

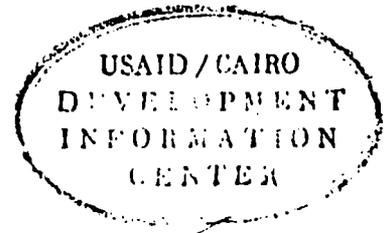
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GENERAL AND ORGANIZATIONAL STRUCTURE  
ANALYSIS AND PRE-FEASIBILITY REVIEW FOR  
SUEZ CITY FREE ZONES



Prepared for:

GENERAL AUTHORITY FOR INVESTMENT AND FREE ZONES  
MINISTRY OF ECONOMY AND ECONOMIC COOPERATION  
GOVERNMENT OF THE ARAB REPUBLIC OF EGYPT

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## CHAPTER I

### THE FREE ZONE IN CONCEPT

#### A. CONCEPTS AND DEVELOPMENT

The concept of free zones is certainly not new. The idea of free zones or "safe ports and harbors" dates back to the early trading days of the Phoenicians who wished assurance of safe passage of merchandise from one country to another through somewhat troublesome territories. In modern history free zones have provided the warehousing, repackaging, relabeling, etc., of goods transshipped from one country to another--allowing merchandise enroute through a mid-way host country to be exempted from customs duties and often many other trade restrictions.

The last two decades have shown a marked increase in the numbers of free zones throughout the world (now in excess of 270 separate authorized zones, not all in full operation, however). With the growth of world trade and the increased complications of doing business in foreign markets, the opportunities for the use of free zones will increase over the years.

In assessing the application of the "free zone" concept to the economic goals of the Arab Republic of Egypt, it is important first to explore the free zone concept itself and establish a basic framework wherein common trade terms and phrases will be clarified for overall background purposes.

It is the intent of this background picture to accomplish the following:

1. Establish the general information necessary to understand the concept of the free zone, its uses, and applications, and review the requisites necessary to develop such zones as possible alternatives where appropriate.

2. Use as examples already existing and functioning free zones throughout the world where their unique and common operations apply to the investment and development needs of Egypt.

3. Evaluate possible applications of the free zone concept within Egypt, with specific emphasis on the development of industrial or private zones.

#### 1. Free Zone Concept

The term "free zone" shall be used throughout this study to designate a "customs-privileged territory" which is considered within the political jurisdiction but outside the customs--domestic commerce--jurisdiction of its host country. Commerce and trade occurring within such a zone is typically free of customs duties and import controls, although host country customs officials have the authority to verify

inventories within the zone to ascertain that no zone trade is entering the host's domestic market without passing through the proper control procedures.

The term "free zones" as used in this study is generally synonymous with areas called "Foreign-Trade Zones" in the United States (U.S.), free trade zones, export process zones, free ports, transit zones, or other similar designations throughout the world--often with shades of differences in interpretations--but all possessing some degree of customs "privileges." In some cases, there can be special types of free zone facilities such as "sub-zones," "private zones," "bonded" warehouses or other port facilities, "duty free" ports or shops, etc., which may be established for specific purposes and may possess some of the characteristics of the general purpose trading and/or industrial free zones.

Except for the commonality of exemptions from customs duties and import restrictions, free zone structures can be as varied as the laws of the countries and the allowances of the authorities within those countries in which the zones are established. The following general features, however, are common throughout most of the free zones in the world:

1. Imports may be landed and stored in a free zone quickly and without the usual customs formalities. Quota restrictions on certain merchandise or raw materials and bond requirements are usually not applicable in zones. These freedoms are termed "use" incentives. The interrelationships of all of the free zone use incentives--as well as the other economic incentives of the host country--must be examined in determining the net value of a free zone to a specific potential user or investor.

2. User or investor cash flows can be substantially improved in a free zone because duties are not paid until products actually leave the free zone for export trade or enter the domestic commerce of the host country. Products that are held for shipment to a third country through a zone are usually exempted from the duties of the host country. The free zone user can withdraw his merchandise from the zone in smaller than case lots or in partial shipments, paying duties at the time of such withdrawals for domestic commerce. This practice enables shipment in more economical bulk or container units for later breakdown into saleable parcels for redistribution to either the host country or third country markets.

It might be noted that in the U.S., free zone users are prohibited from selling their products through retail channels. Products can be sold on a wholesale basis only. The purpose of this law is to prohibit all but "legitimate" wholesale buyers from entering the customs controlled free zone territory and also to encourage a greater industrial use of free zones rather than usage as "duty free shops" commonly found in most airports throughout the world.

3. Insurance on inventories held in free zones can be far less than insurance on imported duty-paid merchandise because premiums are based on valuations of the products plus freight costs, not product plus freight and duties paid--another operating cost savings.

4. Free zone users (the owners of products actually held in the free zone) use inventory receipts for financing purposes, including the assignments of title or other inventory collateral since the user/owner has access to his inventory at any time. The inventory, although under customs surveillance, is not in the custody of customs nor the buyer until it leaves the zone. This particular free zone use is of significance to financial institutions, since, with the authorization of the owner seeking financing, the institution may also have access to the same inventory surveillance for verification of its collateral as the customs authorities.

5. In a free zone, since title of the inventory remains with the owner/user, the facility may be used for display of sample merchandise where prospective buyers may inspect and possibly even withdraw samples (upon payment of duties as appropriate) prior to major purchase order commitments, duty payments, and the expensive onward shipping and delivery arrangements. Such samples may also be withdrawn for purposes of customs valuation prior to selling products into a market.

Exhibition facilities are of specific importance to free zones primarily engaged in warehousing, distribution, and trading, such as the commercial activity predominant in the most successful Zona Libre de Colon in the Republic of Panama, and the anticipated trading activity of the Miami Free Zone in the U.S.A. Exhibition/showroom facilities are also important to users of industrial free zones. New machinery, parts, local adaptations of capital equipment, etc., can all be tested and displayed to potential buyers.

There are many uses of free zones which apply equally to industrial free zones (such as one of the most successful, and certainly the largest, at Shannon, Ireland, with its major emphasis on export processing) as well as the trading free zones with minimal industrial activity. The following continuation of general use free zone features itemizes specifics of perhaps greater significance to those users/investors more likely to be engaged in some form of product manipulation or manufacturing process.

6. Products may be processed, manufactured or otherwise manipulated in order to qualify them for the lowest possible duties before entering domestic commerce. This feature allows the user to combine raw materials from several foreign countries or the host country before fabrication into another product and distribution to third countries or the host country. The ability to manufacture in free zones opens a myriad of opportunities to the user who is generally limited more by his imagination than the laws of authorities governing free zones. Some of the variations could be as follows:

--Quota restricted items, such as a heavily restricted cotton, can be processed into products with either no quotas or a finished product which may not be quite as severely restricted. As an example, one potential user of the Miami Free Zone is exploring the feasibility of bringing in raw cotton from Egypt to combine with cotton from the State of Texas to spin into a cotton blend bolt fabric which is subject to less quota restrictions than the Egyptian raw cotton.

--Products can be altered in the free zone to meet the specific requirements of the domestic restrictions of the host country. As an example, equipment can be brought into U.S. free zones where modification can be accomplished in order to comply with U.S. Environmental Protection Agency air quality laws. This incentive for using free zones is especially important to foreign investors wishing to market products that are subject to agency restrictions.

--Salvage or repair to damaged products can be carried out to a maximum advantage in free zones, duty and quota free, while locating the appropriate market for such products. Duties can be saved by not applying them to materials that have suffered seepage or shrinkage, are beyond repair, have impurities, or are otherwise found to be substandard. These damaged goods, if not salvageable, can be destroyed in the zone under customs supervision to avoid duty payments. Many free zones make use of this particular incentive to develop quality control testing facilities which are used primarily by chemical, pharmaceutical companies, and electronics manufacturers.

--Relabeling or repackaging of merchandise in the zones avoids fines assessed on improperly marked or inadequately labeled merchandise prior to their entry into the host country's market.

--In some instances, manufacturers of products in free zones are offered a choice of having duties assessed on the foreign components used as materials for fabrication of a product, or requesting that the assessment be based on the finished product. This is particularly important in situations of very complicated product evaluations where the sum of the duties on the components may, in many cases (i.e., typewriters and sewing machines), exceed the duties on the finished product.

--One U.S. incentive given to zone importers is the opportunity to have their products or components declared "privileged" or "non-privileged." If declared privileged at the time of entry into the zone, the rate of duty to be applied is fixed by U.S. customs and, in effect, freezes the rate regardless of when the product is withdrawn or used in a manufacturing process. This allows the free zone user/investor a degree of a hedge against inflation in the prices of his products, or an increase in the percentage of duty applied later. It is a speculative decision which the user has to make at the time of product entry into the zone as he cannot later change the status of the goods. When privileged status material is used in a manufacturing process before entering the U.S. market, duties are paid on the actual dutiable non-U.S. origin material contained in the finished product.

Most of the stipulations for doing business in a particular locale still apply to a business operating within a free zone. In other words, a manufacturing company wishing to fabricate a product in a particular free zone must meet all of the requirements for its business as required by the host country. Many prior free zone developments have not enforced this practice. It appears to be in the best interest of a host country to enforce building and anti-pollution guidelines established by authorities, etc., for companies operating in rather than outside a free zone.

In addition to all of the aforementioned advantages of doing business in a free zone, the following more technical advantages may apply to the operations of some prospective free zone users/investors. They are generally applicable to free zones world-wide with specific interpretations from one host country's governmental authority to the next.

--Aircraft or other international transportation facility supplies and parts may be stockpiled free of duties for use aboard such aircraft or vessels to be engaged in foreign service. In addition to providing the obvious "spare parts and repair depot" facilities for foreign flagships and aircraft, this particular incentive is also of advantage to companies supplying cruise ships and in-flight needs for business and tourist travelers.

--Security is much greater for merchandise stored in free zones because, in addition to free zone internal security measures, customs officials are especially vigilant in assuring that no thefts result in merchandise entering the domestic commerce of the host country.

--Domestic exports gain immediate export status if shipped directly into a free zone from a supplier, even though the market distribution may not occur until later when orders have been placed. This is particularly advantageous to manufacturers of such commodities where substantial excise taxes may be charged to consumers in the country where the products are actually produced. In the U.S., the manufacturer or supplier can generally gain back his excise taxes paid through "drawbacks" upon proof that his merchandise has left the country; however, this is usually a long process and involves prior payment of the taxes and extensive paperwork. He need not wait for this process if he ships directly into a free zone that part of his production intended for his international market, therefore greatly enhancing his own cash flows.

--Merchandise can be stored indefinitely to await the best possible market conditions for the user/investor. If the original intended market, even if it may have been the host country, is not receptive to the merchandise, it can be removed from the free zone to be shipped elsewhere. As an example, electronics items sent to a free zone for intended sale pending outcome of quality control testing may be found to be already obsolete by the time they are intended to be sold. In this case the company engaged in the sale of the products may ship the products to another market where such products may still have a very valid current market.

--Because there is no time limit on how long merchandise can be stored in a free zone, as may be in the case of bond warehouses, suppliers can fill orders from their inventories through whichever accounting procedure is more appropriate for them (i.e., FIFO, LIFO, etc.).

Another zone advantage which reduces overhead expenses is the use of public warehouse facilities that can be established within free zones where zone officials or specifically authorized private operators can receive merchandise, store it, and then release it to a broker or forwarding agent, thus saving the expense of a user/investor having to invest in his own office or special equipment and employees for handling his merchandise. This particular savings, however, must be looked at rather closely so that labor and investment goals are still met by the zone administration and the host country. In many cases, specific free zone users are required to hire a certain number of local national workers in order to be able to operate in a free zone. If the public warehouse operator authority is granted to a private investor, he too must comply with the employment and investment requirements dependent upon, perhaps, the number of companies for which he is handling merchandise, or the volume of merchandise handled and the size of the facility.

It is appropriate now to examine the development and implementation of free zones, particularly those that have developed rather successful formulas, with emphasis on their approaches to organization and administration.

## 2. Free Zone Development and Implementation

Free zones throughout the world are considered "public utilities" in the sense that they are designed to serve the public needs of the particular host country in which they are located, specifically, as those needs relate to the attraction and retention of commerce and jobs, favorable balances of payment, and all of the other indirect impacts that benefit the overall economic goals of the host country.

This is not to say that free zones must be government authorities, but rather that they are supervised and regulated by government authorities as their operations are intricately tied with the import duties and trade restrictions of the particular host government. Private companies (such as the Miami Free Zone Corporation in the U.S.), quasi-government/private authorities (such as the Kansas City zone on public property with a private company operator), and totally government administered and operated facilities (such as the Zona Libre de Colon, Panama, and the Port Everglades Foreign-Trade Zone, Florida) can all qualify as free zones provided they meet certain specific criteria.

In the United States, the Foreign-Trade Zones Board in Washington, D.C. governs the development and authorization of free zones, although the individual zones under its jurisdiction are responsible for their own

success according to their individual goals and operative structures. This structure is much like the Egyptian structure. The Foreign-Trade Zones Board, although housed in the U.S. Department of Commerce, is actually composed of three federal regulatory agencies as the Secretaries of Commerce, Defense, and the Treasury all sit on the Board:

--Commerce, because the Foreign-Trade Zones Act of 1934 was initially passed to encourage jobs in the U.S. by private employers that may be tempted to leave the U.S. for cheaper labor;

--Treasury, because of the surveillance of all inventories by U.S. customs, and the collection of duties where appropriate; and

---Defense, because the Army Corps of Engineers must approve all free zone physical plans and expansion proposals to assure that all security and physical development criteria are met.

The development profile displayed in Exhibit I-1 applies to the development of any free zone. It can serve as a useful guideline for testing the merits for establishment of any free zone and for insuring a common, structured review from central authorities.

After the Free Zone Sector has reviewed the application and satisfied itself that all of the criteria suggested in Exhibit I-1 have been addressed, it could organize a public hearing in the jurisdiction of the proposed free zone. The regulations relative to establishment of free zones in Egypt through the General Authority for Investment and Free Zones, Ministry of Economy and Economic Cooperation, should be closely reviewed in efforts to suggest the best possible mechanism for expansion of free zone opportunities for investors in Egypt.

It is important to note that very few of the U.S. free zones have achieved the economic goals for which they were established. Now, more than ever, proper marketing and packaging of the free zone concept as well as strategically developing incentives which a particular geographic location or particular government can offer, are key factors for success.

In determining the best structure for the free zones of Egypt, it is necessary to examine other free zone arrangements and the various incentives or natural factors which have either made them successful or led to their marginal benefit or failure.

U.S. free zones have historically not been financially successful, nor have they produced the jobs they were intended to produce in their particular locations. They have, rather, merely created public utility facilities at certain major seaports, such as New York and New Orleans, in order to accommodate the very specific needs of certain traders through those ports. The free zone, rather "sub-zone" established in Hawaii, has been very successful because of the nature of its specific purpose for petroleum refining. Additionally, it has not been until recently that private investors have begun to enter the U.S. free zone

EXHIBIT I-1

FREE ZONE DEVELOPMENT PROFILE

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I. Description of Location

1. Qualification of proposed area (i.e., must be port of entry, etc.)
2. Means of segregation from domestic customs territory
3. The suitability of the area for a free zone
  - a. water facilities
  - b. sewage and/or waste disposal facilities
  - c. power and light facilities
  - d. fuel availability
  - e. fire protection
  - f. transportation facilities
  - g. shipping facilities
  - h. labor availability
4. Availability of land for free zone expansion
5. Legal description of the property, including details of size, etc.

II. Acquisition of Land

1. Demonstration of ownership or acquisition of title upon zone authorization
2. Compliance with local restrictions for use of land as a free zone
3. Approval by the necessary local public authorities for use of the property, in the case of public ownership of the land

III. Method of Financing

Applicant must demonstrate capacity to finance both capital investment and operating expenses

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EXHIBIT I-1 (Continued)

FREE ZONE DEVELOPMENT PROFILE

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IV. Economic Justification

1. Justification of need for local community
  2. Industrial incentives
  3. Industrial promotion
  4. Zone management expertise
  5. Direct and indirect benefits:
    - a. Industrial users/investors
    - b. Commercial users/investors
    - c. Shipping companies and other ancillary services
    - d. Employment impact, direct and indirect
    - e. Other related service infrastructure
  6. International trade impact, including balance of trade impact of import/export flow in surrounding region
  7. Labor intensive usages (i.e., transshipment only or industry, also)
  8. Adequacy and proximity of transportation facilities
    - a. Trucking, rail, steamship, and air cargo facilities
    - b. Freight rates in the given location
  9. Potential users/investors and their markets
  10. Best suited uses of the free zone as dictated by the resources (natural and/or commercial) of the area
  11. Projected income and expenses, and their monetary impact on the host community
  12. Additional supportive data; i.e.:
    - a. Banking and other commercial paper services
    - b. Consular facilities
    - c. Customs brokerage and freight forwarding facilities
-

EXHIBIT I-1 (Continued)

FREE ZONE DEVELOPMENT PROFILE

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V. Physical plans of the proposed free zone

1. Loading and unloading facilities
2. Types and construction of buildings (consideration of commodity and capacity factors, as well as open storage and container staffing areas)
3. Transportation facilities within the zone
4. Power and lighting facilities
5. Water, sewage, and waste disposal facilities
6. Fire protection, sprinkler systems, etc.
7. Enclosures and security measures as required by customs authorities
8. Method of inventory control (must be approved by customs)

VI. Preliminary estimates of capital and operations costs

VII. Timing

1. Date construction to commence
2. Date operations to commence
3. Schedule for expansion phases

VIII. Map of Zone boundaries and proximity to ports for shipping access to be noted on maps

IX. Physical layout plans of the Zone

X. Legislative Authorization

XI. Local Government Authorization

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development scene. Previously, totally government owned, administered and operated free zones have had little, if any, profit incentive as they are tax supported and do not have to make a profit in order to serve a public interest or be financially successful.

Through broader interpretations of the regulations governing free zones, and increased education of potential investors as to the opportunities in free zones, more investors are looking at free zones as development opportunities for their own gain. Although governed as public utilities, operators of free zones are not prohibited from making a profit. Their various rental rates and service charges provide opportunity for self-financing. Egypt appears ready to progress in this manner.

The Zona Libre de Colon, Panama, is another interesting zone which was established primarily as a trading zone because of its strategic geographic location at the mouth of the Panama Canal-Caribbean side. Traders using this zone have easy access to all Latin American markets from Colon, where ocean freight shipments are received from all over the world, can be broken down into smaller units, displayed and shipped either by sea to just about anywhere, or by truck or rail to the nearby busy international airport at Panama City.

The Zona Libre de Colon is developed on government (Republic of Panama) property and administered fully by government officials. Although consisting of just over 90 acres at this time, it provides nearly 6,000 jobs. It has acquired approximately 200 acres upon which construction has already begun on additional free zone facilities for greater industrial usage. After October 1979, the free zone at Colon will have access to much greater areas of property when the U.S. Canal Zone property reverts to the government of the Republic of Panama.

The Government of Panama is able to offer a wider range of tax incentives to attract foreign firms to invest within the free zone than U.S. free zones are able to offer. Over the past year, Panama has begun a major expansion of its free zone promotion in efforts to attract additional investment, perhaps somewhat spurred by their view of the new Miami Free Zone as a possible competitive threat. Panama and Miami, however, offer vastly different facilities to investors with very divergent purposes.

Other U.S. free zones--such as those in Charleston, South Carolina; San Jose, California; Kansas City; and that proposed for the Greater Philadelphia area--are structured in a quasi-government manner in which the property and grant (authorization) from the U.S. Foreign-Trade Zones Board have been made possible through the use of publicly-owned land leased or contracted to a private free zone industrial park developer or free zone operator. The operator can then lease property to individual firms so they can build to their own specifications, or the operator may develop the facilities for individual firms.

Another free zone which merits attention as a major industrial center is that in Shannon, Ireland. Exports through the Shannon zone are expected to surpass U.S. \$250 million in 1979, after an eight-year slow-down during the recessive periods of the late 1960s and early 1970s when Shannon's industrial growth nearly stagnated.

Shannon's free zone developed out of efforts to save Shannon's major employer, the airport, which had been the major refueling point for trans-Atlantic aircraft. It opened its first duty-free shop in 1951. The advent of long-range commercial aircraft late in the 1950s rendered the duty-free shop superfluous. The initial three goals of the Shannon Free Airport Development Company (created by the government in 1951) were to develop the airport into a major freight center, expand the duty free retail shopping zone, and build up tourism. By the end of the 1950s, it became obvious that the first goal would have to be further exploited as fewer passenger/tourist airlines were using Shannon as a stopover for refueling.

Foreign companies began to come into the first export processing industrial free zone on the Shannon airport periphery in 1959, encouraged by liberal tax incentives including tax "holidays" until 1990, non-repayable cash grants, and freedom from Ireland's import duties. These first companies posed no threats to the Irish domestic industry since all of the products produced and finished were exported.

The Shannon Free Port now has more than 300 foreign firms operating on its 300 acres, accounting for more than 7,500 jobs. It has finally become a rather sophisticated manufacturing center with concentration on the finishing of high value products such as precision electronic components, industrial diamonds, knitwear clothing and furs, pharmaceuticals, and chemicals. For expansion, the Shannon Authority has responsibility for an additional 3,000 square mile area around the airport and anticipates that eventually the government will turn the entire country into a free zone!

The development of Shannon and other free zones throughout the world has not been without problems and uncertainties, however. Some of these will be briefly addressed before looking at the specific impact of their experiences on the best approach for the development of Egypt's economy.

In addition to basic, sound business practices, the success of free zones will also depend upon the host government's ability to offer free zone advantages as part of a total industrial development promotional package. One of the problems with the U.S. free zones is that the only major attraction for operations within free zones has been that relating to customs duty and trade restriction activities with, in some communities, the possibility of industrial revenue bond financing to qualified investors.

Certain free zones may have geographic or other natural attractions making them more suitable for specific types of development; i.e., the Miami Free Zone as the gateway to Latin American and Caribbean markets; the Kansas City zone which has been built in underground caves and therefore provides excellent natural cold storage facilities; or the San Jose, California, zone in the middle of the "silicone valley" for computer and electronics testing facilities; or even the Charleston, South Carolina, zone in the middle of the big textile mill area of the U.S. where the zone has developed into merely a relabeling-for-onward shipping point.

Free Zone investors will trade-off between benefits for the location of establishments. As an example, Panama can offer extremely attractive tax-free or tax-incentive packages to potential investors in the Colon free zone. However, it does not offer the political stability of the United States. This problem of investment security applies to most of the free zones throughout the world that are in non-industrialized, developing nations. Although plans for expansion of the Colon free zone appear very promising and there is much interest on the part of foreign firms already located at Colon with needs for expansion, they are hesitant pending the future development of Panama when the U.S.-held Canal Zone reverts to the Republic of Panama. They are concerned not only about their current investments, but about the future administration of the Canal and how it will affect the free flow of cargo shipments.

Political instability of developing nations is not the only case of instability caused by governments. Even in the United States, free zone users are subjected to vague interpretations of customs authorities in assessing duties on products; i.e., precisely what fraction of the product may be dutiable, the value of domestic labor added, what constitutes a legitimate wholesale transaction as opposed to the prohibited retail trade, and even what constitutes profits made in the U.S. for purposes of income taxation.

These vague interpretations have led many potential free zone users, that could conceivably bring labor intensive processing into the zones, to consider alternatives such as using the free zones simply as transshipment and exhibition facilities. The free zones must recognize the need for stability and concise knowledge and interpretation of procedures as the establishment of new precedents will serve to create further concise free zone opportunities.

The Shannon free zone development illustrates yet another problem to be considered by developing nations--that of an industrial economy dominated by foreign corporations. Domestic industrialists have had a difficult time competing with the mammoth foreign companies in the free zone; many resent the situation and have called upon the Shannon Development Company to develop new ways of bringing their own smaller manufacturing firms into the picture.

This increasingly restrictive cycle is not an uncommon situation in the development of free zones. It seems that where industrial zones are established, host country incentives are very liberal until such time as foreign investment appears to compete with local domestic commerce or even threatens to completely dominate the economy--a situation which, by the very nature of free zones, seems contradictory, since production is to be exported. This has happened not only at Shannon, but in other countries that have seen rapid economic growth such as Korea, Taiwan, and Brazil. These countries have developed their own sophisticated industrial bases and have begun to seek investment opportunities in other free zones throughout the world for the marketing of their own products. Although creating some resentment toward the foreign investment initially risked in the developing nation, perhaps the economic goals of the host country are being achieved in a roundabout fashion.

Other factors to be considered in the development of industrial free zones relate to customs duties and restrictions in the host country. If duties are very low and restrictions negligible, it may be of no advantage for a distribution company to locate in a free zone, particularly if facilities, labor, etc., are cheaper outside the zone limits. A company may have other reasons such as greater security protection, and therefore be willing to pay a higher price to operate in a free zone, in spite of the limited duty free aspects. Some tenants merchandising very low duty items can expect to have access to a wholesale market buyer group they may not have access to in another area. They will pay a premium for product exposure in a centralized market trading area.

Prospective investors in free zones are going to look at and weigh all factors affecting their operations in the host country, as well as the simple duty free and eased trade restrictions, prior to making a decision to locate in a free zone. These factors will all depend upon the economics, demographics, natural resources, and anticipated growth of the host government, and, of course, its stability.

#### B. INDUSTRIAL FREE ZONES

It is difficult, if not impossible, to separate an industrial free zone discussion from the larger context of industrial estates or industrial development planning. The differences between the specific nomenclature are not differences in requirements but differences in: a) operational orientation, and b) legal restrictions. Otherwise, the same production requirements and needs apply to an industrial firm.

The development of industrial free zones, upon which Egypt might wish to pattern itself, is most highly pronounced in Taiwan and Korea. The Philippines also evolved on an industrial free zone course. But, as previously mentioned, as economies develop, the thoughts and philosophy expressed by governments regarding industry-oriented free zones tend to change.

The most notable changes which take place in industrial free zone activity occur when a country gains the self-confidence and diversification of industry needed to compete in the export process on a major basis. In Taiwan, it is reported that the customs/duty procedures were changed so that any domestic industry wishing to expand exports could do so on a basis comparable to industry located in export processing zones. The Republic of Korea government has also assisted domestic industry in expanding export requirements. The advantages to the host country, given an even-handed policy, are obvious: expansion of export-oriented output provides jobs for domestic concerns and expansion of domestic output by export processing zones does likewise; the socioeconomic trade-off is measured by the amount of jobs created or eliminated domestically and the redistribution of incomes.

The concept of the industrial estate applies mostly to small and medium industry. Large industry usually requires a single-purpose land tract. In this context, it is probably erroneous for Egypt's success with free zones to be measured by its record of attracting large, multi-national tenants. However, as investment risks are perceived to be similar for multi-national companies of major stature and size, the psychological impact of a "blue chip" investor in the free zones would instill confidence in the Egyptian economy and begin the normal "magnet" attraction for support development.

An industrial estate (district, park, etc.) is any area dominated by industrial activity. It becomes a "planned" area when it is deliberately allocated to restrictive use and control. It should offer industrial compatibility, design controls, zoning, and proper infrastructure. It should also protect against degradation to surrounding neighborhoods through control of environmental problems or other sources. The major thrust of industrial estate development is to:

- o Utilize land in an efficient manner;
- o Insure compatible operations;
- o Provide a land product needed by small, medium, and--occasionally--large industrial firms;
- o Attract new employment;
- o Expand fiscal benefits to government.

The major industries represented in industrial estates vary by resource allocation. In the U.S., an Urban Land Institute survey showed that 18 out of the 20 major Standard Industrial Classification (SIC) groups were represented in industrial estates. The groups were:

Major Groups  
(SIC Number)

Manufacturing Activity

20	Food and kindred products
22	Textile mill products
23	Apparel and other finished products made from fabrics and similar materials
24	Lumber and wood products, except furniture
25	Furniture and fixtures
26	Paper and allied products
27	Printing, publishing, and allied industries
28	Chemicals and allied products
30	Rubber and miscellaneous plastic products
31	Leather and leather products
32	Stone, clay, glass, and concrete products
33	Primary metal industries
34	Fabricated metal products, except machinery and transportation equipment
35	Machinery except electrical
36	Electrical and electronic machinery, equipment and supplies
37	Transportation equipment and parts
38	Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks
39	Miscellaneous manufacturing industries

Only two SIC major industrial groups in manufacturing had little or no representation in industrial parks:

21	Tobacco manufacturers
29	Petroleum refining and related industries

Most current industrial estates are dominated by warehousing and distribution activities rather than production facilities. These activities do not typically generate nuisances such as noise, odor, and smoke which are characteristic of certain industrial processes. Proper planning makes possible the accommodation of unbalanced traffic flow which is usually the biggest problem generated by warehouse and distribution activity.

Warehousing and distribution functions are characterized by relatively low ratios of employment relative to building coverage. Locations seeking to expand their employment base recognize that manufacturing pays higher wages and employs more workers, and it is important to recognize that both warehousing and manufacturing enterprises need balanced industrial parks for all types of industrial activities. The shortage and high cost of land for development, difficulties of obtaining water and sewer extension, the increase in environmental controls, and the shortages in materials and fuels are all impediments to the "go it alone" industrial site selection which can be applied to Egypt.

Industrial development leads to varying managerial needs over the project's evolution. The key management personnel are: 1) overall managers representing the official interest, 2) site planners/engineers, 3) operational/management specialists, and 4) marketing specialists. Obviously, the need for these members changes as the development phase changes. However, overall policy is continually reflected by the ownership or political interest. Final decisions revert to this interest.

In Egypt's case, the overall policy framework is represented by the General Authority for Investment and Free Zones and the local Governor. The project representative is the Director who actually has responsibility for the free zone and coordinates both sources of authority for the proper decisions. As such, the operation's representative is the key for each zone's successful development.

The next key member is the engineer/site planner. From its initial acquisition, the site must be planned and engineered. Next, the actual construction of sufficient infrastructure to satisfy users must be promptly supplied. This crucial element is the physical link between words and reality. The successful project must properly balance cost with need in order to have fully serviceable sites available to the interested user.

After the engineering phases are satisfied, this role turns more to maintenance and housekeeping. At the same time, professional management emphasizes sales, public relations, and daily operations for a smooth, attractive operation. Many projects fail because of mismanagement in these areas. The good manager should know building design for processing and storage activities and also be a responsible industrial promoter and public relations man for the project.

Management of large-scale, long-term industrial development generally follows a three-phased program which features different priorities and goals for each phase. During the initial project implementation phase, coordination and timing goals are created to establish character and reputation and to initiate the sale or lease of land. The second phase covers the maturing stages of development and is primarily concerned with sales pace and price levels. The last phase of development concerns itself with the residuals (leased buildings) which are owned by the ownership group. At this stage, management is involved only peripherally except for continual inspections to see that the properties are being operated and maintained properly.

The project manager's initial tasks are concerned primarily with coordinating the process of infrastructure development and attracting seed tenants to the development. On-site management, during the embryonic period, is vital at the start of development and should be continued as long as feasible. Timely completion of infrastructure is vitally important to the seed tenant who will establish overall project identity. If the seed tenant experiences delays in occupancy due to poor management of problems, it is highly likely he will convey these

dissatisfactions to other potential tenants to the disadvantage of the project. The project's tenants are the best salesmen a project has.

The coordination and timing necessary in the initial stages of an industrial development project are also necessary during the maturing process, but with a different emphasis. Primary emphasis at this later stage is placed upon tenant acquisition, occupant relations, enforcement of project standards, financial management, and maintenance of the estate's reputation.

An initial economic analysis will have suggested an optimal tenant mix for the industrial project. If the promotion campaign is directed toward the desired segments, then the occupancy pattern should fall in line with the projected occupancy pattern. Parcelization, locational relationships, and compatibility of potential tenants with those already committed require continuous attention and re-evaluation.

It is particularly important to preselect a seed tenant who will fit the optimal market mix for the development. A conflict between the goals of the initial tenants and of the development may result in the creation of problems which will have a negative impact throughout the entire absorption period. If the management group has done its job properly, the selection of compatible tenants, and the achievement of the desired tenant mix, should fall in line with relatively few conflicts.

It is particularly important to remember that principles of agglomeration (linkage) appear to have an almost universal application to industrial real estate. That is, similar or linked industries tend to locate together. Often, the seed tenants will set the entire reputation and character of the project and of the tenant mix. In addition to the type of tenants attracted, the size of seed tenants' buildings seems to have some relationship to the pattern which follows. It is reported that if the first tenants occupy 10,000 square foot buildings, it frequently develops that most of the remaining building will be in the category of 10,000 to 25,000 square feet. If the first seed tenants occupy buildings of 100,000 square feet, most of the users attracted later will range from 50,000 square feet upward.

Cost accounting, pricing, and new leasing and sales information, almost becomes a day-to-day task of the owner's staff during the absorption phase. Whereas the initial objective for the owner's staff was timing, coordination, and acquisition of a seed tenant for the implementation of the project, the basic objective of industrial management at this stage is to maximize the long-term financial potential inherent in the development. This stage includes planning and budgeting both expenses (staff salaries, advertising, legal, accounting, and office space rent) and development expenditures (infrastructure costs). Quarterly or semiannual updating of the original projections with actual project experience is recommended.

Throughout the absorption phase, management must work to maintain the reputation of the ownership and to continually enhance the project's

identity. A project's reputation can create a substantial interest which might otherwise be difficult to sell because of location, topography, or parcelization factors.

At the third stage, the ownership group is concerned with the continued leasing and incentive functions.

Once the development is occupied, it has been customary for the management structure to change, stressing the enforcement of standards. The responsibility for enforcement should rest very significantly with the tenants, allowing them to act independently to enforce covenant requirements. While the creation and nurturing of effective response to tenants needs places another burden on the industrial management team, the long-term protection of the initial development objectives yields benefits to the tenants, to the community, and to the owner's reputation when initiating the next project. From this standpoint, the benefits should more than equal the effort required.

In summary, to be successful, the Free Zone Sector should view one of its roles as that of a developer, or implementor. This role is one which should offer much challenge but also one where the results are apparent and rewarding. Each free zone currently has a Director, and is operating to the best of its ability. In our professional opinion, standard operation management policy, procedures, guidelines, and activity roles might be more strongly applied through the Free Zone Sector. In effect, a minor training program to improve management skills and to express operational implementation would appear to be an inexpensive and timely activity, ensuring all zones develop in a consistent manner.

## CHAPTER II

### FREE ZONE ORGANIZATION

#### A. LEGISLATIVE, LEGAL, AND ADMINISTRATIVE AUTHORITY

Prior to the early 1960s, foreign investment in Egypt was largely unregulated, and the national economy benefited only little. In the 1960s foreign investment was discouraged. The "Open Door" Economic Policy was initiated to stimulate foreign investment for the express purpose of developing the national economy. Law No. 65 of 1971 was passed to initiate the new foreign investment policy, and was replaced by Law No. 43 of 1974.

The General Authority for Investment and Free Zones has been delegated power to implement the various provisions of Law 43. While being responsible for many elements, some of its more important functions relating to the Free Zone Sector include:

- o Preparation of lists of projects and investments which are to be encouraged in the free zones;
- o Tabulating data on free zones and offering information to investors;
- o Reviewing investment applications;
- o Registering and evaluating incoming capital;
- o Facilitating the approval of necessary permits and licenses needed in the operation of free zone projects; and
- o Managing and planning the free zones.

The majority of the legislative, legal, and political responsibilities of the Authority are outlined in Law No. 43 of 1974, as amended by Law No. 32 of 1977, and in Decree No. 375 of 1977. Copies of these documents are widely available, and they have been summarized in various publications by and about the Authority. For these reasons, they are not repeated here. Rather, the most important articles are summarized and discussed, along with recommendations for modification or interpretations where it appears to be appropriate.

The 1977 revision of Law 43 is the present legal guideline for foreign investments and the operations of free zones within the country. These laws have served to eliminate much of the bureaucracy and uncertainties involved with investing in Egypt. In return for offering various incentives to investors, Egypt hopes to receive a number of benefits, notably:

- o An increase in the employment rate of Egyptians;

- o Dissemination of advanced technology and administrative techniques;
- o An increase in exports and a more favorable balance of trade;
- o An increase in national revenue sources;
- o An expansion of more efficient, and thereby more competitive, local businesses;
- o An expansion of the national infrastructure;
- o An increase in the flow of foreign capital to Egypt; and
- o A provision of greater opportunities for the investment of Egyptian capital.

The Authority's Board of Directors is the governing body of the Authority. It has overall responsibility for the free zones, both public and private, and is charged with establishing general policy for the Authority. As shown in Exhibit II-1, the Chairman is the Minister of Economy, and the Board is made up of government and private sector individuals with a direct interest or expertise in the Authority's operations. Only the Deputy Chairman of the Authority and the Head, Free Zone Sector, officially represent the free zones on the Board. According to Law 43, the Board may:

- o Coordinate policies and formulate the general planning of free zones in conjunction with the competent administrative authorities;
- o Acquire land, converting it to public or private free zones;
- o Approve budgets and accounts of free zones;
- o Assume the functions of the Board of Directors responsible for public free zones which have been established; and
- o Supervise private free zones until the Board decides to affiliate such private free zones to a public free zone.

Likewise, the Board is charged with reviewing, and subsequently acting on, the applications for private free zone status by investors. It also establishes the executive regulations which govern all operations of the free zones.

The daily operation of each public free zone is handled by free zone personnel stationed at the zone. Each of these zones is, in turn, guided by its own Board of Directors, whose responsibilities include:

- o Reviewing and acting on applications of investors for their free zone;

EXHIBIT II-1  
BOARD OF DIRECTORS  
INVESTMENT AND FREE ZONES AUTHORITY

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Member	Title and Affiliation
Dr. Hamed El Sayeh	Chairman Minister of Economy, Economic Cooperation and Foreign Trade
Mr. Ali Gamal El Nazer	Deputy Chairman Minister of State for Economic Cooperation
Engineer Ahmed Effat	Counsellor, Ministry of Economy Economic Cooperation and Foreign Trade
Engineer Hassan Amer	Counsellor, Ministry of Economy Economic Cooperation and Foreign Trade
Engineer El Ahmady Abdel Raouf Gamal El Din	
Engineer Abdel Moneim El Maihelmy	Representative of General Authority for Industrialization
Counsellor Ahmed Amin Hassan	Representative of Legal Depart- ment, Ministry of Finance and Economy
Mr. Gaber Khalil Hussein	Undersecretary, Ministry of Petroleum
Mr. Ali Labib Aziz	Undersecretary, Ministry of Planning
Mr. Farouk Mishriky	Representative Central Bank
Engineer Mari Ahmed Mari	Member of the board Iran Bank
Mr. Mahmoud Lotfi	Counsellor for Investment Authority

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EXHIBIT II-1 (Continued)

BOARD OF DIRECTORS

INVESTMENT AND FREE ZONES AUTHORITY

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Member	Title and Affiliation
Mr. Ahmed Fouad Mahmoud	Chairman of the Board Misr Bank
Mr. Hamed Abel Meguid	First Undersecretary, Ministry of Tourism
Mr. Salah Fahmy	First Undersecretary, Ministry of Housing
Dr. Gamal El Sahrawi	Head of Free Zone Sector Investment Authority
Mr. Alaa Khalil	Head of Investment Sector Investment Authority
Mr. Hassan Afifi	Secretary of the Board

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- o Overseeing the establishment of an infrastructure for the zone; and
- o Providing various services required by investors.

Again, only the Director General of the particular free zone represents the Free Zone Sector on the Board. As currently established, the Governor of each area (governorate) chairs the Free Zone Board of Directors. Each particular Free Zone Board may be composed of business, public, government, and investor membership. The diversity of views which are represented by these interests serve to both help and hinder the functioning of a particular free zone. However, it is important to note that:

- a) Policy and technical guidance comes from Cairo;
- b) Implementation and day-to-day decisions are performed in the free zone locales.

The free zones are directed to accept manufacturing, warehousing, and various types of service operations which meet certain specified and some subjective criteria to operate in the zones. More specifically, the types of investments which are permitted in the free zones include:

- o Storage of transit goods from Egypt and abroad, including warehousing (and cold storage) and freight forwarding. Goods can be brought in, stored, and then shipped to domestic or foreign locations.
- o Sorting, cleaning, mixing, blending, repacking, and other processing operations which alter goods stored in the free zone for trade purposes.
- o Manufacturing, using imported and Egyptian goods, involving any form of manufacturing operations.
- o A wide variety of commercial and financial service operations, such as consultants, field servicing, and banks.

In practice, these categories are emphasized to varying degrees in the different zones with some zones looking more toward manufacturing than others. This emphasis relates primarily to an Authority policy that prefers manufacturing, since that sector probably best combines the Law 43 guidelines of employment, technology dissemination, and foreign currency transfers. Thus far, however, the majority of the free zone manufacturing enterprises have opted for private free zone status, with the public zones primarily containing various types of warehousing operations. In the smaller public free zones, where land is now in short supply, the emphasis has definitely shifted to use of the remaining land for manufacturing.

In order to maintain coordination of economic activity, planning of currency balances, and economic controls, other government entities are involved to some degree with the free zone investments. When a "new" foreign investor presents an application to obtain free zone status (the application process is discussed in another section of the report), the Authority reviews the technical aspects of the investor's business with the appropriate industry Ministry. Agreement usually assumes acceptance of the investor's project.

To speed up the acceptance process, the Supreme Investment Council (Exhibit II-2) was established by Executive Regulation No. 6 of 1979. The Minister of Economy, Foreign Trade and Economic Cooperation is President of the Council, which also includes the Ministers of five other economy-related ministries, as shown in Exhibit II-3. In addition, the Governor of the Central Bank of Egypt and the Deputy Chairman of the Authority are members, as are two experts chosen from the private sector by the Prime Minister. The latter two persons are both economists. The Council has the right to invite non-member Ministers to meetings when items are being considered which are of interest to them. These Ministers have the right to participate in both the discussions and the voting.

The Council has been delegated authority to implement the Open Door Policy, make policy decisions in this regard, and to resolve problems occurring from the policy. Specifically, the Council has been established to:

- 1) Make policy decisions relating to the Open Door Policy and its implementation, which are binding on all other government authorities;
- 2) Solve problems and suggest necessary legislation and procedures to accelerate the Open Door Policy and public and private development in a way which is most beneficial to the overall economy, as well as to establish directives which will assist in accelerating and maximizing the use of available resources;
- 3) Make decisions which help eliminate obstacles which face authorities in implementing investment projects;
- 4) Establish priorities of Egyptian public and private investment, analyze the best methods for using available resources, and issue the decrees necessary for settling any dispute which may arise from implementing the investments;
- 5) Study the most advantageous ways to benefit from foreign loans; and
- 6) Assume the functions of the Council of Ministers set forth in Law 43 of 1974.

The Council cannot approve or disapprove of particular investment projects in the free zones, nor can they make laws. They meet when

EXHIBIT II-2

PRESIDENT OF THE ARAB REPUBLIC OF EGYPT  
ISSUED DECREE  
NO. (6) OF 1979  
CONCERNING THE SUPREME INVESTMENT COUNCIL

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President of the Republic

With reference to the Constitution

And Law No. 26 of 1954 concerning (on) some regulations pertinent to the joint stock companies, partnership limited by shares and private limited companies, and the amendment made thereto.

And Law No. 60 of 1971, promulgating the Law of Public Institutions and Public Sector Companies and the amendments thereto,

And Law No. 43 of 1974 concerning the Investment of Arab and Foreign Funds and Free Zones.

And the Presidential Decree No. 198 of 1977 concerning the establishment of the Supreme Investment Council,

And the Presidential Decree No. 497 of 1977 concerning the establishment of National Supreme Investment Council amended by the Presidential Decree No. 299 of 1977.

