countries.

Repatriation of Capital

As amended by Law 32 of 1977, Law 43 provides that invested capital and profits are to b transferred abroad at "the highest rate prevailing and declared for freely convertible foreign currency by the competent Egyptian Authorities." Invested capital can be repatriated with the approval of the Investment Authority in five equal annual installments five years after it has been imported.

The application of this rule is flexible, and permits variation from the stipulations of five years, annual installments, and even Investment Authority approval. Thus, capital can be immediately repatriated before five years have elapsed if

- there is sufficient foreign currency in the foreign currency account
- shares are sold for foreign currency
- or, in exceptional cases, shares are accepted by the Investment Authority

In the first and second cases, capital is exempted from the five-year period before repatriation and from the five annual installments requirement. In the third case, only the five-year waiting period is waived, and repatriation takes place in annual installments.

Repatriation of Profits

The Investment Authority is most favorable to projects that maximize export earnings. However, even projects that do not generate foreign exchange can purchase their foreign currency requirements from the "own exchange market." (The buyer and seller negotiate the deal. After the terms are agreed upon, the execution of the transaction must take place over accounts with an accredited bank.) Prior to the enactment of Law 43, foreign currency could be obtained only by exporting or through sales in foreign currency to the local market. By enabling projects to purchase foreign exchange required for repatriation of profits, Law 43 greatly facilitates such repatriation.

Projects that are not export-oriented but that "limit the country's needs for imports" can transfer their net profits, in whole or in part, within the limits approved by the Authority and subject to currency regulations. Net revenue on housing paid in freely convertible foreign currency is transferable in full. Different percentages

are allowed for other rentals, depending upon the type of housing project.

Forms of Investment

Although, under Law 43, the joint venture is usually the required form of organization, there are exceptions: projects, for example, that are established entirely with Egyptian capital and owned by Egyptian nationals, or projects established entirely with foreign capital and owned by foreign nationals.

In special cases, and only on the approval of two-thirds of the Investment Authority board, Egypt permits full foreign ownership of a project. Law 43 provides that the "investment of Arab and foreign capital in the Arab Republic of Egypt shall be for the purpose of realizing objectives of economic and social development." E.R. Squibb's sophisticated pharmaceutical production facility is an example of this type of venture.

Joint ventures may take a number of forms. These include joint stock companies, limited liability companies, partnerships limited by shares, and limited or simple partnerships. Some additional requirements apply to certain types of projects. For example, banks can engage in local currency transactions only if they are joint stock companies with a minimum of 51 percent Egyptian

capital, and joint ventures in construction contracting must be joint stock companies with a minimum of 50 percent Egyptian participation.

Investment in the Free Zones

The concept of the free zones capitalizes upon Egypt's central geographical location in the Middle East and encourages the use of the country as an export platform to the surrounding region as well as to Europe.

Though physically located in Egypt (in Cairo, Alexandria, Port Said, and Suez), for legal purposes the free zones are regarded as being outside the country. As such, the free zones are used to conduct four categories of activities:

- Storage and warehousing. The most popular type of business in the free zones so far, these establishments include facilities for the storage of goods in transit through Egypt, local goods destined for export, and foreign goods arriving in Egypt.
- Mixing and repacking. This business includes facilities for sorting, cleaning, mixing, blending, and repacking, and for similar operations

that adapt goods warehoused in the free zones to trade requirements.

- o Assembly and manufacturing for export. These facilities are engaged in the assembly of machinery or equipment with mounting, processing, renewing, or similar operations designed to capitalize on the location of Egypt and the free zones to re-export or otherwise service markets outside Egypt.
- o Service. These facilities provide ancillary operations and services to firms located in the free zones.

Benefits of the Free Zones

Among the various benefits of doing business in free zones are the following:

- o Goods entering or leaving free zones, and instruments, equipment, machinery, and transportation equipment needed by authorized establishments are exempted from usual customs procedures, taxes, and duties. Local goods entering free zones are subject to export

formalities and other taxes unless permitted temporary entry for repair or complementary operations, in which case a customs tax is payable in respect of the repair or other operations. Goods withdrawn from the free zones for local consumption are subject to local customs and other import regulations (as though they were imported), with allowance made for whatever portion of such goods contains local material.

- o Free zone projects, and dividends thereof, are exempt from all Egyptian taxes, paying only an annual duty not exceeding 1 percent of the value of goods entering or leaving the zone for account of the project (or, if no such activity is conducted by the project, an annual duty not exceeding 3 percent of the project's annual value added).
- o Compensation and other payments to foreign employees of free zone projects are exempt from the general tax on income.

- The guarantee of Law 43 against nationalization of projects and against confiscation of assets, and so forth, except through judicial procedure, is extended to free zone projects.
- Free zone transactions, including those with other countries, are exempt from Egyptian exchange control.

10. TAXATION

Taxation of Corporations under Law 43

Projects under Law 43 are generally eligible for tax holidays of five years and, in exceptional cases, of holidays up to 15 years. Corporate taxation is regulated by Article 16, "without prejudice to more favorable tax exceptions provided for in any other law." Because corporate taxes can typically be as high as 40 percent, savings under Law 43 are significant.

For five years, projects are exempted from tax on commercial and industrial profits. Distributed profits are exempted from the tax on revenues from moveable capital and "as the case may be," from tax on commercial and industrial profits and other taxes. The law also provides for a five-year exemption for "proceeds of... profits which are reinvested in the enterprise." Special reserves that are debited to the distribution account and allocated to consolidate the company's financial position profits earned during the tax holidays are exempt from taxes even if distributed after the expiration of the holiday.

These exemptions apply for five years from the first fiscal year subsequent to "commencement of engagement in activities," or for five years after reinvestment. Projects

relating to (1) reconstruction, (2) new cities outside the agricultural area or the perimeters of existing cities, (3) land reclamation, and (4) projects of special importance to the national economy are eligible for tax holiday of eight, ten, or even 15 years (the last by presidential decree).

Even after the expiration of tax exemption periods, profits distributed by a project are exempted from general income tax up to a maximum of 5 percent of the original amount of the taxpayer's share in the invested capital. Also exempted from "all taxes and dues" is interest due on loans in foreign currency concluded by the project (even if in the form of a deposit).

The law also provides for the possibility of relief (exemptions and deferments) from customs duties for "all capital assets and imported construction material and components necessary for founding projects." However, if such exempted assets are disposed of within five years, all taxes previously due are paid.

Personal Taxation under Law 43

Exemptions from taxation of profits under Article 16 of Law 43 (see Appendix) also pertain to those profits after their distribution--that is, when they constitute personal income. Such exempted profits are not subject to the "general tax on income," which is the annual tax levied on all personal income.

Under Egypt's general tax law (not Law 43), foreign employees working in Egypt for less than six months in any one year are only subject to a flat tax rate of 10 percent, and accommodations provided to such employees are tax-free.

Foreign employees of projects under Law 43 are permitted to remit 50 percent of their gross earnings. Payments subject to the Employee Earnings Tax are exempt from the general tax on personal income. For tax purposes, foreign employees are not generally considered residents. Residents are taxed on both domestic and foreign incomes.

The Egypt-U.S. Double Taxation Treaty

On August 24, 1980, Egypt and the United States signed a convention on "Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income," which was ratified by the People's Assembly of Egypt and the U.S. Congress in 1981.