D e c i d e s

Article (1)

The assimilation of the Supreme Investment Council and the National Supreme Investment Council into one Council to be called "Supreme Investment Council"

Article (2)

Supreme Investment Council consists of the following:

Minister of Economy, Foreign Trade and Economic Cooperation	President
Minister of Planning	Member
Minister of Follow-up and Control	Member
Ministry of Industry and Mineral Wealth	Member
Minister of State for Economic Cooperation	Member
Minister of Finance	Member
Governor of the Central Bank	Member

The Council holds the power to invite concerned Ministers when the subject of discussion is related to fields under their supervision. Concerned Ministers are entitled to participate in the discussions and to vote.

EXHIBIT II-2 (Continued)

Article (3)

The Council has competence to implement the open economic policy and to examine projects pertinent to National Investment and Private Investment and the Council holds full power to make resolutions, recommendations, and suggestions when deemed necessary to achieve what is related to these objectives. The Council will in particular:

1. Draw up the general policy to be followed by apparatus entitled to implement operations within the framework of the economic open policy or approve these operations and follow up their implementation.
2. Draw up solutions and suggest legislations and procedures necessary for advancing the economic open policy and national development, which provides the best and quickest ways, and will issue resolutions and directives which help utilize the available potentials.
3. Make decision concerning what hinders existing apparatus from implementing investment projects and remove impediments.
4. Determine priorities vis-a-vis national and private Egyptian investment and examine the best methods to utilize available potentials and issue resolutions deemed necessary to settle differences that may arise in implementing investment projects.
5. Benefit from foreign loans in the best and quickest ways and means. Practice the competences assigned to the Council of Ministers pursuant to the aforementioned Law No. 43 of 1974.

Article (4)

Resolutions of Supreme Investment Council are binding to all the State apparatus and affiliated economic units, and they are committed to their implementation.

Article (5)

This decree repeals the aforementioned Presidential decrees No. 198 of 1977 and No. 497 of 1977.

Article (6)

This decree will be published in the Official Gazette.

Issued at the Presidency January 8, 1979.

Anwar Al Sadat

Copy to the Minister of Economy,  
Foreign Trade and Economic Cooperation

EXHIBIT II-3

MEMBERS OF THE SUPREME INVESTMENT COUNCIL

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Member	Title
Minister of Economy, Foreign Trade and Economic Cooperation	President
Minister of Planning	Member
Minister of Follow-Up and Control	Member
Minister of Industry and Mineral Wealth	Member
Minister of State for Economic Cooperation	Member
Minister of Finance	
Governor of the Central Bank	Member
Two economic experts chosen by the Prime Minister according to topics under discussion	Member

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necessary to interpret the Open Door Policy and the laws related to it, to set policy, and to solve problems resulting from the laws or from their interpretation.

The establishment of this Council should prove to be a major step in implementing the Open Door Policy and Law 43. It is now an official body which represents the government in this regard, and which has the power to establish policy. This Council should often eliminate the time consuming necessity of passing laws and executive regulations, and should help speed up the process of developing free zones. It is important to note, however, that where an article of the law proves to be unclear and open to continued interpretation by the Council, an executive regulation should be passed which clearly states the guidelines and rules set forth in this article. This should be done in the interests of the investors, who are generally skeptical of laws which are left open to much interpretation--interpretation which may vary with a change in one or more Council members. Most investors are concerned with a stability in the laws governing their operation, and it is important to rest that concern as much as possible.

#### B. FREE ZONE ORGANIZATIONAL STRUCTURE AND FUNCTIONS

As portrayed graphically in Exhibit II-4, the Egypt Free Zone Sector is a first generation subsidiary agency of the General Authority for Investment and Free Zones, hereafter referred to as "the Authority." The prior section of this chapter established the legal status of the Authority and its role in the Egyptian economy. The Authority is guided by a Board of Directors charged with establishing policy toward the achievement of the agency's goals. The Chairman of the Board is the Minister of Economy, who also serves as the administrative head of the Authority.

A Deputy Chairman of the Authority with the rank of Minister of State for Economy and Economic Cooperation interprets operating policy and is charged with overseeing the operations of the Free Zone Sector as well as its two sister agencies, the Inland Sector and a Project Evaluation Sector.

Implementation of Board policy which applies in areas of Egypt's Free Zones is the responsibility of the Head, Free Zone Sector, who has been delegated the authority to act as chief executive of the Sector in virtually all internal management situations and in those investor-oriented affairs not reserved by law for Board action. Except for policy guidance from the Deputy Chairman, the Head, Free Zone Sector, works independently of direction, and is generally free to operate the Sector as he deems advisable. Contacts with the Deputy Chairman are most frequently informed discussions concerning goals or Board actions.

Operations of the Free Zone Sector are accomplished through two General Departments which are responsible for Planning and Engineering, and Inspection. They are managed under the title of Director General, and have limited delegated authority from the Head, Free Zone Sector, to

EXHIBIT II-4

FREE ZONE ANALYSIS  
CURRENT ORGANIZATIONAL STRUCTURE

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RESPONSIBILITY:

Goal and policy determinationa for the three sectors of authority; Inland Sector, Project Evaluation and Free Zone Sector. (Note: Only Free Zone Sector Depicted Here)

SOURCE OF AUTHORITY:

Egyptian Law No. 43 of 1974.

TITLE(S):

Chairman is Minister of Economy  
Board Members (Appointed)

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RESPONSIBILITY:

Chief Executive Officer of the Authority and Deputy Chairman of the Board. Implements Board's policies through directives to appropriate sector. Interprets policy and establishes guidelines for sectors' performance.

SOURCE OF AUTHORITY:

Law No. 43 and Board Actions

TITLE:

Minister of State for Economy & Economic Cooperation

IMMEDIATE SUPERIOR:

Board of Directors

IMMEDIATE SUBORDINATES:

"Heads" of Inland, Project Evaluation and Free Zone Sectors.

OTHER CONTACTS:

Other Ministries, Authorities

CONTROLS:

Receives written and verbal reports from Heads. Conducts conferences of Heads and/or contacts as needed.

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INVESTMENT AUTHORITY  
BOARD OF DIRECTORS  
(13 MEMBERS)

DEPUTY CHAIRMAN - BOARD  
MR. GAMAL EL NAZER

EXHIBIT II-4 (Continued)

**RESPONSIBILITY:**

Plan, establish, operate and manage free zones.

**SOURCE OF AUTHORITY:**

Established by Law 43, interpreted and delegated by Deputy Chairman

**TITLE:**

Head

**IMMEDIATE SUPERIOR:**

Deputy Chairman

**IMMEDIATE SUBORDINATES:**

Directors General of Free Zones and Administrative Departments.

**CONTROLS:**

Issues internal written directions, issues verbal instructions of a general nature to be implemented by department heads. Sets specific goals and monitors results through daily contact, periodic reports and periodic staff conferences with Directors General and Department Heads. Monitors all contractual policy related correspondence to and from the Sector Authority. Makes field visits to Free Zones.

FREE ZONE SECTOR  
DR. EL SAHRAWI

**RESPONSIBILITY:**

Administer policies in specific areas assigned in support of Free Zones' operation.

**SOURCE OF AUTHORITY:**

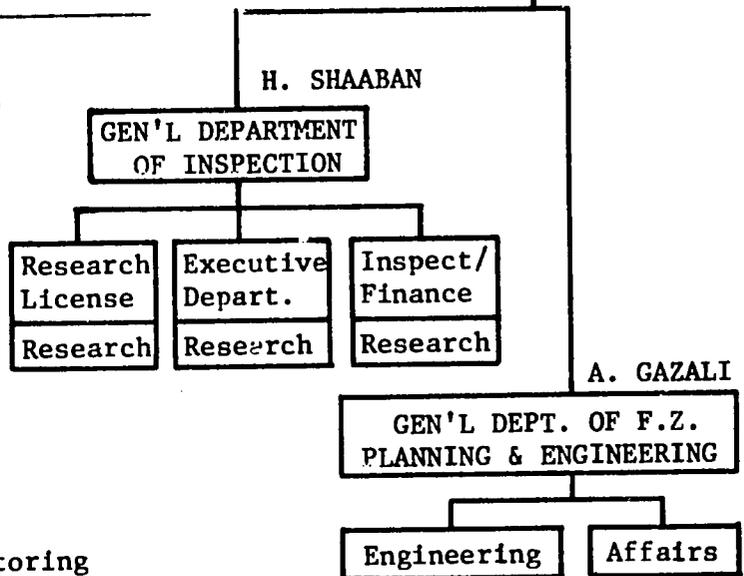
Directives from Head or Deputy to General Department Heads.

**TITLE(S):**

General Department supervision by "Directors General." Supervision of sections is by "Director."

**CONTROLS:**

Specific and close supervision, monitoring of individual's performance through written reports and observation.



whom they report. At this level, policy and procedure is communicated from the Head through periodic meetings, memos, and informal contacts, as required.

The "department" level is the level at which the agency's administrative and procedural activity takes place. Each department is headed by a Director who performs and manages specific functions under the direction of one of the two General Directors.

1. The Managing Director/"Head," Free Zone Sector

As previously stated, the Head of the Free Zone Sector is the chief executive officer of the Sector designated by law to administer Egypt's Free Zones. In practice the Head of the Free Zone Sector is responsible for refining Board of Directors' policies and laws into duties and responsibilities which he assigns to two subordinates. The incumbent, Dr. El Sahrawi, accomplishes this through direct contact with his superior, the Deputy Chairman of the Board, Mr. Gamal El Nazer, and his own subordinates.

The incumbent retains responsibility and delegates authority in classic management fashion; however, the actual situation is not one in which maximum delegation is achieved. This is by choice rather than law, and reflects personal operating style.

In retaining full responsibilities for all operations, the Head of the Free Zone Sector is conscious of the need to closely monitor its various functions. This monitoring is accomplished through periodic staff meetings, spontaneous one-to-one contact with individuals concerned with specific functions, and various formal reports.

Interviews with staff at the first and second subordinate levels confirm that the Head makes every effort to confine his contact to the chain of authority, but will contact any staff member as he deems necessary. This style was not seen as a communications problem by his staff.

The Head also performs the function of official horizontal and vertical communications with the sister Investment Authority agencies or personnel, as well as with investors or potential investors in many cases. He is assisted in this function by his Deputy Head who concurrently holds the position of Director General of the General Department of Inspection.

As an illustration of the monitoring and delegation style already mentioned, the Deputy Head approves all significant outgoing correspondence from staff members, forwarding more critical material for the further approval of the Head.

## 2. General Department of Inspection

This area of the organization could be described as the "operations" arm of the agency since it is the unit which deals with the promotion of the zones' services, evaluation, and processing license applications, determination of levy rates to be charged and the development and execution of a number of systems for monitoring the zones. In short, it is a major "line" function in the typical "line-staff" concept of organization, where a line position (operation and production) has duties specific to an implementation process, and a staff position (services and planning) has duties concerning problems in many departments, and provides assistance as needed.

Major departments within the General Department of Inspection are: 1) Research and License, 2) Department of Inspection and Finance, and 3) Executive Department. Unfortunately, the titles of these departments do not give an adequate clue to their real functions, which are:

- a) Research and License. The mission of this department is to develop data on which the Authority and the Sector can make decisions concerning both long and short-range planning for the free zones, as well as decisions on the desirability of investors. It also handles the licensing of private free zones.

At present, the department consists of a Director and two "Researchers," with clerical assistance provided as required from a central pool. Their staffing level appears adequate for the present workload, although any significant increase in work volume would probably justify additional technical/professional employees. This is especially true if the department is to continue its present and noteworthy efforts toward the development of systems and procedures for effective accumulation and monitoring of data from the zones and their investors. This department is apparently well managed by its director, who stresses both professional development and high level performance by the staff.

- b) Department of Inspection and Finance. Another line function is performed by the Department of Inspection and Finance, which is the accounting and audit arm of the sector. It is here that investors' operations are audited for the purpose of calculating levies. Working with foreign currency and the various types of individual accounting systems maintained by investors in the zones, the Inspection and Finance Department is a complex operation requiring considerable accounting and auditing expertise by its presently small staff of a Director and four Researchers. (While recognizing that the title of "Researcher" may be a standardized government classification title, or that it may have been affected by translation, it is felt that it probably does not adequately describe the occupational characteristics of employees whose principal duties are the examination or audit of investors' accounts.)

No significant automated procedures are now used. However, it is our professional opinion that they will be necessary within the foreseeable future. Two more Researcher positions are authorized for future workload increases, but the complexity of the system and the need for ready reference to historical data, cross-referencing, and sheer volume would justify the early implementation of systems which could be brought on-line in an automated manner.

The present staff of the Inspection and Finance Department works within a two-tier organization in which two Researchers report directly to their Director. One Assistant Researcher is assigned to each Researcher. Communications and problem solving sessions are informal and on an as-needed basis, except during the absence of the Director, who schedules approximately 50 percent of his time away from this office to serve as the acting Director General of the Suez Public Free Zone. This is discussed elsewhere in this report.

Although the Department Director is not concerned about the availability of qualified employees for his staff, it is our opinion that a department so critical to the maximizing of the Sector's revenues should be encouraged to recruit and retain the best available accountants and financial auditors. Unfortunately, the compensation range available does not permit the Sector to compete effectively with banks and private businesses, who are sources of appropriate employee training. The Sector does, however, seem to compete adequately for new graduates in accounting and economics, and training programs are emphasized here and throughout the agency.

The Inspection and Finance Department is efficiently managed on the basis of today's level of operations. It may not have adequately planned for the volume of work which will undoubtedly come, since it is felt that the Free Zone Sector will be best served with at least some automated systems. The presently filled position and planned addition of two employees would probably be adequate if their training were supplemented to operate such systems.

- c) Executive Department. The Executive Department is primarily concerned with the licensing and operation of private free zones. Its personnel perform the inspections of both documents and imported and exported goods to determine levies and compliance with contracts. Although its effectiveness is largely dependent on "Inspectors" who physically count incoming goods, it appears that the department is understaffed. Ideally, this unit should inspect goods immediately upon their arrival; however, the present system of assigning Inspectors (usually one per warehouse or group of warehouse areas) is deficient in that goods may arrive at any hour. Because Inspectors are not available on a multiple shift basis, goods

may not be inspected for a day or more following off-loading in warehouses. From a man-hour/yield point of view, a further problem is that shipment may not arrive for days at a time, causing idleness, boredom, and wasted productivity.

It is recommended that this problem be analyzed in terms of: 1) requiring investors and/or their shippers to give reasonable notice of delivery dates, 2) considering the possibility of scheduling mobile Inspectors around those scheduled arrival dates, and 3) that the department consider the use of Inspectors for other kinds of work in the vicinity of their primary assignments.

Internal or headquarters functions of the Executive Department appear to be effective and well managed. The department seems to have analyzed its missions and developed sound systems for accomplishing them.

### 3. General Department of Free Zones Planning and Engineering

The General Department of Free Zones Planning and Engineering is charged with physical planning, facility design, and supporting engineering services. In addition, it is responsible for training public free zones staff and acts as a liaison between the public zones and various Ministries. As in the case of its counterpart--The General Department of Inspection--its Director General reports directly to the Head of the Free Zone Sector.

The General Department consists of two subordinate units, the Department of Engineering Service, and the Department of Free Zone Affairs.

- a) Department of Engineering Services. As its title implies, the Department of Engineering Services is responsible for the design, construction, and maintenance of public free zones. While no major design is undertaken by this group, the department's present role is to oversee physical planning and development of each zone on behalf of the Free Zone Sector.

As a result of on-site investigation in each of these free zones, it appears that: a) the staff of this department should be increased to permit field assignments of competent, construction-oriented architects and engineers at each of the developing sites, or b) professional outside services should be sought in this area. The Directors General of the individual zones express a need for much more on-site involvement by professionals which would free the present, relatively small, staff in Cairo for management functions; i.e., the higher level negotiations, design problem solving, budget monitoring, and scheduling with various contractors, including the free zones' architects. This is not a reflection of the competency of the existing engineering staff but rather, of the need to increase

the level of engineering and construction expertise available at each zone, particularly during their initial construction phases.

- b) Department of Free Zone Affairs. The Department deals only with the affairs of the public free zones. Some comparable duties for the private free zones are charged to the Executive Department. A primary responsibility of the Department of Free Zone Affairs is to provide assistance in the selection and training of the Director General and the staff of each of the public free zones. In addition, it is responsible for consolidating information related to the free zones through monthly reports received from the Executive, Financial, and Engineering Departments in Cairo and from the Board of Directors of the various public free zones.

Also, the Department serves as a liaison between the public free zones and the various ministries. If a problem dealing with security or customers arises within one of the zones, Free Zone Affairs deals directly with the Ministry in charge of providing that service to rectify the situation. This then serves as a common point of contact between the public free zones and the various Ministries which service them.

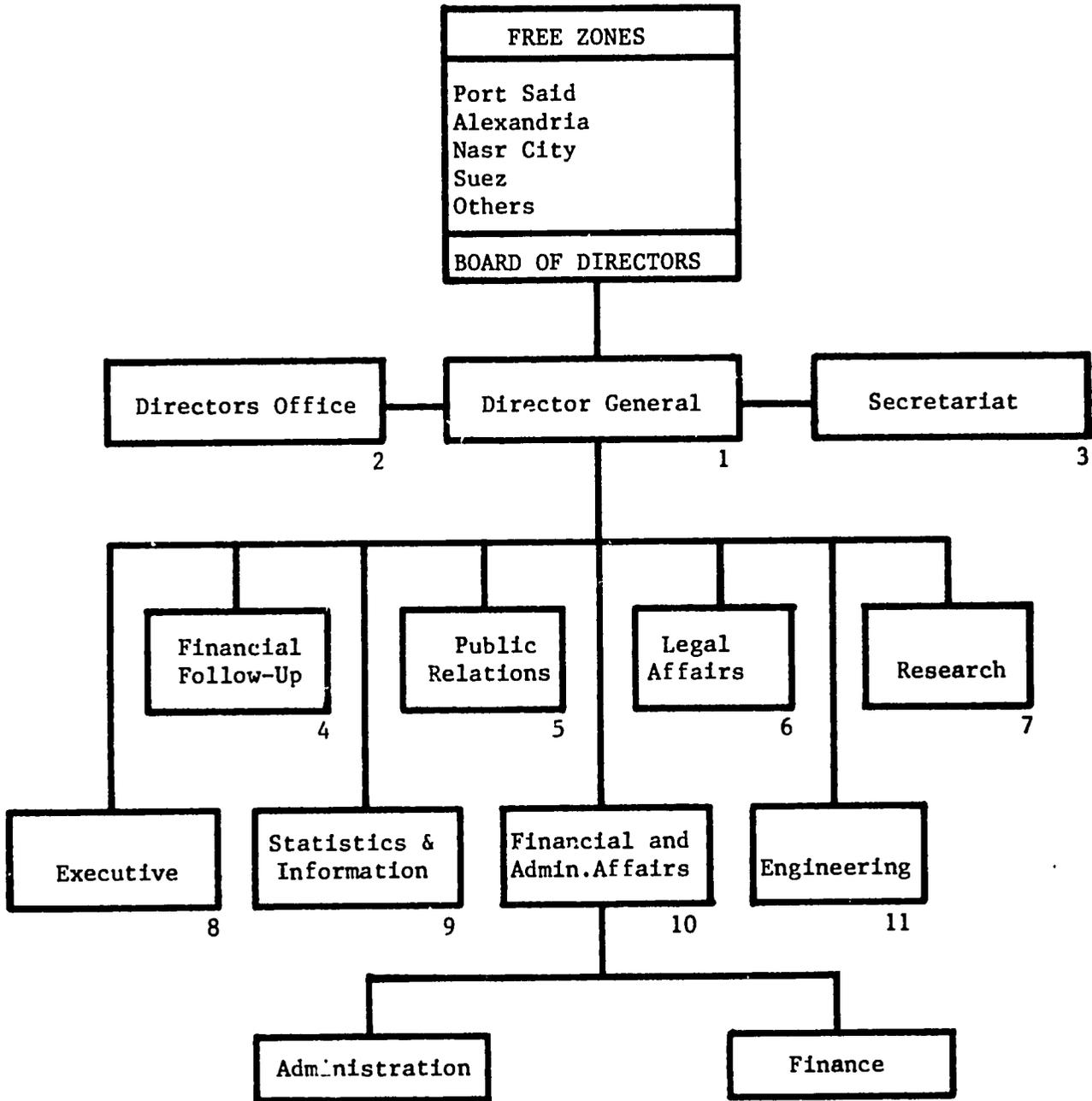
The Director of the Department of Free Zone Affairs has a staff of four persons under him, which he indicates is adequate to keep up with the current level of work. However, the growing number of projects in public free zones will eventually require conversions to machine technology, rather than the current practice of aggregating the reports by hand.

#### 4. Public Free Zones

Each public free zone has its own semi-autonomous organizational structure. Exhibit II-5 depicts the organizational framework which either exists already or is expected to exist at each free zone once it is in full operation. Some of the free zones apparently have not established each of the eight departments as yet, either because of a lack of qualified staff, or because the free zone is in its infancy, and there is no need for a large staff. In some cases, certain staff members perform tasks for several different departments.

The different public free zones each have their own Board of Directors which makes the policy decisions for the zone. It is headed by the Governor of the area in which the free zone lies, and is staffed by both public officials and private individuals. The Director General of the zone sits on the Board, as does the local Chief of Security and Chief of Customs. Several local politicians may be on the Board, in addition to a business representative (Chamber of Commerce). Recently, persons representing the investors have been added to the Board. They are generally selected by the Governor and/or the Director General of the

EXHIBIT II-5  
PUBLIC FREE ZONES  
CURRENT ORGANIZATIONAL STRUCTURE



free zone. It is too soon to evaluate whether these individuals will be able to effectively represent the investors in the Board meetings.

The pattern of organization authorized for each public free zone has generally not been implemented yet. This generic organization is reflected in Exhibits II-5 and II-6 and described as follows.

- 1) The general operation and management of each free zone is the responsibility of the Director General. The Director General's responsibilities are quite broad and it is our observation that time is about equally divided between internal management activities and investor activities. The developing free zones require more attention to physical facilities and we observed what we felt was a requirement for an abnormally high degree of follow-up with contractors and architectural consultants in Alexandria and Nasr City. While this portion of the study does not analyze that specific problem, it is apparent that the Directors General of these new free zones could benefit from permanently assigned engineering staff or construction management consultants not only from a time-effectiveness point of view, but from their readily available technical expertise. Engineering personnel are available on assignment from the Cairo office.

The Director General of each zone has a personal staff which also provides general office services, such as mail pickup and distribution, filing and typing, and similiar administrative support functions.

- 2) Director's Office. While shown on each zone's organization chart as a separate operating department, this unit actually consists of the Director's personal staff who provide general office services, such as mail pickup and distribution, filing, typing, and similiar administrative support. This staff exists in all zones, although it is more formally identified and staffed in Port Said.
- 3) Secretariat. The functions of the secretariat are primarily those of an executive assistant, or executive secretary, with duties involving preparation of Boards of Directors' agendas, minutes of Board meetings, and administrative assistance to the directors. They exist in all zones.
- 4) Financial Follow-up. This department is staffed in all zones except Suez, and is basically charged with monitoring and auditing the inventory and financial systems of zone investors for the purpose of ensuring that the zones collect full revenues due under agreements and law. It also audits physical inventories and other assets, as required to ensure that full revenue is determined. This is also the department responsible for ensuring that investors maintain adequate fiscal responsibility.

EXHIBIT II-6  
 ORGANIZATIONAL DEVELOPMENT  
 PUBLIC FREE ZONES

Departments Authorized	Status of Implementation			
	Suez	Alexandria	Nasr City	Port Said
General Administration (Director General)	Yes*	Yes	Yes	Yes
Secretariat	Yes	Yes	Yes	Yes
Financial Follow-up	No	Yes	Yes	Yes
Public Relations	No	No	No	Yes
Legal Affairs	No	No	No	Yes
Research	No	No	No	No
Executive	No	Yes	Yes	Yes
Statistics & Information	No	No	No	No
Financial & Adminis- trative Affairs	No	Yes	Yes	Yes
Engineering	No	No	No	No

\*Acting Director General

Source: Reynolds, Smith and Hills, 1979.

- 5) Public Relations. Only the Port Said Free Zone has full-time staff in this organizational area. In other zones, where the need is not as fully developed, the functions of the Public Relations Department appear to be handled on an "as needed" basis by the Director. The planned functions generally include services on behalf of investors which facilitate their establishment into the various zones. Typically, the department assists potential investors to obtain information regarding application procedures and fee structures, conducts promotionally oriented tours for prospects and visitors, assists investors in hiring and training labor, and handles press relations on behalf of the zones and investors. While not officially designated as a marketing arm, the Public Relations Department of Port Said would also be considered the nearest thing to a "sales" department. Its head appears conscious that the more informed a prospect is and the less concern he has over problems of manpower recruitment, relations with government agencies, establishment of contacts, etc., the greater is the chance that he will become an investor.
- 6) Legal Affairs. Existing only in Port Said, the legal department performs the typical functions implied by its title. In addition to providing guidance to avoid legal conflicts, the attorney is specifically charged with conducting investigations resulting from complaints by authorities, drafting legal documents such as agreements and contracts, and making internal policy or resolutions for Board actions. The department at Port Said appears to function as a staff section, interfacing primarily with the Director, as opposed to an operating-line department as depicted on the existing organization chart.
- 7) Research Department. This department does not exist in any of the zones. As intended, its basic mission will be to determine the suitability of applicants through analysis of various types of economic data and to present their findings to the local Boards of Directors. Insofar as could be determined, these feasibility reports are now being prepared either by the zone's Financial Department or by the Cairo office.
- 8) Executive. Existing at all free zones except Suez, this department's responsibilities involve the issuance of licenses for free zone operations per se, as well as licenses for import and export of goods consigned to the zones. It is also the organizational unit responsible for the physical inspection and registration of goods imported and exported. Unlike other public free zone departments, the Executive Department also provides these services for those private free zones under the supervision of public zones.

- 9) Statistics and Information. This department does not now exist as an identifiable entity in any of the zones; however, most of those responsibilities required at this stage of development are being performed by existing staff as assigned by the Directors General. Primary responsibility includes the collection of data pertaining to the economics generated by projects of each zone. These data include classification of goods and services handled by the investors in each zone, analysis of type, value, and quantity of goods imported from foreign countries, as well as analysis of general economic trends in Egypt and other Arab nations. While production to date has been modest, these departments are also responsible for the publication and dissemination of information pamphlets and brochures which will promote the various zones.
- 10) Financial and Administrative Affairs. With the exception of the Suez Free Zone, this department exists in all of the operating zones. In the case of Suez, the function is handled by the Director of Finance in the Cairo Office, who is assigned as an acting Director General. He also serves as the Financial and Administrative Affairs head on an average of two to three days per week by commuting from Cairo.

This department is responsible for preparation of operating and capital budgets, general accounting for the free zone administration and collection of revenues. Serving as the Treasurer of each zone, its head is also responsible for accounts payable.

The administration section of the department functions as a general administration and clerical operations center and personnel department. It is here that employment, training, employee benefits, and other employee relations are handled. The administrative functions as planned, appear to be highly efficient operations, using a minimum staff to accomplish a wide variety of administrative responsibilities.

- 11) Engineering. Although engineering services are provided by Cairo on an "as needed" basis, there is ample justification for the appointment of at least one construction oriented engineer at each of the zones, with the possible exception of Suez, which could share such an assignment with Adabiya. The rationale here is that the application of modern construction management practices at each site--plus the evaluation of professional expertise at each site to solve the inevitable design problems or changes, would not greatly enhance the quality of construction, but would result in much closer adherence to schedules. It is our opinion that the Alexandria Free Zone should receive priority in this area, because of its distance from the Cairo office and the present and planned level of construction activity.

## C. RECOMMENDATIONS ON ORGANIZATION

### 1. Senior Management

The quality of top management in the Free Zone Sector is, in general, excellent. There is ample evidence that the Head and his Deputy are both highly capable and motivated individuals who command the respect of subordinate staff. Interviews with virtually all second-tier supervisors indicate that the only relative weakness of top management may be in what they feel is "close supervision." Investigation of this point did produce reason to believe the Head and his Deputy do not delegate a high level of authority to department heads. As an example, all but the Sector's routine correspondence is personally checked and cleared, usually by the Deputy, prior to mailing.

The same is true in the handling of most significant decisions relating to the operation of the zones, and in decisions relating to internal operations. Our most objective evaluation of these reports is that while there is somewhat of a "tight reign" imposed by top management, we find that this is not necessarily negative. On the contrary the Head's management style--applied through a short span of only two tiers--is part of a long-range plan of staff development. It is apparent that he has increasingly delegated authority and plans to delegate more as staff competency increases.

We also found the Head to have a well developed plan for the development of the Free Zone Sector administration, as well as for individual department heads. We saw no significant problems in the Head's style of management, but we do recommend that he develop a means of communicating his plan to appropriate junior management to prevent a possible dampening effect on their own enthusiasm and job satisfaction.

### 2. Second Tier Management

With one exception, the second tier of management consists of individuals who are prepared by education and experience for their roles.

The Director of Research and License has both a baccalaureate and a masters degree in a related field and the Director of Inspections and Finance has a Bachelor of Accounting degree. Both men seem to be energetic individuals who will continue to contribute and to grow professionally. The Director of Finance appears to be technically competent and has been selected to serve as acting Director of the Suez Free Zone until he--or someone--is permanently appointed. This dual role can lead to a possible conflict of interest in his continuing to serve in the free zone headquarters, where he is in the position of auditing the figures and other data that he submits to that office, while in his position a acting Director General of the Suez Free Zone. We recommend that this dual assignment be terminated as soon as possible.

The Directors of the Executive and Engineering Departments are both well prepared by training and dedication to accomplish their assigned missions. Mr. Emat Eid of the Executive Department appears enthusiastic about his work performance and instills a similar attitude among his staff who frequently exceed their normal work duties. Mr. Noaman of the Engineering Department is also an enthusiastic individual with a degree in Civil Engineering. His close, informal relationship with his staff and his past project engineering experience has resulted in an apparent smooth operation despite some communication problems with upper level management.

It is evident that the enthusiasm and commitment of the Director of the Executive Department are reflected by the work of his staff, which appears competent.

The General Director of Free Zone Affairs has a baccalaureate degree in accounting, and has taken courses from Shannon and UNIDO to prepare for his position. The Director of the Engineering Department has had extensive project experience in both Egypt and other Middle Eastern countries, and maintains a close informal working liaison with his staff.

The General Director of the Planning and Engineering Department should by qualification be well versed in engineering, architecture, and general construction techniques. There is evidence that the current incumbent does not presently have this experience. We recommend a closer look at this operation which is critical at this stage of the Sector's development.

### 3. Engineering Staffing and Procedural Recommendations

Considering the small operations staff available (five persons in all), the management of the Free Zone Sector properties and construction programs to date have been exceptional. There needs to be a substantial revision in the organizational structure, however, which will entail additional management and staff personnel. The organizational area requiring additional expertise and planning devices including standardized procedures relates most directly to the designing and construction management requirements.

- o It is recommended that the current Free Zone Engineering Staff be increased to accommodate the current construction activities; i.e., to include structural, mechanical, electrical, and civil inspectors as required to control the quality of the construction product.
- o It is recommended that the staff be increased to develop standardized design criteria, the prototypes to be provided to the design consultants. These staff members should be provided with guidelines for design and contracting procedures in order to standardize these procedures throughout the free zone.

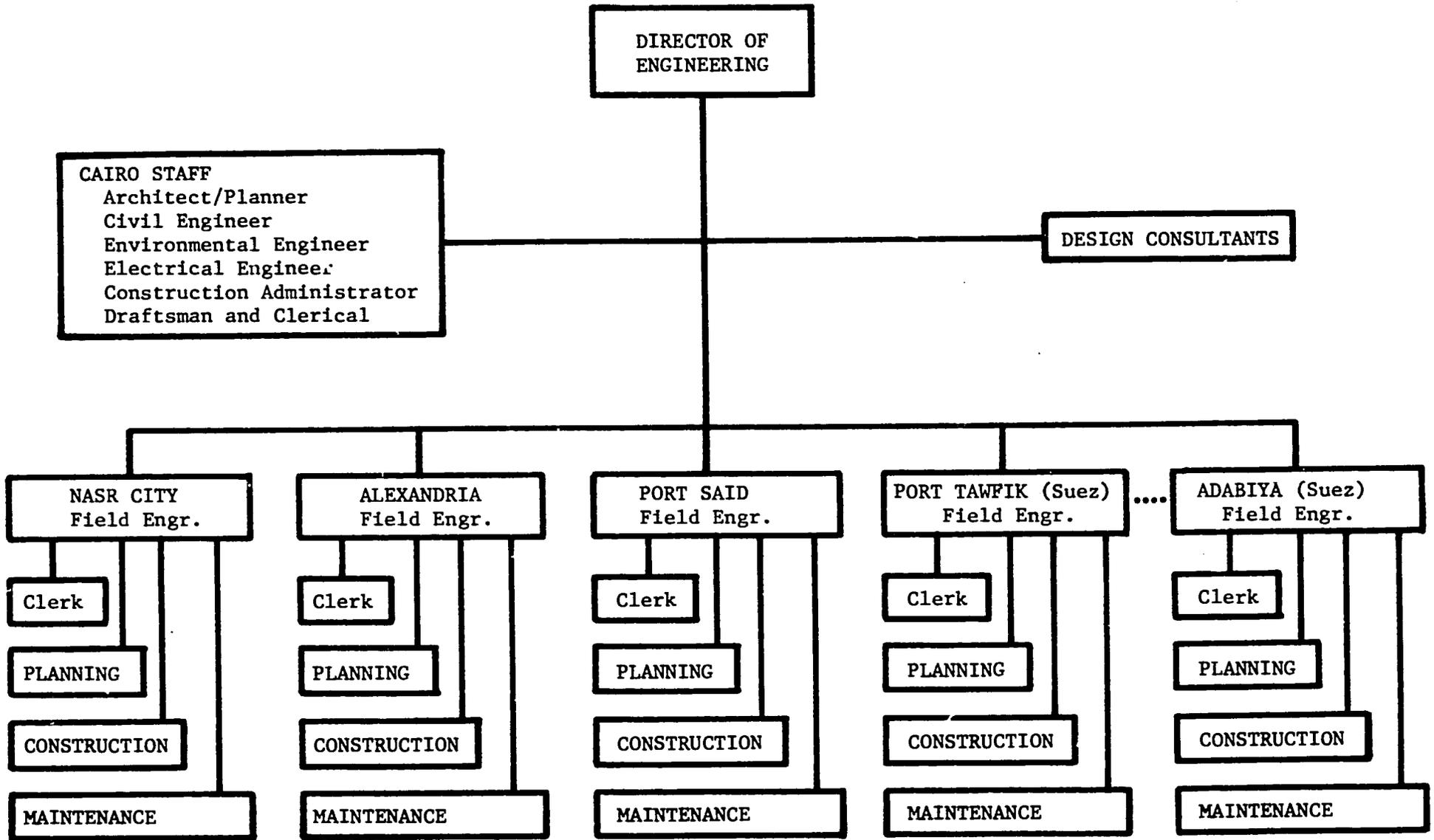
- o In addition, it is advisable that full-time construction engineers be provided at each free zone location. Their duties would include on-site planning, building arrangements, infrastructure development, coordination with investors, design standardization, construction procedures standardization, plus a serious orientation toward a more satisfactory management plan in operations and maintenance of existing infrastructure and facilities buildings.
- o Either an independent construction management firm should be employed on an on-going consulting basis, or the Sector itself should employ a construction manager with an appropriate staff to function in a full-service construction capacity.

A prepared organization chart for the Engineering Division is illustrated in Exhibit II-7. The job responsibilities of the individuals for the functions illustrated are detailed as follows:

a. Director of Engineering.

1. Establish and implement policies of sound judgment concerning all aspects of planning, construction, and maintenance of Egypt Free Zones.
2. Implement directions established by the Free Zone Board of Directors.
3. Provide counsel and advice to the Free Zone Board in all matters relating to site acquisition, site planning, construction, growth, and maintenance.
4. Prepare all budgets relative to planning, construction, and maintenance of the free zone and present them to the Board of Directors in a timely manner.
5. Provide management for the field and Cairo Staff in accordance with personnel guidelines established by the free zone. Recommend staff growth or repositioning to accommodate work load.
6. Maintain an in-house continuing education program which will provide increased technical knowledge to staff to provide normal growth and progression.
7. Establish, maintain, and update an appropriate technical library which will include material specifications and sources, international periodicals, legal guidelines for planning and contracting, and general reference materials.
8. Provide advice and counsel to staff on technical matters during planning, contracting, construction, and maintenance phases of individual free zone development.

EXHIBIT II-7  
 FREE ZONE ANALYSIS  
 RECOMMENDED ENGINEERING STRUCTURE



b. Architect-Planner.

1. Establish, publish, and update basic site planning criteria for consultants' guidance during preparation of site development documents.
2. Establish preliminary site layouts and phase development in concert with engineering disciplines.
3. Prepare preliminary site development estimates of cost suitable for budget preparation.
4. Review submittals prepared by design consultants and provide comments.
5. Confer with field engineers to solve problems of site planning, growth and development.
6. Develop space criteria for free zone buildings in program form for consultants' reference. Criteria shall be for all Free Zone Authority-owned buildings.
7. Establish appearance criteria or standards for all free zone buildings and structures. Review investors' submittals for compliance.

c. Civil Engineer.

1. Establish, publish, and update site development planning and performance criteria for consultants' guidance during preparation of site development documents. Effort shall include standards for roads and streets, drainage, slopes, topographic adjustment, fencing, etc.
2. Establish preliminary site layouts and phase development in concert with Architect-Planner and other involved engineering discipline input.
3. Prepare preliminary site development cost estimates suitable for inclusion in budget preparation.
4. Review submittals prepared by design consultants and provide comments.
5. Confer with field engineers to solve problems which occur under this discipline.

d. Environmental Engineer.

1. Establish, publish, and update site development criteria and standards for water supply, sewage disposal, storm drainage

control, and industrial waste disposal, for consultants' guidance during preparation of site development documents.

2. Establish preliminary site layouts and phase development in concert with architect-planner and other involved engineering input.
3. Prepare preliminary site development cost estimates suitable for inclusion in budget preparation.
4. Review submittals prepared by design consultants and provide comments.
5. Confer with field engineers to solve problems which occur under this discipline.

e. Electrical Engineer.

1. Establish, publish, and update site development criteria and standards for electric supply and distribution, metering, control, and site lighting for consultants' guidance during preparation of site development documents.
2. Establish preliminary site layouts and phase development in concert with architect-planner and other involved engineering input.
3. Prepare preliminary site development cost estimates suitable for inclusion in budget preparation.
4. Review submittals prepared by design consultants and provide comments.
5. Confer with field engineers to solve problems which occur under this discipline.

f. Construction Administrator.

1. Establish, update, and publish contracting procedures for site development contracts. Include standard forms and format preparations tailored to the projects contemplated and in progress.
2. Establish, maintain, and update periodically, unit price cost schedules of standard construction materials and labor based on available information and recent experience. This data is to be used by in-house staff during the preparation of budget estimates.
3. Establish, update, and publish insurance minimum guidelines.

4. Establish and publish minimum standards for safety practices and procedures to be enforced by the field engineers on all projects. The safety guidelines should be mandatory to investors building within the free zones.
5. Establish appropriate procedures for the management of construction.
6. Provide consultation support to field engineers during planning and design phases.
7. Make periodic site visits to keep current on construction cost, schedule, and quality; and to meet with on-site staff and manage on-site staff activities.
8. Prepare and submit periodic progress reports to the Engineering Director concerning construction progress, problems, and solutions.
9. Review and approve periodic payment requests; recommend "payment" to Director of Engineering.
10. Establish and institute an appropriate construction document change process whereby the contract is equitably adjusted and on-going records of such changes are maintained.
11. Establish and manage site staging areas for field offices, materials storage, ingress, egress, temporary utilities, and working areas.
12. Coordinate contractor office and field work activities and interrelated installations by separate contractors.
13. Establish and manage procedures in quality control and inspection services.
14. Accumulate and preserve "as-built" drawings and maintenance manuals. Schedule and manage "start-up" activities, orientation, and training.

g. Draftsman.

1. Perform a variety of drafting tasks with skill and independence except for support staff direction.
  - a. Prepare drawings from design studies, sketches, computations or other data with a minimum of supervision.
  - b. Coordinate work of various disciplines so that presentations are clear and concise.

- c. Make field dimensions with application to finished drawings.
  - d. Develop a good knowledge of up-to-date construction materials, methods, installations, and their characteristics.
  - e. Contribute to and assemble estimating data for refinement before final presentation.
- 2. Maintain record files of shop drawings, preliminary sketches, working drawings, and final record drawings in a systematic and retrievable manner.
  - 3. Under the Director's guidance, maintain the Technical Library.
- h. Clerk.
- 1. Provide clerical services such as dictation transcription, typing, filing, and mailing of letters, transmittals, documents, and contracts. Receive and distribute incoming mail.
  - 2. Establish and maintain filing system for:
    - a. Correspondence and directives
    - b. Reports and forms
    - c. Project records and contracts
    - d. Project change orders
    - e. Project guidelines contracts for various disciplines
    - f. Project progress payments
  - 3. Develop working knowledge of specific business operations, planning, construction contractual procedures, and maintenance operations.
- i. Clerk (At Each Free Zone).
- 1. Provide clerical services such as typing, filing, and mailing of letters, transmittals, documents, and contracts. Receive and distribute incoming mail.
  - 2. Establish and maintain filing system for:
    - a. Correspondence and directives
    - b. Reports and forms

- c. Project records and contracts
  - d. Project change orders
  - e. Project progress payments
  - f. Site inspection and maintenance logs.
3. Develop working knowledge of specific business operations, planning, construction contractual procedures, and maintenance operations.
- j. Field Engineer.
1. Implement the policies of the free zone with respect to planning, construction, and maintenance in his area.
  2. Establish and maintain complete field records.
  3. Perform management and liaison for infrastructure planning, construction, and maintenance activities as such activities impact the locality.
  4. Arrange for adjustments and changes occasioned by investor needs and conditions.
  5. Develop and manage infrastructure systems, demands, and conditions to and within the free zone.
  6. Coordinate and manage maintenance requirements in a cost-effective manner.
  7. Manage the assigned staff during the various development and operational stages of the free zone.
  8. Provide progress reports on a regular basis to the Cairo staff for all planning, construction, and maintenance activities and costs.
  9. Provide responsive engineering support to the local Director of the free zone.
- k. Planning Engineer.
1. Implement the policies of free zones with respect to planning and growth of existing established free zones.
  2. Obtain surveys and soils investigations and reports from licensed professional consultants.
  3. Prepare planning layouts of proposed growth with respect to the needs of proposed investors.

4. Accommodate the investor mix with regard to traffic, infrastructure, and future maintenance.
  5. Make recommendations to Cairo staff with respect to appearance of investors' planned construction.
  6. Maintain liaison with local master planners to avoid conflicts between agencies and to get most advantage of local area master plans. Keep field engineer aware of any planning problems or conflicts.
  7. Prepare updated occupancy plans periodically for distribution to Cairo staff.
  8. Make recommendations to Cairo staff for optimum land use.
  9. Prepare and maintain current cost information as it affects planning of free zones.
1. Construction Administrator (Field).
1. Implement the policies of free zones with respect to construction materials and procedures.
  2. Maintain a broad knowledge of construction costs, inspection methods and techniques; construction materials, methods, and equipment; trade and craft processes; and safety processes.
  3. Interpret the contract documents for construction and settle disputes which may arise as a result of the contractor's understanding.
  4. Make recommendations to the Cairo staff on contractors' claims.
  5. Accept or reject the construction work on behalf of the free zone.
  6. Review each payment request prepared by the contractor and make appropriate recommendations to the Field Engineer and Cairo staff.
  7. Originate contract change order when change is necessitated by field condition.
  8. Witness operational tests of infrastructure utility systems.
  9. Prepare record drawings of as-built systems, complete with definitive dimensions for future free zone maintenance.

m. Maintenance Engineer.

1. Implement the policies of the free zone with respect to maintenance of the constructed and operational free zone infrastructures.
2. Establish and manage maintenance budgets as approved by the field engineer.
3. Establish and implement a preventive maintenance program to obtain the maximum life from infrastructure facilities.
4. Maintain a supply of critical materials for routine and emergency repairs and maintain a "skeleton" maintenance crew.
5. Maintain maintenance manuals for maintenance materials and methods including a "trouble shooting" library readily available.
6. Provide to Cairo staff "life-cycle" reports on durability of installed infrastructure systems with replacement costs and schedules.
7. Review planning and design documents for phased growth to existing infrastructure systems and report comments thereon to the field engineer.
8. Take proposals for and write contracts to independent maintenance contractors for routine maintenance repairs and replacements.
9. Devise and enforce on-going operations procedures to establish operations efficiencies and energy savings.

The recommended philosophy for assignment of field engineers and their staff which appears warranted for the free zones is detailed below:

- o Assignment of a field engineer and staff should be made dependent upon the development phase or phases of a free zone. If a man is well-qualified in planning and construction he would be the logical selection for assignment during the initial development phases. His staff would be oriented along similar lines. Then as the zone operation commences he should develop his staff with weight in operation, management, and maintenance. From this growth, a person can emerge as a field engineer with operational qualities, releasing the planning and construction field engineer for another assignment. Staff members retained for their planning and construction knowledge can support the field engineer in growth planning and construction. Later, as vacancies appear, such a staff member can be promoted to field engineer.

- o At Port Tawfik (Suez), the close proximity to Adabiya indicates that one field engineer with a full support staff be utilized. This is based on the assumption that both sites will have a full schedule of phases for several years, except planning and construction at Port Tawfik will be minimal. When Port Tawfik is in the operation and maintenance phase, Adabiya will be in the construction phases.

The free zone can develop an organizational format for the training of field personnel. One method is to employ maintenance trainees early in the construction phase, allowing them to witness and participate in the construction activities while working on the contractor's payroll, a payroll which would be partially subsidized by the Free Zone Sector. Another procedure would incorporate development criteria for the encouragement of contractors who employ in-house training and apprentice programs.

It is also recommended that the Free Zone Sector employ a professional firm to undertake a training/improvement program for the Engineering Department. A suggested program is outlined in the following paragraphs:

The professional services which might be required are summarized into three categories:

- o Organization Consultation
- o Staff and Personnel Employment Procedures
- o Engineering Group Training

The services included in the "organizational consultation" category are recommended as:

- o Development of a Phased Program for Organizational Modifications
- o Development of Policy and Procedures Manuals
- o Development and Refinement of Organizational and Work-Flow Charts

Services required for "staff and personnel employment procedures" development include:

- o Devising of Job Descriptions
- o Establishment of a Compensation Plan/Salary Program
- o Establishment of Recruiting and Hiring Procedures

The training services recommended for the engineering group include:

- o Construction Planning
- o Design Standards

- o Hiring and Managing a Design Consultant
- o Scheduling Procedures for Design and Construction
- o Value Engineering
- o Life-Cycle Engineering
- o Maintenance Engineering
- o Documents Preparations
- o Contractor Bidding Procedures
- o Contracts
- o Materials, Equipment, and Labor Expediting
- o Project Coordination
- o Inspections and Quality Control
- o Record Keeping
- o Construction Procedures
- o Time and Cost Control
- o Project Completion, Occupancy, and Start-up
- o Operations and Maintenance Requirements

It is anticipated that the training program would be undertaken in Cairo and that the field engineers (and others) would be transported to Cairo on a periodic basis (phased to preclude interruptions in existing operations). In addition, key Cairo staff members and the various free zone field engineers would be given field training in the United States of approximately two weeks for each person (on a phased basis); one week in observing and receiving instructions design procedures and one week in observing and receiving instructions in construction procedures on selected project sites.

#### 4. Public Free Zones

The recommended reorganization of the public free zones is reflected in Exhibit II-8. Its design is oriented toward the consolidation and coordination of similar functions and a reduction in the direct supervision of the Director General. The number of second tier management positions is reduced from eight to four which would substantially reduce duplicative effort and improve communications, resource management, and supervision.

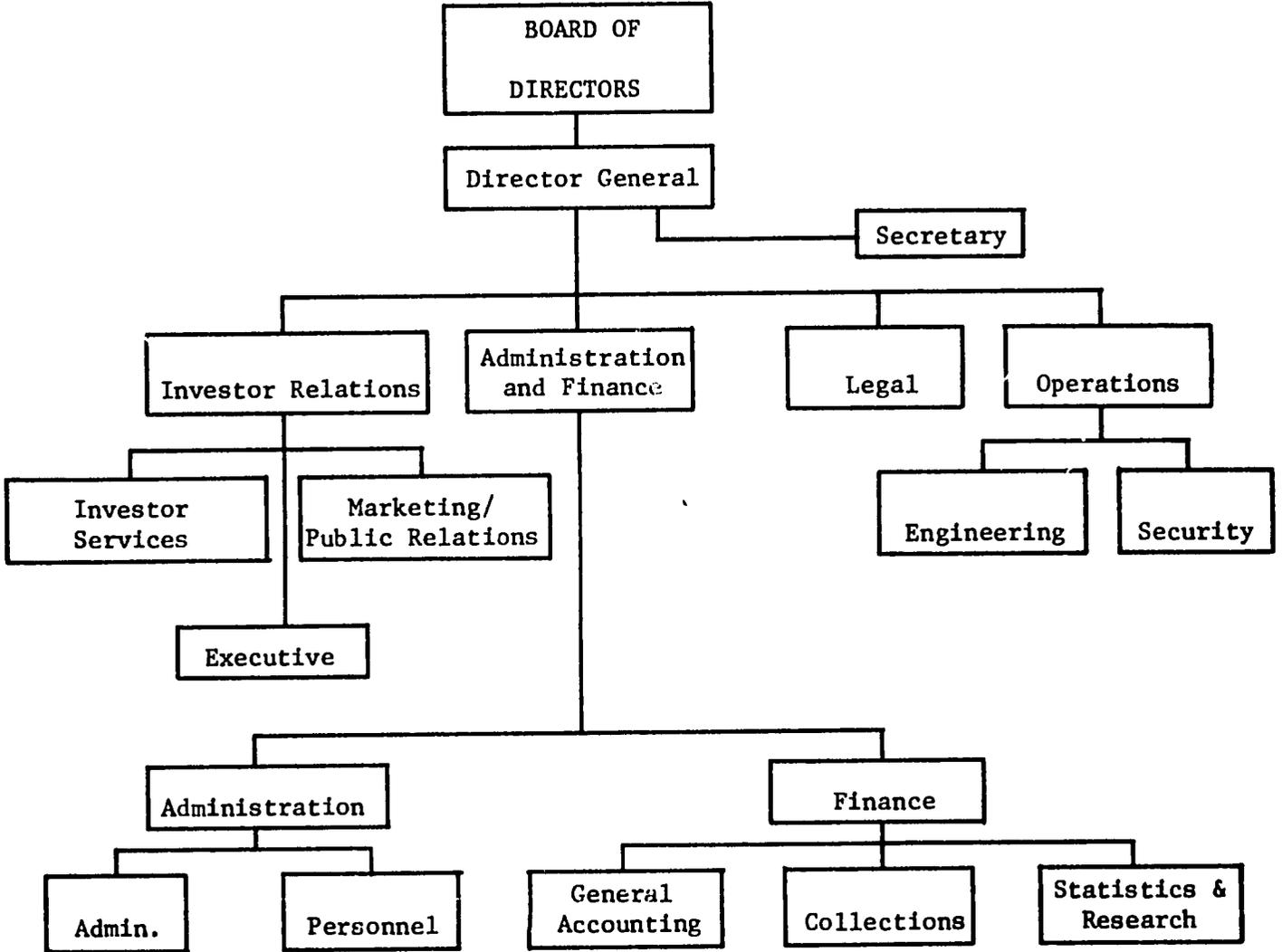
The major recommended changes in departmental organization include the following:

- o The Director's Office: All functions dealing with general office services are transferred to the Administrative Department.
- o Secretariat: Since this is usually a single position and not department level in scope, the Secretariat is redefined as a staff position within the Director's Office rather than a separate departmental entity.
- o Financial Follow-up: Recognizing the differences in the mission between the Financial Follow-up Department and the Finance and Administration Department, it is still felt that a

EXHIBIT II-8

FREE ZONE ANALYSIS

RECOMMENDED ORGANIZATION STRUCTURE OF FREE ZONES



combination of the two would result in closer coordination and continuity of overall fiscal policy. The recommended change integrates all fiscal operations--both internal and external--into a common department under a single administrator. This would also enable the Director General to obtain all financial information and to implement all fiscal policies through a single manager.

- o Public Relations: As part of the larger role of investor relations, this department should be integrated with those departments which deal directly with the investor. This operation at Port Said could be used as a model for similar departments at other zones.
- o Research Department: It is recommended that this and all financially oriented departments be combined as indicated under Financial Follow-up. In addition to increased continuity and coordination, the proposed combination would allow much greater flexibility for shifts of manpower within the group to cover emergency overloads in individual departments.
- o Executive Department: The role of the Executive Department in direct investor relations through the issuance of licenses and registration of goods transported through the free zone should be combined with other direct investor related departments including investor services and public relations/marketing.
- o Statistics and Information: Although this department does not actually exist in any free zone, its function would be better utilized through a combination with the Research Department.
- o Financial and Administrative Affairs: Because this section is so deeply involved in both human and physical resource management and because its operations are so far removed from those of accounting, it is recommended that this department maintain its direct line of communications to the Director General through General Department status.

In summary, the rationale for all the changes suggested within the free zones' organization is the same; i.e., we have proposed: 1) consolidation of similar and related functions involving human resources from the same professional disciplines; 2) reducing the number of managers reporting directly to the Director General; 3) creating greater manpower flexibility of manpower; and 4) reducing the possibility of overlapping and duplication of effort. There also appears need for "hands-on" operational training for public free zone employees. The specific area for training initially should emphasize security, facility-investor operational coordination, and customs-administration liaison. While the overall guidelines appear to be understood, the day-to-day work detail may require standardization in approach and methodology.

## 5. General Authority/Free Zone Sector Liaison

There is considerable evidence that the Free Zone Sector requires either more autonomy or direct Board representation within the General Authority. It is recommended that in order to accomplish the goals of the free zones, strong consideration be given to increasing the authority of the Free Zone Sector either within the General Authority or through the institution of a separate agency. The rationale for this need has been succinctly stated by Thomas Kelleher in a UNIDO publication entitled Handbook on Export Free Zones (page 54):

"The organization responsible for promotion and operating Export Free Zones must be enterprising, able to take risks, and capable of fast decisive action. These are characteristics associated with commercial enterprise rather than with the public service. The nature of the public service, concerned as it is with national policy and legislation, and accountable as it is in detail for its actions, is to be deliberative, risk-avoiding and slow." Hence, the Egyptian free zone organization should therefore operate outside the normal civil service constraints. Nevertheless, it must be accountable to the government if the Egyptian free zones are financed by the government and for part of the overall government policy on industrial development.

The current conditions that are immediately apparent, and which affect the Free Zone Sector's satisfaction of objectives, are as follows:

- o Representation for decisions through the Deputy Chairman of the Board who also has responsibility for Inland Investments, Project Evaluation and Promotion. This current emphasis is in the Inland Investment Sector and, as such, the Free Zone Sector does not appear to obtain the full commitments necessary for program implementation. In effect, a very strong sector is in a position to obtain the majority of the Board's time.
- o Promotional activity for the Free Zone Sector is administered by the General Authority. There are no current plans or emphasis on free zone promotion which is desperately needed to "sell" overseas investors. Promotional programs are oriented toward the Inland Investment Sector.
- o Key staff can be assigned to the Free Zone Sector by the General Authority; pay scales are determined by the General Authority. While the centralization of personnel activity has benefits, the managerial limitations are to be considered. As a possible compromise, the Free Zone Sector should be able to recommend personnel assignments and the transfer and hire of key employees.
- o The budgetary responsibility of the Free Zone Sector is coordinated through the General Authority. Thus, availability of funds is limited not only by the Treasury but also by overall General Authority commitment.

We are of the conclusion that the Free Zone Sector could be more effective as a separate agency. The requirements of coordination with Customs, Interior, and the other Ministries--as well as the internal needs for personnel, promotion, and other functions--can be enhanced with more autonomy.

## CHAPTER III

### FREE ZONE OPERATIONS AND INFRASTRUCTURES

#### A. LOCATIONS OF EXISTING AND PROPOSED FACILITIES

##### 1. Nasr City (Suburb of Cairo)

Nasr City Free Zone is 5 km southwest of the Cairo International Airport, adjacent to newly built Nasr City residential community. The elevation varies from 20 to 35 meters (see Exhibit III-1).

##### 2. Alexandria (El Ameria)

El Ameria is approximately 28 km southwest of the City of Alexandria at the intersection of the Cairo Desert Road and King Maryut Road. The northwest border occurs mostly in Maryut Lake. Its elevation varies from sea level to 45 meters.

##### 3. Port Said

Port Said Free Zone is approximately 2 km south of the City of Port Said between Suez Canal Port on the east, and Lake Manzala on the west. Its elevation varies from 2 to 4 meters.

##### 4. Port Suez (Port Tawfik)

Port Suez Free Zone is approximately 1 km east of main city center at the south end of the Suez Canal. It is bordered on the northwest by a bay of the Gulf of Suez, the passenger/freight seaport on the southwest, Canal Authority property on the southeast, and privately developed residential/business buildings on the northeast. Its elevation is approximately 1-1/2 meters.

##### 5. Adabiya (Proposed New Free Zone to Accommodate Expansion in Port Suez)

Adabiya is approximately 8 km southwest of the Suez City central business district along the coast between the Ataq Mountains on the west and the Gulf of Suez on the east. The Port of Ras Adabiya is approximately 6 km to the southeast on the west shore of the Gulf of Suez.

##### 6. Ismailiya

A 1,000 feddan (1 feddan equals 1.038 acres) free zone has been approved for the Government of Ismailiya on the Suez Canal.

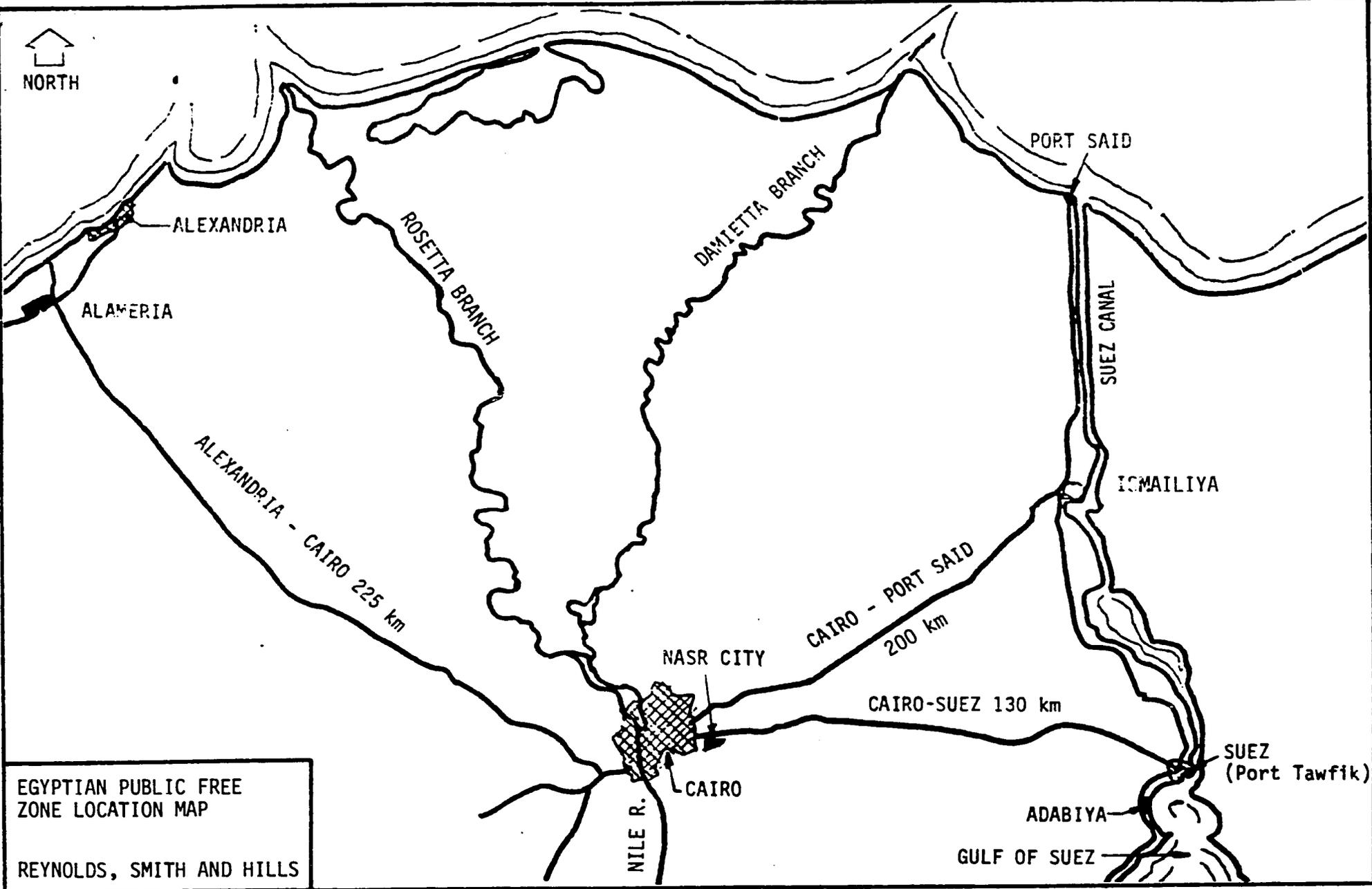
#### B. EXISTING OPERATIONS AND INFRASTRUCTURE FREE ZONE FACILITIES

##### 1. Port Said

Comprising approximately 675,000 square meters, the free zone lies about 2 km south of the main business center of the city along Nasr



NORTH



EGYPTIAN PUBLIC FREE  
ZONE LOCATION MAP

REYNOLDS, SMITH AND HILLS

EXHIBIT III-1

III-2

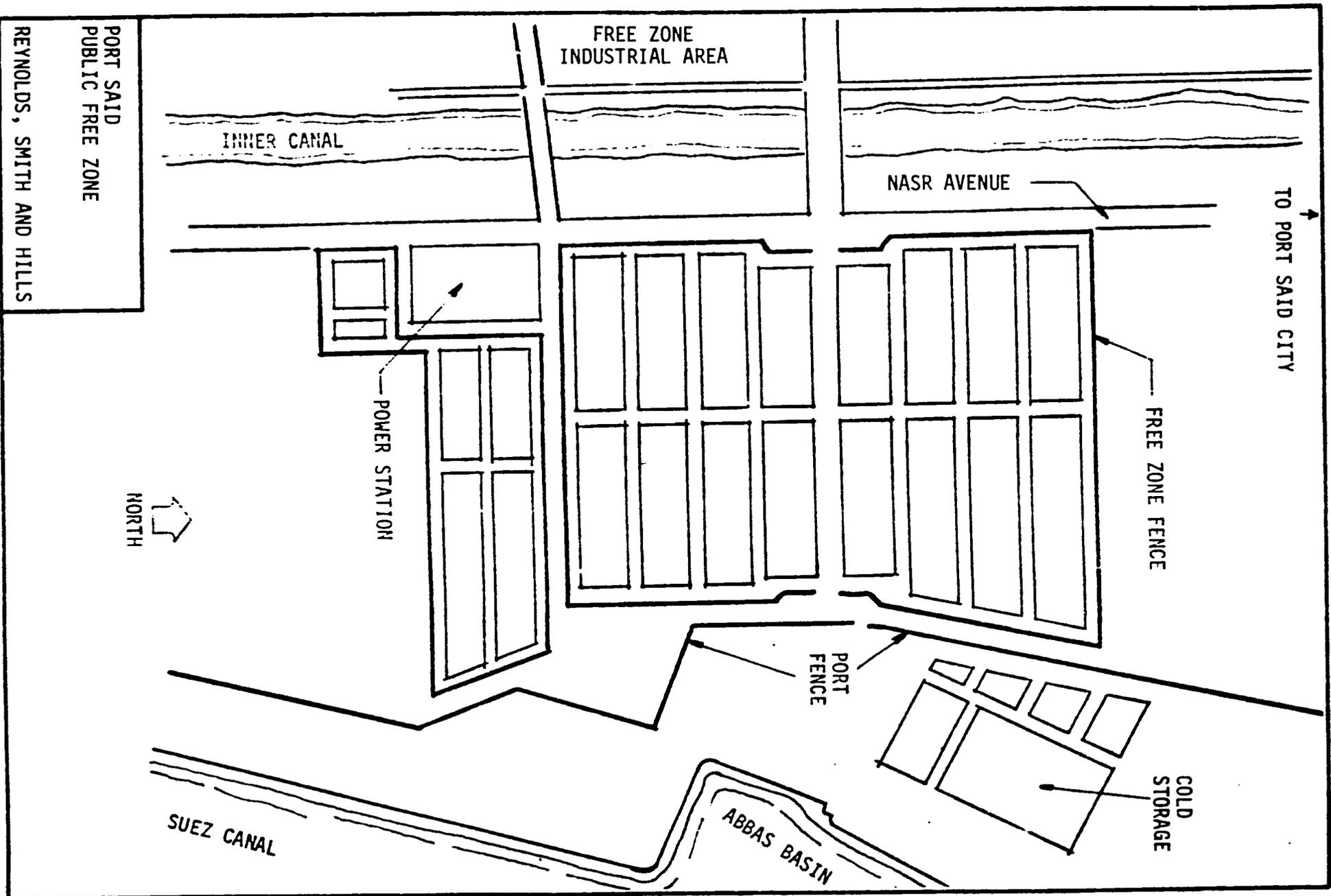
Avenue (Cairo Road) (see Exhibit III-2). The existing main section of the zone, approximately 456,000 square meters, is enclosed by a masonry security fence. The remaining areas are enclosed by a chain-link fence. All utilities are provided by the municipal system but because of the recently increased demands on the electric distribution system, free zone investors have elected to provide stand-by generators when their stored product or manufacturing process would be damaged or seriously affected by loss of power from the distribution system.

Construction methods chosen by the investors are varied, depending upon activity and/or process. Cold storage facilities are designed specifically for that function. A review of the facilities of one such investor showed a prefabricated steel building enclosure surrounding insulated freezers and cold storage rooms. The working floor level was set to accommodate tractor trailer truck-bed height. Mechanical equipment is located below in well-maintained specially designed spaces. Storage buildings are two types--multi-use, prefabricated, uninsulated sheet steel rigid frame structures with column-free 8-10 meter high storage capacity. Access doors are four to five meters high.

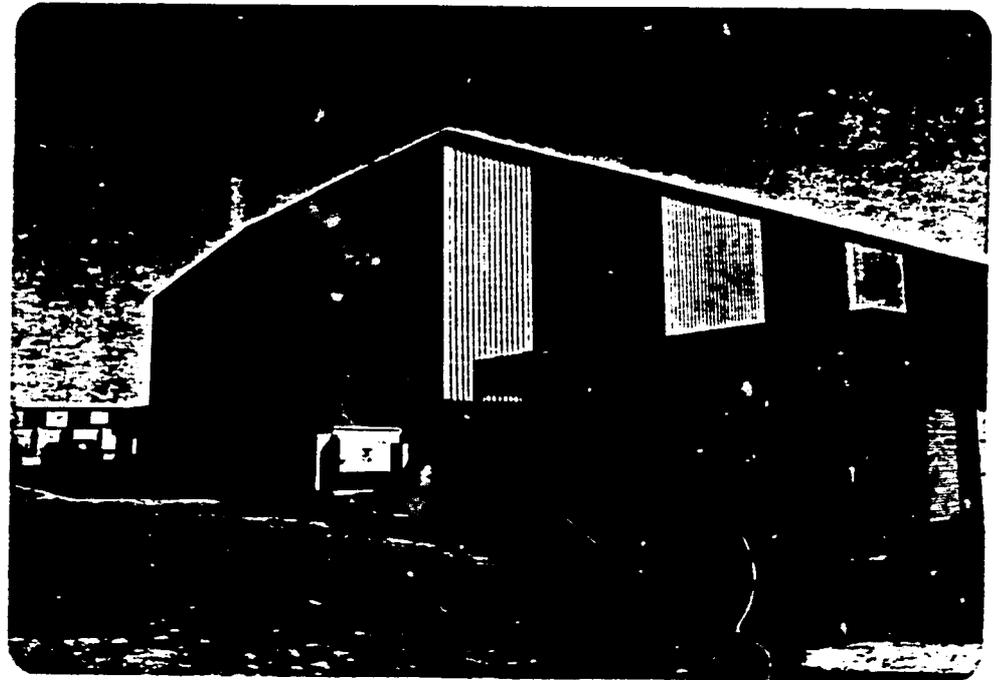
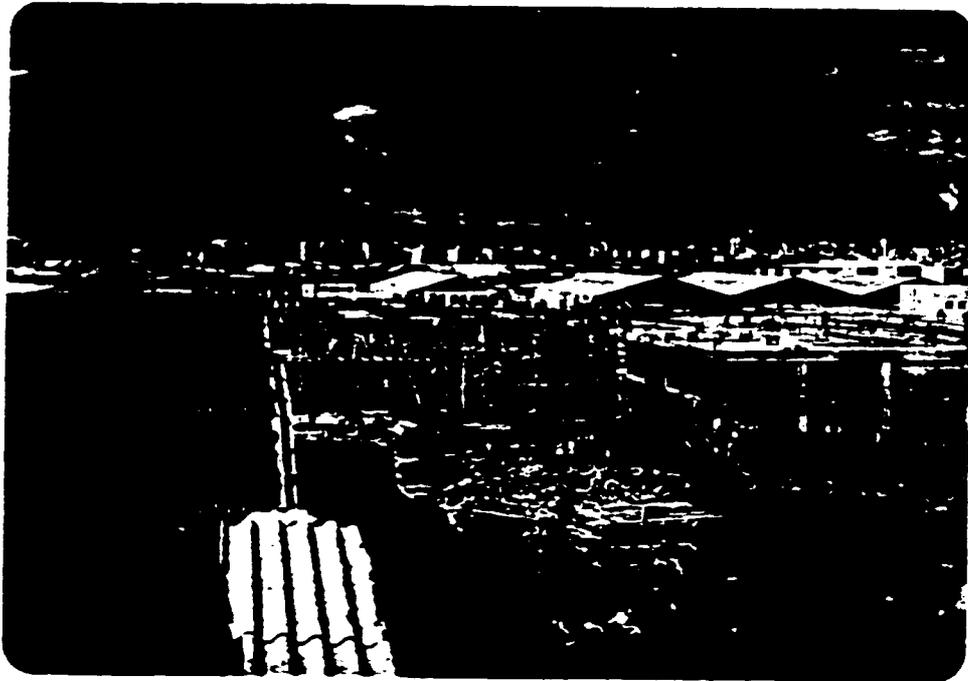
Generally, these buildings are imported from Europe or the United States. Other storage buildings are built from locally available concrete and masonry wall materials with light steel truss roof framing. Roofing is usually corrugated cement asbestos with field applied asphalt coating. Buildings used for factories are, of course, designed for the particular activity planned. A plastics factory, for instance, employs a prefabricated concrete structure with light-weight truss roof and cement asbestos walls. A prefabricated building manufacturer (investor) has employed a prefabricated concrete wall and column system which accommodates a traveling bridge crane. Prevailing types and styles, however, are reinforced concrete frame with plastered masonry infill panels. Low cost materials and available labor with knowledge of the system and erection methods appear to have the favor of the investors.

Access streets are being developed at the Port Said Free Zone; exact paving widths have not been established. Control gates and adjacent buildings for customs personnel are under construction. An administration building site, adjacent to the east control gate has been selected; excavation of unsuitable materials is in progress. Due to the proximity to residential areas and availability of bus transportation, car parking for employees has not been provided.

Due to the fact that this is the only free zone facility which is substantially complete and occupied, it was appropriate for the consultant to analyze the infrastructure facilities in careful detail. It was found that there was an element of excess capacity in the infrastructure services which included the construction of facilities which were not totally committed to the existing uses of the facility. However, if the individual investor requirements change or increase, the infrastructure facility presently available should be adaptable without undue or unnecessary additional cost expenditure.



PORT SAID  
PUBLIC FREE ZONE  
REYNOLDS, SMITH AND HILLS



PORT SAID PUBLIC FREE ZONE - PORT SAID

Upper  
Left: View of investor construction and operations showing conventional and pre-fabricated construction techniques.

Upper  
Right: Pre-fabricated cold storage facility in operation.

Lower  
Left: View of control gate construction and port facilities in vicinity of the free zone - east entrance.

Operations and maintenance of the existing infrastructures is minimal. The procedures evidenced to date have not seriously hampered the ongoing operations of the free zone area investor/occupants. It is important that the free zone develop a good program of operations and maintenance very soon.

The road under construction is about 20 percent complete, of which most is not of final design specification quality. The existing property access is by compacted earth rights-of-way between investors' building construction.

The water distribution system and the collection system for sanitary drainage are complete except for tie-ins at investors' properties still under construction.

The primary electrical system has not been identified. The secondary system is underground with pad mounted transformers for each investor, depending on load. Due to insufficient capacity and lack of reliability, some investors have installed stand-by generator systems. System characteristics are 220V, 50 cycle.

There is a perimeter security fence under construction which is approximately 95 percent complete; control buildings and gates are approximately 60 percent complete. The light manufacturing area west of main site is not fenced.

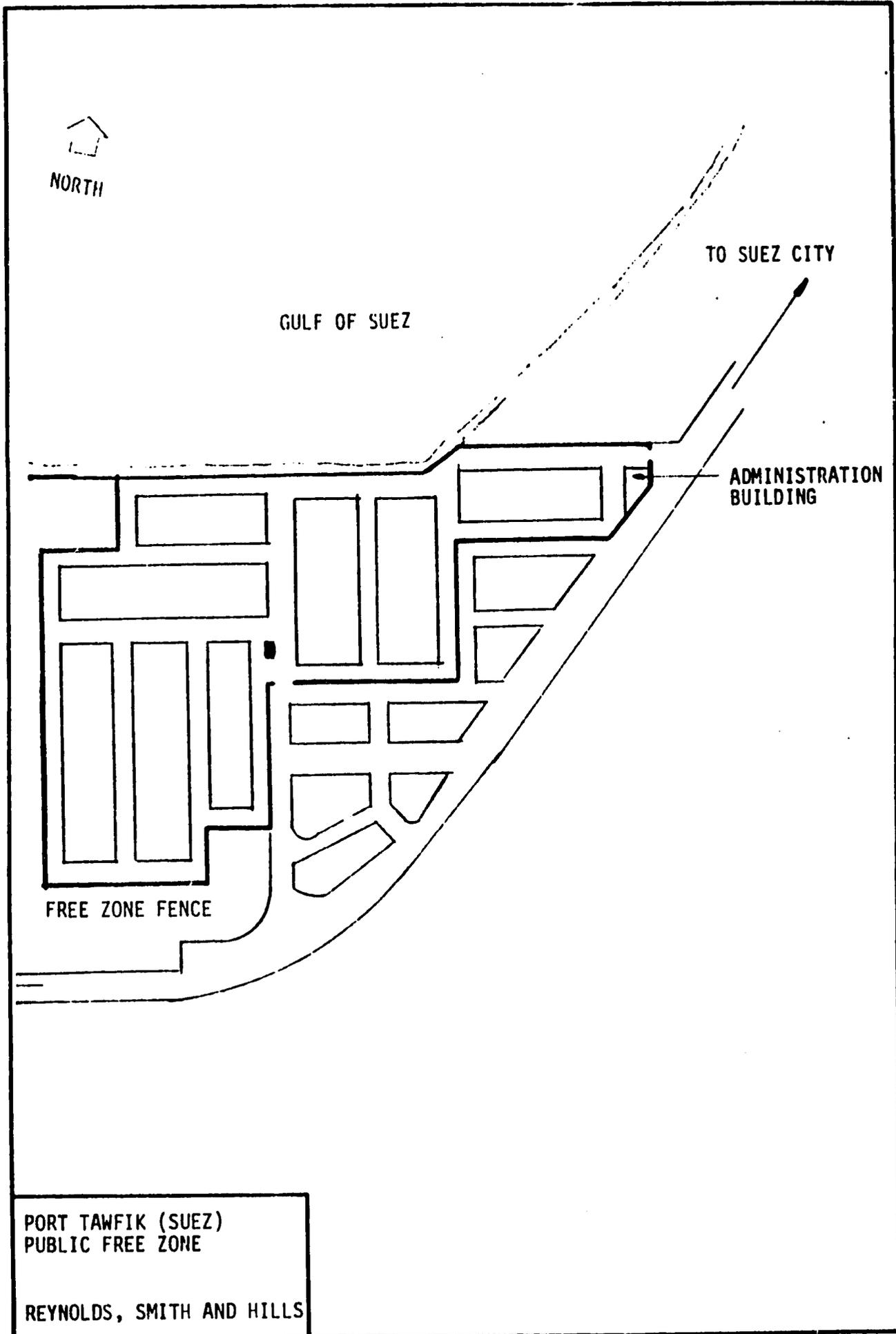
## 2. Suez City (Port Tawfik)

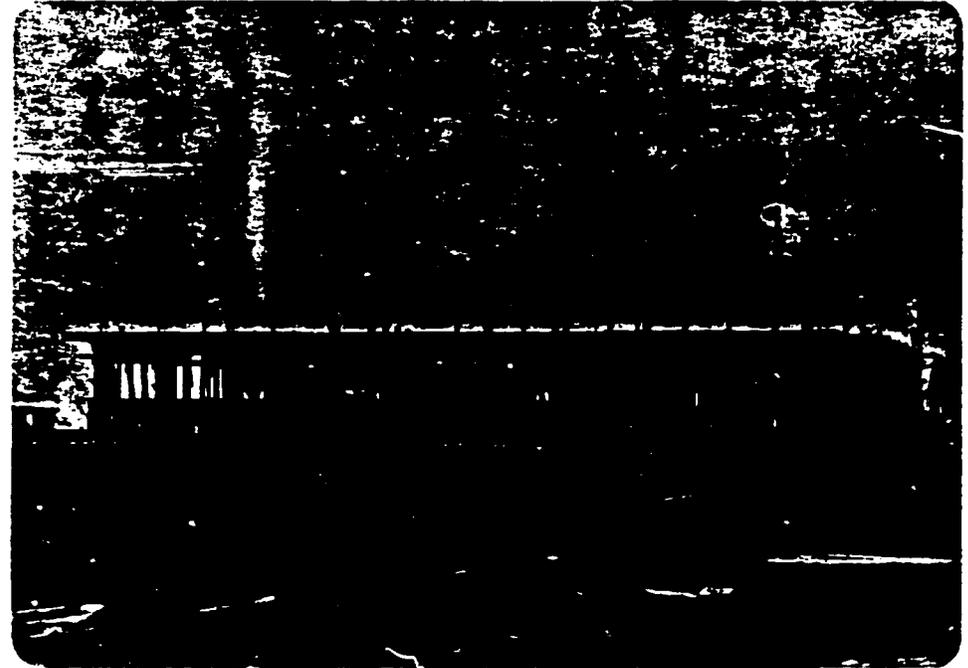
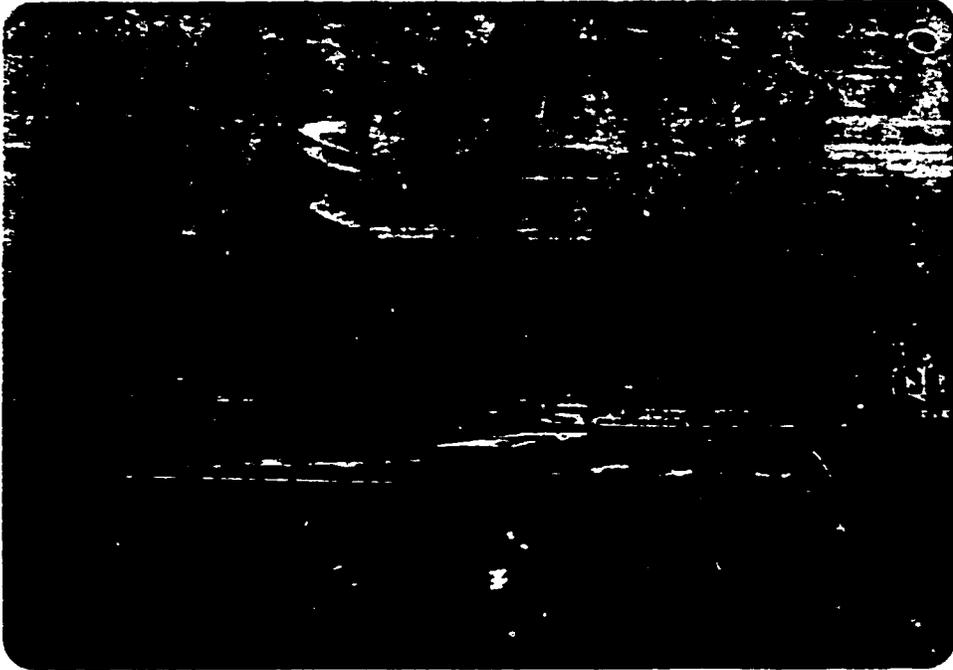
Port Tawfik, comprising approximately 83,000 square meters, lies between the Gulf of Suez on the northwest and the port at the mouth (the south end) of the Suez Canal on the southeast (see Exhibit III-3). The main entrance and the administration building for the property is located on the road from Suez City, which is about one km to the north. Immediately adjacent on the south and west side of the port are the shipping and docking facilities for passenger and cargo vessels that leave for ports along the Red Sea and the Arabian Gulf.

The entire facility is enclosed with a masonry fence and an additional control gate is south entering from the adjacent business and residential districts. Although the entire port area was heavily bombarded with artillery shells during and after the 1967 war, leaving most of the area leveled, reconstruction is well underway. Some sites have been excavated to remove the rubble and the foundations from demolished and damaged buildings. In some areas, reconstruction has started above the ground over the existing rubble.

The entire infrastructure had to be rebuilt to accommodate the investors now constructing new warehouses, factories, and facilities on the site. The predominant construction method used is reinforced concrete with masonry infill panels to be exposed, in some instances, and in other instances to be plastered over. The site also contains one prefabricated steel building which is in use and another which is under construction. Paving was left over from the original port layout.

EXHIBIT III-3





PORT TAWFIK PUBLIC FREE ZONE - SUEZ CITY

Upper      Pre-fabricated buildings used for  
Left:      warehousing operations.

Upper  
Right:      New construction on investor site.

Lower  
Left:      View of port wharfs and car ferry in the  
vicinity of the free zone and traffic  
waiting to enter the Suez Canal.



New buildings are placed on sites which follow the original arrangement and road system. New paving has not commenced and will not be done until completion of the remaining site developments. Construction progress is obviously hampered by the lack of available labor, since the entire city is in the process of being rebuilt as a result of the war. There is strong competition for all types of labor in all sectors immediately adjacent to the free zone area. When construction in the private and public sector in the immediate vicinity is completed, the free zone will make more rapid progress.

According to the Director General of the free zone, all sites have been reserved by investors, thereby making it imperative that growth in another location be considered. Proximity to residential areas and public transportation has precluded the need for automobile parking on the site when the zone is fully operational.

The study into the existing infrastructure installations at the Port Suez facilities was inconclusive. The consultants were informed that all of the areas were totally committed to investors; however, existing infrastructure facilities were resurrected from the battle-torn City of Suez, and there have been problems requiring frequent maintenance. It is the investigators' understanding that the Authority has a program of inspections and repairs which keeps the utility services operational, as required, and that as new investors occupy the area, additional repair and permanent replacements are planned.

Except for minor areas of connections to investors' properties, the road system is complete. The height of sewer manhole covers indicates additional wearing surface may be anticipated in the future. All existing exposed surfaces are asphalt.

The existing water distribution system of the City of Suez has been repaired and placed in operation. The system formerly supplied buildings which occupied the free zone site before the 1973 war.

Like the existing water system, the sewage collection system previously served buildings on the site before the 1973 war. Repairs have been made to continue its operation. The only additional effort will be to connect to investors' properties when they are developed.

The existing underground secondary electrical distribution system has been rebuilt to furnish 220V, 50 cycle power to investors upon applications.

A new masonry and concrete security fence has been built at the zone perimeter except for a short segment along the northwest side where woven wire has been temporarily used. Access gates are guarded full-time at each end of the site; an additional access gate has been constructed at the northeast side but is closed and locked until investor activity develops a need for it to be manned.

### 3. Nasr City (Cairo)

This site comprises approximately 700,000 square meters, and is approximately 4 km from the Cairo International Airport to the northeast (see Exhibit III-4). This also places the facility approximately 1 km from a newly developed residential community called Nasr City. Immediately north of the Nasr City is a road network which connects the City of Cairo with Port Said and Port Suez and traverses through Heliopolis. A proposed ring-road will be in the vicinity of the site.