Excerpts from the principal Articles of the Convention covering taxation of corporate and personal income are presented below. The following Articles also appear in the Convention:

Source of Income (Article 4), Income from Real Property (Article 7), Shipping and Air Transport (Article 9), Capital Gains (Article 14), Independent and Dependent Personal Services (Articles 15 and 16), Government Employees, Teachers, Students and Trainees (Articles 21, 22, 23), Investment of Holding Companies (Article 24), among others.

Egypt-U.S. Double Taxation Treaty: Selected Articles

The Government of the United States of America and the Government of the Arab Republic of Egypt, desiring to conclude a convention for the avoidance of double taxation of income, the prevention of fiscal evasion with respect to taxes on income, and the elimination of obstacles to international trade and investment, have agreed as follows:

Article 1 (Excerpts)

Taxes Covered

(I) The taxes which are the subject of this Convention are:

a. In the case of the United States, the Federal income taxes imposed by the Internal Revenue Code but excluding the accumulated earnings tax and the personal holding company tax, and

b. In the case of Egypt:
   1. Tax on income derived from immovable property (including the land tax, the building tax, and the ghaffir tax),
   2. Tax on income from movable capital;
   3. Tax on commercial and industrial profits;
   4. Tax on wages, salaries, indemnities, and pensions;
   5. Tax on profits from liberal professions and all other non-commercial professions;
   6. General income tax;
   7. Defense tax;
   8. National Security tax;
   9. War tax; and
   10. Supplementary taxes imposed as a percentage of taxes mentioned above.

Article 2 (Excerpts)

General Definitions

a. The term "Contracting State" means the United States or Egypt, as the context requires.

b. The term "State" means any national State, whether or not one of the Contracting States.

c. The term "person" includes an individual, a partnership, a corporation, an estate, or a trust.

Article 3 (Excerpts)

Fiscal Residence

In this Convention:

a. The term "resident of Egypt" means:
   1. an Egyptian corporation, and
   2. Any other person (except a corporation or an entity treated under Egyptian law as a corporation) resident in Egypt for purposes of Egyptian tax...

Article 5 (Excerpts)

Permanent Establishment

1. For the purpose of this Convention, the term "permanent establishment" means a fixed place of business through which a resident of one of the Contracting States engages in industrial or commercial activity.
2. The term "permanent establishment" includes but is not limited to:
   a. A seat of management,
   b. A branch;
   c. An office;
   d. A factory;
   e. A workshop;
   f. A mine, quarry, or other place of extraction of natural resources; and
   g. The maintenance of a building site or construction or installation project which exists for more than 6 months.
3. Notwithstanding paragraphs (1) and (2), a permanent establishment shall not include a fixed place of business used only for one or more of the following: [a list follows of activities].

Article 8 (Excerpts)

Business Profits

1. Industrial or commercial profits of a resident of one of the Contracting States shall be exempt from tax by the other Contracting State unless the resident has a permanent establishment in that other Contracting State. If the resident has a permanent establishment in that other Contracting State, tax may be imposed by that other Contracting State on the industrial or commer-

cial profits of the resident but only on so much of them as are attributable to the permanent establishment...

3. In the determination of the industrial or commercial profits of a permanent establishment, there shall be allowed as deductions expenses which are reasonably connected with such profits, including executive and general administrative expenses, whether incurred in the Contracting State in which the permanent establishment is situated or elsewhere...
5. The term "industrial or commercial profits" includes, but is not limited to, income derived from manufacturing, mercantile, banking, insurance, agricultural, fishing or mining activities, the operation of ships or aircraft, the furnishing of services, the rental of tangible personal (movable) property, and the rental or licensing of motion picture films or films or tapes used for radio or television broadcasting. Such term does not include the performance of personal services by an individual either as an employee or in an independent capacity.
6. For purposes of paragraph (1), industrial or commercial profits which are attributable to a permanent establishment include income from dividends, interest, royalties (as defined in paragraph (2) of Article 13 (Royalties), and capital gains and income derived from property and natural resources, but only if such income is effectively connected with the permanent establishment...

Article 11 (Excerpts)

Dividends

1. Dividends derived from sources within one of the Contracting States by a resident of the other Contracting State may be taxed by both Contracting States...
3. Dividends paid by an Egyptian Corporation to a resident of the United States shall in Egypt be subject (a) to the tax on income derived from movable capital, the defense tax, national security tax, war tax, the supplementary taxes on the foregoing, and substantially similar taxes enacted after the date of signature of this Convention (which taxes shall be deducted at source), provided that such dividends, if distributed out of the taxable profits of the same taxable year and not out of accumulated reserves or assets, shall be allowed as a deduction from the amount of the company's taxable income or profits subject to tax as industrial or commercial profits... The dividends payable to the United States corporation shall not be subject to any taxes other than those [so] described.
[The above paragraph] shall not apply if such dividends are treated, under paragraph (6) of Article 8 (Business Profits), as industrial or commercial profits attributable to a permanent establishment which the recipient, a resident of one Contracting State, has in the other Contracting State. In such case the provisions of Article 8 shall apply...
6. Dividends deemed to be paid, according to the provisions of Egyptian taxation law, out of yearly profits by a permanent establishment maintained in Egypt by a United States corporation whose activities extend to countries other than Egypt shall in Egypt be treated in the manner provided by paragraph (3).

Article 12 (Excerpts)

Interest

1. Interest derived by a resident of one of the Contracting States from sources within the other Contracting State may be taxed by both Contracting States.
2. Interest derived by a resident of one of the Contracting States from sources within the other Contracting State shall not be taxed by the other Contracting State at a rate in excess of 15 percent of the gross amount of such interest.
3. Notwithstanding paragraphs (1) and

(2), interest beneficially derived by (a) one of the Contracting States, or by an instrumentality of that Contracting State, not subject to tax by that Contracting State on its income, or (b) a resident of such Contracting State with respect to loans made, guaranteed, or insured by that Contracting State or an instrumentality thereof, shall be exempt from tax by other Contracting State...

[The above paragraphs] shall not apply if the interest is treated, under paragraph (6) of Article 8 (Business Profits) as industrial or commercial profits attributable to a permanent establishment which the recipient, a resident of one Contracting State, has in the other Contracting State. In such a case, the provisions of Article 8 shall apply.

Article 13 (Excerpts)

Royalties

1. Royalties [as defined by the Treaty] derived by a resident of one of the Contracting States from sources within the other Contracting State may be taxed by both Contracting States. However, royalties shall not be taxed by the other Contracting State at a rate in excess of 15 percent of the gross amount of such royalty...
3. Paragraph 1. shall not apply if the recipient of the royalty, being a resident of one of the Contracting States, has in the other Contracting State a permanent establishment and the property or rights giving rise to the royalty is effectively connected with such permanent establishment. In such a case, the provisions of Article 8 (Business Profits) shall apply.

Article 25 (Excerpts)

Relief From Double Taxation

Double taxation of income shall be avoided in the following manner:

1. In accordance with the provisions and subject to the limitations of the law of the United States (as it may be amended from time to time without changing the general principle hereof), the United States shall allow to a citizen or resident of the United States as a credit against the United States tax the appropriate amount of taxes paid or accrued to Egypt and, in the case of a United States corporation owning at least 10 percent of the voting stock of an Egyptian corporation from which it receives dividends in any taxable year, shall allow credit for the appropriate amount of taxes paid or accrued to Egypt by the Egyptian corporation paying such dividends with respect to the profits out of which such dividends are paid. Such appropriate amount shall be based upon the amount of tax paid or accrued to Egypt, but the credit shall not exceed the limitations (for the purpose of limiting the credit to the United States tax on income from sources within Egypt or on income from sources outside of the United States) provided by United States law for the taxable year. For the purpose of applying the United States credit in relation to taxes paid or accrued to Egypt, the rules set forth in [the Double Taxation Treaty] shall be applied to determine the source of income. For purposes of applying the United States credit in relation to taxes paid or accrued to Egypt, the taxes referred to in paragraphs 1. b and 2. of Article 1 (Taxes Covered) shall be considered to be income taxes.