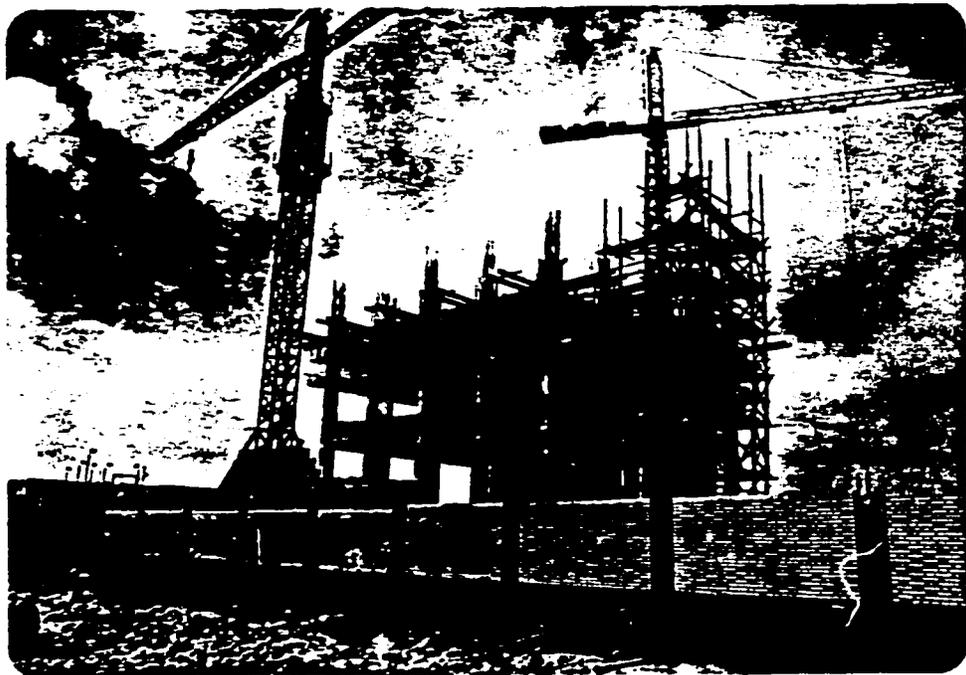
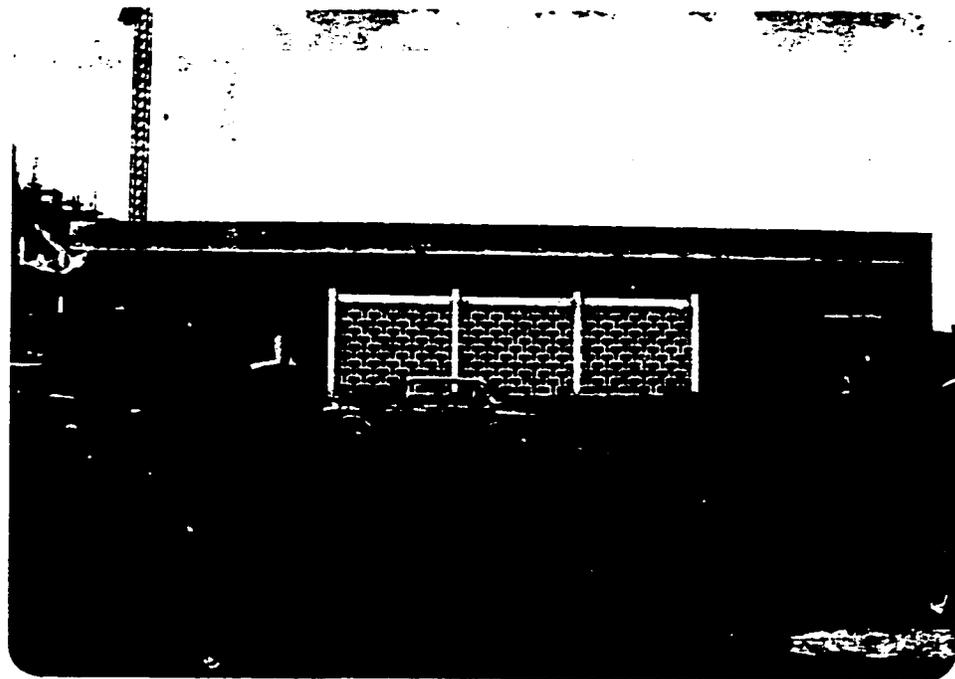
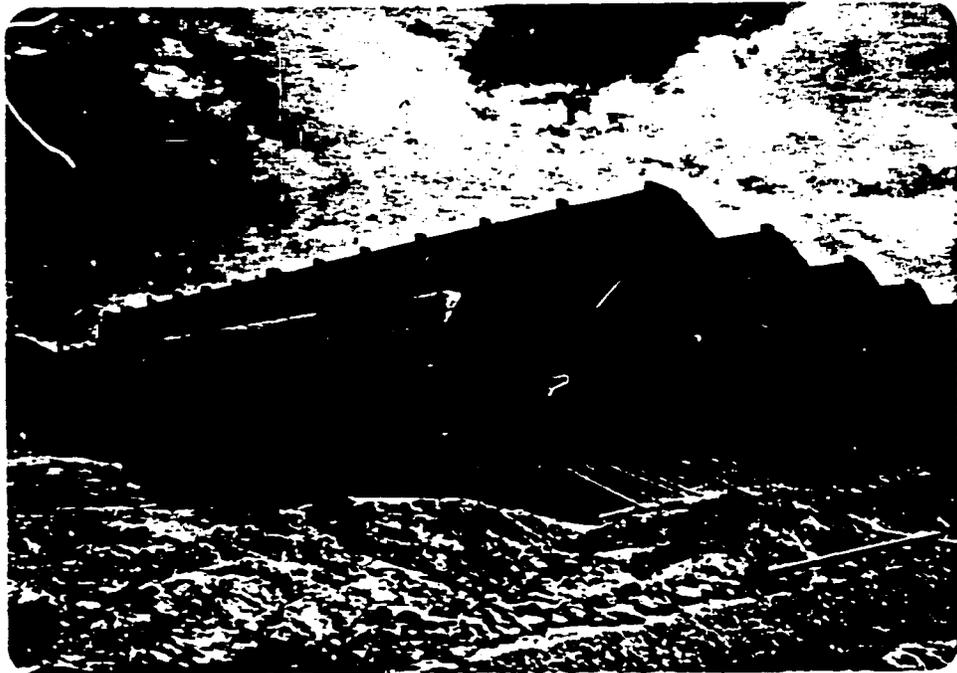
The site is triangular with the administration building and customs control gate on the north edge. A high-tension power source traverses the southeast side of the site, and will be used for electric source to a substation on that edge. The present main access road also provides a right-of-way for the transmission of water and sanitary services to the development.

Approaching the site from the north, the dominant feature is the elevated water tank currently under construction in the center of the site which will be approximately 30 to 40 meters high when completed. The elevated water tank under construction is being built with a slip-forming method using pequot cranes for accessibility and placement of concrete. The height of the proposed tower is 30 to 40 meters. The position during the visit in March was approximately half way to the completed height with the column system. The completion of the tank will probably occur this summer. The water supply line to the tank has already been installed and, during the consultant's visit, sewer lines were being connected near the property line on the north side. It would appear that the edge of the triangular plot at the east of the site, much higher than the center of the site, would have reduced the overall cost of the water tank construction.

The electric substation has been constructed and outfitted with switchgear manufactured in the U.S.S.R. When the switchgear is in position and connected, it will be supplied by the high tension service line immediately to the southeast of the site. All electrical distribution on site is underground.

Immediately to the west is a large administration building which will have four office floors, a handling wing, a transportation and dispatch wing, and a medium sized exhibition hall. The administration building site will also have parking for visitors and will be fully fenced. The administration building is reinforced concrete construction with masonry infill panels and some decorative elements. The proposed completion date is summer, 1979.

Investigation of the administration building noted that the metal "baffle" devices to decorate space were fabricated from very heavy steel plate and, because of their weight, cannot be hung in the space as intended. Many of the baffles were scattered around the site, causing work interference and material waste. It was also noted that the concrete formwork was not properly aligned, leveled, or reasonably trued



EL NASR CITY PUBLIC FREE ZONE - CAIRO

Upper Authority owned factory building under  
Left: construction. Saw-toothed roof design  
allows excellent lighting within.

Upper Control building and customs headquarters  
Right: at front gate.

Lower Construction in process on elevated water  
Left: tower with free zone fence in foreground.  
The water tower's height will be approxi-  
mately 30 to 40 meters upon completion  
this year.



NORTH

ADMINISTRATION  
BUILDING SITE

TO  
NASR  
CITY  
2 km

PHARMACEUTICAL  
INVESTOR SITE

WATER  
TOWER

STANDARD  
FACTORIES SITE

SUB-STATION  
SITE

TO AIRPORT 5 km

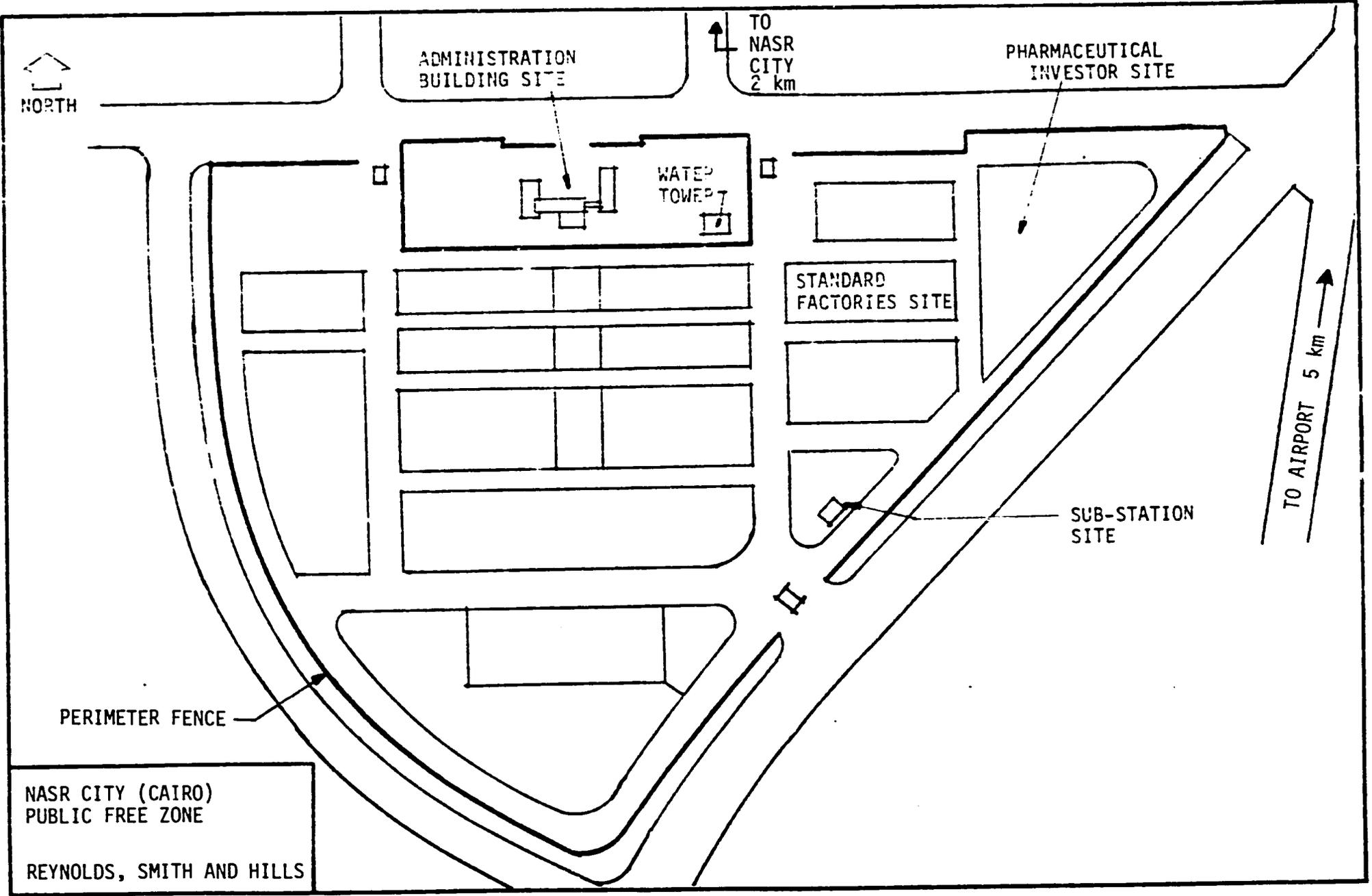
PERIMETER FENCE

NASR CITY (CAIRO)  
PUBLIC FREE ZONE

REYNOLDS, SMITH AND HILLS

EXHIBIT III-4

III-6



before placed, thus causing corrective work to be necessary. Four factories provided by the free zone for investor's sale or rental are in various stages of completion, and one factory has already been leased.

The Authority-provided manufacturing buildings are of reinforced concrete frame construction, using saw-tooth roof design with north exposure for light. The infill panels are masonry and in some instances have been plastered. The size of the facilities has been designed for flexibility; one building is a combination of two factories. Access from the front for personnel is through a low office wing entry; access for trucks and materials deliveries is at the opposite side using an enclosed courtyard to unload and load trucks. The ceiling height at the lower portion of the large factory room is about 4 m high. Because of the skylights on the north edge of the saw-tooth, the lighting within the building is excellent. The flooring systems being installed are precast concrete tiles made on the site and laid on a sand setting bed for a wearing surface. Along each edge of the factory floor, a drain trench has been provided which can be used for cleaning the floor and for connection to drainage from manufacturing operations, if necessary. Roof drainage is taken inside the building through downspouts into this trench; but again, considering the low quantity of rain in Cairo, this system is adequate for disposal of roof water.

The buildings appeared to be about 90 percent complete during the consultant's visit in March, 1979. At the entrance gate, the Customs Control Building has been completed and is being used at this time by the Resident Engineer who is overseeing the construction of the factory buildings and the administration building. At the standard factories, it was noted that no loading docks were included for the easy handling of incoming and shipped goods. Also, it was noted that the installation of flooring appeared to be unbonded on an uncompacted sand settling bed.

The remaining portion of the site is fenced in masonry. The fence construction utilizes long columns to footings and heavy grade beams. It would appear that the fence lends itself very naturally to the use of precast elements.

The road construction is about 30 percent complete using limerock base over compacted rock sub-base with asphalt cement (hot mix) wearing surface. The consultant was responsible for the selection of H-20 design loading of the American Society of Highway Officials specifications. (7,200 kg., rear axle - 1,800 kg, front axle).

The water system under construction is about 30 percent complete and consists of an elevated water tank constructed of reinforced concrete on concrete columns. The distribution system is cast iron hub and spigot pipe with meters and hydrants. The water source is the Nasr City Distribution System.

The sewerage and rain water drainage system under construction is about 50 percent complete and is a clay pipe (hard burned) collection system. Roadway catch basins are connected to sewage manholes to catch

the annual rainfall which is less than ten centimeters. The sewage and rain water is disposed of to the north by gravity to the Nasr City collection system.

The primary source for the electrical system parallels the site along the southeast. Its capacity is 18 kv. The on-site secondary distribution is underground at 11 kv.

There is a perimeter security fence and gate under construction which is approximately 65 percent complete. The administration area fence is approximately 70 percent complete.

The progression of installed infrastructure appeared to require additional field management:

- o Excavation for water lines had filled back in before water main pipe was installed.
- o Rough grading for roads was being done by hand near the unfinished electric substation.
- o Width of paving on rights-of-way needs to be confirmed. In contrast, maneuvering at the standard factories appears difficult for full-size trailer trucks.
- o Waste of steel reinforcing by failure to properly field-store was noted. Much tangled steel will either have to be straightened or discarded because of its deformed condition.

At this facility, the existing infrastructure facilities appear to be somewhat over-designed and over-constructed; however, if suitable tenants are found for the factory buildings presently under construction, this situation could change.

#### 4. Alexandria (El Ameria)

Comprising 6,300,000 square meters, this free zone is the largest in Egypt. The area established lies approximately 28 kilometers from downtown Alexandria along the desert road to Cairo (see Exhibit III-5). A new connection north from the site across Maryut Lake connects with the Alexandria Mersa Matrnh Road on a ridge paralleling the Mediterranean Sea. Part of the site on the north edge is in Maryut Lake, and will require excavation and filling with suitable material for further development. The north boundary, lying partially in the lake, is measured at 3.2 km running east and west. The north-south dimension is 2 km, the south boundary being King Maryut Road also running east and west. The main entrance and administration building with exhibition hall is on the east boundary near the junction of the Cairo Desert Road and the Alexandria Road, midway along the edge of the site. There are two control gates planned, and Phase I which comprises 1,390,000 square meters has been developed in the southeast quadrant of the site.

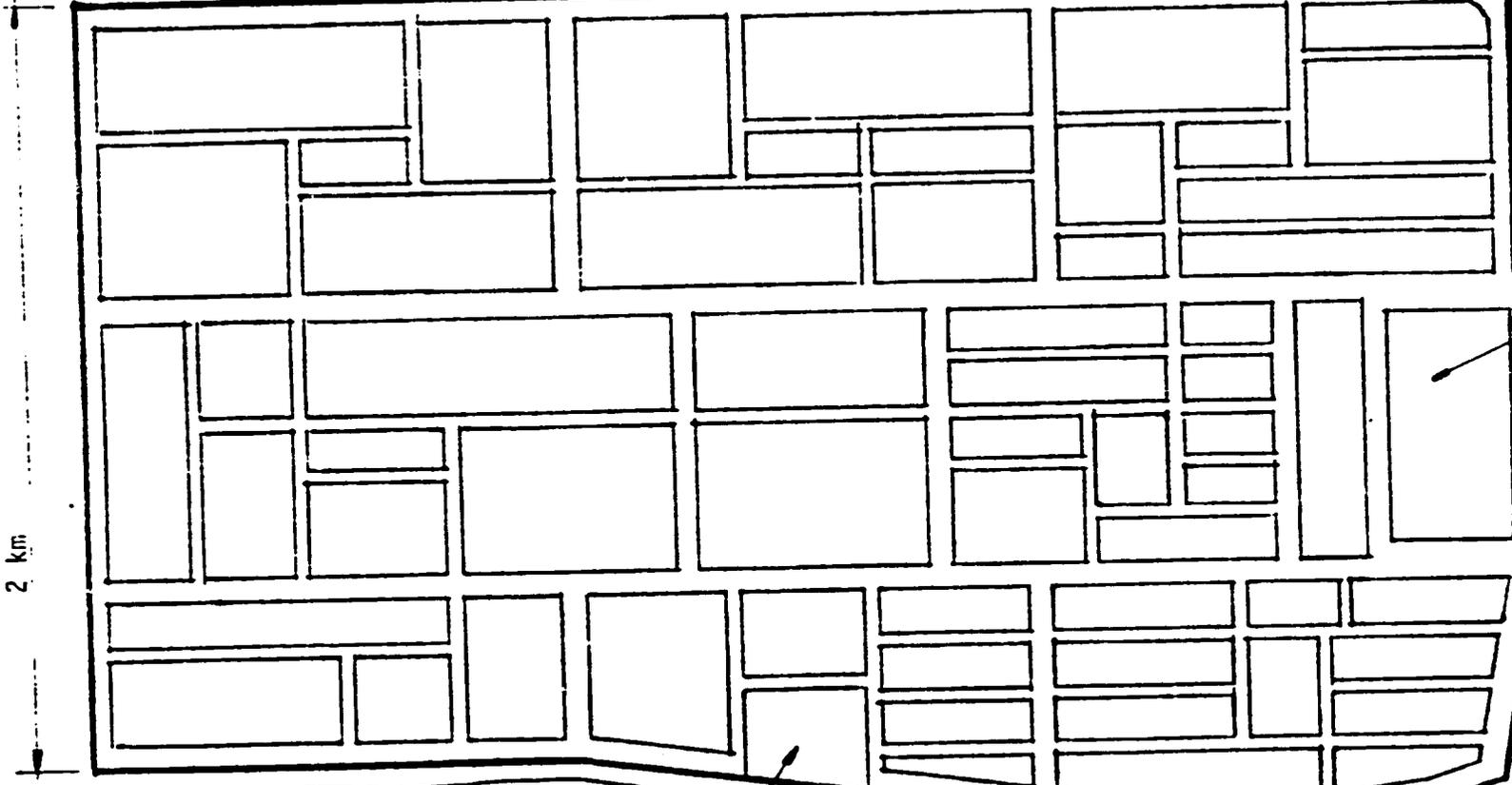


NORTH

MARYUT LAKE

3.2 km

PERIMETER FENCE



ADMINISTRATION BUILDING SITE

TO ALEXANDRIA  
30 km

SUB-STATION SITE

DESERT ROAD  
TO CAIRO

200 km

EL AMERIA (ALEXANDRIA)  
PUBLIC FREE ZONE

REYNOLDS, SMITH AND HILLS

EXHIBIT III-5

III-12



EL AMERIA PUBLIC FREE ZONE - ALEXANDRIA

Upper Vaulted ceiling in administration building. The room will house the banking operations within  
Left: the free zone with a matching west wing which will provide insurance and transportation operations.

Upper Forming of vaults for the administration building in foreground with investor operations and view  
Right: of Lake Maryut in background. Extreme upper right of photo shows portion of Lake Maryut to be filled in subsequent phases.

An interesting feature of the site is that the topography goes from sea level on the north to 45 meters above sea level on the south in the vicinity of the existing newly built substation. Road construction is underway from both the control gates and some investors have already constructed facilities and begun operations. The administration building is enclosed with a fence on all sides, and is about half complete. An in-the-ground water tank of reinforced concrete is also under construction and is three quarters complete. A 1,000 millimeter ductile spun iron pipe is being installed from the water plant in Alexandria to supply the water tank. In addition, a 400 mm water line has been installed as a backup supply source and will be in operation shortly. The method of providing water pressure to each of the investors on this site is unique in that it will require constant pumping from the water tank in the mains to reach the site. This has been occasioned by the fact that the water service from Alexandria will not contain enough pressure upon arrival at the site to be raised into an elevated tank without pumping at that point. Consultants have decided that the water pressure can be maintained from an on-site tank using the static pressure in the supply line to fill the water tank during the low peak hours from the city source.

The electrical system under construction is 50 megawatts to be available before the end of 1980; the present source is six megawatts. It features 220V-50 cycles and underground on-site distribution. A Phase I substation has been constructed in a planned green area on the high section of the site at the southeast corner. The substation is equipped with Yugoslavian manufactured switchgear to be used on a temporary basis until permanent electric generation and source is developed midway in the site, about 1 km from the Cairo Desert Road. All distribution is planned to be underground.

A sewage and drainage collection network has been designed for the entire site. The network is the combination type using clay pipe sewage lines to handle rain flow and street drainage from catch basins installed at road intersections. This system is commonly used in areas which do not experience heavy amounts of rainfall. The collection system discharge is connected to a waste treatment plant 2 km away.

The roads under construction are about ten percent complete, using limerock base over compacted rock sub base with asphalt cement (hot mix) wearing surface. The design loading is H-20 of American Society of Highway Officials Specifications. (7,200 kg rear axle--1,800 kg front axle). The primary street widths are 50 meters; the secondary street widths are 20 and 30 meters. The curb heights are 18 cm. All surfaces are sloped to drain.

The water system under construction is about 40 percent complete. The in-ground concrete reservoir tank is supplied by 1,000 mm ductile spun iron pipe from Alexandria approximately 30 km to the east, and 400 mm pipe from backup source. The distribution system is cement asbestos pipe with gasketed pressure joints. The fire hydrants are flush-mounted

with cast iron, hinged covers. The system is pressurized with electric driven centrifugal pumps.

There is a security fence under construction, although its status is presently unknown.

The administration building, which is under construction at the eastern edge of the site, is a combination banking-insurance-control-exhibition facility which will include management offices and large areas for investors to exhibit their wares, thereby promoting the growth of the free zone. Facing the building, from the entrance gate, the dominant feature is the four-story portion which contains offices for the administrative staff. On the east side, a low wing used for banking operations is 1-1/2 stories high with a vaulted roof system made out of cast-in-place concrete. An exhibition hall created by parabolic domes attracts the attention of the viewer, bringing him into an area which is used for product display. Further west, as an arm of the building, is the insurance and transportation wing using matching vaults like those used on the banking wing to form the roof system. All construction is reinforced concrete, using masonry for decorative element and for infill. Where concrete is roughly finished during the construction stage, stucco or a plastering operation is carried on to conceal the raw concrete. Liberal amounts of fenestration are included at the working level and at the skylight level in the arches created by the vaults and domes. The top floor of the building provides a good observation point to see the activity slated for construction in the free zone. Northwest of the administration building site, another smaller building used for communications is planned. This building is complementary to the administration building.

#### C. RECOMMENDATIONS FOR ALEXANDRIA

Several aspects of the existing and planned infrastructures appear to be questionable, resulting in excessive costs to the free zone.

A review of the proposed site plans for the facility indicates that the designers have provided abundant green areas between assigned sites, and large, boulevard type street systems to provide access and mobility within the free zone area. Details have also been included for the fencing of the entire site, including that area which is currently in the lake. A special design using piles to support the fence is shown on the documents for construction.

We recommend that the width of paved roads be recalculated based on realistic traffic flow counts. It appears the capacity of the roads far exceeds the gate capacities, the density of truck movements and the maneuvering requirements.

It was noted that road construction was underway before underground utilities were installed and that road construction was extended well beyond the growth area of investor interest or assignment. Although speculative construction is often undertaken, it is unusual to "over-extend" to the point of paving before utilities are installed. The new

paving will have to be cut and patched to install utilities, even if medians are used, at intersections and where investor connections are to be made including laterals for future service connections, before paving construction is started.

The fence construction progressing into the low side of the site and lake was observed. A review of the drawings disclosed that the fence is to be constructed on piling but the length is not shown. Notes on the drawing also call for an access road to be constructed to install the fence. Since access to the site from the lake side is so difficult, we question the need for such a heavy expensive fence. It would appear that a corrosion-resistant woven metal (chain-link) fence would serve the same purpose since guard posts appear to be included as a control function when Zone operation commences.

Administration building construction leads to a recommendation for use of forming design strategy for all future free zone development. The building was in the roof-forming stage for the west wing. The roof is framed with reinforced concrete barrel vaults spanning about 12 to 13 meters. At the west wing the vault is repeated 15 times. Even though only half of the building was being formed, seven sets of vault forms were under construction, a condition which takes minimal advantage of repeated form use, even though the building design encourages it. Cost of lumber and many manhours of labor to build the forms for a single or double use contribute to expensive construction and waste of valuable, scarce material. A section of roof on the south wing, built with similar barrel vaults, had been stripped of forms. The texture was very rough and evidence of concrete placed in the forms without vibration was observed.

During our site visit, it was noted that considerable amounts of cement asbestos water pipe had been installed at the east end of the site. Also during the visit, blasting to remove rock was being done in the immediate vicinity. Possible damage to the installed piping existed with this sequence of work effort.

A review of the design and construction documents for the water supply system and fire network discloses that most of the road system is provided with dual water lines and that fire hydrants are installed under heavy pattern cast-iron covers. Both conditions add considerable expense to the development. (Not only is expense a consideration but visibility of fire hydrants during an emergency is of utmost importance in reducing response time.) The cost of the dual lines is about 50 percent higher than the same capacity single line installation.

In addition to the type of fire hydrants indicated, location of them in planned "green areas" rather than closer to investor properties is questioned. A restudy may show that many of the fire hydrants are not necessary for fire fighting since no flammable structures or materials will be built in "green areas." This is particularly noticeable in the green area adjacent to the electric substation site where six fire hydrants are indicated. If irrigation (sprinkling) is anticipated, there

are less expensive methods to acquire this function. Consistency in design of this function is recommended; some green areas have no water source above the distribution main or artery.

A review of sewer and manhole drawings disclosed that spacing for manholes is much less (about 1/3) of spacing recommended as good engineering practice. Manholes may be spaced up to 120 meters apart when pipe size is less than 400 mm size (15") and up to 180 meters when pipe size is larger than 400 mm size (15"). The drawing notes call for rain drains size as 5". This is the size used all over the site regardless of area contribution. It is acknowledged that very little rainfall exists (4-6" annually). However, the 5" size will easily become blocked or clogged, the material shown is cast-iron, different than the rest of the system, and the cost is much higher than vitreous clay of larger size which would provide the same function.

It is a specific recommendation that substantial attention be given to the performance of the Alexandria Free Zone. Based upon fairly standard estimates for employee/land area in light manufacturing activity, employment in the completed free zone should be about 29,000 persons.

- o Alexandria is also the closest major Egyptian port to the European market with which a preferential trade status exists.
- o Alexandria offers substantial opportunity to reduce construction costs without decreasing employment opportunity.

The Authority should develop a phased growth plan for appropriate additions to its existing road and utility systems. This plan should coincide with existing and new investor requirements. A carefully planned program of adequate expansion needs to be developed in order to maintain a cost balance against future revenues.

The appendix at the end of this chapter illustrates a phasing plan for Alexandria which has been initially proposed by our consulting team. Completion of the seven phases requires approximately L.E. 65 million as presently designed in addition to the cost of constructing the waterline from Alexandria for a total of over L.E. 69 million. In our professional opinion, the projected cost can be reduced by over L.E. 14 million by:

1. Redesign of water distribution system to provide single pipe system with above-ground fire hydrants in the non-completed phased areas.
2. Redesign of sewage collection system to increase spacing between manholes in accordance with good engineering practice.
3. During the above redesign, change rain catch basin piping to larger size compatible material.
4. Re-evaluation of fencing philosophy at north property boundary (lake-side).

It is recommended that AID consider immediate assistance to the Alexandria Free Zone through support of infrastructure costs requiring foreign currency.

Through year-end 1978, the Alexandria Free Zone had expended over L.E. 13 million for land construction. More funds have been spent in 1979. The Alexandria Free Zone has indicated it needs L.E. 5.5 million immediately for maintaining construction momentum, while the Free Zone Sector engineering department estimates that the total additional requirements to complete the contemplated Phase I will approximate L.E. 10.05 million. Thus, a total of over L.E. 23 million is anticipated for Phase I development.

At the current level of design and construction, approximately L.E. 69.5 million will be spent at Alexandria, or approximately L.E. 11/m<sup>2</sup>. By effecting immediate design changes, we estimate that the overall construction cost would be reduced significantly. Delay in changes to the design/construct procedures would surely result in overexpenditure of the immediately requested L.E. 5.5 million, and possibly some of the additional L.E. 4 million assumed necessary by the Free Zone Sector for completion of "Phase I."

- o Assuming that the relationship of contemplated reduced costs to current costs is constant, the current L.E. 5.5 million would include approximately L.E. 1.1 million of unnecessary construction. Spreading this over a six month period, approximately L.E. 180,000 per month will be overspent.
- o Delay of any expenditure until October, 1979, would damage both the program and image of the Alexandria Free Zone. A decrease in the leasing of buildable industrial lots results in the loss of \$1.00/m<sup>2</sup>. At current absorption rates over \$150,000/year, or \$12,500/month, is coming into the zone.
- o Investors with facilities under construction require services within six to nine months.

The immediate implementation of advisory services will also allow for development of the infrastructural phasing program most realistic for the zone based on cost and absorption. The zone's construction budget would be immediately detailed in order to preclude further uncertainties with regard to expenditure levels. A delay in this program would leave the free zone in its current position and require remedial activity at a later date with greater risk of overexpenditure during the intervening time period. As the free zone's next expenditure will be for road paving (in our opinion the roads are overdesigned), immediate modification of standards is necessary. The advisory services recommended are:

1. A determination of procedures to overcome designing and contracting losses to date.

2. Review of existing construction contracts to determine the means for the execution of cost-reductive changes.
3. Determination of the best possible procedure for revising existing design and construction documents to eliminate future time and cost expenses.
4. Review and revision of design criteria for electrical distribution, water and sewer systems, road design, and wall areas.
5. Recommend immediate actions which need to be taken to reverse the trend towards over-design.
6. Development of infrastructural phasing program based on alternative costs.
7. Preparation of project construction budgets and review controls.

The advisory services and report should be completed within 90 to 100 days.

Services similar to those proposed for Alexandria at the El Nasr City and Port Said Free Zones may also be in the best interests of the Free Zone Sector. However, we recommend that the Sector allow the findings of the proposed Alexandria advisory services to serve to reduce the time and effort for similar services at El Nasr City and Port Said.

#### D. INFRASTRUCTURE DESIGN AND ENGINEERING PROBLEMS

The Free Zone Sector has a responsibility to its investors to provide a reasonable infrastructure in each of the public free zones. In addition to various services, this includes roads, electricity, water, and sewer. The Sector is committed to this goal, but has experienced difficulties in meeting time schedules for providing a basic infrastructure. This is of critical concern, as investors cannot afford to wait for periods of up to several years beyond the scheduled date for provision of electricity, water, etc. The free zones are undoubtedly losing potential investors because of these delays, and should take steps to correct the problem.

One basic problem lies in the Sector's need to obtain budget funds from the Central Government. The budget requests are, apparently, annually appropriated without the guarantee of fund availability beyond a one-year period. The assurance of completing a construction project is thus somewhat limited. Another problem is that the funds approved for the Sector may be less than those needed. If allocated to all free zones, none is likely to finish a project in a timely manner.

There are possible solutions to this problem. For example, while submitting the budget, an explanation of which Governorate would be

affected and the resulting loss of revenue to the country could always be published. It is this revenue-earning capacity of the Sector which could stimulate a departure from standard government finance. The Sector can develop a very good case for utilizing its revenues to finance its operations and remit its surplus to the government. This approach is taken by many public authorities in the United States where the government regulating an authority receives contribution-in-lieu-of-tax and revenue bonds are sold. Thus, each existing free zone could be self-supported once initial tenants are obtained. New zones may require an initial loan at soft rates.

As an example, a L.E. 1,000,000 loan for ten years at seven percent interest requires an annual payment of L.E. 142,500. This is equivalent to the annual rent on approximately 100,000 square meters, or the possible rent/duty collection on about 40,000 square meters. Of course, extension of the maturity period, or reduction of the interest rate, can significantly reduce the annual payment. A 15-year maturity could reduce the annual payment to L.E. 110,000. A six percent interest on L.E. 1,000,000 for ten years requires a L.E. 136,000 payment or, for 15 years, a L.E. 103,000 payment. All of these amounts are apparently feasible to cover with successful free zone operations.

The Free Zone Sector itself has little say in the determination of free zone site locations. It is important that the Free Zone Engineer be a participating member in the selection committee for newly considered free zone developments. His participation on this committee will preclude some of the cost problems which have developed as a result of site selections in the past (a case in point is the Alexandria facilities, where the site elevations varied considerably requiring extraordinary cost expenditures in the infrastructure requirements).

Payment requests are processed by the consultant and the Sector engineer, using the original surveyed quantities and approved unit prices. At the conclusion of the work, quantities and actual unit prices are applied, providing adjustment to the activity totals. Supplemental funding may then be necessary.

None of the free zones is totally complete. A reasonable time from start of planning to opening of operations is three years. The availability of funds and fund approval causes additional delays. The availability of building materials also impacts the three-year total time. Past projects have been funded incrementally--sometimes the funds have been usurped for other purposes--causing the construction to either slow down or halt. Both the Nasr City and Alexandria projects were undergoing a slowdown during the consultant's visit.

There is no interface between economic and engineering aspects during the investor's application consideration. Street and utility layouts are made without knowledge or consideration for eventual land use. Zoning for all possibilities of land use within a "block" layout is employed. There are no railroad sidings on any of the free zone sites. All material movements are made by truck. Although some shipping is

handled adjacent to the canal, there is no provision to off or on-load a ship for the movement of goods. Road systems are designed to American standards by a consultant employing his judgment to establish the system carrying capacity.

There are little, if any, construction standards or quality criteria developed by the Free Zone Sector Engineering Division. This also applies to material criteria for piping, electrical conductors, road building materials, etc.

Water distribution pipe at Nasr City is ductile spun iron and is cement asbestos at Alexandria. The consultant is responsible for sizes, hydrant layout, inspection of pressure tests, etc. The consultant is also responsible for most of the specifications standards work due to small Authority engineering staff.

Permits are routine and issued by the Engineering Division as an authorization to build within the free zone. For free zone permits, the Engineering Division checks all building plans. This is usually a check only because of the undersized staff, and usually occurs in one or two day's time. There is no designer involvement at this point.

In regard to contractor involvement, the situation is the same as with the designer. A permit is acquired by the owner, and the contractor will not start work until the owner has received the permit.

There are no building inspectors. All responsibility for performance and structural integrity is vested in the contractor and the engineering consultant. The responsibility for each is ten years (statute of limitation). Records of periodic inspections by the engineer are placed on file at the location where building permits are issued. Inspectors are engineers (not E.I.T.), rather than trainees. Payment for this service is by the owner through his contract with the consultant.

Consultants commissioned to design free zone facilities are paid 3.5 percent of final construction costs as determined from the approved (final) construction payment request. If on-site representatives of the design consultant are employed during the construction phase, an additional one percent fee is paid. Fees for design provide five complete sets of construction documents; fees for construction representatives include all subsistence, and travel and overtime, even if the construction site is remote.

Exhibit III-6 indicates relatively stable and uniform facilities costs; however, no current infrastructure costs were available due to the fact that such costs vary exceptionally from time to time according to the site.

Intangible construction costs, which are essentially incalculable, include:

## EXHIBIT III-6

## CONSTRUCTION FACILITIES COSTS

Construction Work Item	Measuring Unit	In-Place Unit Prices (Egyptian Pounds)
<u>Site Work</u>		
Clearing & grubbing	M <sup>2</sup>	.500
Remove trees	each	2.500
Limestone sub-base	M <sup>2</sup>	1.800
Limerock base course	M <sup>2</sup>	2.000
Bituminous paving (3 layers)	M <sup>2</sup>	3.000
Borings	M	6.000
<u>Fences (Security Walls)</u>		
Excavation in earth to depth of 3 meters	M <sup>3</sup>	1.800
Excavation in rock to depth of 3 meters	M <sup>3</sup>	8.000
Reinforced concrete in foundations	M <sup>3</sup>	80.400
Plain concrete in foundations	M <sup>3</sup>	22.000
Reinforced concrete formed in beams and columns	M <sup>3</sup>	85.000
Rubbing of exposed concrete	M <sup>2</sup>	3.950
Rock facing and infill	M <sup>3</sup>	30.000
Clean sand fill	M <sup>3</sup>	1.000
Hard fire clay brick	M <sup>3</sup>	40.000
<u>Guard Stations</u>		
Earth excavation	M <sup>3</sup>	2.300
Rock excavation	M <sup>3</sup>	6.250
Plain concrete foundation	M <sup>3</sup>	22.000
Reinforced concrete in forms	M <sup>3</sup>	110.000
Rubbing exposed concrete	M <sup>2</sup>	4.000
<u>Buildings</u>		
Excavation in earth to 3 meters depth	M <sup>3</sup>	2.300
Excavation in rock to 3 meters depth	M <sup>3</sup>	6.250
Plain concrete foundations	M <sup>3</sup>	22.000
Reinforced concrete foundations	M <sup>3</sup>	70.000
Reinforced concrete for slabs and beams in block forms	M <sup>3</sup>	20.000
Block forms erected	M <sup>2</sup>	5.000
Hard fire clay brick	M <sup>3</sup>	40.000
Erection of brick (hard)	M <sup>2</sup>	5.500
Erection of brick (soft)	M <sup>2</sup>	4.000
Roofing Bitumin	M <sup>2</sup>	2.000

## EXHIBIT III-6 (Continued)

## CONSTRUCTION FACILITIES COSTS

Construction Work Item	Measuring Unit	In-Place Unit Prices (Egyptian Pounds)
Concrete fill to slope roof	M <sup>2</sup>	2.000
Concrete troweling (inside)	M <sup>2</sup>	1.750
Reinforced concrete stairs	M <sup>3</sup>	85.000
Soft red clay brick	M <sup>3</sup>	22.000
Reinforced concrete for shell or vaulted roof	M <sup>3</sup>	120.000
Outside troweling (including painting)	M <sup>2</sup>	2.750
Plain concrete flooring (base)	M <sup>2</sup>	17.000
Plain concrete flooring (topping)	M <sup>2</sup>	6.000
Tile concrete flooring	M <sup>2</sup>	2.000
Vertical bitumin waterproofing	M <sup>2</sup>	.500
Interior painting	M <sup>2</sup>	2.000
Ceramic tile	M <sup>2</sup>	15.000
Industrial steel windows	M <sup>2</sup>	76.000
Wood doors (office)	M <sup>2</sup>	43.000
Wood windows	M <sup>2</sup>	50.000
3" roof drains	M	7.000
4" iron pipe	M	8.500
Leader head	each	6.000
Galley trap	each	20.000
60 cm x 60 cm manhole	each	90.000
<u>Stored Material Items</u>		
Gravel	M <sup>3</sup>	4.500*
Sand	M <sup>3</sup>	3.000*
Cement	ton	15.000*
Rock	M <sup>3</sup>	6.000*
Reinforcing bars	ton	120.000*
150 mm cement asbestos pipe	M	5.800*
300 mm cement asbestos pipe	M	9.000*

\* Not installed.

- a) Unavailability of material when needed in construction schedule.
- b) Planning changes occasioned by investor requirements.
- c) Project funding changes.
- d) Competition for available labor in local market.
- e) Delays in availability of water, sewer, and electric service.

E. ENGINEERING PLANNING, DESIGNING, AND CONTRACTING RECOMMENDATIONS

With regard to El Ameria and Nasr City, the Sector's Engineering Division prepared a preliminary site plan showing boundaries, contours, existing roads, and other pertinent information. A consultant from the "private sector" was then commissioned to prepare studies for the property development. The consultant's activities were reviewed by the Engineering Division. Upon completion of an acceptable plan, the consultant was authorized to prepare working drawings and specifications for utilities (including water storage tank), roads, fences, administration building, exhibition halls, and customs/gate houses. Completed documents were then provided to the Ministry of Housing and Reconstruction, who assigned the work to a "public sector" contractor. The contractor, in turn, assigned various activities to individual subcontractors. A cost estimate was prepared which was used later during construction for basis of payment. All costs were assembled by the Ministry and furnished for the Free Zone Sector to prepare a funding request.

The modified, existing procedure is for the Free Zone Sector's Engineering Division to obtain permission from the Minister of Economy and Economic Cooperation to announce an open invitation for tenders. These tenders are reviewed by the Engineering Division and the most appropriate selected, which is sent to the Minister for approval for funding.

When projects are funded, the public sector contractor starts work. If funding is terminated or reduced, the contractor takes his crews to another project which is fully funded. (This has happened at Nasr City and Alexandria, causing work to slow down or stop.) During construction activities, the consultant provides quality assurance inspections on a regular basis; the Authority's engineer also makes periodic inspections.

Due to its nature of operations, the Free Zone Sector has the opportunity to overcome various traditional construction procedures to a much greater extent than many other governmental agencies. In so doing, the Free Zone Sector will render a service to the entire Egyptian government and to the Egyptian economy as well by developing construction procedures which are consistent with those now being used throughout the Mid-East.

Presently, the basic standardization of the designing procedures in the Egyptian marketplace are based upon tradition. Standardization is virtually non-existent as employed in the designing procedures used in Europe and the United States today. These procedures have been implemented to a large extent in other Mid-East countries.

Details for infrastructure requirements must be established. Basic details for building facilities requirements should also be developed. All the details should be analyzed on the basis of practicality and cost. These details then become part of the design standards. The procedure of developing these details should not be revolutionary; rather, the procedures should be evolutionary and based upon an understandable development process. Anything a designer places on a drawing, especially in a detail, is subject to scrutiny on the part of the contractor and his staff. Where there are unusual detail changes, contractors are frequently unable to respond and construction costs are subsequently inflated.

Design and construction documents should be standardized. The Free Zone Sector is in an excellent position to develop specifications standards in its infrastructure requirements. In addition, specifications standards could be developed to control the overall quality of the facilities being constructed, and at the same time, the individual investors would be pleased with the resulting cost and time savings. The quality of a construction product built under a standardization procedure is evident very early in any given development.

There should also be standardization on drawing sizes for Free Zone Sector projects; on drawing numbers and title blocks, on drawing scale sizes, and in bidding procedures. All of these standardizations lend themselves to a procedure in construction which, in time, substantially reduces construction costs and schedules.

There should be a gradual displacement of design criteria responsibility which presently belongs to the designer. The Free Zone Sector should give attention to the development of its own criteria which will provide the designers with a discipline in developing the design requirements. Such criteria would further implement the standardization procedures described in the previous section.

As part of the development of design criteria, there should be standardized infrastructure facilities' requirements compatible to the operations and maintenance procedures utilized by the Free Zone Sector. There should not be specifications and installations of varying types of equipment which may later become difficult to maintain due to the fact that a large stockpile of varying types of parts are required.

In addition, there should be standardization in the design criteria for the building facilities so that once the lease expires, the facility can be preserved and leased to another investor. Column spacing is important, as are clear heights within buildings and electrical and mechanical standardization. Design criteria must address these subjects.

There should be a decrease in the freedom presently allowed the investor in determining his own design requirements. This procedure creates groupings of facilities that are not easily adaptable to the needs of other future investors.

Europeans and Americans would recommend revision of the fencing requirements (security walls). However, fence building in Egypt is a tradition in the construction industry, which is not easily changed. Therefore, until such times as the fencing requirements can be standardized, design criteria need to be developed and design procedures implemented which will provide a minimum cost security fencing. A serious cost analysis would be important and a determination of in-country materials' availability which could be readily adapted to fencing requirements.

Our investigators found no substantial evidence to justify the employment of a designer representative during the construction phase to provide on-site monitoring services. The cost of those services is high (one percent of the total construction cost). As an alternative to this procedure, the free zone could provide its own on-site representation in persons who would double in a management and inspection capacity. An independent construction management firm (project manager) could be employed on a contract basis for each project. Experience on construction projects in the Mid-East and elsewhere has proven that designer representation on a construction site has little value, and that either direct owner representation or independent construction management representation is much more effective in providing insurance for cost, schedule, and quality controls.