Article 31

Entry Into Force

This Convention shall be subject to ratification in accordance with the constitutional procedures of each Contracting State and instruments of ratification shall be exchanged at Washington as soon as possible. It shall enter into force 30 days after the date of exchange of instruments of ratification and shall then have effect for the first time:

a. As respects the rate of withholding tax, to amounts paid on or after the first day of the second month following the date on which this Convention enters into force.
b. As respects other taxes, to taxable years beginning on or after January 1 of the year following the date on which this Convention enters into force.

11. TRADING WITH EGYPT

The Context of Egypt's Foreign Trade

Egypt is a party to the GATT agreements of 1970. It also has a preferential trade agreement with the European Economic Community that provides for substantial tariff reductions on a wide variety of Egyptian exports to Europe.

In addition, Egypt is a member of the Arab Common Market. Although the Camp David agreements have somewhat reduced trade transactions between Egyptian and its Arab partners, these transactions traditionally have accounted for only 6.5 percent of Egypt's total trade.

Trade liberalization has changed Egypt's foreign trade picture over the last six years. Western Europe and the U.S. are now Egypt's major trading partners, buying 70 percent of its exports (versus 24 percent in 1973) and supplying 75 percent of its imports (versus 48 percent in 1973). The United States has granted Egypt most-favored-nation status.

The aggressive expansion of the private sector has, with the government's encouragement, extended to trade. For example:

- Except for certain strategic (or security) commodities such as cotton, yarn, rice, and oil,

the private sector can export anything.

- o Except for war materiel and some two dozen "security" food commodities that would present a direct threat to locally produced goods, the private sector can import anything.

Nevertheless, the public sector, which accounts for some 75 percent of total foreign trade, is the country's major foreign trader.

Imports

Since 1973, Egypt's imports have grown steadily until, in 1980, they reached approximately $7.7 billion. The following table illustrates the value of the country's imports between 1974 and 1980.

VALUE OF EGYPTIAN IMPORTS, 1974-1980

Year	Value ($ millions)
1974	3,182
1975	4,304
1976	4,195
1977	4,502
1978	5,272
1979	6,670
1980	7,570

Sources: Central Bank of Egypt; International Monetary Fund.

Total 1980 imports by country of origin are as follows:

TOTAL EGYPTIAN IMPORTS BY COUNTRY OF ORIGIN, 1980

Country	Percentage of Imports
United States	19.6
France	13.7
West Germany	10.7
United Kingdom	8.4
Italy	6.9
Japan	6.8
Australia	4.8
Spain	2.6
Belgium	2.2
The Netherlands	2.2
Others	22.1
Total	100.0

Sources: Central Bank of Egypt; International Monetary Fund.

Payments for imports by the public sector are made either through sight or short-term letters of credit funded with unified market funds or with foreign exchange that is generated by public sector exports.

Payments for imports by the private sector are generally made through the own exchange market or by letters of credit, with the foreign exchange provided from the importer's own reserves.

To control the purchase of imports and to encourage the banks to finance investment, in June 1980 the government passed Decree No. 15. This decree established new rules for private sector imports. Private companies can now import into Egypt only if they first open a letter of credit with a registered bank and deposit, depending upon the category of import, 25 percent, 40 percent, or 100 percent of its value with the bank.

The following categories have been established:

- o Category A: a 25-percent deposit on foods and medicines
- o Category B: a 40-percent deposit on raw material, semi-finished goods, and capital goods
- o Category C: a 100-percent deposit on luxury goods

Since August 1981, deposits under Categories A and B are payable in Egyptian currency and Category C deposits are

payable in foreign exchange. Companies established under Law 43 are exempted from this requirement.

Exports

Exports have increased dramatically since 1973. In 1980, they amounted to more than $3.8 billion. The following table shows the rising value of Egyptian exports between 1974 and 1980.

VALUE OF EGYPTIAN EXPORTS, 1974-1980

Year	Value ($ millions)
1974	1,672
1975	1,567
1976	1,609
1977	1,993
1978	1,984
1979	2,514
1980	3,850

Sources: Central Bank of Egypt;
International Monetary Fund.

The overwhelming majority of Egypt's export revenues from commodities are generated by oil, cotton, and textiles. The remainder result from exports of machinery and smaller items. Total 1980 exports by country of

destination are given in the following table.

TOTAL EGYPTIAN EXPORTS BY
COUNTRY OF DESTINATION, 1980

Country	Percentage of Exports
Italy	30.2
United Kingdom	15.1
Greece	10.2
United States	9.4
West Germany	4.1
USSR	3.7
Others	27.3
Total	100.0

Sources: Central Bank of Egypt;
International Monetary Fund.

Channels of Distribution

The channels of distribution in Egypt are composed of, or complemented by, agents and distributors, wholesale and retail trade, government procurement systems, foreign assistance programs, and expositions such as the Cairo Fair.

Agents and Distributors

Agents can act either for the public or private

sector. They must be of Egyptian nationality (born of an Egyptian father and grandfather), and have been residing in Egypt for at least five years.

Private sector enterprises can purchase goods either directly or through agents. Public sector companies can purchase goods only through agents, either private or public.

Agencies must be 100 percent Egyptian-owned, and all members of the Board of Directors must be Egyptian.

Agents must be registered with the Ministry of Foreign Trade and their commission revenues must be stated. An agent can be exclusive or not, represent a company throughout Egypt or only on a regional basis, and represent one product or several. A company can have different agents for different products.

By law, former government employees cannot be agents to foreign companies for a period of two years after leaving government service.

Wholesale and Retail Trade

Wholesale and distribution operations tend to be carried out by vertically integrated merchants or by public sector trading companies.

In contrast, Egypt's retail trade is dominated by a large number of small, privately owned shops and vendors.

Government cooperatives with hundreds of outlets also combine wholesale and retail activities by buying directly from importers, domestic cooperatives, or factories, and retailing through their own outlets. In addition, the government also operates large, relatively modern department stores in the major cities.

Government Procurement Systems

Various ministries establish their own priorities regarding specific imports and foreign exchange for the individual companies within their sector.

To import goods, a public company submits its request to its sector's foreign trade committee, providing details on price, means of payment, delivery date, and technical specifications. Approval by the foreign trade committee constitutes the necessary authorization for the execution of an import transaction. If purchases are of a wider magnitude, approval at a higher level may be required.

The purchasing company will usually issue a call for international tenders. Large tenders are announced daily in the Egyptian press. The U.S. Embassy receives copies of these large tenders, which are then published in the United States through the Department of Commerce.

For a fee, U.S. firms can purchase tender conditions and specifications from the Egyptian buyer or, in certain

cases, from the Egyptian Embassy in Washington. Local agents representing U.S. companies should be alert to tender amendments. Credit terms are usually requested by public companies.

Bids can be telexed to a registered agent and presented in a sealed envelope. Bids not submitted through a registered Egyptian agent will not be accepted. Bid price should be clearly spelled out as CIF or FOB. Bid bonds are usually requested and, if the firm does not receive the award, they are returned.

In settling on a contractor, "auction bidding" is frequently used. In this case, the Egyptian purchaser may attempt to bargain with the two or three lowest bidders to negotiate better prices or terms. Once the contract is awarded, performance bonds of 5-10 percent of the contract value are frequently required.

Payment is generally accomplished through letters of credit.

Foreign Assistance Programs

Since 1974, total foreign aid allocations to Egypt from all sources have exceeded $12 billion, of which $7 billion has actually been disbursed.

The largest contributions have come from OECD countries, which have provided $7 billion in loans and

grants. Arab countries have committed $3 billion, and the World Bank in excess of $1 billion. The contributions from the Arab countries were officially terminated in 1978 after the conclusion of the Camp David agreements. They have since been replaced to a large extent by increased financing from OECD countries. Direct project grants from a country are usually tied to a requirement that Egypt purchase equipment for the project from the donor country.

National export credit agencies play a significant role in financing the general importation of capital goods and large civil construction projects in Egypt. They often carry relatively low interest rates of 8-10.5 percent per annum and have long repayment periods.

The Cairo International Fair

The Cairo International Fair, with its many presentations on investment projects from a broad variety of economic sectors, offers an excellent source of information on investment in Egypt and an important opportunity to exchange ideas with other investors and trading partners. In 1981, the 14th Cairo Fair was participated in by over 1,000 companies from 30 countries.

U.S. Government Assistance

It should be noted by Egyptian companies and even the smallest American company interested in expanding its

activities in Egypt that official U.S. assistance to Egypt is one of the largest U.S. economic aid programs anywhere in the world.

American economic assistance to Egypt consists of three major programs administered by two agencies: the Department of Agriculture (DOA) and the Agency for International Development (AID).

Since 1978, commitments of U.S. economic aid to Egypt have averaged over $1 billion per year. The annual budget has generally been allocated among three major programs:

	Fiscal Year 1981
Commodity Import Program	$ 250 million
Project Loans and Grants	500 million
Public Law 480	275 million
	$1,025 million

A fourth assistance program is military and calls for an additional $1,500 million annually.

In addition, U.S. business is supported by two other U.S. government institutions: The Export-Import Bank, which offers guarantees on supplier's credits and will consider applications for longer-term financing for U.S. exports, and the Overseas Private Investment Corporation (see below).

U.S. business firms interested in participating in AID-supported projects should be aware that most marketing

efforts and decisions are made in Egypt. In the case of technical assistance and capital project loans and grants, the AID Mission in Cairo is a key decision-maker as to the character and size of a project. A contractor, however, is usually chosen by the Egyptian organization involved through competitive bidding procedures monitored by AID.

Special Components of the U.S. Aid Program

Several components of the U.S. aid program are designed specifically to support private business development in Egypt, both Egyptian and U.S. Four of these programs are described below.

(1) The Commodity Imports Program (CIP) finances the purchase by importers for the public and private sectors of a wide variety of American agricultural and industrial commodities and machinery. For a U.S. company, selling to Egypt under the CIP is best initiated by directly marketing to the Egyptian companies involved. AID serves as an advisor in these transactions and ensures that Egyptian companies get a fair deal from their U.S. counterparts.

A typical CIP transaction usually proceeds through the following procedures:

(a) Egyptian firm formulates tender for imports of goods or service.

(b) Tender is routed to appropriate Egyptian Ministry.

(c) AID/Cairo and AID/Washington review tender, its price, technical specification, and delivery date to assess eligibility.

(d) AID/Washington, through the Department of Commerce, notifies interested U.S. firms.

(e) U.S. firms submit bids to the Egyptian agency.

(f) Egyptian agency makes the awards to the lowest-priced offer.

(g) AID reviews the award.

(h) AID authorizes payment by letter of credit confirmed by a U.S. bank designated by the Egyptian government.

(i) U.S. supplier posts a performance letter of credit.

(j) Shipment is made.

(2) The Private Investment Encouragement (PIE) Fund is an Egyptian government organization established through a $30-million AID grant. It participates in medium- and long-term loans to enable Egyptian private sector enterprises and joint venture companies to import capital equipment from the United States. PIE Fund financing is very

attractive because, although disbursed in dollars, funds are repayable in Egyptian pounds. These funds are put together by a local commercial or joint-venture bank, to which interested Egyptian companies should direct their inquiries.

(3) The Private Sector Feasibility Studies Project has provided funds to the Egyptian Investment Authority to promote the participation of U.S. companies in investment projects in Egypt. With these funds the Investment Authority has established a program of new incentives, including partial reimbursement to any U.S. company for the cost of doing feasibility studies on investment projects, and to small U.S. companies for the cost of making an investment reconnaissance visit to Egypt. A brochure entitled "New Incentives for U.S. Investment in Egypt" describes this program in detail and is available from the Authority's New York Investment Bureau and from the offices of the Commercial Mission of the Egyptian Embassy in Washington, D.C.

(4) The Overseas Private Investment Corporation (OPIC), a U.S. government agency, makes available insurance and financing programs to U.S. companies interested in considering investment in Egypt.

As of June 30, 1981, OPIC had issued, for projects in Egypt, $130 million in political risk coverage against expropriation; inconvertibility of currency; and war, revolution, and insurrection. OPIC also offers direct loans, loan guarantees, and assistance for feasibility studies.

Foreign Trade Regulations

As part of the government's efforts to facilitate trading and investment, Egypt's foreign trade regulations have been undergoing a process of streamlining and simplification.

Import duties and other customs duties and taxes are collected on the basis of CIF value of imported goods. Eight types of taxes and duties are applicable to imported goods:

(1) Statistical Duty or Tax. Applies to all imported goods except wheat and represents 1 percent of CIF value of imported goods.

(2) Subsidy Tax. Applies to most imported goods and represents 10 percent of the CIF value of imported goods. Certain articles have been exempted from the subsidy tax: for example, periodicals, books, newspapers, films, glue, angles and sections of iron or steel, cigarette paper, silver, gold, coffee, public service passenger vehicles with

eight or more seats and motor vehicles for transport of goods or materials, animal feed, industrial and agricultural machinery and equipment, sugar, and milk. Reduced rates of 2-5 percent have been applied to some food articles, specific machinery, certain chemicals, pulp for paper manufacture, and some metals, among others. These lists change frequently and should be checked on a regular basis.

(3) Marine Duty. Except for goods exempted from import duty, all goods imported or exported through any marine port will pay a duty of 0.5 percent of CIF value.

(4) Porterage or Handling Duty. Collected according to kind of goods.

(5) Additional Excise and Consumption Duty. Applicable to alcoholic beverages only.

(6) Municipality Tax. Represents 3 percent of the sum of the subsidy tax, the statistical tax, and the import tariff.

(7) Import Tariff. Collected on the basis of published individual tariffs applicable to each type of goods imported, for example, packing and wrapping paper, 30 percent; pianos, 25

percent; electric rail locomotives, 2 percent; light reflectors, 300 percent; and so on. The schedule of rates was revised in May, 1980.

(8) Excise and Consumption Duty. Applicable to some 40 articles, such as carpets, matches, refrigerators, television sets, washing machines, vacuum cleaners, and so on.

Licensing, Patents, and Trademarks

Licensing

The government encourages foreign companies to license their technology and know-how in Egypt. Exclusive or non-exclusive licenses by foreign companies to Egyptian companies have increased greatly since the introduction of Law 43.

International licensors to Egyptian companies cover a variety of sectors--for example, automotive, tires, blades, consumer goods, cosmetics, soft drinks, mineral water, batteries, shoes, paints, cables, chemicals, animal feed products, elevators, health care products, and pharmaceuticals.