As in the conceptual and organizational aspects, the hiring of a contractor(s) for Free Zone Sector facilities construction work has been exceptionally influenced by the traditional procedures prevalent and most generally acceptable in the Egyptian construction industry. Only recently has the Free Zone Sector gone to a competitive bidding situation with private sector contractors, and the results of this transition cannot be analyzed at this time. To date, the public sector hiring procedure has worked very well due to the fact that it is a traditional procedure and it does not cause undue concern among owners and investors who have constructed facilities in the free zone areas. The primary questionable factor in the public sector non-competitive bid procedure has been related to the project cost. There have been no simple means of predetermining or pre-controlling total project costs, and for that reason, construction commitments have been often difficult to control, especially where public monies are at stake.

Throughout the world in the areas where the construction industry has been substantially mechanized, the common procedure for hiring a contractor relates to competitive bidding. Frequently, the contractors allowed to submit proposals are pre-qualified on the basis of experience and financial responsibility; however, through a system of guarantees and bonding, even the pre-qualification procedures are often omitted and projects go directly into the competitive bidding situation. This

procedure has worked well. There have been strong financial assurances of construction completion on the part of the contractors through the media of bond and other guarantees, when such assurances are accompanied by strong contract documents, well-defined design and construction procedures, and intensive inspection programs which assure the quality of the facility being constructed. In areas where any of these elements are missing, the competitive bidding procedure becomes less significant because, without guarantees and bonds, contractors can fail to complete a construction project and walk away without further obligations. Without strong bid and construction documents, contractors can utilize construction procedures and incorporate materials and equipment into the project which are suitable to their own economic requirements rather than those of the owner/investor. Where there is an absence of inspection procedures and quality control, the contractor is free to produce a sub-standard facility without having any corresponding responsibility to make corrections in the facility elements.

With respect to the Free Zone Sector, it would be advisable that the Sector engineers specify the qualifications of contractors being considered for infrastructure facilities work to determine the quality of their management personnel, the capabilities of their field personnel, and the quality of their construction procedures and equipment. Integrity and financial responsibility should also be investigated as a determining factor in the hiring of a contractor. At first, it may not be possible to obtain significant participation on the part of qualified general contractors through a competitive bidding procedure; however, if a concerted effort is made among trade contractors, the general contractors will adapt to the procedure in time.

Much of the field activities in construction are pre-determined and managed as a result of the procedures developed within the contractor's offices. Through the bid and contracting documents, the contractor should be encouraged to develop standardization in scheduling procedures, in purchasing procedures, in the hiring of field personnel, training of field personnel, research procedures in construction means and methods, field efficiencies, and to develop a procedure to mechanize certain routine aspects of his construction activities. All of the field activities should be carefully controlled from the contractor's offices. The bid and construction documents should require a construction project manager assigned specifically to the project and should define his responsibilities. There needs to be greater communication between contractors, designers, and Free Zone Sector engineers. Communication procedures, standard forms, and reporting procedures should be developed.

As in the instance of the conceptual and organizational aspects, the field procedures are very much under the influence of construction tradition. In the free zone areas, the Sector should develop organizational procedures dedicated to the improvement of existing construction procedures. Few other governmental agencies or private industries have an opportunity to develop an evolutionary process in construction

procedures due to the fact that there can be an interchange of ideas, equipment, and procedures through the free zone concept.

The Free Zone Sector represents "big business" in terms of construction volume. Therefore, it is expedient that the Sector undertake an educational program within the business community, especially the construction community, to bring about an exchange of ideas and the implementation of construction efficiency both on and off the Free Zone Authority properties. This program could be implemented in-house by the free zone engineering staff, or it could be implemented through the employment of an individual construction management firm. This firm would not only have the responsibility of the actual construction coordination and project management, but also have the responsibility of implementing an educational program in construction procedures within or outside the existing Egyptian educational facility.

The Free Zone Sector is in an excellent position to promote the development of the in-country construction industry materials and equipment suppliers. There is no better way to promote the development of the industry than through the process of developing standardization in design procedures within the free zone network of activities of such a nature that other governmental and private sector industries will be influenced to do likewise. Such a procedure will do much to reduce production costs and time.

#### F. ISMALIYA

Because of the serious problems initially encountered by the Free Zone Sector in the planning, design, and construction of the existing free zones, it is recommended that immediate attention be applied to Ismailiya to preclude the possibility of overcommitment.

During our Phase I analysis, it became apparent that considerable interest was evidenced for a new free zone in Ismailiya, midway between Port Said and Suez. The Governorate has, evidently, attracted major investors and is prepared to embark upon immediate expenditures. We are of the opinion that the free zone would serve to reduce unemployment in the Ismailiya area.

Major factors affecting Ismailiya's location are:

- (a) Its potential as a logistics center for Sinai development.
- (b) The availability of railroad and highway distribution from the site to major ports.
- (c) The possibility of port development at Ismailiya.
- (d) Ismailiya's agricultural location for food processing.

It is recommended that either a prefeasibility analysis similar to the Phase I study for Adabiya be accomplished for Ismailiya in a 60 day

period; or, instead of the prefeasibility analysis, a feasibility analysis identical to that being performed in Phase II of the existing contract be performed for Ismailiya. By virtue of the feasibility analysis, the entire free zone program could be brought into a coordinated posture; the termination of the Ismailiya feasibility would coincide with the Adabiya Phase II feasibility under the existing AID contract. In addition, the questions normally answered during the prefeasibility would be more adequately addressed.

It is our opinion that both Ismailiya and Egypt will obtain more benefit following the latter approach. Based upon Phase I report discoveries, the major need of free zone development is a logical, cost-effective, phased program. There are currently conflicting thoughts on the size and the initial construction program in Ismailiya. By avoiding the existing design construction problems, Ismailiya should be developed for approximately 75 percent of the cost/m<sup>2</sup> of the existing free zones. The total integration of Ismailiya with Egypt's free zone programs should also result in better effectiveness for the total program and better usage of land allocation in Ismailiya.

APPENDIX  
TO CHAPTER III

MARIUT LAKE

3.2 km

PERIMETER FENCE

ADMINISTRATIO  
BUILDING SITE

TO  
ALEXANDRIA  
30 km

DESERT ROAD  
TO CAIRO

200 km



NORTH

2 km

111-29

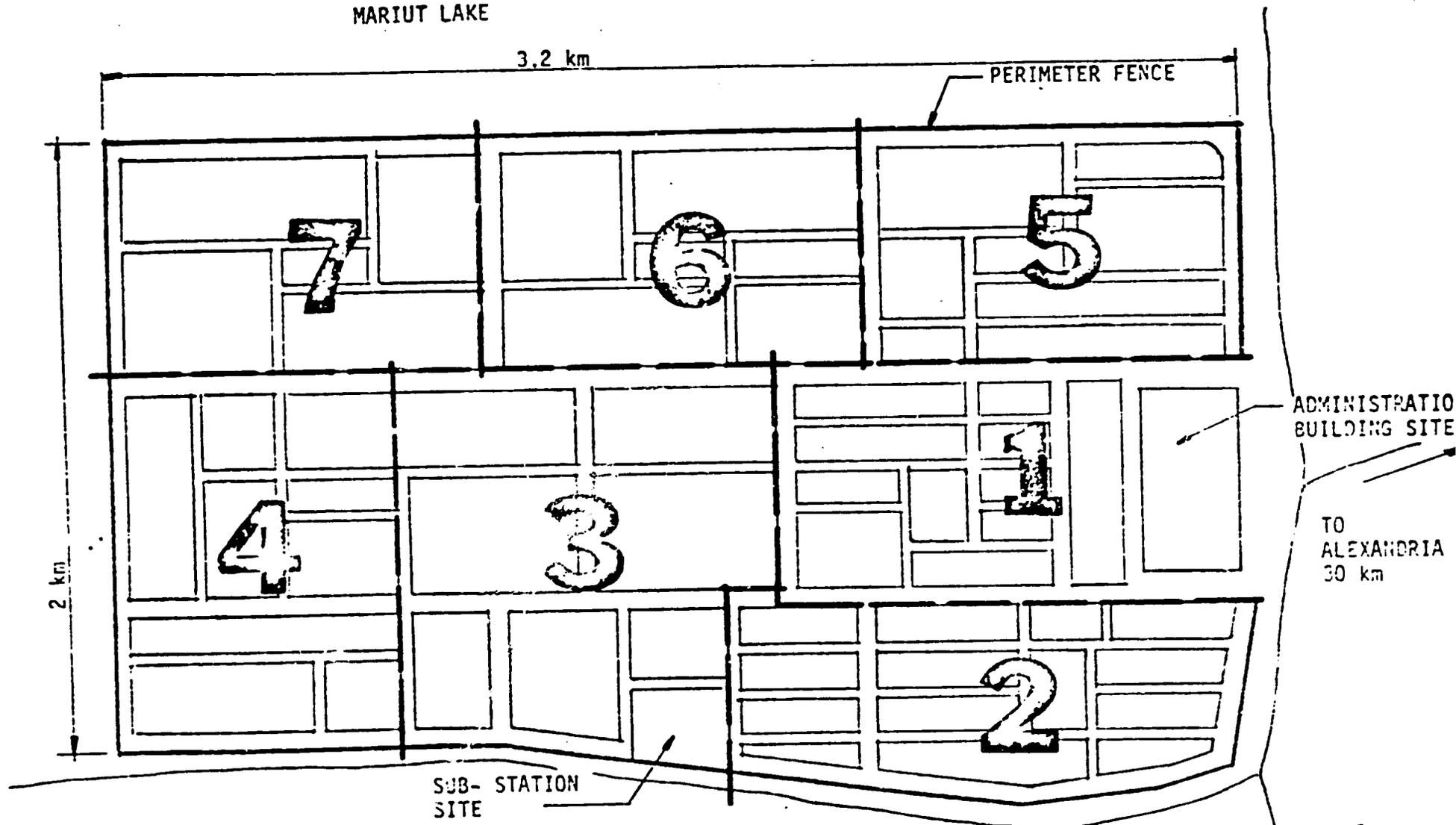
SUB- STATION  
SITE

- 1. 910,000 M<sup>2</sup>
- 2. 819,500 "
- 3. 1,110,000 "
- 4. 924,000 "
- 5. 777,600 "
- 6. 755,000 "
- 7. 777,600 "

AL AMERIA (ALEXANDRIA) FREE ZONE

PROPOSED PHASE DEVELOPMENT

TOTAL 6,074,700 " ±



### ALEXANDRIA COST SUMMARY

---

Item	Egypt L.E.
1. Roads	5,073,320
2. Fences	3,400,800
3. Water, Sewers & Rain Drainage	41,926,400
4. Electric Distribution	12,106,600
5. Administration Building, etc.	1,153,680
6. Site Reclamation	<u>1,094,625</u>
Total	L.E. 64,755,425

---

Note: Temporary fences are not included in above costs.

ALEXANDRIA COST DISTRIBUTION SUMMARY

Item	Percent of Total Area	Acres	Feddans
<u>Phase I</u>			
910,000 S.M.	15.0%	224.9	216.6
L.E. 11,329,560			
<u>Phase II</u>			
810,500 S.M.	13.4%	202.5	192.9
L.E. 7,671,620			
<u>Phase III</u>			
1,110,000 S.M.	18.3%	274.3	264.2
L.E. 12,181,280			
<u>Phase IV</u>			
924,000 S.M.	15.2%	228.31	219.9
L.E. 9,223,460			
<u>Phase V</u>			
777,600 S.M.	12.8%	192.2	185.1
L.E. 8,805,650			
<u>Phase VI</u>			
756,000 S.M.	12.5%	186.8	180.0
L.E. 7,542,150			
<u>Phase VII</u>			
777,600 S.M.	<u>12.8%</u>	<u>192.2</u>	<u>185.1</u>
L.E. 8,001,705			
<u>Total</u>			
L.E. 64,755,425	100%	1,501.21	1,443.8

S.M. = Square Meters  
L.E. = Egyptian Pounds



ELECTRICAL DISTRIBUTION

---

1.	1,516,200	
2.	1,350,300	
3.	1,849,400	2,000,000 (Sub Station)
4.	1,539,300	
5.	1,295,700	
6.	1,260,000	
7.	<u>1,295,700</u>	<u>                    </u>
	10,106,600	2,000,000
	<u>2,000,000</u>	
L.E.	12,106,600	

---



PHASE II                      819,500 M<sup>2</sup>    202.5 Acre    192.9 FE

---

ROADS      50 M      470 M  
                  30 M

$$1320 + 350 + 770 + 1360 + 350 + 360 + 100 = 4610 \text{ M}$$

$$470 \times 20 \text{ M} = 9400 \text{ M}^2$$

$$4610 \times 16 \text{ M} = \frac{73760 \text{ M}^2}{83160 \text{ M}^2} \times \text{L.E. } 7 = \text{L.E. } 582,120$$

PERIMETER FENCE & GUARD STATIONS

$$1680 \text{ M @ L.E. } 200/\text{M} = \text{L.E. } 336,000$$

$$\text{G.S. @ } 400 = 5 @ \text{L.E. } 400 = \underline{2,000}$$

$$\text{L.E. } 338,000 = \text{L.E. } 338,000$$

WATER, SEWERS AND RAIN DRAINAGE

$$\text{@ L.E. } 28,000/\text{FE} \times 192.9 \text{ FE} = \text{L.E. } 5,401,200$$

ELECTRICAL DISTRIBUTION

$$\text{@ L.E. } 7000/\text{FE} \times 192.9 \text{ FE} = \text{L.E. } \underline{1,350,300}$$

$$\text{TOTAL L.E. } \underline{\underline{7,671,620}}$$



PHASE IV                      924,000 S.M.                      228.3 Acres                      219.9 FE

---

ROADS                      50 M

780 + 780 + 600                      = 2160 x 20 M

ROADS                      30 M

1000 + 370 + 300 + 440 + 740 + 740 + 200 + 340 = 4130 x 16 M

(2160 x 20) + (4130 x 16)                      =  
43200                      66080                      = 109280 x L.E. 7/M<sup>2</sup>                      = L.E. 764,960

FENCE

800 + 1100 + 1900 x L.E. 200/M.                      = L.E. 760,000

1900/400 = 5 Guard Stations @ L.E. 400 = L.E. 2,000

= L.E. 762,000

WATER, SEWERS AND RAIN DRAINAGE

@ L.E. 28,000/FE x 219.9 FE                      = L.E. 6,157,200

ELECTRICAL DISTRIBUTION

@ L.E. 7000/FE x 219.9 FE                      = L.E. 1,539,300

TOTAL = L.E. 9,223,460

PHASE V                      777,600 S.M.                      192.22 Acres    185.1 FE

---

ROADS            50 M

620 x 20 M = 12400 S.M.

ROADS            30 M

1000 + 420 + 510 + 680 + 680 + 360 + 360 + 650 = 4660 M<sup>2</sup>

4660 x 30 = 139800 SM + 12400 S.M. = 152200 x L.E. 7    = L.E. 1,065,400

FENCE

1050 + 680 = 1730 M X L.E. 400\*                      = 692,000

1730/400 = 4.3 use 5 guard sta. @ 400                      = 2,000

= L.E. 694,000

WATER, SEWERS AND RAIN DRAINAGE

@ L.E. 28,000/FE x 185.1 FE    = L.E. 5,182,800

ADDITION TO WASTE DISPOSAL    = L.E. 300,000

ELECTRICAL DISTRIBUTION

@ L.E. 7000/FE x 185.1 FE    = L.E. 1,295,700

SITE RECLAMATION

1050 x 340 x 3 \*\* = 1,071,000 C.M.  
L.E. .25/C.M. x 1,071,000 C.M.    = L.E. 267,750

(Assume dredged spoil disposal)

TOTAL = L.E. 8,805,650

\* Due to being on piles.

\*\* Average.

Note: C.M. = Cubic Meters

PHASE VI                      756,000 S.M.                      186.8 Acres                      180.0 FE

---

ROADS                      50 M

620 M

ROADS                      30 M

1050 + 660 + 620 + 360 + 360 = 3050

$\frac{(620 \times 20)}{12400} + \frac{(3050 \times 16)}{48800} = 61200 \text{ S.M. @ L.E. 7} = \text{L.E. } 428,400$

FENCE

1050 M @ L.E. 400 = L.E. 420,000

WATER, SEWERS AND RAIN DRAINAGE

@ L.E. 28,000/FE x 180.0 FE = L.E. 5,040,000

ELECTRICAL DISTRIBUTION

@ L.E. 7000/FE x 180.0 FE = L.E. 1,260,000

SITE RECLAMATION

1050 x 500 x 3 = 1,575,000 C.M.

L.E. .25/C.M. x 1,575,000 C.M. = L.E. 393,750

TOTAL = L.E. 7,542,150

PHASE VII                      777,600 S.M.                      192.2 Acres                      185.1 FE

---

ROADS                      30 M (only)

1000 + 680 + 550 + 640 + 360 + 360 = 3590 M

3590 x 16 = 57440 SM @ L.E. 7/SM    = L.E.    402,080

FENCE

1050 + 670 = 1720 @ 400/M    = L.E.    688,000

WATER, SEWERS AND RAIN DRAINAGE

@ L.E. 28,000/FE x 185.1 FE    = L.E. 5,182,800

ELECTRICAL DISTRIBUTION

@ L.E. 7000/FE x 185.1 FE    = L.E. 1,295,700

SITE RECLAMATION

1050 x 550 x 3 = 1,732,500 C.M.

L.E. .25/C.M. x 1,732,500 CM    = L.E.    433,125

TOTAL = L.E. 8,001,705

## CHAPTER IV

### FREE ZONE INCENTIVES AND INDUCEMENTS

The particular attraction of an investor for the Egyptian Free Zones is based solely upon the profit motive. Specific components of the profit motive to which free zones appeal are: a) expansion of sales opportunities, and b) reduction of production and distribution expenses. The major expense reduction elements to which Egypt will appeal are labor costs, reduced tariffs on products, and shipping/duty savings.

At this time, a general recap of free zone advantages is presented in order to add the specific Egyptian inducements to the general advantages.

1. Avoid fines for improperly marked goods. Change marking before goods reach customs territory.
2. Avoid import quotas--no quotas exist within a zone--store merchandise until entry can be made under quota limitations.
3. Save import duties on merchandise to be re-exported.
4. Save costs by testing, repairing, or returning substandard imported merchandise before entering customs territory.
5. Save duty by manipulation within zone. Duty rate may be lowered by assembly or disassembly within zone.
6. Save duty by combining imported merchandise with domestic merchandise and labor within zone for export. Imported merchandise never enters customs territory; therefore, no duties are collected.
7. Save duty on processes characterized by scrap, shrinkage, or evaporation. Duty levied only on goods entering customs territory.
8. Improve cash flow by storing imported merchandise subject to curing or aging process within zone. Duties are postponed until actual entry into customs territory.
9. No bond required for missing documents. Merchandise can be stored until documents are located.
10. Retrieval of duties paid on imported merchandise can be obtained; i.e., drawback, by using a zone.
11. Save insurance costs. Premiums based only on value of goods insured plus freight (taxes/duties are excluded).

12. Sell merchandise within zone. Exhibit and sell products before they enter customs territory.
13. Market directions can be changed without payments of duties; user can "re-export" without quota or duty obligation.

A. EGYPT'S ADVANTAGES

Geographically, Egypt and the Suez Canal offer ready access to Europe, Africa, and Middle East/Asia. The following tables and chart show that:

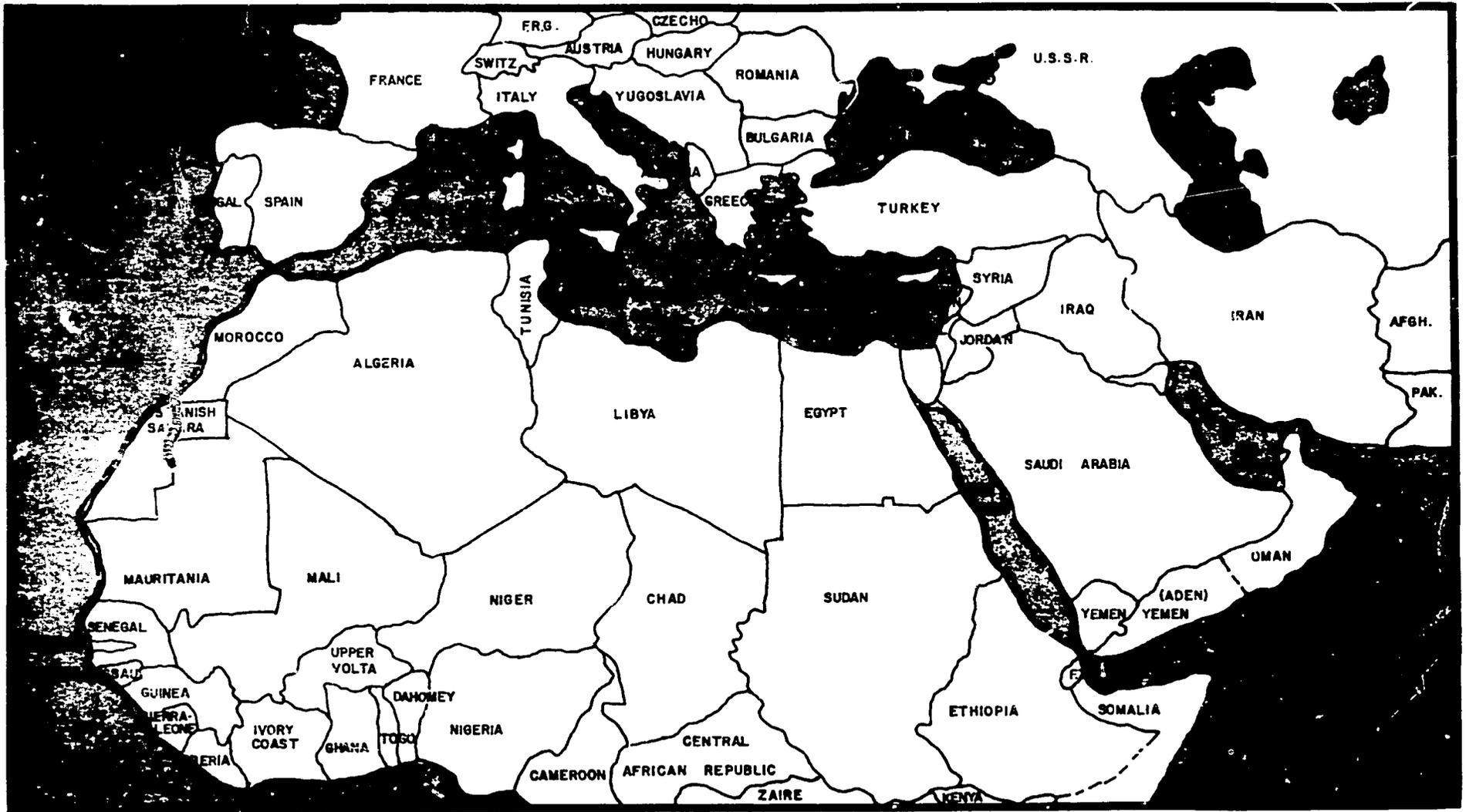
- o The Egypt North Coast offers direct shipping to the Mediterranean. For countries bordering the Mediterranean, Egypt is convenient to 300 million people with Gross Domestic Products (GDP) worth \$970 billion.
- o Egypt offers preferential tariff agreements to the 260 million person \$1,390 billion GDP European Common Market.
- o The Suez area is convenient to the Middle East/Asia countries and to Africa ports. Specific country targets offer:

Africa/Middle East/Asia: 60 million people and \$65 billion GDP.

Table IV-1 identifies the specific country allocations, population, GDP and air distance to Egypt's nearest port.

A potentially important Preferential Treatment Agreement was signed between Egypt and the European Economic Community (EEC) in 1977. Egypt is also a member of the Arab Common Market, permitting entry of goods duty free. These treaties are of unlimited duration and will provide Egypt and its free zone investors access to most of the major trade markets in western Europe and Asia. Egypt, like the member nations of the Common Market, will have no tariff placed on its industrial goods entering EEC countries. This is valid only for goods manufactured entirely in Egypt, or which have at least undergone "sufficient working or processing" in Egypt. Until at least 1980, there will be some restrictions on the annual volume of particular items (e.g., refined petroleum products, phosphate fertilizers, cotton yarn, and woven products) which may be imported duty-free, but restrictions on most products have been eliminated.

While Egyptian goods will necessarily incur some transportation costs en route to Europe, they should still be very price-competitive with European-made goods because of the substantially lower labor costs in Egypt. Egypt will, of course, also have a cost advantage over the many other nations which do not have preferential trade agreements with the EEC, and which, therefore, will be subject to duties on their products going to EEC countries.



EGYPT'S PRINCIPAL EXPORT TRADING MARKET

EUROPE THE NEAR EAST NORTH AFRICA

TABLE IV-1  
REGIONAL ECONOMIC INDICATORS  
DEMAND

Area/County	Population(1)	Gross National Product		Value of Imports (\$ Millions)	Distance From Egypt(3)
		Total(2)	Per Capita		
<u>EUROPE</u>					
France	53.0	\$458,900	\$8,650	\$53,600(4)	2,500
Greece	9.0	\$ 26,689	\$2,965	\$ 6,013(5)	1,000
Italy	56.3	\$196,132	\$3,485	\$47,600(6)	1,700
Spain	35.2	\$118,000	\$3,350	\$18,654(7)	2,800
Yugoslavia	21.6	\$ 45,590	\$2,110	\$ 9,600(6)	1,900
<u>MID-EAST</u>					
Cyprus	0.7	\$ 790(5)	\$1,130	\$ 308(4)	400
Israel	3.6	\$ 14,510	\$4,030	\$ 4,550(6)	200
Jordan	1.7	\$ 1,918	\$1,130	\$ 1,420(6)	300
Lebanon	3.1	\$ 3,000(8)	\$ 970	NA	400
Oman	0.8	\$ 2,100	\$2,625	\$ 800(6)	2,700
Saudi Arabia	7.5	\$ 54,675	\$7,290	\$15,000(6)	1,200
Syria	8.0	\$ 6,665	\$ 835	\$ 2,638(6)	400
Turkey	40.8	\$ 40,600(5)	\$ 995	\$ 5,100(5)	600
Yemen	4.7	\$ 1,143(5)	\$ 245	\$ 948(6)	2,100

TABLE IV-1 (Continued)  
REGIONAL ECONOMIC INDICATORS  
DEMAND

Area/County	Population(1)	Gross National Product		Value of Imports (\$ Millions)	Distance From Egypt(3)
		Total(2)	Per Capita		
<u>AFRICA</u>					
Algeria	16.9	\$ 19,271	\$1,140	\$ 6,600(6)	3,700
Egypt	39.2	\$ 17,400	\$ 445	\$ 5,400(6)	-
Ethiopia	28.0	NA(9)	NA(9)	\$ 268(10)	1,800
Libya	2.9	\$ 17,515	\$6,040	\$ 3,212(6)	900
Somalia	3.2	NA(9)	NA(9)	\$ 175(10)	2,700
Sudan	17.0	\$ 4,285	\$ 250	\$ 813(4)	1,600
Tunisia	6.0	\$ 4,960	\$ 825	\$ 1,766(6)	1,800

- Notes: (1) Population in millions of persons (estimated).  
(2) Gross National Product in millions of U.S. dollars (1977 estimate) unless otherwise noted.  
(3) Kilometers between closest major ports/cities (air distance).  
(4) Data is for 1975.  
(5) Data is for 1976.  
(6) Data is for 1977.  
(7) Data is for 1978.  
(8) Due to turmoil in Lebanon, latest available data is for 1973.  
(9) Data is not available.  
(10) Data is for 1974.

However, it must be considered that only certain Egyptian industrial goods will be competitive on the EEC market. Transportation costs will likely make some products too expensive. Also, the EEC countries are among the most highly industrialized in the world, and maintain a high rate of technology and efficiency in their manufacturing processes; there are no duties on goods flowing from one member nation to another, which gives each EEC country preferential access to the manufactured products of the others. In addition, other countries aside from Egypt have signed, or will likely sign, preferential treatment agreements with the EEC, potentially adding to the competition. Thus, while the important EEC markets are more readily accessible with the treaty than they otherwise would be, it is certain that not all Egyptian manufactured goods could be competitive. Transportation costs, labor cost savings, and competition sources should be carefully analyzed for various commodities to determine which could be most competitive in the EEC market while operating from an Egyptian Free Zone. A concentrated effort may then be made to attract investors representing their industries to the zones.

A review of some neighboring lesser developed countries' basic economic data further emphasizes the potential export market which will likely attract investors to the region.

- o Algeria: It is estimated that the 1977 population was 16.9 million persons, of which 43 percent could be classified as urban. Its growth rate (3.2 percent) is one of the highest among North African and Middle East countries. Gross Domestic Product is estimated at \$19.6 billion (1977), or approximately \$1,160 per capita. While agriculture is the main source of livelihood for the majority of the country's 3.8 million workers, petroleum and gas serve as the main support of the economy. Imports in 1977 are estimated at \$6.6 billion up 29 percent from a year earlier and consisted primarily of: industrial equipment, iron and steel products, motor vehicles, machinery and parts, and aircraft.
- o Israel: The population is estimated at approximately 3.7 million persons (1977) with an annual growth rate of three percent. The economy is heavily dependent on foreign trade although it maintains a high level of industrialization and rapid growth. Imports in 1977 were estimated at \$4.85 billion up 17 percent from 1976 and consisted primarily of rough diamonds, raw materials, fuel, machinery, and transport equipment. Trade prospects identified by the U.S. Department of Commerce include: electronics industry production and test equipment, electronic components, computers and peripheral equipment, engines and mechanical power equipment, metal working equipment, and health care equipment.
- o Jordan: The 1977 population is estimated at two million persons increasing at the rate of 3.3 percent annually. Gross National Product in 1977 was about \$1.9 billion. Imports grew

by 39 percent between 1976 and 1977 to \$1.42 billion primarily in electric and non-electric machinery, transportation equipment, crude oil, food stuffs and manufactured goods. Identified trade prospects include: tractors; irrigation and agricultural equipment; construction, mining, and materials handling equipment, medical supplies and health care equipment; building materials and supplies; air conditioning and refrigeration equipment; telecommunications equipment; and electric power equipment.

- o Lebanon: Due to the recent turmoil in Lebanon, only partial information concerning the economy is available. Estimates of the 1974 population suggest three million persons although large emigrations occurred during the civil war and is only now subsiding with parts of the population returning. Estimates of the 1977 gross national product are believed to be 30 to 40 percent below the 1974 level of \$3.6 billion.
- o Libya: The 1977 population is estimated at 2.9 million persons with a growth rate of 3.6 percent. The gross domestic product is estimated at \$19.4 billion or nearly \$6,700 per capita. Petroleum contributes approximately 56 percent of the GDP. Imports in 1976 were estimated at \$3.2 billion primarily in foodstuffs, oil drilling equipment, machinery, motor vehicles, power generating equipment and clothing. Some identified trade prospects include: agricultural equipment, pumps, transport and communications, equipment, building materials, health care and educational materials, construction machinery, consulting and other technical services.
- o Morocco: With a 1977 population of 18.4 million persons, Morocco is one of the largest of the lesser developed countries in the region. Its economy is primarily agricultural with growing manufacturing, tourism, and mining sectors. Gross National Product in 1976 was estimated at \$8.4 billion. The value of 1977 imports is estimated at \$3.3 billion up 27 percent from 1976 and included primarily: crude petroleum, cereals, sugar, industrial machinery and equipment, and iron and steel products.
- o Oman: Oman's population is the smallest in the region with only 772,000 persons in 1977. Its Gross National Product is estimated at \$2.1 billion, 70 percent of which comes from the oil sector. Imports consist of construction machinery, building materials, iron pipe, electric power generating equipment, foodstuffs, motor vehicles, air-conditioners, and other consumer durables. The value of imports is estimated at nearly \$1.2 billion.
- o Saudi Arabia: Saudi Arabia's population is estimated at approximately 7.5 million persons of which 1.5 million are expatriots. Gross Domestic Product in 1977 was approximately

\$58 billion or \$10,000 per capita. Of the GDP, oil accounts for 80 percent. Imports in 1977 were value at near \$15 billion an increase of 36 percent over 1976. Principal imports were: building materials, construction equipment, household furnishings and appliances, industrial machinery, aircraft and avionics, food stuffs, and transportation equipment. Trade prospects identified by the U.S. Department of Commerce include: building and construction equipment, prefabricated building systems, industrial equipment, materials handling equipment, office furnishings and machines, small computers and software, electrical power generation and distribution equipment, water resources equipment and purification equipment, distribution and recovery systems, hospital equipment and services, and food stuffs.

- o Syrian Arab Republic: The estimated 1977 population is eight million persons growing annually at 3.4 percent. Syria's economy is primarily agricultural with a growing industrial sector. Gross Domestic Product is estimated at \$2.19 billion in constant 1963 dollars. Imports were valued at \$2.64 billion in 1977 and consisted primarily of: metal and metal products, machinery, transport equipment, food stuffs, and fuels.
- o Tunisia: The 1976 population is estimated at six million persons with an average 2.3 percent growth rate, one of the lowest in the region. Agriculture is the principal employer for the labor force estimated at 1.4 million persons. Tunisia's Gross National Product is nearly \$5 billion (1977) or approximately \$875 per capita. Imports in 1977 were valued at \$1.77 billion up 16 percent from 1976 with principal products consisting of: machinery, wheat, vegetable oil, iron and steel products, and petroleum.

In the aggregate, viable export markets within the North Africa and Mid-East region show excellent potential for several product sectors including: transport equipment, materials handling equipment, health care equipment, machinery, industrial equipment, metal and metal products, agricultural equipment, computers and software, and air-conditioning and refrigeration equipment.

In addition to its location to export markets, Egypt offers the investor a 40 million person domestic market and a Gross Domestic Product approximating \$8 billion. Favorable duty credits are applied on goods exported to Egypt from the free zones. Egypt also offers a labor force estimated at 16 million persons between the ages of 20 and 60. The labor force is, on the whole, adequately balanced between skilled and unskilled workers, although shortages of skilled labor do exist within certain sectors.

The Egyptian labor wage rates average, on a per diem basis, the following amounts:

Unskilled Labor	\$2.50/per diem
Semi-skilled Labor	\$5.00/per diem
Skilled Labor	\$10.00/per diem

A minimum wage level of approximately \$2.00/per diem applies, although \$2.50 daily appears to represent the 1979 unskilled labor average. Studies by the ILO and UNIDO on labor statistics are summarized below and highlight the favorable Egypt position (Table IV-2, summary of wages):

Additional free zone advantages offered by Egypt include:

- o Privileged regulations for foreign investment such as:
  - Legal assurance against confiscation or nationalization,
  - Exception from traditional "public sector" laws,
  - Exception from many labor laws,
  - Maintenance of foreign exchange account and profit remittance assurances,
  - Exemption from taxation for significant holiday periods.
- o Egypt is the most industrially advanced of the Arab nations, which results in:
  - A railroad infrastructure of approximately 3,600 km,
  - Over 9,000 km of paved roads,
  - Major ports at Alexandria, Suez, and Port Said with new port facilities and expansion underway,
  - Major air transport facilities in Cairo,
  - A major upgrading and expansion of the nation's telecommunications system,
  - A cosmopolitan environment.

#### B. FREE ZONE FINANCIAL INCENTIVES AND COSTS

Law 43 exempts free zone projects from virtually all Egyptian taxes. However, the projects are subject to dues payable for free zone services and to an annual duty which will not exceed one percent of the value of goods entering or leaving the free zone as part of the project's business. If, however, the project's main activities do not include the

TABLE IV-2

## FREE ZONE ANALYSIS

## COMPARATIVE LABOR STATISTICS

## EUROPE, AFRICA, MIDDLE EAST, ASIA

Country	1973 Dollars/Hour(1)		Work Week(2) Hours	Consumer Prices(3) 1970 = 100	Disputes			Year
	Unskilled	Skilled			Reported Number	Workers	Work Days Lost	
Austria	0.70 - 0.80	0.85 - 1.00	34	161	-	2,352	589	1976
Denmark	3.20 - 3.50	3.80 - 4.00	33	189	228	36,305	229,700	1977
Finland	1.80 - 2.20	2.20 - 3.00	38	227	1,633	738,630	2,374,700	1977
Ger. Fd. Rep.	2.60 - 3.00	3.20 - 3.60	42	146	-	34,437	23,681	1977
Ireland	0.90 - 1.25	1.50 - 1.75	43	250	175	33,805	442,145	1977
Sweden	4.00	5.50	31	180	35	13,101	87,151	1977
Switzerland	2.50 - 3.00	3.50 - 5.00	45	149	9	1,380	4,649	1977
Gibraltar	0.90 - 1.00	1.00 - 1.20	45	246	-	-	17,000	1976
Greece	0.80 - 1.00	1.00 - 1.20	41	227	N/A	N/A	N/A	N/A
Italy	1.60 - 1.80	2.50 - 3.00	39	237	3,308	13,802,955	16,566,143	1977
Spain	0.50 - 0.70	1.00 - 1.50	42	259	1,194	2,955,000	16,641,700	1977
Bahrain	2.90 - 3.30	8.00 - 9.50	N/A	N/A	N/A	N/A	N/A	N/A
Lebanon	0.50 - 0.60	0.70 - 1.00	N/A	N/A	N/A	N/A	N/A	N/A
Liberia	0.15 - 0.25	0.30 - 0.40	N/A	190	N/A	N/A	N/A	N/A
Libya	0.40 - 0.80	1.50 - 2.50	N/A	138	N/A	N/A	N/A	N/A
Mauritius	0.43 - 0.53	-	N/A	220	41	9,629	11,644	1977
Morocco	0.40 - 0.80	1.50 - 2.50	N/A	132	421	60,433	375,802	1977
Senegal	0.25	0.50	N/A	212	N/A	N/A	N/A	N/A

TABLE IV-2 (Continued)

## FREE ZONE ANALYSIS

## COMPARATIVE LABOR STATISTICS

## EUROPE, AFRICA, MIDDLE EAST, ASIA

Country	1973 Dollars/Hour(1)		Work Week(2) Hours	Consumer Prices(3) 1970 = 100	Disputes			Year
	Unskilled	Skilled			Reported Number	Workers	Work Days Lost	
Hong Kong	0.32 - 0.68	0.98 - 1.63	N/A	118	38	4,460	10,814	1977
India	0.15 - 0.40	0.20 - 1.39	N/A	175	2,653	1,876,710	21,214,281	1977
Korea	0.30 - 0.50	0.80 - 1.50	53	260	58	7,975	8,294	1977
Malaysia	0.15 - 0.24	0.70 - 1.16	N/A	153	40	7,783	73,729	1977
Philippines	0.15 - -	0.25 - -	44	200	30	30,183	N/A	1977
Singapore	0.24 - 0.47	0.55 - 0.95	49	127	1	406	1,011	1977
Taiwan	0.22 - 0.30	0.80 - 1.00	N/A	N/A	N/A	N/A	N/A	N/A
Thailand	0.25 - 0.40	0.80 - 1.20	N/A	173	7	4,868	12,331	1977
Egypt	0.25	0.37 - 0.44	42	166	5	1,042	2,541	1977

Notes: (1) UNIDO - 1973.

(2) International Labor Office - 1977, Manufacturing - 1978 yearbook.

(3) International Labor Office - 1977, General - 1978 yearbook.

Source: Reynolds, Smith and Hills, 1979.

import or export of goods, then the duty will be determined by the Free Zone Board of Directors, giving consideration to the nature and value of the activities. In any case, the duty will not exceed three percent of the value added of the project.

Export duties and other taxes appropriate under Egyptian law are levied on Egyptian goods and materials which enter the free zone. Likewise, customs duties and taxes are paid on goods entering Egypt from the free zones, the same as if they were imported from abroad. The duties are based on the ad valorem value of foreign components contained in the products (Egyptian components have already been taxed), with a 50 percent reduction if local components (including labor) constitute at least 40 percent of the product.

A review of some free zones indicates that taxes are often imposed but called by various other terms.

- o Jordan imposes what they call a "social welfare tax" of one-half percent on the value of all goods imported into the free zone. Many zones charge various fees for loading and discharging services through their gates in addition to the transportation and handling costs, such fees could be based on value or volumes and revert back to the zone administration.
- o The Ivory Coast's free zone at Port d'Abidjan imposes on free zone users "export duties" ranging up to 30 percent. They have a value-added tax system which reduces taxes on items in the free zone from 20 percent + to nine percent + or can increase the taxes to 33 percent + on certain specific commodities.
- o Successful zones such as those at Shannon and Colon do not impose taxes. They do, however, have certain minimum labor requirements.

Some free zones tax investment capital from foreign interests in free zones. Tanzania and Tunisia apply taxes at the wholesale level of trade ranging from 10 to 20 percent in Tanzania, and at 14.1 percent in Tunisia for what is called a "production tax" on all imported and domestically produced goods including the value of transportation. Honduras applies a three percent general sales tax on EVERY transfer of ownership where a specific sales tax is not already decreed, whether or not the merchandise is held in the free zone. Freeport in the Bahamas also imposes a general sales tax on any transfer of ownership. The free ports of Singapore and Hong Kong impose ad valorem duties on just about all commodities and products in spite of their duty-free status.

Most free zones also impose some form of "property use tax" whether property is sold or leased and, although not directly related to the volume or value of merchandise held on that property, the volume of business and need for property can have some bearing on this tax. A summary of competitive free zone statistics is shown on Table IV-3.

TABLE IV-3  
FREE ZONE ANALYSIS  
COMPETITIVE FREE ZONES

Country	Number of Free Zones/ Free Ports	Approximate Area in Sq. Meters	Pre-Built Facilities & Ave. Rent/Sq. M./Yr.	Other Facilities
Libya	1	60,800	Warehouses-\$13	Dock
Morocco	1	36,000	Warehouses-\$19.40	Railroad; Dock; Elec. \$0.03-\$0.06/ KWh
Tunisia	>40	28,330,000	Warehouses-N.A. Industrial \$19.70	Docks, rail- roads at most zones; Elec. rates varies
Gibraltar	1	11,150	Warehouses-\$12	Docks
Greece	3	1,161,700	Warehouse-\$9	Docks
Italy	16	986,660	Warehouses(Covered)- \$13.20-\$448, (Open)-\$2; Industrial-\$17.80; some by weight	Docks; rail- roads
Spain	15	>7,000,000	Warehouses-N.A.; Cold storage-N.A.; Indus- trial-N.A.; Range=\$6.50- \$10.80	Docks; rail- roads
Yugoslavia	8	>3,000,000	Warehouses (Covered)- \$12; Warehouses (Open) -N.A.; Cold storage- N.A.; Industrial-N.A.	Tanks; pipe- lines; docks; railroads; grain eleva- tors
Bahrain	1	>75,279	Warehouses(Covered)- \$56-\$112; (Open)-N.A.	Docks
Israel	2	>471,000	Warehouses(Covered)- N.A., (Open)-\$21	Docks
Jordan	1	1,800,000	Warehouses-N.A.; Cold storage-N.A.	Docks
Lebanon	3	>2,207,000	Cold Storage-Warehouses (Covered)-\$13; (Open)- N.A.	Docks

TABLE IV-3 (Continued)

Country	Average Labor Rates \$/Day	Duties on Exports to Local Markets	Existing Activities	Foreign Exchange Controls
Libya	Ave.=\$6.76; S=\$10	Must pay all normal duties	Only few indus. & warehouse operations	Exchange Guaranteed
Morocco	UN=\$7.20-\$12 S=\$20-\$24	Must pay all normal duties	Numerous ind. & warehouse operations	Foreign acct. required. Some controls on repatriation of foreign currency
Tunisia	UN=\$6-\$8 S=\$10-\$16	5 yr. exemption on duties and taxes	Numerous ind. & warehouse operations	Various guarantees on repatriation
Gibraltar	UN=\$10-\$12 S=\$16-\$20	Must pay all normal duties	Numerous warehouse users	Full freedom of exchange
Greece	UN=\$10-\$12 S=\$16-\$20	Must pay all normal duties	Various ind. & warehouse users	Some exchange control regulations
Italy	UN=\$16 S=\$32-\$40	Must pay all normal duties	Numerous warehouse users & ind.	Exchange guaranteed
Spain	UN=\$8 S=\$12-\$16	Must pay all normal duties	Zones specialize numerous warehouse users, various ind.	Some foreign exchange regulations
Yugoslavia	UN=\$4-\$5.60 S=\$6.40-\$9.60	Must pay all normal duties	Zones specialize numerous warehouse & various industries	Exchange must be handled in free market
Bahrain	UN=\$6.50-\$9 S=N/A	Must pay all normal duties	Zones specialize numerous warehouse & industrial users	Some Foreign exchange regulations
Israel	UN=\$7-\$16 S=\$24	N/A	Some warehouse & light industry	No exchange controls
Jordan	UN-\$9.60 S-\$19.20-\$22.40	Must pay all normal duties	Very few warehouses & industries	Exchange guaranteed
Lebanon	N.A.	Must pay all normal duties	Local importers & small businesses	No exchange controls

Note: UN=Unskilled; S=Skilled

Source: Tax-Free Trade Zones of the World, W.H. & D.B. Diamond, 1979, Vol. 1 & 2 Reynolds, Smith and Hills, 1979.