Before Law 43 was introduced, almost all licensing agreements were made through the public sector. Today licensing is also done through the Egyptian private sector. Under Law 43, a license may be considered as a contribution

in kind to the project's capital; royalties in such cases are forgone. More commonly, foreign partners to the venture provide the license in consideration for a royalty. If the licensee is a Law 43 company, the repatriation of royalties is facilitated. However, all royalties are subject to a withholding tax in Egypt.

Licensing fees are not legislated and are open for negotiations between the partners. Usually depending upon the size, type, and nature of technology of the project involved, the range is frequently from 1-5 percent of sales. The fee may also be a lump sum. Licensing fees do not normally include management or technical assistance fees, which are commonly based on profits.

It is worth noting that when licensing involves a joint venture, the foreign partner cannot require the Egyptian partner to buy raw materials from him.

Patents

A foreign individual or corporation seeking a patent in Egypt should submit application forms accompanied by a description, drawings, and supportive documents (all in Arabic) on the product/service to be patented. It takes an average of one year for approval to be granted or denied. Publication of approval in the Journal of Patents gives a patent official status.

Patents can last up to 15 years. In certain cases, they may be renewed for an additional five years. Fees related to patent registration are relatively low (in most cases under $100).

Trademarks

The government protects trademarks that have been submitted and filed with the Trademark Office. The process is similar to that followed for patents. Egyptian law enables the owner of a violated trademark to enforce his rights and inflicts severe penalties on violators.

12. PRACTICAL SUGGESTIONS

Sources of Information

For U.S. investors, information on prospective joint-venture partners is available from a number of sources, including:

- Egypt's General Authority for Investment and Free Zones
- Egyptian Investment Bureau, New York
- Offices of the Egyptian Commercial Mission in Washington, D.C., and in major cities around the world
- Commercial Office, U.S. Embassy, Cairo
- U.S. Department of Commerce
- Federation of Egyptian Industries
- Egyptian-American Chamber of Commerce
- Egypt-U.S. Business Council
- Special Trade Representative, Office of the President of the United States

Additional data on sources of information are listed in the appendixes.

Investors seeking joint-venture partners should keep in mind that whether the Egyptian partner in a joint venture is in the public or private sector, the venture itself will be treated as a private enterprise. The choice of partner can therefore be based on actual qualifications rather than on formal criteria.

Geography and Climate

Egypt, bounded by the Mediterranean and Red Seas, Libya, the Sudan, and Israel, covers a total area of one million square kilometers, of which 680,000 square kilometers are accounted for by the Western and Eastern Deserts.

Historically and geographically, the country has been divided into Lower Egypt (the northern area of the Nile Delta) and Upper Egypt (the southern area along the Nile Valley). The Delta covers about 26,000 square kilometers and the Nile Valley about 12,000 square kilometers.

North of Cairo, the Nile forks into two divisions, the Rosetta and the Damietta Rivers. Between the High Dam at Aswan and Cairo, the Nile Valley spreads over areas from between two to 16 kilometers wide. From the air, this land appears as a narrow green ribbon in the midst of a vast expanse of brown, parched land.

Egypt's climate is hot and dry. High precipitation areas, such as Alexandria, may receive some seven inches per year of rainfall. Aswan in the south, on the other hand, has an annual average of only 0.08 inches. Because of the warm temperatures in winter and the hot summer (reaching 50°C in some areas), year-round cultivation of crops is possible.

Practical Infcrmation for the Foreign Business Visitor

Language

Arabic is the official language of Egypt. Although English is widely used in international business correspondence, and French also is common, many official documents must be filed in Arabic.

Currency

The Egyptian pound (L.E. 1.00 = U.S. $1.23 at the unified exchange rate) consists of 100 piastres.

A visitor holding a foreign passport is not required to exchange a minimum amount of foreign currency on entering Egypt. However, if he extends his visit, he must transfer the equivalent of L.E. 120 for each month of extension. Upon leaving the country, he may convert Egyptian pounds into foreign currency only up to the amount for which he has receipts from an authorized bank showing his purchase of Egyptian pounds at the unified rate.

Entry and Exit Requirements

A valid passport and tourist or business visa issued by an Egyptian embassy or consulate is required for entry into the country. Visas are also issued at international ports of entry. Depending upon the entrant's point of origin, vaccination certificates for smallpox and/or cholera may be required. An airport tax of L.E. 4.00 is charged on leaving Egypt by airplane.

International Travel Connections

Cairo Airport, Egypt's only international airport, is served by Egyptair, by European and regional carriers, and by TWA from the United States. Connections to other destinations within Egypt are provided by Egyptair and the national railroad. Taxi service within Cairo and other urban centers is widely available, mainly at negotiated rates. In addition, Misr Tours provides fixed-price rental limousine services at major airports and hotels. Car rentals with or without drivers are also available through Avis, Hertz, Europcar, and other companies.

Hotels and Restaurants

International four- and five-star hotel accommodations are increasingly available in the Cairo area and in Alexandria. The five-star hotels in Cairo include the Hilton, two Sheratons, Meridien, El Salam, Holiday Inn, Mena House, Hyatt Prince, and Shepheards.

Room rates are controlled by the government and range from about L.E. 20-45 per night. All four- and five-star hotels have telex and international telephone facilities. Prices for meals at European-style restaurants range from very reasonable to very expensive.

Clothing

From April through October, tropical clothing is recommended in Cairo and the Delta. Winter evenings

can be distinctly chilly and, even during the day, the general lack of central heating makes woolen clothing appropriate.

Business Hours and Holidays

Normal business hours in Egypt are Saturday through Thursday, 8 A.M. to 2:00 PM. Commercial establishments usually reopen in the evening from 4-8 P.M. Friday is the legal weekly holiday.

All Islamic religious holidays are also observed in Egypt, as are certain political holidays. Because the Islamic calendar is based on the lunar calendar, it is not possible to predict in advance corresponding dates on the Western calendar. For 1982, the estimated holiday dates are as follows:

- January 6 — El Mawled El Nabawy
- March 8 — Syrian Revolution Day
- April 15 — Sham El Nessim
- June 18 — Evacuation Day
- July 23 — Revolution Day
- July 19-22 — Eid-El-Fetr (Ramadan Bairam)
- September 1 — Libyan National Day
- October 6 — Army-Forces Day
- Sept. 27-30 — Eid-El-Adha (Courban Bairam)
- October 24 — Suez City Day
- October 17 — Moslem New Year

Information for Foreign Residents

Entry Requirements

Egyptian companies or foreign companies with offices in Egypt must obtain official work permits to employ expatriates. Once work permits are in hand, residence visas may be obtained.

Office Space and Housing

In Cairo and Alexandria, the market for modern real estate has been tight for a number of years. New office space in desirable central locations may cost up to $15 per square meter per month, not including key money.

One-to-four bedroom apartments or villas in quiet residential neighborhoods or suburbs like Maadi can be rented on either a long- or short-term basis. Substantial prepayment and some key money are usually required. Although office and residential units are usually classified as "furnished," additional furniture and appliances are often necessary.

Schools

Several primary and secondary schools in the Cairo and Alexandria areas offer American-accredited curricula. In addition, excellent British, French, and German schools are available.

The American University of Cairo offers highly respected undergraduate and graduate curricula in English.

Medical Facilities

Thanks to its nine state medical schools, Egypt's health care system is the most highly developed in the Middle East. The system includes 80,000 beds in a number of conveniently located hospitals.

Recreational Activities

Egyptians take a great interest in many sports, particularly soccer. In addition, most middle class residents belong to sporting clubs, which provide playing fields; swimming pools; facilities for riding, racquet sports, golf, and other activities. Membership is open to foreign residents.

Cairo and Alexandria boast many movie houses, international cultural events, and two channels of color television broadcasts with selected programs in English and French.

Appendix 1

LAW NO. 43 OF 1974
CONCERNING THE INVESTMENT OF ARAB AND FOREIGN FUNDS
AND THE FREE ZONES AS AMENDED BY LAW NO. 32 OF 1977
(Selected Articles)

Chapter One:
Investment of Arab and Foreign Capital

Art. 1: The term "project" in the application of the provisions of this Law shall mean any activity included within any of the spheres therein specified and approved by the Board of Directors of the General Authority for Investment and Free Zones.

Art. 2: The term "invested capital" in the application of the provisions of this Law shall be deemed to mean the following:

i—Freely convertible foreign currency duly transferred to the Arab Republic of Egypt through a bank registered at the Central Bank of Egypt for utilization in the execution or expansion of a project;

ii—Machinery, equipment, transportation equipment, raw materials and commodity requirements imported from abroad necessary for the establishment or expansion of the project, provided that such are compatible with modern technological developments and have not been previously used, unless the Authority's Board of Directors grants exemption from such condition;

iii—Intangible assets, such as patents and trade marks registered with member states of the International Convention for the Protection of Industrial Property, or in accordance with the rules of international registration contained in the international conventions concluded in this respect and held by residents abroad and pertaining to the projects;

iv—Freely convertible foreign currency spent by the investor on preliminary studies, research, and incorporation and paid within the limits approved by the Authority's Board of Directors;

v—Profits realized by the project if utilized in increasing its capital or if invested in another project, conditional on the approval of the Authority's Board of Directors in both cases;

vi—Freely convertible foreign currency transferred to the Arab Republic of Egypt through a bank registered at the Central Bank of Egypt and utilized to subscribe to shares of stock in Egyptian companies or to purchase same from the stock exchange in the Arab Republic of Egypt in accordance with the rules adopted by the Authority's Board of Directors, and

vii—Freely convertible foreign currency transferred to the Arab Republic of Egypt through a bank registered at the Central Bank of Egypt and utilized in purchasing land, whether vacant or not, for the construction of buildings thereon pursuant to the provisions of this Law even if purchased before obtaining the Board of Director's approval so long as the act of purchase was effected according to the prevailing Laws and on a date subsequent to the entering into force of Law 65 of 1971.

The valuation of the invested capital referred to in items 2, 3 and 4 shall be subject to the approval of the Authority's Board of Directors and shall be made in accordance with the rules and procedures which shall be specified in the executive regulations

Article 2—bis: *Invested capital shall be transferred to, and exported from, the Arab Republic of Egypt, and profits generated therefrom shall be transferred in foreign currency abroad in accordance with the provisions of this Law, at the highest rate prevailing and declared for freely convertible foreign currency by the competent Egyptian authorities.*

The provisions of the preceding paragraph shall apply to invested capital required to purchase land and property that represent an integral part of the capital assets of projects approved by the General Authority for Investment and Free Zones.

Art. 3: The investment of Arab and foreign capital in the Arab Republic of Egypt shall be for the purpose of realizing objectives of economic and social development within the framework of the State's general policy and national plan provided that the investment is made in projects in need of international expertise in the spheres of modern development or in projects requiring foreign capital. The projects, contained in the lists to be prepared by the Authority and approved by the Council of Ministers, shall be in the following fields

i—Industrialization, mining, energy, tourism, transportation, and other fields;

ii—Animal production, water resources, and the reclamation and cultivation of barren and desert land.

The reclamation and cultivation of barren and desert land shall be under long-term tenancy not exceeding 50 years. On the recommendation of the Authority and by approval of the Council of Ministers, this period of tenancy may be extended for one or more periods not to exceed an additional 50 years.

iii—Projects for housing and for urban development, by which is meant investment in the subdivision of land into parcels and the construction of new buildings together with the provision of public utilities connected therewith.

The purchase of a building already in existence or of vacant land is not deemed to be a "project" in the context of the provisions of this Law unless intended for construction or for rebuilding and not for the purpose of resale in order to benefit from an increase in market value, without prejudice however to the regulations governing the disposal and repatriation of invested capital contained in this Law. The building shall be completed within the period specified by the Authority's Board of Directors with no obligation on the part of the State to condemn real property for such project.

iv—Investment companies which aim at utilizing funds in the fields enumerated in this Law.

v—Investment banks and merchant banks and reinsurance companies whose activities shall be confined to transactions effected in freely convertible foreign currencies. The aforementioned banks and companies are entitled to directly undertake financing and investment operations, whether they are in projects in the free zones or for local, joint or foreign projects established within the Arab Republic of Egypt. They may also finance Egyptian foreign trade transaction,

vi—Banks engaging in local currency transactions, so long as they are in the form of joint ventures in which local Egyptian capital constitutes at least 51% of the total;

vii—Construction activities in regions outside the agricultural area and the perimeters of existing cities;

viii—Construction contracting activities undertaken by Joint Stock Companies in which there is a minimum Egyptian capital participation of 50%, and

ix—Technical consulting activities in the form of joint stock companies in partnership with foreign international consulting firms provided that they are related to any project within the fields of activity mentioned herein and that their activities are approved as an integral part of the project by the Authority's Board of Directors on a case-by-case basis.

Each operation shall have a special account in conformity with the system defined by the Minister of Economy and Economic Cooperation and approved by the Board of Directors of the Authority.

Special priority shall be given to those projects which are designed to generate exports, encourage tourism, or reduce the need to import basic commodities as well as projects which require advanced technical expertise or which make use of patents or trade-marks of worldwide reputation.

Art. 6: Irrespective of the nationality or domicile of their owners, *projects* in the Arab Republic of Egypt approved under the provisions of this Law shall enjoy the guarantees and privileges set forth in this Law.

Subject to the Authority's approval according to its rules and regulations, projects established in any of the fields set forth in Article 3 entirely with Egyptian capital and owned by Egyptian nationals shall enjoy the privileges and exemptions set forth in Articles 9, 14, 15, 16, 17 and 18.

Subject to the Authority's approval, such exemptions shall apply to joint stock companies existing at the time of the enactment of this law to the extent of new expansion in fields approved under the Law through an increase in capital by cash subscription.

Art. 7: Projects may not be nationalized or confiscated.

The assets of such projects cannot be seized, blocked, confiscated or sequestrated except by judicial procedures.

Art. 9: Companies enjoying the provisions of this Law shall be deemed to belong to the private sector of the economy, irrespective of the legal nature of the indigenous capital participating therein.

Legislation, regulations, and statutes applicable to the public sector of the economy and its employees shall not apply to said companies.

Art. 10: Projects enjoying the provisions of this Law shall not be subject to Law No. 73 of 1973 in connection with the conditions and procedures for electing labor representatives to the boards of directors of public sector organizations, joint stock companies, and private associations and establishments.

The statutes of the company shall provide for a method of labor participation in the management of the project.

Art. 13: Without prejudice to the provisions of item (vi) of Article 3, the banks benefiting from the provisions of this law shall be excepted from the requirement that Egyptians should own all of its shares contained in paragraph (a) of Article 21 of the Law on Banks and

Credit issued by Law No. 163 of 1957. Said banks shall also be excepted from the provisions of paragraph (c) of the same article.