There are no exchange control laws affecting the Egypt's free zones, and there are some advantageous procedures which must be considered. For example, according to Law 43, a free zone project's invested capital can take several forms, including:

1. Free foreign currency used in Egypt by an investor to implement or expand a project;
2. Equipment (including transportation), machinery, raw materials, and other commodities imported to meet the physical plant needs of a project;
3. Free foreign currency used in Egypt to finance studies or to cover the initial costs of the investor; and
4. Profits realized by a project which are utilized in increasing capital.

This capital is exempted from custom duties and all other taxes and dues. However, the investors may not domestically dispose of any capital asset without obtaining approval of the Authority or Board of Directors and incurring taxes and duties on used assets. The Authority should assure that this formality is the same as the approval procedure used for importing any other goods from the free zones.

Invested capital for free zone projects, such as machinery, raw materials, and other commodities and expenses related to the establishment of the project is to be paid for in free foreign currency through an authorized bank. Each project licensed for a free zone can maintain a foreign currency operating account at an authorized bank in Egypt. This account is used to make all local payments relating to the project's activities in the free zone, and shall maintain a minimum balance fixed by the Authority. Transactions made with this account are made free of Egyptian exchange control laws. No special permission is required from the Authority to transfer funds abroad from this account in connection with profits or expenses connected with the project.

In addition, each investor may have a local currency account, used to cover miscellaneous operating expenses in the zone. The Authority sets limits for this account. Each project must submit a declaration of all local expenses every six months to the Authority.

#### C. INVESTOR ACTIVITY

The initial license (lease) issued to an investor is not an approval to construct a building. This approval must be obtained from the Authority before any construction is begun. Buildings which are constructed without approval can be removed by the zone at the investor's expense. The process of drawing up construction documents and submitting them for approval normally takes place within the six months following the approval of the application. That period may be extended by the Board of Directors of the free zone if it is deemed appropriate.

The Free Zone Sector has possession and ownership of the land by parliamentary decree or assignment. All utility lines, roads, fences, administration, and control buildings are added by the Authority to develop the land. The only buildings built for investors on free zone lands currently are "standard factories" at Nasr City. These are three concrete framed masonry buildings intended for "light industry" only. All other investor-occupied buildings and enclosures are constructed by the investors for their specific activity and are their property. At the completion of their lease, if it is not renewed, the buildings are either removed or become the property of the Authority. Investors do not sublease space to others.

Lease terms are usually ten years for warehousing, 25 years for manufacturing, with a renewal clause for additional time. If an investor wants less time (five years) it could be arranged, but in the case of property which will have a permanent building, the building cost could not be amortized over the shorter period.

The lease prices charged to investors in the public free zones are calculated by square meters and vary with the type of project and with the zone. The difference in rent between zones reflects differences in development costs and supply of land. Also, the higher rent charged for warehousing and cold storage projects helps offset the generally lower annual duty collected from these operations and the lesser advantages (as outlined in Law 43) of these firms as opposed to industries. In 1979, the annual lease rates were:

<u>Location</u>	<u>Dollars/Square Meter</u>	
	<u>Industrial</u>	<u>Non-Industrial</u>
Cairo	\$1.50	\$3.00
Alexandria	\$1.00	\$3.00
Port Said	\$1.50	\$2.50-\$4.00
Suez	\$1.00	\$1.50-\$4.00

It is somewhat surprising that the difference in rent prices between industrial projects and warehouses is so low in the Port Said and Suez Free Zones. Both zones are attempting to attract a greater number of industrial firms, and are downplaying warehousing. While the Board of Directors can always reject warehouse applications, it might be better to simply let the rental rate rise for new warehousing operations to what a rather select market will bear. In Port Said, most warehousing firms will undoubtedly seek to locate in the free city itself. At the same time, more land would be available in these zones for manufacturing.

The license issued to an investor includes the amount of a guarantee deposit which is required from the investor. The deposit is calculated using a somewhat complicated formula based on gross average wages and salaries for one year, the annual levy, estimated customs taxes and duties, rental value of the land, and the amount paid for Authority, customs, and security services. Certain deductions in the total

guarantee deposit are available to investors. The guarantee deposit can be drawn on to pay some of the investor's financial obligations such as rent, social insurance, etc.

Some of the deposit (for public free zone projects) is held against damage and misuse of infrastructure, and for fines levied on various violations. The violations are listed in Section Six of Decree No. 375 of 1977. The fines for such violations are listed in Article 57 of Law 43, and range from L.E. 5 to L.E. 200. The maximum fines are obviously too low to deter an investor from violating the law if it is to his financial advantage.

The Free Zone Sector apparently realizes this fact. It was noted that they withhold the issuances of licenses to import goods as punishment and as a deterrent. It is recommended that this practice be assessed as it is not clearly stated in legal documents available to the investors, nor is it in the best interests of the Free Zone Sector. It costs the Free Zone Sector in terms of lost revenue to withhold licenses, while fines may increase revenue. If the Free Zone Sector wishes to deter violations, it should increase the fines to a more logical, yet still fair, rate. If the practice of withholding licenses is considered a successful deterrent, then it should be spelled out clearly in a legal document and distributed to investors, so it will have the greatest effect.

#### D. OPERATIONAL IMPACTS OF LAWS AND ORGANIZATIONAL STRUCTURE

##### 1. Duties and Taxes

Egypt's free zone restrictions and tariffs are not considered a deterrent to expansion of the free zones. The one exception to which further thought should be given relates to the one to three percent duty.

The Free Zone Sector has since prepared clarifications of the calculations of these duties, making it clearer just how the duties are determined for various types of projects. The Free Zone Sector should make multiple copies of these guidelines and distribute them to potential and existing investors, to eliminate some of the expressed confusion on the matter.

This duties' system seemingly presents a rather large and complex accounting task for each investor on an annual basis. It is understood that, given the licenses already issued, it would be difficult to change the system. However, the elimination of the annual duty, and an increase in the rent per square meter, would guarantee the Free Zone Sector a steady and simple source of revenue. A standard rent would encourage the high volume industrial firms which the Free Zone Sector wishes to attract to the free zones, since a higher volume of business would not raise the duties. The higher business volume would increase employment, and potentially the level of technology used in the facility. Most firms would probably welcome a higher rent and the elimination of the annual

duty. This system would only discriminate against the low volume warehouses, which do not truly meet the intent of Law 43 in any case.

If it is extremely difficult or impossible to initiate the above system, the existing method for calculating the annual duty might be somewhat improved if a system of decreasing rates were installed. In this case, the one percent factor could be applied to, for example, the first L.E. one million of business, 0.75 percent on the L.E. five million, and 0.50 percent on everything thereafter. Again, this would encourage larger business firms (and larger business from existing firms), and would better reflect the lower unit cost of services provided by the Free Zone Sector for big business firms.

Also, as long as the Free Zone Sector's revenue exceeds its costs by a reasonable amount, once the zones are completely operating there would appear to be no real need to set a time limit on the tax-free status of investors. The "profit" of the Free Zone Sector represents a gain by the Government of Egypt, which theoretically can be used to maintain the infrastructure outside the free zone, for national defense, etc. These are services required by the investors, to which, like other firms, they should contribute (through their rent and annual duty).

## 2. Decision Making

The free zone investor requires streamlined decision authority in the free zones, upon which all matters relating to their investment and operation can be involved.

It is obvious from prior sections that while the General Authority for Investment and Free Zones has general control over the operation of free zones in Egypt, various other Boards, Councils, and Ministries are involved in free zone operations. There is, generally, only one person directly linking these groups with the Authority, and no person common to all the different Boards.

It appears that there are presently too many individuals involved to varying degrees with making policy for the free zones. The Authority in Cairo, its semi-autonomous offices in the public free zones, the Board of Directors of the Authority, those Boards of the individual free zones, and the Supreme Investment Council are each making decisions which shape the direction which the various free zones (as well as private zones) are going. A comprehensive program, drawn up by the Free Zone Sector in conjunction with the Directors General of the public free zones, and approved by the Board of Directors of the Authority, would serve to link each of the various groups controlling the free zones to a common plan, much as Law 43 links them to common goals and legal guidelines.

The current system is designed to give each free zone a significant degree of autonomy, which theoretically enables people with a better understanding of the local economy, needs and infrastructure to make decisions on the operation of the local free zone. One major disadvantage of this system is that in the absence of comprehensive planning for

free zone contribution to the national economy, the public free zone concept becomes a regional--as opposed to a national--development scheme. Since the free zones are viewed as being important to national development, it follows that definitive objectives for each free zone (public and private) be drawn up. At present, each public free zone is operating independently of the others. It may be that warehousing is more restricted in Port Said than in Alexandria, or that a priority for development in one zone may not be important in another. However, no real overall plan appears to exist to guide the development of each zone, other than various lists of preferred industries, goals for infrastructure, and laws appropriate to the operation of all free zones.

With each zone acting independently of the others, it is expected that some important economic factors are being overlooked and it may be appropriate to designate particular industries to be emphasized in particular zones. For example, Alexandria could be designated as a European export processing center, and the zone could strive to attract various industries and services related to food processing, such as packaging, canning, cold storage, food brokerage, carton manufacturers, canneries, printers, etc. While it may not be practical or necessary to have all these firms in one free zone, the attraction of such "linked" industries can be very important. It would certainly add to the competitiveness of these industries by cutting the costs of shipping goods between the firms. Of course, there are many other factors to be considered in locating an industry. Continuing with this example, all of the public free zones may have advantages for certain end-use markets owing to their location, infrastructure, etc., and probably none of the zones should be excluded from accepting a particular firm. Yet it might be beneficial for the Free Zone Sector to derive an overall program which designates industries which should be emphasized in the particular free zones.

### 3. Investor Processing

Applications for a license to operate a business in Egypt's free zones are available at the Authority's headquarters in Cairo, and at the offices of each of the public free zones. Investors interested in applying for private free zone status must apply through the Authority's main office in Cairo, while those interested in establishing an operation in a public free zone must work through the free zone office at that particular zone. The application process is outlined on the following two pages in Exhibits IV-1 and IV-2.

The application form itself is rather lengthy (over 40 pages), and is somewhat complex. It should be noted that assistance is often required to properly complete the form.

The Information Office and the Project Evaluation Section at the Authority's headquarters in Cairo are the principal places where a potential investor in a private free zone can get assistance in completing the form. The public free zone offices attempt to help their potential investors complete the application without sending the investors to the

EXHIBIT IV-1  
 PUBLIC FREE ZONE  
 APPLICATION PROCESS

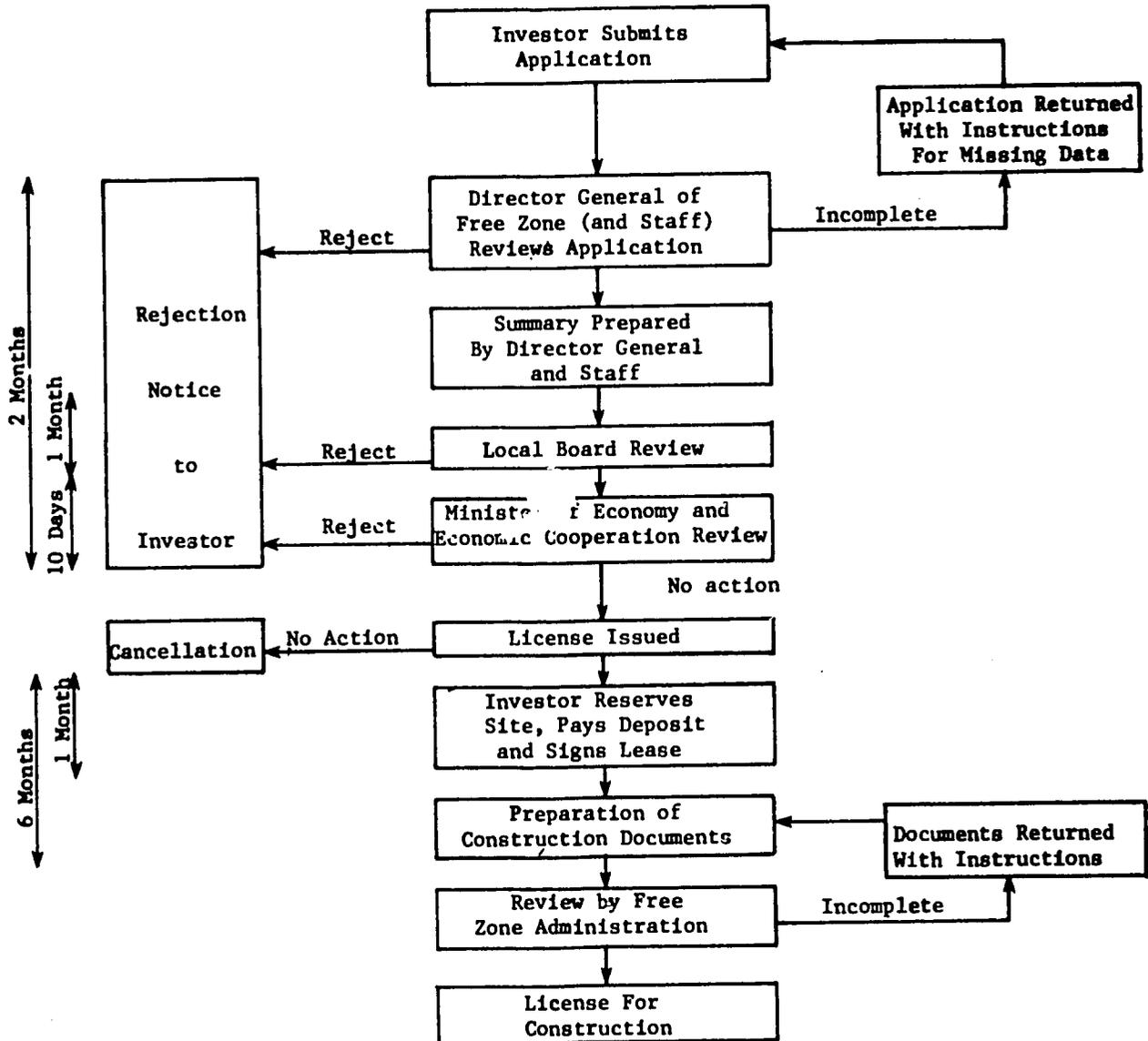
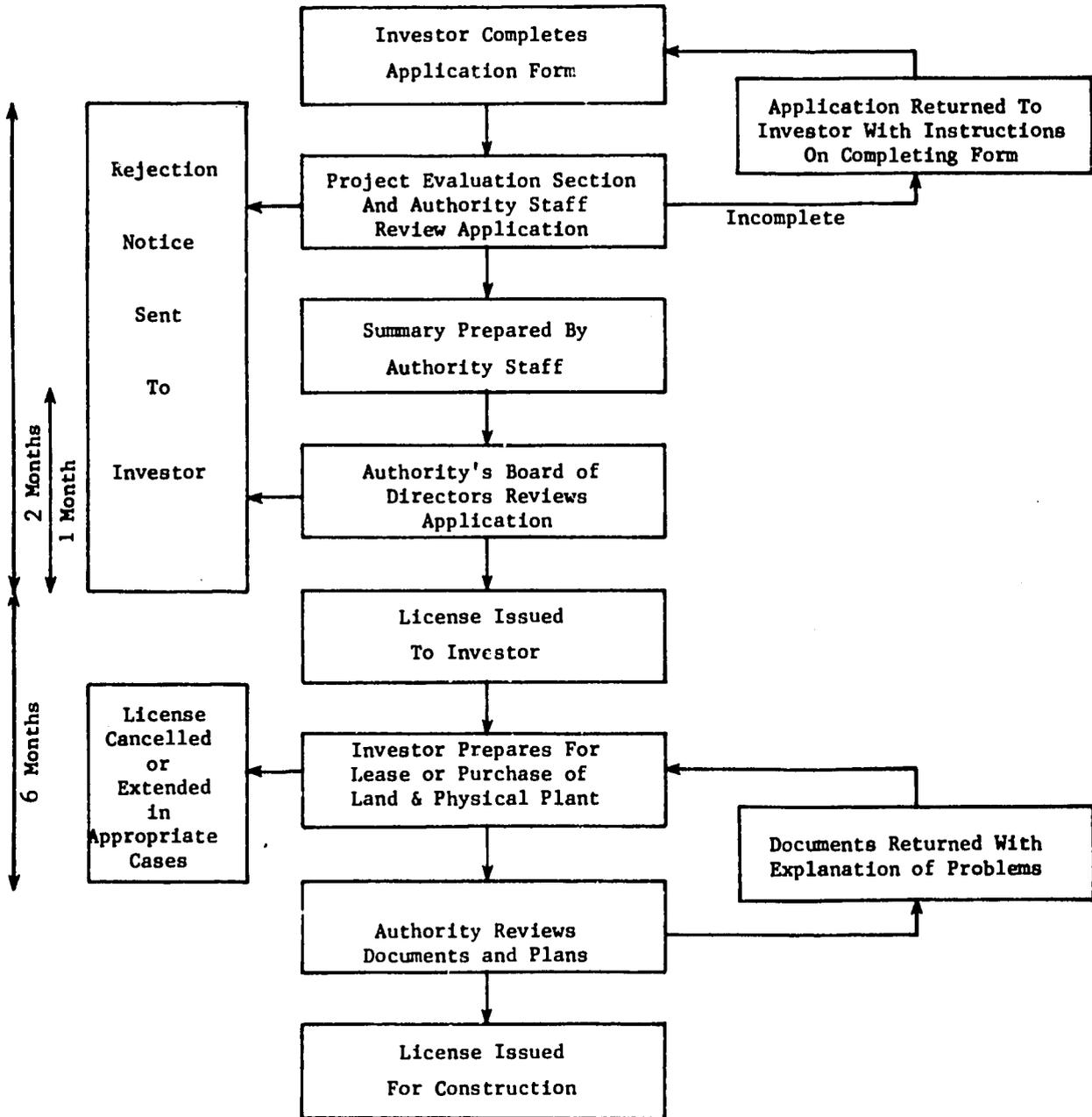


EXHIBIT IV-2  
 INLAND AND PRIVATE FREE ZONES  
 APPLICATION PROCESS



Cairo office. Generally, if a question regarding the form cannot be answered in the local office, the Director General will call Cairo to get clarification. This helps eliminate the frustration which is experienced by an investor when he must shuttle between two places to complete this task. The policy of one-stop service in completing applications should remain a high priority.

Applications for private free zones (as well as inland sites) are submitted to the Cairo office, where they are analyzed by the Project Evaluation Section. Economists and researchers review the applications and prepare a summary for the Board of Directors. If the application is incomplete or improperly completed, it can be returned to the investor with comments on how to complete it. The Board reviews the completed application, along with comments made by the Authority, and makes a decision to accept or reject the application. With approval, a license to commence operations is issued, either by the Chairman of the Board or the Deputy Chairman.

Applications to the public free zones are submitted to the office at the particular free zone where the investor would like to establish his operation. These applications are then evaluated in the local office by the Director General and, in some cases, staff members, who analyze the application and prepare a presentation for the zone's Board of Directors. It is very rare that the Cairo office's Project Evaluation Section is called on for assistance in the analysis. While economists are apparently being trained to help staff the public free zones, those zones currently have few people capable of analyzing the complex economic questions on the application form. Most of the zones rely on their Board of Directors for assistance in the financial analysis of the application, as that group normally includes several people with a background in finance or economics.

The Boards accept or reject the applications. Those which are accepted are forwarded to the Minister of Economy and Economic Cooperation. If no objection is forwarded within ten days, the license to operate becomes valid. The license may be cancelled if no serious action for beginning operation is taken within the next six months.

Given the varying degree of staff expertise in economics at the various public free zones, it is undoubtedly difficult to maintain a consistent policy for the financial analyses of the applications at each of the zones and at the main office in Cairo. While there may be benefits to each free zone in analyzing their own applications, it is advisable that they be encouraged to draw upon the economic and financial expertise of the staff in the Cairo office when a complex project's application is submitted. When each free zone office is staffed with people skilled in these types of analysis, they will then rarely need Cairo's assistance.

The application form is standardized for use by inland, private free zone, and public free zone investors. Formerly, three forms were used, one each for manufacturing, warehousing, and services. Now, one 43-page

form is used by all types of investors. A problem is that some questions are appropriate only for manufacturing firms, and are not expected to be completed by other investors. However, unless this information is verbally passed on to the investor, he has little way of knowing which questions are not important except for a few obviously inappropriate ones.

Almost no written instructions accompany the form itself. Some of the questions require quite complex answers, but little written guidance is provided to assist the investor in developing the correct information. As confirmed by Authority staff members in the Information office and the Project Evaluation Section as well as all Directors General of the public free zones, many of the applications are incomplete or improperly completed. They must then be either returned or rejected.

An analysis of the application shows that if it is fully completed by an investor, it will provide more than enough information upon which to base a decision to accept or reject a project for free zone status. However, proper completion would, in many cases, require direct assistance from Authority personnel. Steps should be taken to rectify this situation, as it is inconvenient for some foreign investors to make a trip to Egypt to complete the application, and it wastes Authority staff's time as well.

If the Authority and Free Zone Sector are satisfied with the type of questions and the length of the existing form, one or two options should be taken to improve it. Supplemental written instructions should be provided at the beginning of the application form which, for the more complex questions, details the type of information desired. As an alternative, the same type of information can be provided as footnotes to the individual questions on the bottom of the respective pages. It is obvious from discussions with people in the Project Evaluation Section in Cairo, and to the Directors General of the individual free zones, that they know what information they are looking for in particular questions. However, the incomplete and incorrect forms which the Authority receives attest to the fact that the information which is desired is not always obvious in the wording of the questions. If the form is to be retained, appropriate members of the Authority should assess which questions are frequently answered incorrectly, or are often left incomplete, and compose explanatory footnotes for those questions. In some questions it is particularly difficult to determine whether the information desired is for the entire operation of the company, or for the proposed free zone project only. It would only take a few more words to explain the questions fully, and it would save frustrations, both for the investor and for the Authority personnel.

It may, however, be appropriate to revise the application form slightly. Given the fact that much of the 43-page application is actually space for answering the questions, the form still appears to be lengthy. Several Authority people, including the Free Zone Sector and some at the public free zones, noted that the form was long and many of the questions were not truly appropriate for most of their projects.

Many successful free zones in other parts of the world use one or two page application forms. It is understood, however, that Law 43 stresses a number of guidelines (employment, technology transfer, foreign exchange, etc.) for investors, the compliance of which should be determined from the application. This may make it necessary to have a somewhat longer than average form. Still, financial questions could be limited to first year and peak year operations, rather than attempting to obtain guesses for all other years.

If the excess questions asked of warehousing and storage firms truly pose a problem, it is suggested that two forms be devised. First, all standard questions to be asked of all firms could be placed on one form. Second, an addendum--or second form--could be supplied to the major manufacturing firms. This form would include the questions which are specific to those types of firms. Again, it is important that the questions be more fully explained than they currently are on the form, if such detailed information is truly necessary to make a decision on an investor's application.

#### 4. Licenses

With the acceptance of an investor's application, the Board of Directors issues a license which authorizes the project to begin operations in a specific location. In addition, the license specifies the rent, guarantees deposit amounts, and the expiration date of the lease. It also mentions various standard obligations of the investor. The license form appears to be adequate in most respects, although a few parts might be improved.

For instance, the rent of the investor is specified in Article 2, along with a statement on increases. It now states that the annual rent may be raised a maximum of 50 percent every five years. Given rising costs associated with free zone operations, this may not be an unreasonable amount. However, it may be in the best interest of the investor and the free zone for the rent to be established at the going set price per square meter in that zone, and specify an annual increase limited to a maximum percentage. In this way, the investor would not have a large increase in his rent at one time, and the free zone revenue would increase with rising costs.

The free zone should also consider making provisions to add items specific for a particular investor at the end of the license. This may already be done at one or more of the public free zones, but it is not a universal practice. The Authority's office in Cairo indicated that particular restrictions, obligations, or rights of a specific investor are sometimes agreed upon verbally at Board meetings, but are never included in the lease. In order to protect both the free zone and the investor, it should become practice to include these agreements, where considered important, at the end of the license. These agreements could include pollution controls, maximum daily water usage, etc., in those cases where such items are important.

Licenses are issued to the investors for importing and exporting specific goods. A separate application must be made to import or export items not on their existing license. Various invoices and other documents are used by the free zones to verify what goods are entering and leaving the free zones, for record-keeping purposes and to make sure all shipments are licensed.

A major handicap in the system, however, is that no standard classification system is used to register the goods entering or leaving the free zones. The invoices, bills of lading, etc., contain general descriptions of the goods, but these descriptions are frequently too general to accurately determine what the item is. For instance, Authority personnel indicated that terms like "electrical equipment" are used. It is impossible to determine the size and nature of the item, and likewise impossible to follow it through an import-export cycle. Record-keeping thereby becomes extremely difficult and inefficient.

The records have not yet been computerized. The first step in the computerization process for the free zones should be to adopt a system such as the Standard International Trade Classification recommended by the United Nations for reporting foreign trade statistics, and which is presently used by Customs. This system is used by countries throughout the world for this purpose, is relatively easy to use and very adaptable to computerization. The system is set up so that every item can be classified by a particular five digit number with each digit telling progressively more information about the product. Each successive digit is, then, a subcategory of the previous digit. The Free Zone Sector could derive a sixth, or even a seventh digit, to more specifically categorize certain products.

In this way, the free zones, Free Zone Sector, and Customs would know more specifically what is entering and leaving the free zones. In addition, computerization of this information would assist greatly in data gathering, customs, and tax and duty checking. Presently, when information is desired on how much of a particular product has entered or left free zones in Egypt, all invoices have to be pulled and personally scanned. Invoices for the same product might also be labeled differently by different companies. The standardization of the description of goods, and the computerization of information on all imports and exports, should be given high priority. It will make record-keeping much more efficient, and enable the Free Zone Sector to better monitor the goods which enter and leave the free zones.

#### 5. Customs/Security

On the operational side, the free zones and its controls intermingle with both the Ministry of Interior (Security) and Customs. Both these forces represent a positive chance for protection and convenience to the free zone user. Unfortunately, the coordination between the three groups has been spotty, and it is recommended that a serious dialogue be initiated to develop coordinated procedures which would better recognize

the interests of the user, the government entities, and the benefits to each community.

A current disharmony exists between Customs and the free zones, although not universally in each free zone. Users have indicated that Customs is neither cooperative nor responsive to their needs regarding imports and exports. It has been noted that delivery of goods into a free zone may not be inspected by Customs (or the Free Zone Authority) for days. It is rumored that Customs wants the overall control of the free zones and considers the Authority an interloper in the Customs playground. We cannot professionally confirm or deny this position, but would recommend, again, the need for a good working relationship between the free zones and Customs, which are both organs of the Egyptian Government.

It is believed that the first step should be a rapid resolution that the parties work together and that standardized, applicable procedures be established between Customs and each zone. It is recommended that responsibilities be shared in order to prevent a free zone user from having to go through repetitive procedures.

As Customs is primarily concerned with the value of goods exported from Egypt to a free zone and imported by Egypt from a free zone, careful consideration on these activities is essential. This process is complicated by the duty reduction on goods reentering Egypt if 40 percent or more of its value added is derived from Egyptian resources. The general free zone decrees provide an overall framework for customs/free zone requirements but do not clearly express the mechanics of the interface.

There is sufficient documentation for goods entering and leaving the free zones for the free zone administration and Customs, to achieve all required crosschecks. There is advance delivery notification, bills of lading, consignment documentation, and sale invoices to allow for accurate counts on merchandise. As long as shortages are the responsibility of the user, and he is aware of penalties in the form of duties and taxes for shortages, the integrity of the free zones can be maintained. Also, the documentation lends itself to easy computerization as evidenced by the Miami Free Zone's alternative inventory system which U.S. Customs has accepted for control purposes.

A second area requiring active interface is that of security. Currently, each user provides its own security for its products while general security is scheduled through the Ministry of Interior. The possible conflict of the security provision could lead to safety hazards for employees of the user and free zone staffs alike.

One of the benefits of a free zone for a user is the security it offers. The free zone is fenced with no more than two points of entry. In a correctly secured free zone, no personal cars are allowed, employee badges are in evidence, and no one else can enter the processing or warehousing area. Good security also alleviates fears which customs might harbor concerning the shortage of goods from a free zone area.

The Free Zone Authority is encouraged to develop and present a comprehensive security program to its users at a free zone Board meeting. Special problems could be addressed on a local basis. However, the advantages of overall security should result in a cost reduction to individual free zone users. The provision of the security forces appears to be feasible through the Ministry of Interior on a 24-hour basis with the free zone paying the Ministry of Interior for its costs. In time, the free zones could secure the funds needed for the security through its lease rates. The foremost benefit would be control of security and the avoidance of untrained or otherwise incompetent persons carrying lethal weapons on site.

## 6. Communications

Communications among the various departments of the Free Zone Sector, between the Authority and the Free Zone Sectors, the Free Zone Sector and the free zones and investors in the free zones, and between the Authority and the various public free zones take various forms: informal discussions, internal memoranda, and a system of periodic reports. The latter is the most standardized practice and is designed to allow management review of the overall impact of the free zone concept on the Egyptian economy, as well as the internal workings of the free zone system.

The reporting procedure is a three-step process from investor to the Authority's Board of Directors and is segregated into separate channels according to the status of the investor (private versus public free zone status). Both channels seem to operate similarly, except that the size of the public free zone staffs currently reduces the amount of departmentalization in the reporting network. The frequency of reports varies, but the most common is a monthly consolidated status report in memorandum format from the Head of the Free Zone Sector to the Chairman and Deputy Chairman of the Board of Directors. The procedural steps involved in the preparation of this document typify the organizational responsibilities of the various departments and the communication linkages between the investor and the Authority. The final report contains information covering the entire operation of the free zones.

The first step in the preparation of the consolidated status report involves the relationship between the investor and the free zone system. It is not an actual reporting mechanism, but is the normal procedure in the issuance of licenses which is later used in developing the status report. Each time an investor seeks to import or export goods, he must first obtain a license from either the Authority in Cairo (private free zones) or the local Office of the Director General (public free zones). The licensing procedure requires the investor to provide the appropriate office with a bill of lading, invoice, and transit guarantee certificate concerning the merchandise transaction. The licensing official records the contents of the documents in the free zone records for future use in accounting, follow-up, inspections, and control. The investor must also obtain approval before a work permit can be issued for either foreign or

local employees. This includes delivery of an employment contract to the appropriate official in the public free zone or the Authority, and includes the job description or occupation being filled and the name, nationality, and wage of the employee. Additional procedures require the investor to get prior approval for changes in authorized investment and destruction of unserviceable or spoiled goods; provide the appropriate officials with annual statements, and balance sheets and semi-annual reports of banking transactions (foreign currency operating accounts, local currency operating accounts, and petty cash accounts); and conduct an annual physical check of inventory under the supervision of Free Zone Sector or local personnel. All of these procedures form the basis for the subsequent steps in the monthly reporting system.

The second step in the preparation of the consolidated status report involves a monthly accounting of each free zone project's activities by the various departments within the Authority or public free zone staff. This accounting is primarily the responsibility of the Financial and Executive Departments within the Free Zone Sector or the staff of the various public free zones. Each month, the Financial Department consolidates the various private free zone investors' transaction licenses and reports of inspections relating to inventory adjustments to determine the duties collectable. The two resulting reports--one listing the financial activities of each company and one in aggregate form--list the previous month's balance forward, total collections, adjustments, type of currency used in the collections, and the ending balance. Similarly, the Executive Department consolidates the import and export licenses issued during the month to the private free zone investors to report the quantity, origin/destination, and value of imports and exports during the month. These are segregated into either current or fixed capital assets. In addition, the Executive Department reports the number of employees and wages according to local and foreign components based on the employment contracts furnished by the private free zone investors and any changes in the executive status of applicants (i.e., recently approved, under execution, or in production). The Department of Research and License reports any changes in authorized investment or investment through new approvals as they occur. The Directors General of the public free zones maintain the same data as specified for the private free zones, on those investors under their control. The only exception is in the financial report which, in addition to the listed items, also contains the collections for annual rental fees, for which there is no parallel in the private zones since they are owned outright by the investors themselves.

Independent of the other reports developed under the second step, the Engineering Department prepares two monthly reports: one on the status of construction activities and another on construction problems and proposed solutions for the various public free zones. This report outlines the planned infrastructural construction activities overall and for the year and a percentage completion estimate for the current month and the year to date for each individual activity (e.g., road grading, paving, water lines, electrical distribution, etc.). The report also includes a list of problems encountered during the month which may affect

the planned construction schedule and the solutions proposed by the Engineering Department to deal with these problems.

In the final step of the monthly reporting process, the Free Zone Affairs Department receives all of the reports from both the public free zones and the various departments of the Free Zone Sector. It aggregates this data into two reports for distribution from the head of the Free Zone Sector to the Deputy Chairman of the Board of the Authority. The first of these reports is a statement of the financial condition of the free zone projects and a review of the month's activities as reported from the public free zones and the Financial and Executive Departments of the Free Zone Sector. The second is a statement of construction activities based on the reports from the Engineering Department.

The general reporting format is sufficient to support the management decisions and policy evaluation processes of the Authority's Board of Directors and principal staff. It also allows monthly evaluations of investor performance by the departments in charge of investor operations, particularly the Financial and Executive Departments of the Free Zone Sector and the individual public free zones. At present, however, all of the reports are prepared by hand which requires an inordinate amount of effort on the part of the various departmental staffs. Greater efficiency, more timely reporting, and increased report depth could be achieved through the use of machine technology. The implementation of computerized accounting systems would also allow the Free Zone Sector to conduct historical trend and other statistical analyses on the individual companies or principal activity sectors to support projections for free zone operations and promotional activities, and allow the individual departments to better control the operations of the investors. For example, it is currently difficult to identify the domestic export proportion or the local labor and wage components, all of which could be made readily apparent by machine tabulations. Such a system would also allow the Free Zone Sector to compare actual operation statistics with that proposed in the application form supplied by the investor prior to licensing. The aggregations of data from the various public free zones and departments within the Free Zone Sector would require substantially less effort and handling by the Free Zone Affairs Department, resulting in more rapid processing of the monthly reports. Other advantages include:

- o The consolidation of files from various offices into a single file (at present, the Departments of Finance, Research and License, Statistics, and the Executive Department all maintain files on the individual private free zone investors resulting in substantial overlapping effort);
- o The lessening of multiple duties by some staff personnel-- particularly the Executive Department;
- o The introduction of high technology in the clerical operations of the Free Zone Sector with little or no need for reduction in

personnel--some clerical positions would have to be transferred to machine operator positions;

- o Reduction in file storage space needs, particularly in the future; and
- o User flexibility in data manipulation and retrieval.

## 7. General Problems

General problems which also affect the efficient operation of the Authority include:

- o A lack of coordination between the laws governing customs responsibilities and Authority responsibilities, problems of definition between the laws, and the amount of documentation required by investors and the Authority for customs clearance.
- o Hard copy communications do not yet exist between the Authority and the various free zones, except for Port Said, nor between the free zones and Customs. Hard copy requests or replies must rely on the mail or courier and entail excessive time loss for simple problem solving.
- o Site selection for public free zones and the method of selection and approval for the zones has not been finally standardized.
- o Approval of applications for free zone investment projects commonly precedes the development of general opportunity studies, pre-feasibility studies, engineering, and design work. While the short-term benefits of immediate revenues may be accomplished in this manner, the long-term goals of the open door economic policy require more complete planning at the outset.

Other problems which currently impede the ability of the Free Zone Sector to effectively manage the operation of the private free zones, and which are likely to become increasingly apparent as industrial development proceeds in the public free zones include the following:

- o Penalties for infractions of the law by investors are insufficient. The current practice of withholding import or export licenses as punishment is harmful for both the investor and the Authority, since no income is generated through the duties on the volume of trading.
- o Technical expertise on the part of inspectors is insufficient to control the vast diversity of manufacturing and other investment in Egypt's Free Zones. While the present staff may be competent in their respective fields, the small number of inspectors are unable to adequately provide the necessary

control which the Authority must maintain, or the speed of response that the investors require.

- o Two sets of laws still govern the public sector investor in the free zones. This problem results in incomplete data being obtained by the Authority and could lead to improper accounting and control.
- o The granting of licenses for imports and exports requires separate documentation for each occurrence. This results in lost time on the part of both investors and Authority personnel in the issuances of licenses and required documentation.
- o All reports and documentation are conducted by hand. While presently not a substantial problem, the increasing investment in the free zones will likely overburden the capacity of the current staff to operate efficiently and in a timely fashion.

## CHAPTER V

### PROMOTION

#### A. CURRENT CAMPAIGN

The status of promotional activity for the free zone program is currently embryonic. Tools for promotion which are currently in use consist of:

- o Copies of Law No. 43 as amended in 1977;
- o Decree No. 375 of 1977;
- o Occasional use of copies of "Egypt - an Investment Guide;"
- o "Facts and Figures" (commonly distributed);
- o Mimeographed sheets which have some data on particular free zones;
- o Speeches/presentations.

The General Authority for Investment and Free Zones is responsible for promotion. The Authority has not pursued a campaign for promoting the free zones to foreign investors. Admittedly, most of the public zones have been hindered from attracting many investors because of a slowly developing infrastructure. However, as the infrastructure becomes more complete at El Nasr City and Alexandria, and later at Adabiya, active promotional activity will be essential in order to attract manufacturing investors. It would help to initiate this activity as soon as possible for the existing public free zones.

The majority of the Authority's promotional activity has thus far centered on assisting the investor once he has made contact with the Authority on his own initiative. It is only natural that most of these investors are in the warehousing business. For companies currently distributing (or desiring to distribute) goods to the Middle East, and to certain portions of northern and eastern Africa, Egypt is obviously a good geographical location as a distribution point. These companies will most likely go out of their way to seek possibilities of locating a warehousing operation in Egypt at the lowest cost. More of these types of projects would likely locate in Egypt if there was a major promotional campaign aimed at them. However, it may not be desirable to attract a larger number of warehousing projects to the public free zones, given the limited space and Egypt's desire for more industries.

While obvious locational and political advantages will attract warehousing operations, even without any promotional activity on the part of the Authority, the same cannot be said for most industries. To attract more industries, more active marketing should take place. The Authority will need to convince manufacturing firms of the benefits of

establishing a project in Egypt. Manufacturers may not be aware of the labor and tax advantages which Egypt can offer and may therefore never plan to open a factory in the country.

Manufacturing goods in a foreign country can be an expensive as well as extremely speculative proposition for most firms. Certain areas of the world--Puerto Rico, Hong Kong, Singapore, and others--have attracted and continue to attract many industries because of their well-known labor and locational advantages. Those countries each have a certain momentum which enables them to continue to attract firms at the expense of neighboring countries. Each of those areas have advertised heavily in order to build up their foreign industrial bases.

Currently, no country in North Africa or the Middle East enjoys a historical advantage with respect to attracting large numbers of foreign industries. Egypt offers locational advantages, labor, tax incentives, and political stability which are desired by foreign industrial investors, and can establish itself as the region's leader in manufacturing. However, a substantially greater promotional effort than that presently being attempted is needed. Much could be done at only moderate cost to the Authority.

Each public free zone is currently charged with the responsibility of self-promotion out of its operating funds. Each zone office has, therefore, a rendering of the site, location of buildings, and details on costs, infrastructure, etc. Interested investors appear to be attracted mostly to a free zone through: a) tenant friendships, or b) their internal business plans which require a free zone investigation. No investor contacted had become interested in the free zones through official channels.

Further investigation into the extent of the promotion reveals that only in Egypt are there people familiar enough with free zone operations to be of any real assistance in promoting this opportunity abroad. Authority personnel recognize that the various foreign offices representing the Egyptian government are not of real assistance in applying for a free zone license or in specifying free zone advantages. A telephone call and a personal visit in February, 1979, to the Egyptian Economic Mission in New York City verified the office has no information on free zones in Egypt. A telephone call to the Consulate of Egypt in San Francisco in March, 1979, also revealed that no one there could assist in free zone applications.

As a temporary measure, it is recommended that the foreign offices listed on the back page of the semiannual "Investment Facts and Figures" at least be supplied with enough information that they can respond to questions on Egyptian free zones. At the very minimum, they should be able to direct investors with their questions to the Authority's office in Cairo. "Facts and Figures" probably gets more circulation than other publications of the Authority, and it presumably draws some interest of potential investors. With this in mind, the complete names of the foreign offices should be listed, along with their addresses and phone

numbers. In the case of the New York office, both the name (Egyptian Economic Mission) and the phone number (212/682-6390) are missing, making it difficult for a potential investor to contact them. Hopefully, in the near future, some or all of these foreign offices will be in a position to promote the free zones.

#### B. DEVELOPMENT OF THE PROMOTIONAL PLAN

Marketing of a free zone should begin at the time of the establishment of a free zone area. To be successful, the initial stages should be conducted swiftly, utilizing the input from development and planning studies conducted for the free zone itself and other economic development studies for the general area. The development of a list of industry types which would meet the needs of the local area and which are especially suited to local resources, combined with the development of a promotional plan designed particularly for these types of industries should be conducted simultaneously. The general advantages of the location for export markets must also be marketed.

From this point of coordination, a few "seed" tenants with obvious potential in the local area or who have shown particular interest in the local area should be contacted personally, outside the normal advertising channels, to set the mood of development. If large scale enterprises are deemed appropriate, these initial contacts should meet this criterion, similarly, small scale industries should be encouraged where numerous small operations or rapid development may be preferred. In either case, the "seed" tenants should be selected carefully and with the character of overall free zone development as a key criterion.

The following program is considered typical to a successful free zone approach. The basis of this program reflects: a) consultation with local, state, and national development personnel and chambers of commerce; b) experience gained in similar activity for industrial developers; c) knowledge gained in analyzing Egypt's free zone activity; and d) the experience of actual promotion in the Miami Free Zone (Florida). In essence, all location decisions deal with markets or materials. Egypt's domestic industry support and proximity to export markets are important factors for industrial location decisions. The targeting process and resulting promotional efforts are outlined below:

Phase I: Target the industries for further investigation (see the section for "Targeting Industries").

Phase II: Develop Promotional Plan (outline and materials as Phase I is initiated).

The next major step is to set up a comprehensive promotional plan. Some sectoral analyses have been performed, and target industries specified. Individual large companies with potential for international operations should be targeted as part of this plan. A well-written

form letter should be drawn up for targeted companies, along with promotional material.

Phase III: Develop multi-national prospect list of industries most likely to invest in free zone manufacturing facilities.