Likewise, investment and merchant banks and reinsurance companies, referred to in item (v) of Article 3, hereof, shall be exempted from the provisions of the laws, regulations, and resolutions regulating control of exchange transactions.

Art. 14: By way of exception from the provisions of Law No. 97 of 1976 regulating transactions in foreign currency, projects shall have the right to maintain a foreign currency account or accounts with banks registered at the Central Bank of Egypt in the Arab Republic of Egypt. On the credit side of such account or accounts shall be entered the balance of the capital paid in foreign currencies, *loans and any other funds of the project so long as they shall be in freely convertible foreign currencies, funds purchased by the project from local banks at the highest rate prevailing and declared for foreign currency*, the proceeds of the visible and invisible exports of the enterprise *and the proceeds of sales to the local markets in foreign currency*.

The project shall have the right, without special permit or authorization, to utilize the said account in transferring the amounts authorized under the provisions of this Law for payments for imports of commodities and investment goods necessary for the operation of the project, for meeting invisible expenses in connection with such imports, for the payment of interest and principal on foreign currency loans, for settling any other expenses necessary for the project, *and for purchases of local currency at the highest rate prevailing and declared for freely convertible foreign currency*. The project shall undertake to submit to the Authority, *at the end of each fiscal year*, a statement indicating the movement in such account, together with such documents and details as the Authority may request to ascertain that its utilization has been in compliance with the purposes set forth in this Law. *Such statement shall be certified by a certified public accountant.*

Art. 15: By way of exception from the provisions of the laws, regulations and resolutions governing imports, enterprises enjoying the provisions of this Law shall be allowed to import, on condition of inspection but without a license, whether by themselves or through a third party, the production facilities, materials, machinery, equipment, spare parts, and transportation equipment required for the installation and operation of the project, that are compatible with the nature of their activities. Such operations shall be excepted from the procedure requiring submission to a committee for the purpose of selecting the best tender, but there shall be no obligation on the part of the Government to provide the foreign currency necessary for such importing operations beyond the bank accounts mentioned in the preceding Article. *Projects shall be authorized to export their products whether by themselves or through an intermediary without a license and without such projects having to be registered in the Registry of Exporters.*

Art. 16: Without prejudice to more favourable tax exemptions provided for in any other law, projects shall be exempted from the tax on commercial and industrial profits and the taxes appendent thereto, likewise, the profits distributed shall be exempted from the tax on the revenues from moveable capital and the taxes appendent thereto, *and, as the case may be, from the tax on commercial and industrial profits and the taxes appendent thereto, as well as from the general tax on income, relative to the taxable proportion of such profits as set forth in this provision,* such exemption to be for a period of five years from the first *fiscal* year following commencement of production or engagement in activities, as the case may be. Such exemptions shall apply for the same period to the proceeds of the profits which are reinvested in the enterprise *and for special reserves that are debited to the distribution account after*

deduction of net profits and allocated to consolidate the company's financial position and undistributed profits earned during the exemption period and distributed after such period has elapsed. The shares shall be exempted from the annual proportional stamp duty for five years following the date duties are legally due for the first time.

The exemption from the general tax on income is conditioned upon such income not being subject to similar in the investor's home country or in the country to which income is transferred, as the case may be.

On the proposal of the Authority's Board of Directors, with the approval of the Council of Ministers, the period of exemption shall be eight years, provided such period is required by consideration of public interest in view of the nature of the project, its geographical location, its importance to economic development, the volume of its capital, and the extent to which it participates in exploiting natural resources and increasing exports.

Exemptions for projects involving reconstruction, establishment of new cities outside the agricultural area and the perimeters of existing cities, and land reclamation shall be for a ten year period that may be extended to fifteen years with the approval of the President of the Republic upon recommendation of the Authority's Board of Directors.

Also, with the approval of the President of the Republic upon recommendation of the Authority's Board of Directors, all capital assets and imported construction material and *components* necessary for *founding* projects approved under this Law may be exempted from *or granted the privileges of deferred payments or installment payments for, all or part of* the customs duties and any other taxes or dues *provided that, in the case of exemption, if such items are locally disposed of within five years from the date of import, all such taxes and duties previously exempted shall be paid. In the case of deferred or installment payments, if such items are locally disposed of within five years, or within the deferred or installment payments period if such period exceeds five years, all such taxes and duties shall be paid.*

Art. 17: *After the expiration of the tax exemption period established under Article 16, and without prejudice to the provisions of such Article,* the profits distributed by a project shall be exempted from the general tax on income up to a maximum of 5% *of the original amount* of the taxpayer's share in the invested capital.

Art. 21: The party concerned may request the repatriation or disposal of the invested capital after obtaining the approval of the Authority's Board of Directors, provided that five years shall have elapsed from the date of importation of the capital fixed in the registration certificate (the Authority's Board of Directors may waive this condition if it is evident that the accepted project, for which funds have been transferred, cannot be implemented or continued for reasons beyond the control of the investor or for other exceptional circumstances to be considered by the Authority's Board of Directors) in accordance with the following:

i—Invested capital may be transferred abroad at the *highest rate prevailing and declared for freely convertible foreign currency in five equal annual installments.* By way of exception, the invested capital, calculated under the provisions of this article, *shall be transferrable in full to the extent* of the credit *balance in the foreign exchange account referred* to in *Article 14 or* if the investors had disposed of such invested capital in exchange for freely convertible foreign currency *provided that the Authority is notified of this action;*

ii—*If the invested capital was brought in kind, it may, with the approval of the Authority's Board of Directors, be repatriated in kind, and*

iii—*Transfer of the invested capital shall be within the limits of its value at the time of liquidation, or disposal thereof, as the case may be, and shall be on condition that the Authority approves the results of liquidation. The invested*

capital registered with the Authority may be disposed of for freely convertible foreign currency after informing the Authority. Nevertheless the investor may with the approval of the Authority's Board of Directors dispose of his invested capital as registered with the Authority or dispose of part thereof in favor of another party in local currency in which case the party in favor of which such disposal has taken place shall not enjoy the right to transfer set forth in this Law. In both cases however, the party in favor of which such transfer has taken place shall replace the original investor in enjoying the provisions of this Law.

In all cases, shares offered in freely convertible foreign currency may be sold at the Egyptian Stock Exchange for freely convertible foreign currency in which case the proceeds of sales may be transferred to the seller's account abroad.

Chapter Two: Joint Ventures

Art. 23: Joint ventures established under the provisions of this Law in the form of joint stock or limited liability companies shall specify in their articles of incorporation the names of their respective contracting parties, the legal form of the company, its name, purpose of activities, duration, capital, percentage of participation by Egyptian, Arab, and foreign parties, and methods of subscriptions.

Statutes of the company shall be patterned after the model issued by the Minister of Economy and Economic Cooperation on the basis of a proposal by the Board of Directors of the General Authority for Investment and Free zones, taking into consideration the privileges, guarantees, and exemptions laid down in this Law.

In all joint ventures the General Authority for Investment and Free Zones shall have sole competence to review and approve, in compliance with the provisions of the present law, the articles of incorporation.

Chapter Three: General Authority for Investment and Free Zones

Art. 27: Applications for investment shall be submitted to the Authority. An application shall specify the amount of capital to be invested, the nature thereof and any other such particulars as shall be required to indicate the form and nature of the project covered by the application. The Board of Directors of the Authority shall have the authority to approve applications submitted for investment. Such approval shall lapse if the investor shall fail to take serious steps to carry out the project within six months of approval, *unless the Board shall grant renewed approval for such further period as it shall deem fit.*

Chapter Four: Free Zones

Art. 36: With due regard to provisions in laws and regulations regarding the ban on the circulation of certain goods or materials, goods exported from, or imported into, the free zone, shall not be subject to the normal customs procedures applicable to imports and exports nor to customs duties and other taxes and dues, save insofar as is provided for in this Law. Likewise all instruments, machinery, equipment *and transportation equipment* necessary to establishments authorized within such zone shall be exempted from customs duties and other taxes and dues.

The executive regulations of the free zones shall specify the procedures for moving goods from the moment they are unloaded until their arrival at the free zones and vice-versa.

Export and other taxes and duties shall be levied on local goods and material upon entering the free zone after completion of export formalities.

The Deputy Chairman of the Board of the Authority or any authorized chairman of the board of the public free zones may permit temporary entry of local goods into the free zone for repair or complementary operations thereon, provided that a customs tax shall be exacted in respect of the repair or complementary operation in compliance with customs regulations.

Likewise, the Authority's Deputy Chairman of the Board or any authorized chairman of the board of a public free zone may permit temporary entry

of free zone goods into the country for repair or complementary operations thereon.

Art. 37: Customs duties and taxes shall be payable in respect of goods withdrawn from the free zone for local consumption as though such were imported from abroad and in accordance with their condition after manufacturing, with due regard to rules and procedures governing imports. Such customs duties and taxes shall be payable on goods containing local components in proportion to the *ad valorem* value of foreign components contained in the manufactured products. *Notwithstanding any of the foregoing, in the event that local components constitute 40% or more of the manufactured product, such dues as shall be payable in accordance with the provisions of this Article shall be reduced by 50%.*

Art. 46: Without prejudice to the provisions of this Law, projects established in the free zone, *and dividends thereof,* shall be exempted from the provisions of tax and duty laws in the Arab Republic of Egypt. *Arab and foreign funds invested in the free zones shall likewise be exempted from inheritance taxes and death duties...*

Art. 47: Payments subject to tax on income, such as wages, salaries compensation and the like, paid by projects existing within the free zones to their expatriate employees shall be exempt from the general tax on income.

Art. 49: Transactions carried out in the free zone or between such zones and other countries shall not be subject to the provisions of exchange control Laws.

Art. 51: Provisions of Law No. 173 of 1958 requiring an Egyptian to obtain a permit from the competent authorities prior to taking up employment with foreign organizations shall not apply to Egyptian employees engaged by projects and establishments enjoying the provisions of this Chapter.

Appendix 2

USEFUL ADDRESSES IN THE UNITED STATES

U.S. Department of Commerce
CAGNE-Commerce Action Group
for the Near East
Washington, D.C. 20230
Phone: (202) 377-3752

Egypt-U.S. Business Council
c/o U.S. Chamber of Commerce
1615 H Street N.W.
Washington, D.C. 20062
Phone: (202) 659-6000

U.S. AID Project Office
Egypt Desk Officer
Department of State
Washington, D.C. 20523
Phone: (202) 632-9048

U.S. Department of Agriculture
PL 480 Program
Office of the General Sales
Manager
Washington, D.C. 20250
Phone: (202) 447-6301

Egyptian Office of Economic &
Commercial Affairs
529 Fifth Avenue, 19 floor
New York, NY 10019
Phone: (212) 682-6390

U.S.-Arab Chamber of Commerce
One World Trade Center
New York, NY 10048
Phone: (212) 432-0655

Consulate General of Egypt
1110 Second Avenue
New York, NY 10022
Phone: (212) 759-7120

Consulate General of Egypt
3001 Pacific Avenue
San Francisco, CA 94115
Phone: (415) 346-9700

Embassy and Consular Section
of the Arab Republic of Egypt
2310 Decatur Place N.W.
Washington, D.C. 20008
Phone: (202) 232-5400

Commercial Office of the Arab
Republic of Egypt and the
Investment Authority
2715 Connecticut Avenue N.W.
Washington, D.C. 20008
Phone: (202) 234-1414

Permanent Mission of Egypt to
the United Nations
36 East 67 Street
New York, NY 10021
Phone: (212) 879-6300

Egyptian-American Chamber
of Commerce
One World Trade Center,
Suite 86041
New York, NY 10048
Phone: (212) 466-1866

Investment Bureau
Permanent Economic Mission of
Egypt to the United States
500 Fifth Avenue
New York, NY 10010
Phone: (212) 398-9130

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Appendix 3

USEFUL ADDRESSES IN EGYPT

General Authority for Investment
and Free Zones
8 Adly Street, P.O. Box 1007
Cairo
Phone: 906796/906804
Telex: 92235

General Organization for
Industrialization (GOFI)
6 Khalil Agha Street
Garden City, Cairo
Phone: 24640/903444

U.S. Embassy and Consulate
5 America Al Latinia Street
Garden City, Cairo
Phone: 28211/755033

U.S. Consulate
110 Avenue Hourreya
Alexandria

U.S. Agency for International
Development
Cairo Center Building, 9th floor
Kasr El Aini Street
Garden City, Cairo
Phone: 28211/755033

Egypt-U.S. Business Council
Investment Promotion Office
1282 Immobilia Building
Cairo
Phone: 745822
Telex: 366 NIMOS

The Suez Canal Authority
Ismailia
Telex: 2153

Arab Foreign Trade Company
12 Youssef El Guindy Street
Cairo
Phone: 28562/26565

Federation of Egyptian
Industries
26(A) Sherif Street
Immobilia Building
Cairo, P.O. Box 251
Phone: 49488/54784

SUMED
9 Amin Yehia Street,
P.O. Box 2056
Alexandria
Phone: 64138/64521

Central Agency for Public
Mobilization and Statistics
(CAPMS)
Salah Salam Street
Nasr City, Cairo

Egyptian General Petroleum
Corporation (EGPC)
Nasr City, Cairo
Phone: 837388/835924
Telex: 2049

Central Bank
31, Sharia Kasr El Nil
Cairo
Phone: 40046/978661

Cairo International Fair
General Authority for
Exhibitions & Fairs
Gezira Exhibition Grounds
Cairo
Phone: 812366/801773

Technical Secretariats

Chemical Industries
49 Kasr El Nil Street
Cairo
Phone: 913644

Textiles
5 Tolombat Street
Garden City, Cairo
Phone: 20720

Foodstuff Industries
Issa Hamdi Salim Street
Azouza Street
Cairo
Phone: 818326

Metallurgical Industries
5, 26 July Street
Cairo
Phone: 915866

Government Ministries

Ministry of Agriculture
Sharia Wezaret El Zeraa
Dokki, Cairo
Phone: 703388/702677

Ministry of Economy and Economic Cooperation
8 Adly Street
Cairo
Phone: 920050/919278

Ministry of Finance
Magless El Shaab Street
Lazoghli Square
Cairo
Phone: 24857/24976/26790

Ministry of Industry
America El Latinia Street
Garden City, Cairo
Phone: 23247/25321

Ministry of Reconstruction & New Societies
1, Sharia Ismail
Abaza, Cairo
Central Agency for Reconstruction
Phone: 29578

Ministry of Supply
99, Sharia Kasr El Eini
Cairo
Phone: 848303/27832

Ministry of Tourism
110, Sharia Kasr El Eini
Cairo
Phone: 31636/31923

Ministry of Trade
Midan Lazoghli
Cairo
Phone: 914222