- A. Develop list of largest manufacturing firms:
  - 1. Top 1,000 in United States;
  - 2. Top 1,000 in rest of world.
- B. Screen these 2,000 firms for products matching those most feasible from Phase I general review.
- C. Screen firms with feasible product mix for their involvement in international arena and potential for investment in Egypt.
- D. For firms remaining after B and C screening processes, locate manufacturing plants in or near the region.
- E. Develop mailing list of chief executive officers and plant location executives for firms in D; both those with plants in the region and those without plants in the region.

Phase IV: Develop realistic projection of potential investment on an annual basis for five years. This projection should be by country and product type.

Phase V: Review location by country of industrial firms with potential for investment in Egypt as identified in Phase III.E. and determine countries or regions with potential for benefit from being represented by Egyptian commercial office or a firm specialized in industrial knowledge to assist in promotional efforts.

Phase VI: Develop promotional and sales brochure material for use in promoting potential investors derived from the above research and by other means. All procedures for investment should be clearly defined so that investors can make decisions based on full knowledge of the potential for profit and risk involved. Questions related to costs, utilities, transportation, personnel policies, treatment of company executives in Egypt, educational opportunities for their children, potential joint venture partners, insurance, wage and salary information by manufacturing employee type, and other items related to investment decisions should be developed and readily accessible to potential investors. A positive process must be developed to expedite commitments to specific investors based on what the free zone can provide and commitments from the investor.

Phase VII: Establish the marketing program.

- A. Establish training program and organization for in-house promotions staff in Cairo.
- B. Provide promotion materials and back-up information to each free zone.
- C. Initiate a more extensive international advertising campaign. Depending upon budget, carefully selected publications could include national, Middle-Eastern and international newspapers, business magazines (including airline in-flight magazines) and economic trade journals.
- D. Activate and implement channels of communication in selected countries. The Head, Free Zone Sector, and other top-level staff to meet with business and trade organizations (such as regional chambers of commerce) in selected countries and establish formal communications with the Free Zone Sector.
- E. Train promotion officers to be attached with commercial offices in selected countries. Ideally, the overseas promotion officers to be trained at the same time as in-house promotions staff. Once established, the promotion officers would follow up investment possibilities identified by the Free Zone Sector in Cairo, identify and contact new potential investors; and help arrange meetings and schedules for visiting top-level management from the Free Zone Sector. Overseas offices should be linked via telex with the central Cairo office.

C. IDENTIFYING TARGET INDUSTRIES

Article 3, Law 43 of 1974 and its amendments provide general policy guidance for the structure of foreign capital investment in the Arab Republic of Egypt. Accordingly, the purpose of investment incentives is to further the goals of the open door economic policy by attracting industry suitable to the needs of the Arab Republic of Egypt--"projects in need of international expertise in the spheres of modern development or in projects requiring foreign capital." It provides for special priorities in the spheres of:

- o Export generation;
- o Tourism development;
- o Reduction of the need to import basic commodities;
- o Advanced technology expertise; and

- o The use of patents and trademarks of worldwide reputation.

All of these, with the exception of tourism, are well suited to the responsibilities of assigning special priorities and in targeting projects for the free zones.

The Law also specifies in broad terms those economic sectors for which investment is allowed. As applied to the free zones, these sectors include:

- o Storage of transit goods or indigenous goods on which taxes have been paid;
- o Sorting, cleaning, mixing and blending goods, packing and repacking, and similar operations;
- o Services for the projects or employees of the free zone; and
- o Manufacturing, assembling, mounting, processing, renewing, or other activities.

It further authorizes the development of a target industry list by the Board of the Authority to be approved by the Council of Ministers. At least two such lists--one for El Nasr Free Zone and another from existing or anticipated projects within the free zones--have been developed, although they do not appear to have been applied in any promotional or project evaluation activities. Both of these lists are specifically directed to the manufacturing sector, and while neither list is intended to be all-inclusive, the range of products is so extensive as to be of little use in project evaluation, especially at the current stage of free zone development, or in devising promotional activities. In fact, it appears that the actual evaluation mechanisms allow for little more than follow-up confirmation of credit and sincerity on the part of the investor and assurances that the proposed industry will not unduly compete with existing local industry. Few project applications are rejected by the various free zones, especially the public free zones, although it is reported that negotiations between the free zones and potential investors commonly alter the details of a project to meet the needs of the local area. It appears this occurs most frequently in areas such as technology transfer and employment. The principal exception to this has been at Port Said where the proliferation of warehousing and storage has caused a temporary freeze on new approvals in these activities.

The short-term benefits from the current approval process are obvious. Even in its current stage of infancy, the free zones have been able to generate substantial capital investment primarily in new construction to the extent that the current revenues exceed operating expenses. This rapid development, while mainly in warehousing, guarantees the continued feasibility of the free zone concept in Egypt both fiscally and as a source of security for potential investors. However,

the long-term potential of these existing industries fails to support the goals of the open door economic policy or to support the special priorities of investment identified above.

1. Development of the Target List

The establishment of priorities in the targeting of industries, particularly manufacturing and processing industries, is a logical next step in the development process and should be vigorously applied both at the national and local levels. Some steps have been taken in this regard, through the Cairo office, and might also be applicable at the public free zones. Three key criteria form the principal goals of free zone development. These include the generation of new employment, the introduction of new technology, and the improvement of Egypt's balance of trade, particularly with respect to hard foreign currency exchange. While these provide guidelines for selecting target industries, they are primarily directed toward the approval of applications.

The Authority can improve this situation by providing the public free zones with an appropriate methodology for conducting general opportunity studies and specific project opportunity studies shortly after the selection of the Director General and his principal staff. The engineering and design efforts should reflect the capacity of services and appropriate design to facilitate the industries specified in the opportunity studies, and the promotional program can be developed with these industries in mind. Such studies should be conducted by making use of available resources within the governorates including the local Authority for Industrialization, the Interior Ministry representatives, the Customs representative, the Governor's representative, the Petroleum Authority representative, and a representative of the local council, all of whom normally serve as board members, as well as other members of the community such as bankers and area investors, as necessary. These studies should be conducted at little cost to the Authority and should be completed as soon as possible after establishment of a free zone.

The general opportunity studies would identify investment opportunities particularly suited to the local economy and which would warrant investigation through a specific project opportunity study. At a minimum, the study would review:

- o The availability of local resources, including agricultural products which provide potential for processing, and manufacturing or assembly operations which would be appropriate to an export oriented industry;
- o The local demand for consumer goods with growth potential as a result of population increase or of increased purchasing power with primary emphasis on goods which are presently imported;
- o Identification of existing successful manufacturing activities which might provide interlinkages through common labor pools,

labor training, repair services integration, and other economies of agglomeration;

- o Possibilities for diversification from established industries;
- o The local investment climate;
- o Policies concerning industrialization and growth in the governorate;
- o Costs and availability of production factors, particularly labor availability; and
- o The existing export markets, level, and types of exports.

Exhibit V-1 provides a basic outline for the conduct of a general opportunity study as recommended by UNIDO. Some of the detail shown in the study outline should be modified to represent actual free zone needs. Following completion of the study, which would be used in the initial promotional campaigns, a follow-up should be accomplished through specific project opportunity studies. These would refine the general opportunities in terms of specific products showing advantages in the local market which would support the export oriented investor. The study should be sufficient to allow prospective investors the basic information necessary to conduct a market or industrial feasibility study and enough information to properly evaluate the investment profile proposed in the application form.

## 2. Existing Studies

At the national scale, the identification of industrial opportunities has begun through several agency papers and may provide substantial guidance for the targeting of industries for the Free Zones. Among these are several sectoral opportunity studies conducted for the General Organization for Industrialization (G.O.F.I.) by the World Bank. A review of the investment outlook for these sectors may aid in developing a target list at the national level. A synthesis of those opportunity studies is reported in An Assessment of Egypt's Industrial Sector by Arthur D. Little, Inc., and outlined below.

Textile products which commonly provide either labor-intensive or intermediate labor-intensive opportunities have long been Egypt's principal export commodity. It is the only industry which provides a positive trade balance and offers potential for substantial linkages with existing industry. It may also draw from an existing trained labor pool.

Forecasts of capacity, production, and consumption suggest that increases in cotton imports or synthetic fiber production will be necessary during the early 1980s with a greater emphasis on the latter. Needed investment in this sector is likely to approach \$1.2 billion (1976 US) by 1985, of which nearly half would be in foreign currencies. Reduced exports to East European countries are forecasted to reduce the

EXHIBIT V-1

OUTLINE OF A GENERAL OPPORTUNITY STUDY

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1. The basic features of the area: the area size and leading physical features, with maps showing the main characteristics.
  2. Population, occupational pattern, per capita income, and socio-economic background of the area, all set in the context of the country's socioeconomic structure, highlighting differences of the area compared.
  3. Leading exports from and imports to the area.
  4. Basic exploited and potentially exploitable production factors.
  5. Structure of any existing manufacturing industry utilizing local resources.
  6. Infrastructural facilities, especially of transport and power, conducive to development of industries.
  7. A comprehensive check list of industries that can be developed on the basis of the available resources and infrastructural facilities.
  8. A check list revising the one mentioned in Item 7 by a process of elimination, excluding the following industries:
    - a. Those for which present local demand is too small and transportation costs too high;
    - b. Those which face too severe competition from adjoining areas;
    - c. Those which can be more favorably located in other areas;
    - d. Those which require feeder industries not existent in the area;
    - e. Those which are geographically not suited to the area; and
    - f. Those which do not fit in with national plan priorities and allocations.
  9. Estimation of present demand and identification of opportunity for development based on other studies or secondary data, such as trade statistics, for the list of industries left after the revision of Item 8.
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EXHIBIT V-1 (Continued)

OUTLINE OF A GENERAL OPPORTUNITY STUDY

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10. Identification (by considering the best economic sizes of plants and transportation costs) of the approximate capacities of new units that could be developed.
  11. Estimated capital costs of selected industries (lump sum) taking the following into account:
    - a. Technology;
    - b. Equipment;
      - 1) Production equipment;
      - 2) Auxiliary equipment;
      - 3) Service equipment;
      - 4) Spare parts, wear-and-tear parts, tools;
    - c. Civil engineering works, including:
      - 1) Site preparation and development;
      - 2) Buildings;
      - 3) Outdoor works;
    - d. Project implementation;
    - e. Pre-investment capital expenditures, including expenditures for preparatory investigations;
    - f. Working capital requirements.
  12. Major input requirements. For each project approximate quantities of essential inputs should be estimated, so as to obtain the total input requirements. Sources of inputs should be stated and classified (i.e., local, shipped from other areas of the country, or imported). Inputs should be classified as follows:
    - a. Raw materials;
    - b. Processed industrial materials;
    - c. Manufactures;
    - d. Auxiliary materials;
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EXHIBIT V-1 (Continued)

OUTLINE OF A GENERAL OPPORTUNITY STUDY

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- e. Factory materials;
  - f. Utilities;
  - g. Manpower.
13. Estimated production costs to be derived from Item 12.
  14. Estimated annual sales revenue.
  15. Organizational and management aspects of project sponsor(s), or a potential enterprise.
  16. An indicative time schedule for implementation.
  17. Total investment contemplated in projects.
  18. Projected and recommended sources of finance (estimated).
  19. Estimated foreign exchange requirements and earnings (including savings).
  20. Financial evaluation: approximate pay-off period, approximate rate of return. Assessment of possible enlargement of product mix, increased profitability and other advantages of diversification (if applicable).
  21. A tentative analysis of overall economic benefits, and especially those related to national economic objectives, such as dispersal of economic activity, estimated savings of foreign exchange, estimated generation of employment opportunities, economic diversification, and the introduction of new technology.

Indicative figures based on reference programming data, such as surveys and related studies, secondary data, performance of other similar industrial establishments, should be sufficient for this purpose.

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Source: United Nations Industrial Development Organization, 1978, Manual for the Preparation of Industrial Feasibility Studies, New York.

overall export potential in this sector, although the report suggests that if high efficiency and high productivity are able to reduce costs and raise quality, convertible currency markets in Western Europe and Canada might become available for exports.

Food processing accounts for 30 percent of industrial output in Egypt and has been aimed primarily at import substitution rather than exports. The industry is well established and contains a large trained labor pool. The investment outlook for this sector should be about L.E. 250 million between 1977 and 1982, equally divided between local and foreign sources according to the 1977 five year plan. The largest investment areas are, in order of importance: sugar; edible oils and soap; tobacco and cigarettes; starch and glucose; beverages; and canned products. The general development strategy contains several key points with respect to priorities in this sector. These are to increase the direct value added, reduce food imports and keep import content minimal, increase exports, minimize capital requirements, begin reducing subsidy, and increase indirect value added. Although exports have generally been insignificant and are expected to remain so, some specialty processing in preserved foods, sugar and confectionary products, alcoholic beverages and oils have displayed some export potential. The government's principal aim, however, is to decrease trade imbalances through import substitutions.

The metallurgy industry is dominated by the public sector in all six major categories: steel, aluminum, copper, brass, lead, and zinc. The industry is plagued by capacity under-utilization ranging from as low as 17 percent to 67 percent in steel production, and averaging under 50 percent in most of the non-ferrous operations. The investment outlook for this sector, while substantial, does not appear suitable for public free zone development. Production is aimed solely at the domestic market and export potential appears limited due to high costs and the fact that both the Middle East and North Africa regions are expected to be net exporters by the 1980s.

The engineering industries in Egypt account for about eight percent of industrial output. In the recent past, these industries have grown slightly faster than manufacturing in general, particularly the private sector. Among its industries, electrical machinery showed real growth of 54 percent between 1972 and 1975, and transportation equipment production was up 18 percent. Metal products, non-electrical machinery, and professional and scientific equipment showed poorer results. The value of imports increased substantially between 1970 and 1975, although most of this increase consisted of price inflation. The proportion of imports in this sector to total imports, however, declined over the period. Exports have risen slightly during the 1970s, particularly fabricated metal products, 24 percent of engineering exports in 1975; transportation equipment, 60 percent of exports; and professional and scientific instruments, 12 percent of the exports. Principal markets in the past have been Eastern European and Middle Eastern countries. The private investment potential for this industry appears relatively good. Existing capacity in Egypt is insufficient to cope with growing demand, and will

increase the need for imports or import substituting industries. Export markets in the Middle East, especially Sudan, Libya, Tunisia, Syria, and Iraq may be available to the investor who is able to maintain low costs through high labor productivity.

The building materials sector showed a steady decline of exports in cement, its principal product, from nearly one billion tons in 1971 to less than 30,000 tons in 1976, with domestic consumption rising 40 percent over the period. There are no significant exports in any other commodities in this sector, and the potential for such is extremely limited since the Middle Eastern markets are rapidly developing cement expansion programs and other building materials industries and are expected to produce net surpluses in cement by 1985.

Based on other independent analyses, the General Authority for Investment and Free Zones has identified several areas of industrial promise for an export market and a sizable supportive domestic market. In addition to sizable food processing and textile potential, the regaining of control in the Sinai Desert will greatly improve Egypt's access to petroleum reserves and its potential for numerous petrochemical investments. Linkage industries such as plastics and pharmaceuticals have excellent growth potential. Other chemicals such as fertilizers and sulphuric and nitric acids have also shown significant export promise. In addition, although direct agricultural activities are not provided for under Law 43, opportunities based on the growth of this sector include: production of agricultural implements, handling of spare parts, and intermediate and capital goods.

#### D. THE PROMOTIONAL CAMPAIGN

Once the character of the free zone has been developed through the targeting of potential investment opportunities and selection of "seed" tenants, an aggressive campaign is necessary to encourage rapid development. Several implementing mechanisms, however, must first be established at the national and international scale in order that the promotional needs of the local public free zones can be met. Among these are: the establishment of communications channels between the Authority and representatives of the Government of Egypt in the international arena; the screening of firms in several key countries to assist the Authority in promoting the free zone concept in Egypt; screening potential enterprises and maintaining close contact with potential investors; the development of general interest brochures and other advertising literature; and the establishment of communications linkages between the Authority and major international advertising media.

##### 1. Foreign Office

It is imperative that persons in Egypt's foreign offices be informed about the free zones, their regulation, application process, and other relevant matters. At present, it is apparent that the foreign offices are of little or no assistance to potential investors. When both Egyptian consulate offices in the United States were contacted early in

1979, neither office had anyone who expressed a willingness to discuss the free zones.

This situation should not persist. For instance, a foreign investor who comes across a copy of "Facts and Figures" would assume that he could obtain additional information on the free zones by contacting the Egyptian foreign office in his country. However, upon making contact, he would find that he already knew more about the free zones than the offices listed in the pamphlet. A system should be set up to regularly supply promotional materials and regulations applying to the free zones to each of the foreign offices. A possible approach would be for the Authority, or its consultant, to:

- 1) Bring documents to offices or recall responsible person for one week.
- 2) Provide all with seminar/training in effective sales promotion.
- 3) Give all participants list of potential contacts.
- 4) Assist participants on initial contact, if necessary.
- 5) Require weekly reports on schedules, presentations carried out, etc.

## 2. Consultant

As it would be expensive for the Authority to set up its own offices in targeted countries, selected consultants should be utilized to direct follow-up of activities or perform active promotional activities in those areas. Carefully selected target companies would be contacted by the consultants by mail, telephone and personal visits. They would explain the advantages for locating in an Egyptian free zone, discuss the regulations involved, and explain the application procedure to the potential investors.

Companies indicating definite interest from the promotions and visits could then be invited to Egypt for more detailed discussions on investment, or given additional requested data. The free zone should be ready with procedures developed to obtain and give commitments to expedite investment and development.

These procedures would permit active promotion of Egyptian free zones to take place, which the present foreign offices are unable to do. If desired, the consultants could also assist in compiling and producing promotional literature--specific to the country or countries of interest--to be used in an active marketing campaign, including necessary translations, legal and tax advantages of the host country, or existing markets which could be better served from Egypt.

### 3. Promotional Literature

Prior to the development of specific site brochures within the individual free zones, the Authority should develop a set of general interest materials to acquaint the international market with the investment climate in Egypt. Some steps have been taken in this area and could easily form the basis for a more comprehensive program to develop general awareness within industrial circles. Some of the most basic items in this regard are the general interest brochures which could be made available on request by foreign offices and consultants or by direct mail from the Authority, letters of introduction directed to major international corporations or free zone participants in other countries, general advertising in international publications, particularly those of interest to business executives.

A general brochure on the free zones is currently being made, and is badly needed. Virtually all of the Directors General of the public free zones, and many people in the Authority's Cairo offices, indicated an urgent need for such a brochure. This item is basic to promotional activity, as it is the single best source of information to interest an investor in Egypt's free zones. No number of legal guides and statistics will help if there is no effective way to arouse the investor's interest. The various free zones have received requests for these general brochures, and it is important that they be provided as soon as possible. The Authority produced a brochure a few years ago, but copies are no longer readily available. This brochure is not significantly out-of-date, and additional copies should have been made to be used until the new brochure is ready.

It should be understood that almost any brochure of this type will be somewhat out-of-date even before it gets printed. Laws, rent, land availability, infrastructure, etc., will all change over short periods of time, and it would not be very cost-effective to make a new brochure every year. Specific information regarding rent, land, and infrastructure availability, and similar items, should be omitted from the marketing brochure. These should be replaced with general information which will not change markedly over a five year period. For instance, it can be said that rents vary from \$1 to \$5 per square meter, depending on the type of project and the particular free zone. Or, all mention of prices could be omitted entirely. In this way, the brochure will last much longer, will be more cost-effective, and will contain very little out-dated information.

The brochure currently being produced, "Egypt's Free Zones at the Crossroads of World Trade," is a good attempt at a high-quality brochure. However, it has a few drawbacks. First, it is somewhat long, and will probably be expensive to reproduce. The brochure should be limited to between four and eight pages (including photographs), in order to keep the reader's interest, and also to keep the price down. What is definitely not needed is a brochure which is so expensive that the Authority only wishes to give out a limited number of copies. It should be short, to the point, and thousands of copies should be produced. The object of the brochure is to get investors interested in Egyptian free zones, and

should indicate quite clearly how additional information can be obtained on the laws, rental rates, applications, and similar items.

Industrial brochures typically satisfy many needs by using an open jacket approach. The jacket approach allows multiple use of the cover with appropriate materials inserted, depending upon the recipient. For example, a lead article, steps for licensing, and free zone advantages could form three "pull" documents to set out general materials. For a specific free zone, a rendering of the site, parcels for lease, configurations, road and utility networks, spaces already leased, location maps and a summary of the technical brochure's data can all be inserted. The brochure should have professional and factual integrity.

A mail-back sheet should also be included in this type of brochure. It accomplishes a number of tasks such as determining if the respondent has service interest, giving the Authority more knowledge of the respondent's characteristics, and allowing further communication. The mail-back sheet would indicate information such as presented in Exhibit V-2.

Several of the Directors General of the public free zones indicated that they are expecting the Authority to produce specific brochures for the zones. However, the Authority apparently has no such plans at present. While the Authority may take charge of producing these pamphlets, or information sheets, each Director General should have input into its compilation, as he is the one who will be obliged to answer investors' questions which may arise from the material.

Several back-up documents need to be included with the responses to the serious investor. Fortunately, technical publications already exist in a largely acceptable form. Law 43 of 1974 and Decree 375 of 1977 are widely available to investors. The "Legal Guide to Investment in Egypt" is a good summary and explanation of the above documents, and should be extensively available to potential investors. These documents could be kept up-to-date with a correction sheet which summarizes new executive regulations and policies. In this way, the legal guide would not have to be revised often. This would be cost-effective, and should be done as soon as possible. Some of the new regulations and interpretations have apparently not been translated into English, and are not readily available to investors. This should be corrected.

The Free Zone Sector tabulates quite a bit of statistical information for its own use. This data is summarized every six months in the publication "Facts and Figures." While having only limited promotional value, it is used by Authority staff for their own work, and does provide some information to investors. To be of greater promotional value, several improvements should be made. First, it is very possible that potential investors may obtain a copy of "Facts and Figures" without seeing any other promotional materials. With this in mind, the introductory statement by the Minister of State for Economic Cooperation should be expanded to include a description of inland, and especially free zone, advantages. Currently, no mention of what the free zones are, or any

EXHIBIT V-2

MAIL-BACK SHEET

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Facility  
(Circle One)

1. Plant facility
2. Distribution facility
3. Relocation of existing facility

Area Requirements

1. Raw parcel \_\_\_\_\_ (unit of size)
2. Serviced parcel \_\_\_\_\_ (unit of size)

Building  
(Circle One)

1. Will build
2. Will lease

Building Needs

1. Floor area \_\_\_\_\_ (unit of size)
2. Dimension \_\_\_\_\_ by \_\_\_\_\_ (unit of size)
3. Largest \_\_\_\_\_ (unit of size)
4. Docks \_\_\_\_\_ by \_\_\_\_\_ (unit of size)
5. Type of construction \_\_\_\_\_
6. Outsize stage needs \_\_\_\_\_ (unit of size)

Transportation Needs

1. Trucking service \_\_\_\_\_ (annual tonnage)
2. Road service \_\_\_\_\_ (annual tonnage)
3. Air \_\_\_\_\_ (annual tonnage)
4. Port Service

(a) \_\_\_\_\_ (annual tonnage)

(b) Equipment: \_\_\_\_\_

Waste

Type and quantity: \_\_\_\_\_

Labor Needs

1. Skilled \_\_\_\_\_ (male) \_\_\_\_\_ (female)
2. Semi-skilled \_\_\_\_\_ (male) \_\_\_\_\_ (female)
3. Unskilled \_\_\_\_\_ (male) \_\_\_\_\_ (female)
4. Skilled needs:

Material and Support Service Needs:

Other Requirements:

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Source: Reynolds, Smith and Hills, 1979.

other promotional statements are included. Given the sizable circulation of this publication, the Authority should take the opportunity to promote investment.

The Free Zone Sector should assess whether four different columns of investment capital information are really necessary for this publication. There is also confusion--primarily outside the Authority--on exactly what the terms "approved," "in production," and "under execution" actually mean as applied in the document. Perhaps a footnote could be included at the bottom of each respective table, explaining exactly what is meant by those terms in one sentence. Again, the full name, address, and phone number of each foreign office should be provided at the back of the pamphlet.

#### 4. International Media

The Authority should consider initiating a more extensive advertising campaign, when and if funding permits. National, Middle-Eastern, and international newspapers, business magazines (including in-flight magazines on airlines), and economic trade journals are all potential places for such advertisements. The Authority could provide interviews to these publications whenever requested. Admittedly, these advertisements can become quite expensive. However, careful consideration should be given to placing an advertisement in a few select periodicals, as the budget permits.

It cannot be emphasized enough that the promotional aspects should be vigorously pursued. It is recognized that in an economy where resources are directed toward production, the expenditure for promotion may seem frivolous. In this case, the promotional campaign reflects on investment which creates economic activity.

Beyond advertising, the Authority could take advantage of the opportunities provided by international trade shows, fairs, and catalog exhibitions. Contacts among trade associations and with corporations which promote trade shows and exhibitions would also enhance the visibility of the Egypt's free zone advantages.

Most of the above recommendations are designed to increase the cost-effectiveness of the Authority's promotional activities without substantially increasing the costs. Existing and planned brochures can be designed to have a longer life by omitting specific items which will change every year or so, and placing them on a separate inexpensive sheet. The only additional expense should be in the making of more copies for adequate distribution. In order for a truly significant number of foreign industrial investors to be attracted to Egypt's free zones, it is likely that a more active promotional campaign will be necessary. This should include the hiring of marketing consultants and a stepped-up advertising campaign. These actions will require additional funding from the Authority, but should result in a greater foreign investment in Egypt and, therefore, increased revenues for the Government of Egypt.

## 5. Individual Projects

Once the mechanism for international marketing is established, the requirements of individual project promotion are minimized. As discussed earlier, the targeting of industries suited for a particular free zone should be accomplished at the earliest possible time, coinciding with project planning and engineering programming. With these industries specified, a promotional plan can be developed which will utilize the mechanisms already established by the Authority including consultants, foreign offices of the Egyptian Government, business contacts who have already responded to the general marketing effort, trade show promoters, the international media, and trade associations.

The most important elements of the individual project marketing efforts are the identification of specific target industries for the free zone and a marketing package to be used by the marketing experts. The marketing package should consist of a general brochure, a technical brochure for distribution to interested enterprises, and sufficient supplemental information from the project opportunity studies to assist the marketing consultants to sell the specific locational advantage of the particular free zone.

The general brochure is typically an attractive jacket brochure which identifies the project and its image. It would parallel the design of the Authority's general brochure, listing the basic advantages of free zone tenancy and location with respect to markets, the types of industries to be developed, and some general statements concerning infrastructure, size, and location within Egypt. It should also contain the names, addresses, and telephone numbers of individuals to contact in Egypt as well as those to contact overseas. Requests for information from potential investors should be handled promptly. The information should be accompanied by a short personal letter, if the request appears sincere. Meetings with interested investors should then be set up with the foreign officers or marketing consultants for an explanation of the application process and Law 43 or other investment regulations.

The technical brochure should contain the follow-up data required to give an investor specific knowledge to determine if he wishes to spend more time and money to pursue the free zone opportunities.

At a minimum, this description should contain the following information: name of the free zone, size of the free zone, location of free zone site, distance from the free zone to port, business centers, and major markets (geographic), description of soils and land characteristics, assurances for loan bearing capability, drainage plan and topography, utility cost data, utility sizing data (pressure, line sizes, capacities), transportation benefits, road data (costs of access roads, road widths, accessibility), site improvements available, security programs, customs procedures and coordination, lease rates, and services provided. In addition, general information should be included on: housing, health and medical facilities, recreational facilities,

educational facilities, expansion potential, climate, business associations, employment availability, population size and projections, port rates, fire and security protection, development constraints.

In addition to making the project opportunity studies available to the marketing consultants, the Authority or the individual free zone should supply lists of industries which have been supplied with the general or technical brochures to facilitate follow-up marketing. Names and types of industries which sign lease agreements, including "seed" tenants, should also be forwarded to these consultants to add to the basic technical package.

#### E. PROMOTIONAL PROGRAM COSTS

A typical marketing budget for a private industrial developer requires approximately five percent of expected revenues within a national market. International promotion can cost substantially more due to the cost of duplicating the advertising in international media, travel, and the costs of maintaining international contacts. The most significant costs in relation to revenues will obviously fall in the early years when revenues are low and costs of establishing a program and contacts in the international market place are high. However, since the Authority is currently receiving substantial revenues without promotion expenses, this proportional difference would be minimized.

Based on the projected absorption rates and the existing revenues listed in Chapter VII, national revenues from the public free zones during the 1979 to 1982 period are anticipated to increase from approximately L.E. 4.4 million to L.E. 6.9 million in constant rates (Table V-1). Accordingly, a budget outlay of L.E. 500,000 per year for promotional activities would allow for a decreasing proportional commitment of 11 percent in the early years to approximately seven percent by 1982 and would appear to be sufficient. Once the international mechanisms are fully established, simple maintenance may further reduce the proportional commitment of funds toward the five percent level.

#### F. SUMMARY RECOMMENDATIONS

The Free Zone Sector urgently requires a professional promotional campaign to implement the free zone program of industrial development. To date, the General Authority has not shown interest in the creation of this program with the vitality that is required for success.

It is recommended that the Free Zone Sector be allocated a promotional budget and the authority to conduct its promotional campaign. The Free Zone Sector should utilize the capabilities of the Authority's Promotion Center in those areas where broader, common promotion serves a dual purpose (inland and free zone).

Without a promotional campaign oriented to the free zones, the rate of job creation and infrastructure absorption is anticipated to remain sporadic and continue to reflect the activity trend of 1978.

TABLE V-1  
 FREE ZONE ANALYSIS  
 PROMOTIONAL CAMPAIGN ALTERNATIVES, 1979-1982  
 (EGYPTIAN POUNDS)

Category	1979	1980	1981	1982
Revenues	4,350,000	5,250,000	6,150,000	6,850,000
Promotional Budget				
at 5%	250,000	330,000	400,000	470,000
at 10%	435,000	525,000	615,000	685,000
Percent at Constant LE 500,000	11.5%	9.5%	8.1%	7.3%
At 8% to 5%	350,000	370,000	370,000	340,000

L.E. 500,000 = \$725,000.

Source: Reynolds, Smith and Hills, 1979.

A successful promotional program necessitates careful integration of the following factors; public relations activity; adequate budgeting, brochure design, and media channel selection. It is recommended that the Free Zone Sector be given sufficient flexibility to provide suitable marketing materials and to establish a permanent, well-trained staff. This staff would provide two essential marketing components; an aggressive promotion campaign abroad, and an effective reception program for investors visiting Egypt.

The establishment and implementation of an effective, in-house program will take time, and therefore it is recommended that, during the interim period, the Free Zone Sector should consider the possibility of utilizing short-term consulting services to help develop and implement the program. These services would include the training of personnel; determining the cost-effectiveness of individual program items; designing and structuring the brochures; analyzing and screening potential free zone companies; and providing overall guidance.

During the initial period, the Free Zone Sector may also wish the consulting services to include actively marketing and promoting the Free Zones.

## CHAPTER VI

### PRE-FEASIBILITY STUDY - ADABIYA

#### A. ADABIYA FREE ZONE AREA

##### 1. Physical Assets

a. Location and Site Selection. The proposed Adabiya Free Zone area, as defined for purposes of analysis, is a 2,250,000 square meter, rectangular land tract eight km south of the urban area of Suez-Port Tawfik (see Exhibit VI-1). The property is bounded on the east by Suez Bay; it is transversed by 35 kv electric transmission lines; it is served by highway access and the ability to link with railroad transportation. The proposed free zone falls under the Suez Governorate.

The area of Suez-Port Tawfik has been a leading urban employment area in Egypt. Statistics show that prior to 1967 a population of 300,000 persons was supported by the area's economic activity; principally canal transportation support services and petroleum services. Severe war damage was inflicted on the area in 1967 and the city has yet to recover fully to pre-war status as evidenced by existing infrastructural damage and current population estimated at 200,000 in 1978.

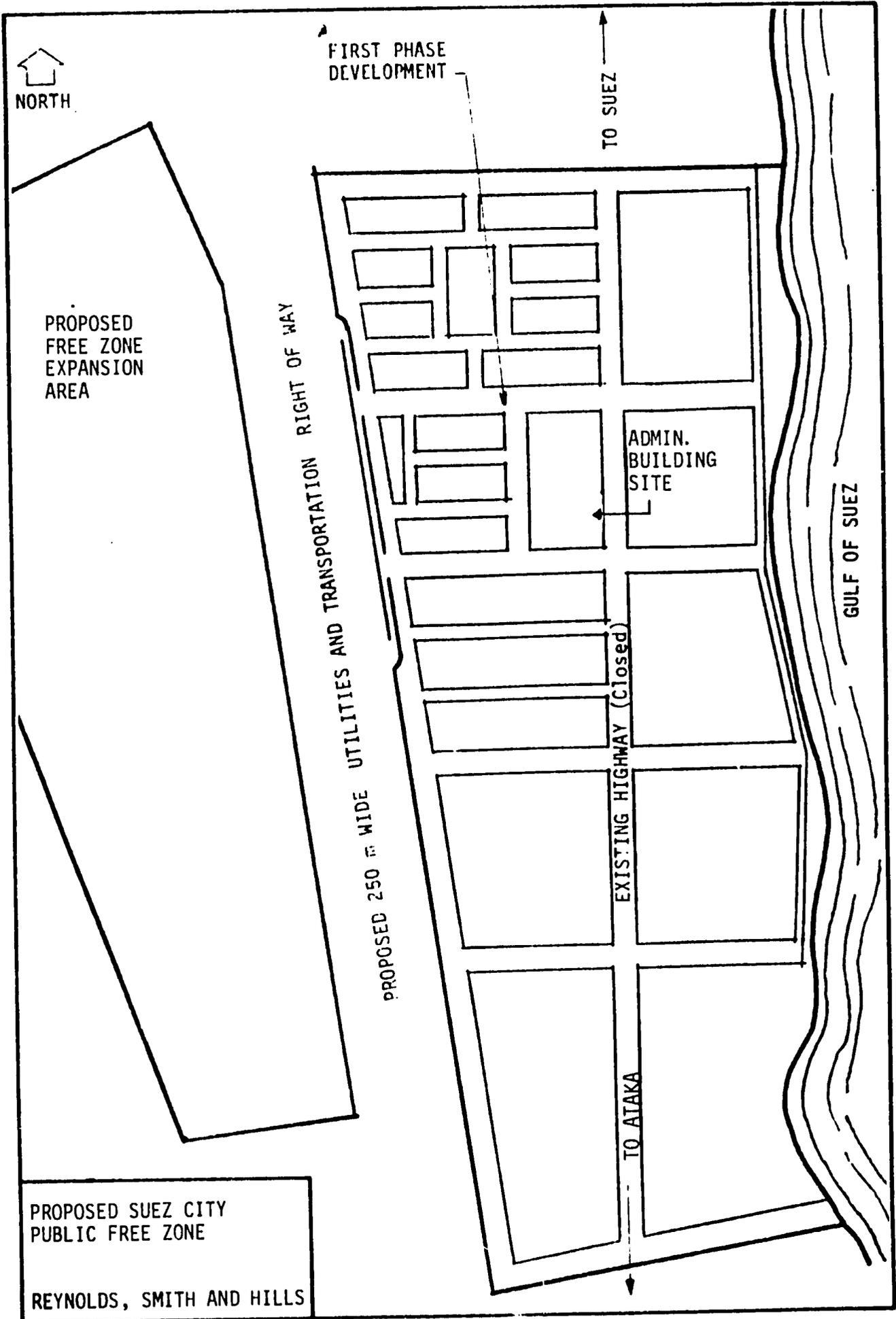
On Port Tawfik, a free zone encompassing 83,200 square meters is currently in operation. Its location and orientation lends it to provision of storage, warehouse, and distribution functions. Area congestion, which can be expected as Suez grows in the 1980-2000 period, argues against slow conversion to industrial activity in the zone. Indeed, an alternate plan under consideration to create more free zone land at Port Tawfik by dredge and fill operations may be economically weak given the overall growth intentions of Suez. Industrial activity is more logically served at the western edges of Suez where rail and road accessibility allows for less industrial and commercial traffic movement.

There is substantial harbor activity surrounding the proposed Suez City Free Zone site. In a southward direction from western Suez City there are:

- a) Tanker berthing of over 2,000 meters of water frontage able (at one time) to handle tanker deliveries with limitation mainly by channel depth and storage capability.
- b) Ataka area--400 meters of water frontage with finger piers now mainly suited to commercial fishing.
- c) Adabiya--with cargo handling cranes and fairly deep water.
- d) Offshore oil terminal at El Sadat.

Harbor improvements were under engineering design in 1978. Anticipated improvements to the areas are being coordinated via Agency for

EXHIBIT VI-1



International Development (AID) support. In summary, sufficient detail is available for the interested reader to conclude that the momentum for port improvement in the Suez area will strengthen the area's regional economy.

Employment growth in the Suez area appears to be broadly based, with emphasis on industrial activities. The characteristics of the Suez economy show:

Canal-water transport: Based upon the 1966 Census, this employment sector reportedly contributed about 9,000 jobs to the Suez community. While it is hard to estimate at this time, it appears that much of this employment has been recovered in the area, although rebuilding activity continues.

Construction and Rebuilding: The construction industry appears to be the major employer in Suez. The replacement and rehabilitation of damaged structures and facilities, and the construction of new project and residential areas is in evidence throughout the city. Construction workers (unskilled) appear to be available. Materials, supervisory depth, and money are estimated to be the limitations to a further activity pace combined with housing limitations.

Refining: Prior to 1967, the Suez refineries were principal sources of petroleum products for Egypt. The refining emphasis has recently moved to Alexandria and Cairo, but the Suez oil refining industry is approaching a normalized status. Expected through-put approximates 4MB/Day. Primary and secondary employment created by the refining activities should approximate 2,000 persons.

Fertilizer Production: A 250,000-300,000 metric ton fertilizer plant appears to be a major employer in the Suez City area. Combined with bagging activity, the plant related employment may approximate over 2,000 persons.

The remaining industrial orientation at Suez is toward water-related activity--fishing, ship repair, and import/export trade of grain and materials. The service sector appears to be the largest employment generator in Suez with much mercantile/commercial employment generated by small shops.

## 2. Market Potential

The overall success of the proposed Adabiya Free Zone is ultimately dependent upon the growth of the Suez City area and complementary industrialization. Growth implies commerce and development--expanded port activity, communications, and labor development. In an environment of increased population and facilities, the free zone will provide employment to assist the Suez growth process and will, as indicated above, look to the area's growth for its overall volume potential.

In performing the pre-feasibility analysis for the free zone, review of much material concerning Egypt's industrialization programs and the Suez area has served to develop parameters concerning the ability of the free zone to successfully contribute to employment and technology transfer. Specific reference is made to the Suez Master Plan Study for the Ministry of Housing and Reconstruction which served as an overall parameter regarding Suez area potential, and within which our team has initially adapted to more current conditions. It is anticipated that Phase 2 of the study will update the prospects for the Suez area in greater detail.

The overall projections for the Suez City area development were prepared assuming a real national growth of 6.5 percent in gross domestic product. Based upon the 1975-1977 trends established by the Egyptian economy, this growth rate appears attainable over the near-term period. A committed policy to growth may allow the growth trend to continue through the year 2000.

In order to accomplish the rate of gross domestic product growth upon which the Egyptian economy is based, there has to be maintained a substantial investment in the industrial sector. Capital formation has been restricted by the military considerations reflective of Egyptian priorities. The problems foreseen with subsidization of food products and the lack of rapid investment in the manufacturing and industrialization sectors has led the Government of Egypt to solicit a new approach toward providing funds to build up its productive capacity. As the Egyptian economy is currently between 75 and 80 percent in the hands of the public sector, this increased emphasis on private investment represents a large social change. This environment, known as the Open Door Policy, is explained in other sections of this report. However, it is anticipated that the solicitation of these investments by developed nations into Egypt's economy will substantially contribute to raising the amount of exports which Egypt could produce.

Egypt's industrial growth may take the trend of resource development--intermediate manufacturing--final good creation--light manufacturing. Of particular interest is the current prospect for economic integration with Sudan. Sudan is rich in minerals and complements Egypt's mineral base. Suez, via the Red Sea, represents a prime port-of-entry/exit for the Sudan-Egypt trade. Competitive to Suez is Aswan and the movement of goods via Egypt's railroad system.

The development of intermediate/final good manufacturing is in the best interests for the Egypt and Suez economies. Investment in natural resource development is capital intensive; the processing and manufacturing functions are more labor oriented, and the area will have an abundant need of employment centers. Suez, like the rest of Egypt, will offer low wages, educated and skilled workers, and a relatively rebuilt industrial base. The development of Suez as an industrial center will have positive benefits to the Egyptian economy. Of Egypt's total manufacturing activity, exports have accounted for only a small percentage of total output. The Egyptian exports of manufactured goods and of textiles

have remained relatively stable. The implications for a country subsidizing its foodstuff production with fixed prices are a diversion of valuable foreign exchange assets to subsidize part of its economy. To alleviate this problem, exports must increase and/or there must be increased substitution of locally produced goods for imported goods. The development of free zone activities for the latter processes may well provide positive benefits to the Egyptian economy.

The location of Suez relative to the Red Sea Arab countries, to Africa, and as a port for Indian and Far Eastern imports and exports, makes it extremely attractive for projections of future growth. Suez is by far the most developed of Egypt's Red Sea oriented ports. Competition for exports from the area will come from Jordan, with a small free zone, and from Saudi Arabia. None of these countries can compete with Egypt in terms of the basic educational level of its employees and the abundance of labor at extremely competitive prices.

The proximity of Egypt to the rapidly expanding Gulf markets has prompted recent suggestions for the establishment of pan-Arab regional market manufacturing centers, which could lend themselves readily to public free zone participation. Possible activities could include the manufacture of power generators, steel pipe, manufacturing and construction equipment and other key industrial products. Although it is too soon to adequately assess the impact of the recently announced intended Arab League boycott of Egypt, this action might restrict the number of joint ventures and regional investments over the short term. In the long term, however, the concept of such centers merits serious attention.

With regard to the proposed Adabiya Free Zone, potential industrial sub-sector industries for the Suez region were discussed in the United Nations Development Programme's 1976 report, Suez Canal Region. The sub-sectors and corresponding industries are presented in Exhibit VI-2. Several of these industries (including leather goods, food and beverages, automobile tires and tubes, furniture, clothing, and metal products) are also listed by the General Authority as types of activities that are presently operating or expected to operate within the country's free zones.

Specific opportunity studies for the Eastern Desert and Suez area have been initiated as part of this existing study, and include the above industries. It is anticipated that the identification and study of target industries for the Adabiya Free Zone will assist in the development of industries at other free zones in Egypt. Most of the industries outlined in the preceding paragraphs are of national significance, and the ability of the individual free zones to capture a portion of the investment potential will to a large extent depend on the identification of specific local opportunities and effective promotional campaigns directed to these target industries. The implementation of new investment programs will raise the quality of production in the Egyptian economy which has had serious problems competing with newer manufacturing processes throughout the world. It would also appear that Egypt has not

EXHIBIT VI-2  
 POTENTIAL SUB-SECTOR INDUSTRIES FOR DEVELOPMENT  
 IN THE SUEZ REGION

Sub-Sector	Industries
Food, beverages, and tobacco	Canning, fish processing, intermediate food products
Leather products	Footwear
Textiles	Spinning, weaving
Non-metallic mineral products	Cement, refractory products, limestone and sand products, construction materials and components
Rubber products	Tires and tubes, household and plumbing products
Wood products	Furniture, building components
Chemicals and allied products	Petro-chemicals, plastic products, fertilizers
Clothing	Ready-made garments, knitwear, synthetic fibers
Printing and publishing	Boxes, bags
Metal products	Household appliances, steel fabrication for structural and industrial uses

Source: United Nations Development Programme, Suez Canal Region, Volume III, page 37, 1976.  
 Reynolds, Smith and Hills, 1979.

developed its fair share of the Arab market as its trade with Arab countries is reported to be only 10 percent of its total exported products.

The Suez area appears to offer the following advantages:

1. Reputation as an industrial city prior to its demolition in the 1967 war. The strategic location of the city and its past reliability as an industrial production center, combined with the new industrial processes which have been rebuilt, should contribute to a more rapid than anticipated capacity to absorb industrialization activities.
2. Another advantage is its location for fishing, quarrying, and other processing activities.
3. A third advantage for Suez is its relatively accessible road position and its ideal suitability for supplying export markets. Suez could be regionally linked with the Ismailiya area and Port Said through the transport factors associated with the canal. A further linkage offered by Suez is pipeline accessibility to the Port of Alexandria and the ability to transport petroleum products through that pipeline. Rail access from Suez also offers the possibility of container/piggyback cargos between Suez and Alexandria for major port movement.

### 3. Population

The prospects for Egyptian development are dependent upon its capacity to house and productively employ an anticipated population approximating 60 million persons in the year 2000; a growth from 1979 of approximately 20 million persons. In addition, Egypt must increase its domestic product even more to allow its population to enjoy normal expectations for prosperity and better times. Major commitments are being implemented by the government in order to achieve a better standard of living for the populace. One of these commitments is for housing through the creation of new cities and infrastructural development in existing cities. Pressed by anticipated population growth, it is estimated that the Suez area will contain approximately one million persons by the year 2000; five times greater than a population estimated at 200,000 in 1978, but only three times greater than the 1966 population in the area. Under the aegis of strong central government and planned regional development, population distribution may well approach the figures listed in Table VI-1.

The Suez percentage of total urban population increase against other urban areas reflects the relatively small population base in the Suez area itself. For a country dominated by desert, the sea and mountain vistas offer an attractive, livable alternative environment. Its industrial base destroyed in 1967 is reaching pre-war levels. The increased canal usage, coupled with suspension of hostilities with Israel, offers a restoration of confidence for life and property.

TABLE VI-1  
SUEZ CITY  
NATIONAL AND REGIONAL POPULATION  
1975 - 2000  
(In Millions)

Category	1975	1978	1980	1990	2000
Rural	23	21	21	21	22
Urban					
Cairo/Alexandria	9	11	11	14	16
Nile Valley	4	5	6	9	12
Suez	0.15	0.20	0.30	0.65	1.0
Other	0.85	1.80	2.70	4.35	9.0
Subtotal Urban	<u>14</u>	<u>18</u>	<u>20</u>	<u>28</u>	<u>38</u>
Total	<u>37</u>	<u>39</u>	<u>41</u>	<u>49</u>	<u>60</u>
Suez % of Urban Population	1.1	1.1	1.5	2.3	2.6
Average Annual Population Growth %					
Urban 1975-1980			7.4		
Urban 1980-1990				3.4	
Urban 1990-2000					3.1

Source: Reynolds, Smith and Hills, 1979.

The translation of population growth into households forms a secondary basis for estimation of labor force and housing requirements in the Suez area. According to the Suez Master Plan Study, household statistics were projected as shown in Table VI-2.

It appears, on the surface, optimistic to assume that the rural and urban households would decline by 1.53 persons and 1.71 persons, respectively, over the 1975-2000 period. A decline of 1.0 and 1.25, respectively, would be more realistic when coupled with an increase in real income. It would appear that the decline in persons per household would not be an impact in urban population planning until the mid-1980s, while the rural area "persons per household" would be dependent upon education and birth control programs. Suez should be significantly different from the urban statistics as its household formation age grouping is projected to remain relatively constant at 46 to 48 percent in the 1980-2000 period. Thus, we would assume the household levels in Suez shown in Table VI-3.

#### 4. Employment

The characteristics of the Suez area which relate to employment are sketchy, at best, due to the disruptive anomaly of the 1967 war and continual hostilities over the past 12 years. The Suez Master Plan shows statistics on employment (see Table VI-4).

The employment growth curves for Suez show a lowering of growth in the 1990-2000 period. This trend implies a prognostication of recessionary pressures in the 1990-2000 period, and therefore, a new direction to Egypt's growth potential. It should be anticipated that industrialization builds on itself through investment and consumption. Therefore, we would prefer to average out the trends to achieve the employment profile for Suez shown in Table VI-5.

Further refinement is anticipated to be necessary for the total employment figures. An employment of 400,000 persons in the year 2000 represents 74 percent of the total population aged 20 to 50. Females make up approximately one-half of the 20 to 50 age group. The declining rate of growth in the service sector of the Suez economy might well serve to reduce female employment opportunity. It is our expectation that employment in the year 2000 will approximate the following range:

Year	Employment (000)	
	Low	High
1980	81	90
1990	199	215
2000	337	350

#### 5. Free Zone Employment Base

According to the Suez Master Plan, 1,630 feddans of industrial and 808 feddans of light industrial areas should be allocated for manufacturing/industrial growth in the city. The major industrial

TABLE VI-2  
PROJECTED HOUSEHOLDS IN EGYPT

Category	1975	2000
Rural Population (Million)	23	19
Households (Million)	4	4.5
Persons Per Household	5.75	4.22
Urban Population (Million)	14	37
Households (Million)	2.5	9.5
Persons Per Household	5.60	3.89
Suez Population (Million)	0.150	1.0
Households (Million)	0.029	0.256
Persons Per Household	5.17	3.91

Source: Suez Master Plan Study.  
Reynolds, Smith and Hills, 1979.

TABLE VI-3  
 SUEZ CITY  
 HOUSEHOLD FORMATION,  
 1975 - 2000

Category	1975	1978	1980	1990	2000
Population (Thousands)	150	200	300	650	1,000
Persons per Household	5.17	5.71	5.10	4.50	4.10
Households (Thousands)	29	39	59	144	244
Household Average Annual Growth %: 1975-1980			15.3		
1980-1990				9.3	
1990-2000					5.4

Source: Reynolds, Smith and Hills, 1979.

TABLE VI-4  
 SUEZ CITY  
 PROJECTED SUEZ EMPLOYMENT (TOTAL)  
 1980 - 2000

Category	1980	1990	2000
Population (Thousands)	300	700	1,000
Households (Thousands)	65	167	256
Employment - Total (Thousands)	90	235	400
Basic	( 36)	( 110)	( 210)
Service	( 54)	( 125)	( 190)
Employment/Population %	30	33.5	40
Household Participation to Employment	1.38	1.41	1.56
Basic Employment - Average Annual Growth %			9.2
Service Employment - Average Annual Growth %			6.5
Average Annual Employment Growth %			7.7

Source: Suez Master Plan Study.  
 Reynolds, Smith and Hills, 1979.

TABLE VI-5  
 SUEZ CITY  
 EMPLOYMENT PROFILE  
 1975 - 2000

Category	1975	1978	1980	1990	2000
Population (000)	150	200	300	650	1,000
Households (000)	29	39	59	144	244
Employment/Population %	28	29	30	35	40
Employment (000)	42	58	90	228	400
Household Participation to Employment	1.33	1.36	1.38	1.45	1.56
Employment Based on House- hold Participation (000)	39	53	81	209	381
Employment Range (000)	39-42	53-58	81-90	209-228	381-400

Source: Reynolds, Smith and Hills, 1979.

expansion is considered more compatible with existing land uses if oriented toward the southwest coastal areas of Suez. Of major importance, the port of Adabiya is programmed as the major bulk cargo port for the Suez area. It is in the environs of this port development that land has been set aside for the industrial free zone and light industrial activity is also reserved. Railroad spur and new road access has been recommended for the area.

Because of the resettlement conditions existing in Suez and the alternative urban areas for residency, a flat predictability for Suez development cannot be made. Within the framework of overall population growth, supported by housing activity, the economy for Suez can be developed in a coordinated manner. As previously mentioned, free zone employment, based on a percentage of overall economic participation, is a contributor and a beneficiary of Suez's overall development. According to the Suez Master Plan, to maximize its contribution to the Suez economy, the free zone should be operational by the early 1980s. Table VI-6 summarizes the Master Plan assumptions for the Adabiya Free Zones.

The location of the Suez Free Zone is at the southern tip of the major, planned industrial corridor for Suez. Thus, the free zone:

- 1) is well located for bulk cargo facilities;
- 2) can provide complementary services to industry;
- 3) can provide a base for secondary and light manufacturing for domestic/export potential;
- 4) has easy, major accessibility by planned road development;
- 5) serves as a divergent area for free zone activity, allowing Port Tawfik to serve as a transit shipping point;
- 6) is conveniently located to rail service;
- 7) has electric infrastructure;
- 8) affords sea frontage for oil platform activity.

Based upon the Master Plan, 170 feddans of the industrial land is reserved for "heavy" industrial free zone activity and 75 feddans is reserved for "light" manufacturing. A further free zone for offshore oil activity has been allocated 182 feddans, in concept. Thus, the total Suez City Free Zone area proposed in the Master Plan is:

<u>Industry Type</u>	<u>Area</u>
Oil and heavy	352 feddans
Light manufacturing	<u>75 feddans</u>
Total	427 feddans

TABLE VI-6

## INDUSTRIAL AREAS

## EMPLOYMENT\* AND LAND REQUIREMENTS

1975 - 2000

Category	Phase 1/1975-1980		Phase 2/1980-1985		Phase 3/1985-1990		Phase 4/1990-1995		Phase 5/1995-2000	
	Employ- ment	Land Required (Feddan)	Employ- ment	Land Required (Feddan)	Employ- ment	Land Required (Feddar.)	Employ- ment	Land Required (Feddan)	Employ- ment	Land Required (Feddan)
Oil Refineries	4,000	500	4,000	500	5,000	500	5,000	500	5,000	500
Principal Indus- trial Area	6,400	245	9,725	415	13,350	625	14,475	645	17,100	709
Free Zones:										
Off-shore Oil	2,000	80	4,000	100	5,000	125	6,000	150	7,500	182
Other Heavy Mfg.	300	20	1,000	65	2,000	130	2,500	170	2,500	170
Light Mfg.	700	5	4,000	30	8,000	60	10,000	75	10,000	74
Light Industrial Areas	<u>6,500</u>	<u>58</u>	<u>10,000</u>	<u>90</u>	<u>25,200</u>	<u>225</u>	<u>46,000</u>	<u>410</u>	<u>90,300</u>	<u>810</u>
Total	19,900	908	32,725	1,200	58,550	1,665	83,975	1,950	132,400	2,445

\*Includes all categories of employment in industrial areas--non-manufacturing basic and services in addition to manufacturing.

Source: Suez Master Plan Study.

A key assumption in the Master Plan is the anticipated employment density for the free zone activity. The Master Plan makes the following distribution of employment.

Oil Related	:182 feddans x 40 employees/feddan = 7,500 employees
Heavy Manufacturing:	170 feddans x 15 employees/feddan = 2,500 employees
Light Manufacturing:	75 feddans x 135 employees/feddan = <u>10,100</u> employees
Total	20,100 employees

Concern is expressed regarding the above figures. First, the differential employment of oil activity versus heavy manufacturing for the free zone creates an economic bias to the oil activity, and if its development was not forthcoming to the extent suggested by the plan, employment would be overstated. A different concern is expressed for the light manufacturing activity. The 135 employees/feddan may be reasonable on a net ground coverage basis. However, it appears unreasonable to assume a net density (assuming a 2:1 land/building relationship of 270 employees/net feddan). For the prefeasibility analysis, our employment density is based on current free zone levels of 49 employees per net feddan.

#### 6. Free Zone Area

The selected Adabiya site covers approximately 2,250,000 square meters on approximately 535 feddans. Thus, the area set aside for the free zone is approximately 25 percent greater than the area recommended in the Master Plan.

It should be noted that the current storage/transit free zone in Port Tawfik is in a currently congested area. Land value and congestion may create the desire for prospective tenants to locate on the new free zone areas. It is reasonable to assume that a portion of new free zone land will be set aside for this eventuality in a semi-restricted land area at the heavy manufacturing site. The overall impact makes for a less specialized land package but, based upon current activity at the existing free zones, little negative impact in overall employment/feddan should be expected. A representative area for the free zone assuming industrial orientation is as follows:

Total Area:	535 feddans
Less: Infrastructure and Non-Building Areas (57%)	( <u>305</u> ) feddans
Net Buildable Area	230 feddans
Warehouse/Distribution	( 25) feddans
Heavy Manufacturing	( 70) feddans
Oil Related	( 75) feddans
Light Manufacturing	( 60) feddans

Considering the employee ratios per net feddan, overall estimated employment for Adabiya is:

$$230 \text{ net feddans} \times 49 \text{ employees/feddan} = 11,270 \text{ employees}$$

At capacity, the actual employee levels will exceed this total figure. Excluded in the employee assumptions are work relief, part-time employees, and miscellaneous contract labor. Also excluded from this employee count are free zone employees, security guards, and customs personnel. The anticipated total employment count at the site is approximated at:

Industry Employees	11,270
Shift, Part-Time, Other	900
Security, Customs	50
Free Zone	<u>40</u>
Total Employment	12,260

## B. FINANCIAL ANALYSIS

### 1. Revenues from Adabiya Free Zone

Using constant 1979 rates, the procedures used to calculate the Adabiya Free Zone revenues applied existing results at the other public free zones and current rental rates.

- o At capacity, rental income from Adabiya is calculated as:

$$967,500 \text{ sq. m.} \times \text{L.E. } 1.25/\text{sq. m.} = 1,209,375 \text{ L.E./yr.}$$

- o Duty and tax collections are based on Port Said actual 1978 experience, where fees of L.E. 1,235,285 were charged to the zone users in 1978. This amounts to L.E. 3.59 per square meter of occupied land (L.E. 1,235,285/343,930 M<sup>2</sup>). Applying the L.E. 3.59 to Adabiya's 230 feddans results in potential fees of L.E. 3,468,766. This amount is felt to be conservative due to the fact that only four of 70 projects in production at Port Said can be classified as industrial.

- o Total direct fees and charges at capacity are estimated at:

Rental	L.E. 1,209,375
Fees	L.E. <u>2,468,766</u>
Total	L.E. <u>4,678,141</u>
	say 4,700,000

### 2. Cost of Adabiya Free Zone

The development costs for Adabiya have already been established and amount to approximately L.E. 27,000,000 plus annual inflation and professional fees. The feasibility analysis, which is to be conducted in

Phase II of the study effort will include off-site development costs such as additional electric generation capacity costs, off-site road improvements, etc. For purposes of the pre-feasibility analysis, however, these costs are temporarily excluded.

The Adabiya facility is assumed fully staffed with 40 personnel. The staffing and current costs are estimated at:

<u>Function</u>	<u>Number</u>	<u>Daily Wage</u>	<u>Annual Total</u>
Management	4	15 L.E./day	21,500
Engineering/Research	4	12 L.E./day	17,500
Accounting/Finance	6	10 L.E./day	22,000
Inspection/Service	13	8 L.E./day	38,000
Maintenance	<u>13</u>	8 L.E./day	<u>38,000</u>
Total	40		L.E. 137,000

Additionally, the cost of security services and customs inspectors should be charged as a cost to the free zone. At an average current cost of L.E. 5/day, an annual cost of L.E. 90,000 is obtained.

The Adabiya Free Zone must also bear its fair share of overall promotion expense. To be a success, Adabiya will require its own promotional package and contribute to the general promotional packages which the Authority in Cairo will provide. It is anticipated that the initial development years will require promotional expenses approximating L.E. 100,000, decreasing to an average of L.E. 50,000 thereafter. An annual contribution of L.E. 40,000 to Cairo's promotional costs would also be a reasonable expectation.

The final cost consideration for Adabiya is maintenance expense (materials) for the free zone. The materials portion of the maintenance expense is calculated as one percent of cumulative investment at the free zone. Following this assumption, maintenance material expenses are as shown below:

1980-1983	L.E. 73,000	1992-1995	L.E. 226,000
1984-1987	L.E. 103,000	1996-2000	L.E. 267,000
1988-1991	L.E. 159,000		

The annual operating costs for Adabiya, in constant 1979 costs are summarized as:

Staff	137,000 (less in early years)
Customs/Security	90,000 (less in early years)
Promotion	90,000 (L.E. 50,000 higher in first years)
Maintenance	<u>159,000 (Average)</u>
Total	430,000 L.E. Annual

### 3. Location Infrastructure

The proposed Suez City Free Zone (Adabiya) area is bounded on the east by Suez Bay and the foothills of the Ataqa mountains on the west. It is served by a two-lane highway which parallels the Red Sea and railroad transportation which originates about 20 km south of the site. The topography is nearly flat at 2 to 3 meters above sea level, except the west side which rises to a height of approximately 25 meters above sea level.

The existing 35 kv electric transmission lines traversing the site north and south appear exceptionally limited in capacity. Water and sewer utilities have not been developed. Proposed site development plans indicate a new 225 meter wide right-of-way to accommodate infrastructure development.

The proposed site has been visited and evaluated to determine infrastructure requirements. It is noted that the site is devoid of improvements suitable for inclusion in future site developments. The existing railroad is planned to be relocated to the west in the proposed right of way with highway and utility distribution systems.

The following infrastructure construction costs have been estimated on the basis that all work would be undertaken in the same time frame.

Site Development	L.E.	901,600
Roadways		2,800,000
Fence*		1,810,000
Railroad Demolition		40,000
Administration and Control Buildings		500,000
Water, Sewage, and Storm Systems		14,000,000
Elevated Water Tank		500,000
On-Site Sewage Treatment		1,000,000
Electrical Distribution		5,000,000
Total		<u>26,551,600</u>
Say	L.E.	27,000,000**
	U.S.	\$38,600,000

\* Three sides, not including shore line. Also, redesign should be considered to reduce costs.

\*\* An appropriate design and construction management fee should be added.

Assuming that phased and incremental development would be the more prudent approach and that investor needs would be more timely met, the following schedule is presented as a guide to cost impact and resulting cash flow benefits.

Phase I

Site Development	192,942
Roadways	1,027,460
Fence*	794,500
Administration Building	500,000
Water, Sewage, Storm	2,996,000
Sewage Treatment Plant	750,000
Electrical Distribution	<u>1,070,000</u>
Phase Total	7,330,902

\* See previous note reference.

Phase II

Site Development	115,405
Roadways	299,600
Railroad Demolition	18,600
Water, Sewage, Storm	1,792,000
Electrical Distribution	<u>640,000</u>
Phase Total	2,865,605
Say	2,870,000

Phase III

Site Development	227,203
Roadways	567,000
Railroad Demolition	21,400
Water, Sewage, Storm	3,528,000
Electrical Distribution	<u>1,260,000</u>
Phase Total	5,603,603
Say	5,604,000

Phase IV

Site Development	199,254
Fence	1,015,500
Roadways	546,000
Water, Sewage, Storm	3,094,000
Elevated Water Tank	500,000
Addition to Sewage Disposal	250,000
Electrical Distribution	<u>1,105,000</u>
Phase Total	6,709,754
Say	6,710,000

Phase V

Site Development	166,796
Roadways	373,800
Water, Sewage, Storm	2,590,000
Electrical Distribution	<u>925,000</u>
Phase Total	4,055,596
Say	4,100,000

The proposed Suez City Free Zone site requires power, water, on-site sewage facilities, communications, and roadway systems. In comparison with other free zone facilities, the infrastructure requirements at this location can be satisfied easier than those at the other existing sites. This means that the costs of developing the infrastructure facilities on a phased basis at the Suez City site could be comparatively less than those costs incurred on the other sites, especially the Alexandria site.

It was determined that the existing facilities operated by the Free Zone Sector all had reasonable access. Transportation and communication access to the existing facilities and to the newly proposed facilities are exceptionally important to the operations of any free zone facility. With respect to the existing facilities, the utilization of rail transportation may not have been adequately considered.

The Free Zone Sector property has structure service requirements of varying natures and degrees, all of which should be reasonably dependable. Therefore, the location of a free zone facility in an area where such services are not readily available presents problems.

The topography of the site at the Suez City location appears conducive to the development of infrastructure facilities on a phased basis. The site is relatively flat and those areas which are at higher elevations could be utilized to the advantage of the development Authority to reduce infrastructure designing and construction costs to some extent.

The soil conditions on the Suez City site appear suitable for development of structures without exceptional cost factors. That is, the site appears to have structural stability and soil conditions which permit minimal design in the facilities requirements. There are no indications of soil erosion or other seasonal rainfall or moisture conditions which would significantly impact the construction of the infrastructures required.

While the Free Zone Sector has experienced difficulties in varying types of sites at its other free zone locations and is faced with the possibility of developing a new site where new problems could be confronted, there are advantages in having considerable past experience which can be applied to a new site. It is the opinion of our investigators that the Sector is ready to enter into a well-coordinated planning program for the new Suez City site.

Technically, the new Suez City site appears to represent an opportunity for substantial advancement of the free zones concept in Egypt. The site has a strategic location and the entire sector in which the site is located is due for substantial development activities.

Our investigators indicate that the Free Zone Sector engineering staff has reached a point where the new site provides an excellent vehicle for the implementation of new procedures developed from old experiences.

#### 4. Financial Profile

Considering first only a static profile, the following leveraged and deleveraged positions are anticipated for Adabiya:

a. Payback Profile	<u>Year 5</u>	<u>Year 10</u>	<u>Year 20</u>
Average Revenue (M LE)	1.2*	2.4**	4.7***
Average Costs (M LE)	(0.3)	(0.4)	(0.5)
Development Cost (M LE)	10.2	15.8	27.0
Payback (Averaged)	11.3 yrs	7.9 yrs	6.4 yrs

\*5th year revenue; \*\*10th year revenue; \*\*\*Maturity revenue.

b. Loan Coverage	<u>Year 5</u>	<u>Year 10</u>	<u>Year 20</u>
Anticipated Revenue (M LE)	1.2	2.4	4.7
Operating Expenses (M LE)	(0.3)	(0.4)	(0.5)
Development Loan Payment (20 year, 6%)	0.9*	1.4**	3.5***
Loan Coverage	1.00X	1.43X	1.20X

\*L.E. 10.2 Million; \*\*L.E. 15.8 Million; \*\*\*L.E. 27 Million.

Considering the static financial profiles, with the understanding that construction at Adabiya would be phased, the only real money at risk is approximately L.E. 7.3 million which is required for the first phase. Should the free zone undertake the business risk of building facilities in addition to the infrastructure, the risk factor may be higher but a commensurate greater return would be obtained through higher lease ratio to cover the facility cost. If one is in general agreement that Suez will develop industrially between 1980 and 2000, the risk does not appear speculative.

On a dynamic basis, the rate of return on investment appears acceptable on a purely financial level. The cash flow provided in Table V-7 is considered conservative as it is based upon the following assumptions:

- o Total occupancy is not achieved until the year 1996.
- o Investment expenses are assumed to occur in one-year periods, although expenditures will normally cover two years; no allowance for interest earned or paid during construction is considered.
- o To offset only one year of maturity, the undepreciated value of invested facilities, excluding site development and demolition, is taken as a credit in year 28, assuming a 30 year average depreciation rate.

TABLE VI-7  
 FREE ZONE ANALYSIS  
 ADABIYA FREE ZONE CASH FLOW  
 (L.E. MILLIONS)

Year	Investment	Revenues	Expenses	Free Zone Income	Cash Flow
0 (1979)	(7.33)	-	-	-	(7.33)
1		.23	.27	(.04)	(.04)
2		.46	.27	.19	.19
3		.69	.27	.42	.42
4	(2.87)	.92	.27	.65	(2.22)
5		1.15	.28	.87	.87
6		1.38	.28	1.10	1.10
7		1.61	.28	1.33	1.33
8	(5.60)	1.84	.28	1.56	(4.04)
9		2.07	.36	1.71	1.71
10		2.40	.36	2.04	2.04
11		2.53	.36	2.17	2.17
12	(6.71)	2.89	.36	2.53	(4.18)
13		3.26	.44	2.82	2.82
14		3.63	.44	3.19	3.19
15		3.99	.44	3.55	3.55
16	(4.10)	4.36	.44	3.92	(.18)
17		4.70	.50	4.20	4.20
18		4.70	.50	4.20	4.20
19		4.70	.50	4.20	4.20
20		4.70	.50	4.20	4.20
21		4.70	.50	4.20	4.20
22		4.70	.50	4.20	4.20
23		4.70	.50	4.20	4.20
24		4.70	.50	4.20	4.20
25		4.70	.50	4.20	4.20
26		4.70	.50	4.20	4.20
27	<u>8.51</u>	<u>4.70</u>	<u>.50</u>	<u>4.20</u>	<u>12.71</u>
Total	(18.10)	85.11	(10.90)	74.21	56.11

Present Value at 10% = 8.88  
 Internal Rate of Return = Approximately 11%

Source: Reynolds, Smith and Hills, 1979.

The cash flow profile indicates that a discounted rate of return of approximately 11 percent could be generated over the 1979 to 2006 time period, based upon satisfaction of a successful project. The rate of return would be less if the free zone built facilities for industrial leasing, as the return on the leases would trend lower due to the authority's inability or need to shelter itself for tax purposes.

## 5. Environmental and Social Aspects

a. Environmental Aspects. The location of an industrial free zone at the northern extremity of the Gulf of Suez warrants serious attention to the potential risk of environmental degradation, particularly with regard to local marine resources. With restricted water circulation, an average depth of 30 meters and a total areal extent of only 120 square kilometers, Suez Bay offers a limited pollution threshold for discharge of sewage and industrial effluents. Of particular concern would be the disposal of untreated industrial residues into the bay. These contaminants, in conjunction with those from other existing and planned industrial activities and potential oil spills and discharges emanating from oil tanker traffic and the Suez oil refinery operations, would have a serious, adverse impact upon the bay's marine biota and severely restrict water recreation activities.

Similarly, land disposal of industrial residues would need to be carefully restricted or prohibited to prevent pollution of groundwater resources. The infrastructural costs outlined in this report include the provision of adequate sewage and industrial effluent treatment facilities, which would minimize the danger of marine and groundwater contamination.

Depending on the type of industrial activities located in the free zone, toxic wastes and gases could be emitted in an outborne form. Since the predominant winds are from the north and northwest, the siting of the proposed industrial free zone to the southwest of Suez City should prevent airborne pollution occurring in residential areas. However, such pollution could adversely affect recreational activities at El Sadat beach, just to the south of Adabiya.

As recommended in the 1976 Suez Master Plan, an environmental impact study should be undertaken for every major industrial project in the Adabiya public free zone. The Suez Master Plan also recommends that the Gulf of Suez be declared a special area under the 1973 International Convention on pollution, and that environmental control agencies at the local and regional level be strengthened. Both of these suggestions are warranted given the significant pollution potential with the free zone area.

b. Social Aspects. As noted previously, before the outbreak of hostilities in 1967, Suez City was a thriving community with an estimated 1966 population of 235,000. With the extensive demolition of the city and Port Tawfik, a large exodus of population occurred, and it was not until 1974 that former residents began returning in large numbers. By

1975, the area's population had reached 150,000, and its estimated 1978 total was 200,000.

The area has, therefore, exhibited little social stability over the past decade. According to the 1976 Suez Master Plan, this condition will continue:

"The present and next generation of Suez inhabitants will live in an environment where constant change and massive construction activity are features of everyday life."

A massive reconstruction program has already begun, with the restoration or replacement of damaged buildings and the construction of new housing communities such as Faisal City and the Tradesmen's housing. Even so, an additional 8,000 new housing units will need to be constructed each year for the remainder of this century. The proposed new Suez City will encompass 80 square kilometers, and will require a construction labor force of approximately 50,000 for its completion.

Within this overall "boom town" context, the social impact of the proposed Adabiya Free Zone would be relatively insignificant in terms of population growth and associated housing and services demand. Moreover, its development would help provide a platform for economic growth by providing an estimated 10,500 manufacturing jobs and by further diversifying the area's economic base.

As addressed in the preceding section on environmental aspects, the location of the free zone to the southwest of Suez would minimize any adverse impact of pollution on residential areas. The proposed activity would affect, however, beach-oriented recreation activities within the immediate area, necessitating the use of additional beaches further from Suez City.

## CHAPTER VII

### FREE ZONE CONTRIBUTION TO EGYPT

#### A. GENERAL

The evaluation of free zone performance can be measured in many ways: annual growth, physical plant constructed, jobs added, foreign exchange created, investment inquiries, etc. However, these measurements must be united in an overall reference frame. It is appropriate to utilize statistics on Egypt's overall industrial growth patterns as a background for the free zone programs.

It is also important to note that the free zones are important representations of private investment as opposed to governmental decision making and fund allocation. The Egyptian Government's responsibility in the free zones has been limited to infrastructure and management. This role is anticipated to increase with the free zone experiment of providing buildings for general usage, but should not include capital outlay for equipment. As firms locate in the free zones, they supplement the Egyptian and international group assistance for building up the industrial/distribution capacity of the country.

It is noted at this point that an AID sponsored report(1) recognized Egypt's need for industrial improvements in the Egyptian economy. The shortcomings of Egypt's industrial climate included:

- o Excessive bureaucratic and legal procedures
- o Price controls
- o Foreign exchange uncertainty
- o Labor laws which reduce managerial capability
- o "Oppressive" taxation
- o Inefficient low quality, high cost operations
- o Lack of managerial expertise
- o Poor marketing programs and export initiative

All pose a formidable problem for development of competitive industry for the international sector.

Under these limitations, the encouragement of foreign investment represents a serious program of technological, social, and administrative creativity to "bootstrap" the Egyptian industry into the world arenas. Amid a powerful undercurrent of protest by existing industry, the General Authority for Investment and Free Zones has embarked upon its program to improve Egyptian industrial skills. Recall that the stated objectives of the Authority are: job creation, technology transfer, and

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(1) An Assessment of Egypt's Industrial Sector, A.D. Little, Inc., January, 1978.

foreign exchange. The real influence of the Authority is more subtle. As mentioned in the AID-sponsored industrial report, Egypt must:

- o Make industry more efficient,
- o Make industry internationally more competitive,
- o Develop a larger export base.

The report goes on to recommend the introduction of modern managerial techniques, better use of equipment, finding appropriate partners to contribute know-how and, most importantly, stimulating exports. The free zone structure generates positive benefits in all areas.

- o The first free zone activities became operational in 1976. They represent new buildings and the latest use of equipment and material handling techniques. Key supervision in the free zone establishments appears to be non-Egyptian for the most part, with secondary supervision supplied by Egyptian technicians. Given any entrepreneurial incentive, these management skills will be transferred to the domestic economy.
- o The non-infrastructure investment in the free zone sector has been provided by private, non-Egyptian sources except for joint venture companies. Little "public" sector government funds have been utilized. Thus, needed foreign exchange has been saved and jobs created without diversion of funds needed to improve existing industry.
- o Linkages to Egyptian industry are being developed by the free zones. The location of each free zone in industrial areas has resulted in the noticeable growth of support/complementary surrounding land parcels.

Based upon data taken from secondary sources, industrial investment in Egypt has expanded at a rapid rate, tripling during the period 1973 to 1976. It should be cautioned that the figures in Table VII-1 represent planned investment outlay; not actual expenditures. However, the trend which can be derived from the growth in the investment levels is still of an upward nature and shows a steady climb in an important economic indicator. Although it is unsound to combine statistics from different sources, the potential free zone and inland investment contribution to Egypt's industrial growth aspirations might be summarized as shown in Table VII-2.

Of interest to the free zone analysis is the amount of foreign capital provided for the projects. Statistics show that the public free zone sector capital is over 90 percent foreign-source capital. This compares to an approximate 40 percent participation of foreign capital in the public industrial sector.

Private free zones are excluded from the analysis due to substantial fluctuation in activity between its "approved" and "production" stages.

TABLE VII-1  
 FREE ZONE ANALYSIS  
 INVESTMENTS IN PUBLIC/PRIVATE SECTOR  
 (L.E. MILLIONS, CURRENT PRICES)

Category	1973	1974	1975	1976	1977
<b>Public Sector</b>					
Textiles	30.0	35	59	69	65
Foodstuffs	14.0	24	38	29	32
Chemicals	23.0	28	45	56	89
Eng./Metallurgical	20.0	18	62	97	99
Mining	<u>0.5</u>	<u>1</u>	<u>2</u>	<u>7</u>	<u>8</u>
Subtotal Public	87.5	106	206	258	293
Private Sector	<u>17.0</u>	<u>19</u>	<u>67</u>	<u>95</u>	<u>71</u>
Total	104.5	125	273	353	364
Private/Total %	16%	15%	25%	27%	20%
Foreign Capital/Total Public Capital	29%	36%	50%	51%	50%

Source: Ministry of Industry, Petroleum and Mining.  
 Reynolds, Smith and Hills, 1979.

TABLE VII-2  
 FREE ZONE ANALYSIS  
 INVESTMENT TRENDS  
 1973-1977  
 (L.E. MILLIONS)

Year	Public Sector Total Investment	Private Sector Total Investment	Inland Capital Investment*	Public Free Zone Capital Investment	Total
1973	87.5	17	20	-	124.5
1974	106.0	19	45	-	170.0
1975	206.0	67	53	23	349.0
1976	258.0	95	58	34	445.0
1977	293.0	71	182	11	557.0

\* Excludes "non-industrial" approved capital outlays and investment.  
 Excludes private free zones.

Source: General Organization for Industrialization.  
 Reynolds, Smith and Hills, 1979.

However, the great majority of private free zone capital is foreign capital.

#### 1. Employment

Industrial employment in Egypt has been growing at a respectable rate in the 1970s. A summary of employment growth is shown on Table VII-3.

From the trend established, it is seen that the industrial and services sector added 360,000 jobs between 1974 and 1976, of which only 100,000 were added in the 1975-1976 period. The industry, petroleum, and mining subsector added but 50,000 jobs over the 1974-1976 period.

Further analysis of the employment trend is detailed in Table VII-4 which segregates the public and private sectors, segregates inland investment industrial employment from the private sector, and adds free zone reported employment.

From the statistical trend, it is evidenced that the number of jobs being created in the industrial sector needs the added impact of inland and free zone investment. Because of the relative infancy of the free zones, there has not been significant impact in industrial employment. However, the overall anticipated employment from free zone activities, including the warehousing and storage, is beginning to make an impact. While the reader must be advised not to rely on the accuracy of the employment figures, they do reflect a trend. Also, in that the free zones are currently in heavy construction activity, the employment levels--if inaccurate for industrial breakdown purposes--certainly reflect employment created in construction activity.

In order to comply with the spirit of the free zone activity--exports, training, domestic linkage creation--the thrust toward job creation for semi-skilled workers should be a free zone priority. Technology and investment in highly skilled labor projects are, of course, needed to compete in the international marketplace. These industries and processes can provide transfer of skills. However, industries specializing in intermediate value added processes should be encouraged.

In this light, the acceptance of used capital equipment in free zones, which is still in good condition, is a recommendation of this report. One of the biggest incentives to export from Egypt is the wage scale. New technology has normally been oriented to high wage rates and, therefore, substitutes equipment cost for labor cost. With the outlook of a substantial population increase in Egypt between 1980 and 2000, stimulation of employment opportunities must be a priority goal which free zones can assist.

TABLE VII-3  
 FREE ZONE ANALYSIS  
 EGYPTIAN EMPLOYMENT BY SECTOR  
 1974-1976  
 (Millions)

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Category	1974		1975		1976	
	Workers	Percent	Workers	Percent	Workers	Percent
<u>TOTAL</u>	9.03	100.0	9.43	100.0	9.63	100.0
Less Agriculture	(4.21)	( 46.6)	(4.22)	( 44.7)	(4.23)	( 43.9)
Less Government	<u>(1.86)</u>	<u>( 20.5)</u>	<u>(1.99)</u>	<u>( 21.1)</u>	<u>(2.08)</u>	<u>( 21.6)</u>
Subtotal	2.96	32.9	3.22	34.2	3.32	34.5
<u>Industry &amp; Services</u>						
Industry, Petroleum, Mining	1.15	12.7	1.18	12.5	1.20	12.5
Electricity	0.03	0.4	0.04	0.4	0.05	0.5
Construction	0.32	3.5	0.44	4.7	0.44	4.5
Transportation, Communications, Storage	0.40	4.4	0.41	4.3	0.42	4.4
Trade & Finance	0.88	9.9	0.97	10.3	1.02	10.6
<u>Housing Services</u>	0.14	1.5	0.14	1.5	0.14	1.5
<u>Public Utilities</u>	0.04	0.5	0.04	0.5	0.05	0.5

Source: Overseas Business Reports, U.S. Department of Commerce, September, 1978.  
 Reynolds, Smith and Hills, 1979.

TABLE VII-4  
 FREE ZONE ANALYSIS  
 EMPLOYMENT CONTRIBUTIONS  
 INDUSTRIAL AND TOTAL  
 FREE ZONE AND INLAND INVESTMENT  
 (Thousands)

Year	Public Sector	Private Sector	Inland Investment	Free Zone	Total	Free Zone %
1972	505	589	6	-	1,100	-
1973	515	598	16	-	1,129	-
1974	499	623	24	3	1,149	0.2
1975	526	639(E)	41	8	1,214	0.7
1976	548	650(E)	61	9	1,268	0.7
1977	568	670(E)	74	10	1,322	0.8
Jobs Added 1972-1977	63	81(E)	74	10	222	

Note: Private free zones have been excluded because of reporting problems. However, employment projected in 1978 was 5,200 persons.

Source: Reynolds, Smith and Hills, 1979.

## 2. Free Zone Growth

As discussed previously, two distinct types of free zones presently exist within the Arab Republic of Egypt. The first, private free zones, may be located anywhere in the country to serve the necessary requirements of individual projects. Beginning in 1972, private free zone projects in production totaled 39 by year-end 1978, with a planned total capital of L.E. 99.9 million and employment of 5,200 people.

The four public free zones--near Cairo (El Nasr City), Alexandria (El Ameria), Suez (Port Tawfik) and at Port Said--have been established since the promulgation of Law 43 of 1974. These zones essentially serve as large industrial estates which provide utilities and services for a broad mix of industrial and non-industrial projects. While no formal feasibility studies were undertaken prior to the establishment of the public free zones, various criteria were considered, including proximity to major ports and adequate overland transportation. By the end of 1978, the four zones contained a total of 104 projects in production, representing planned capital expenditures of L.E. 74.9 million and employment of approximately 5,300 (see Table VII-5).

Table VII-6 portrays the yearly increments of approved projects in production over the seven year period. It may be seen that while the period 1975-1976 was particularly active for both public and private free zones, the last two years have witnessed a significant slowdown, particularly in the former sector. The decrease in approved projects in production in the private free zones during 1978 can be at least partially explained by the deliberate policy of the General Authority for Investment and Free Zones to place greater restrictions than in previous years on the approval of such zones. While the granting of private zones has been liberal in the past, the investor must now prove to the Authority's satisfaction that a particular location outside of the public free zone areas is necessary for either the production of goods or provision of services.

The decrease of approved projects in production since 1976 in the public free zones is largely attributable to delays incurred in completion of the zones' infrastructure. Once the zones have been provided with the necessary basic utilities, and a promotional program established, it is anticipated that new project activities will again increase. As shown in Table VII-7, a large number of projects associated with each of the four public free zones are either under execution or approved. It is probable that a majority of these projects will commence production within a short time after the needed infrastructure is provided. In addition, while the number of private free zone approvals has declined over the last year, the number of applications from investors for the granting of this status has increased. The public free zones are thus in a favorable position to attract several of these projects which have been denied private free zone status.

TABLE VII-5  
TOTAL PROJECTS IN PRODUCTION  
PUBLIC AND PRIVATE FREE ZONES  
1972 - 1978

Category	Cumulative Total						
	1972	1973	1974	1975	1976	1977	1978
Total Number of Projects	1	5	12	54	116	134	143
Public Free Zone	-	-	-	32	88	97	104
Private Free Zone	1	5	12	22	28	37	39
Total Capital (L.E. Million)*	0.49	10.34	17.63	82.22	144.34	164.32	174.75
Public Free Zone	-	-	-	22.73	56.52	67.21	74.84
Private Free Zone	0.49	10.34	17.63	59.49	87.82	97.11	99.91
Total Investment Costs (L.E. Million)*	0.49	10.34	17.70	89.36	154.41	181.94	197.50
Public Free Zone	-	-	-	24.41	60.45	71.83	80.82
Private Free Zone	0.49	10.34	17.70	64.95	93.96	110.11	116.68
Total Employment*	210	2,323	2,761	6,792	9,417	10,135	10,599
Public Free Zone	-	-	-	3,302	4,985	5,166	5,301
Private Free Zone	210	2,323	2,761	3,490	4,432	4,969	5,298

\* Figures represent planned estimates, rather than actual totals.

Source: General Authority for Investment and Free Zones.  
Reynolds, Smith and Hills, 1979.

TABLE VII-6  
TOTAL PROJECTS IN PRODUCTION  
PUBLIC AND PRIVATE FREE ZONES  
1972 - 1978

Category	Year of Approval						
	1972	1973	1974	1975	1976	1977	1978
Total Number of Projects	1	4	7	42	62	18	9
Public Free Zone	-	-	-	32	56	9	7
Private Free Zone	1	4	7	10	6	9	2
Total Capital (L.E. Million)*	0.49	9.85	7.29	64.59	62.12	19.98	10.43
Public Free Zone	-	-	-	22.73	33.79	10.69	7.53
Private Free Zone	0.49	9.85	7.29	41.86	28.33	9.29	2.80
Total Investment Costs (L.E. Million)*	0.49	9.85	7.36	71.66	65.05	27.53	15.56
Public Free Zone	-	-	-	24.41	36.04	11.38	8.99
Private Free Zone	0.49	9.85	7.36	47.25	29.01	16.15	6.57
Total Employment*	210	2,113	438	4,031	2,625	718	464
Public Free Zone	-	-	-	3,302	1,683	181	135
Private Free Zone	210	2,113	438	729	942	537	329

\* Figures represent planned estimates, rather than actual totals.

Source: General Authority for Investment and Free Zones.  
Reynolds, Smith and Hills, 1979.

TABLE VII-7  
STATUS OF PROJECTS BY FREE ZONE  
YEAR-END 1978

Free Zone	In Production	Under Execution	Approved
<u>Public Free Zones</u>			
Cairo (El Nasr City)	13	1	27
Alexandria (El Ameria)	15	17	47
Suez (Port Tawfik)	6	26	51
Port Said	70	35	120
<u>Private Free Zones</u>			
Cairo (El Nasr City)	19	3	25
Alexandria (El Ameria)	15	8	34
Suez (Port Tawfik)	1	-	4
Port Said	4	-	4

Source: General Authority for Investment and Free Zones, 1979.

Table VII-8 provides a comparison of the types of activities presently located in public and private free zones. So far, the public free zones have attracted a significantly greater proportion of non-industrial activities than industrial projects. Of a total of 104 projects in production in 1978, 82 percent were in the non-industrial sector; of those, 86 percent were warehousing activities.

The mix of industrial/non-industrial projects in the private free zones is more evenly balanced, primarily due to petroleum facilities. Of a total of 39 projects existing in 1978, 17 (44 percent) were classified as industrial, and 22 (56 percent) were classified as non-industrial activities. In spite of the differential share of activities, the public and private free zones as a whole in 1978 employed approximately the same number of workers (5,300 as compared to 5,200, respectively). In both sectors, over 90 percent of these employees were Egyptian. In contrast, the great proportion of total capital associated with the free zone projects is foreign in origin.

The number of projects in production and total planned capital and employment are shown for each free zone in Table VII-9. It should be emphasized that the capital and employment data are planned, rather than actual estimates, and may differ significantly from reality. Also, the number of projects listed as being in the public free zones is also misleading; in Alexandria, for example, only two projects are currently in production within the physical parameters of the public free zone, whereas an additional 13 projects are temporarily located outside of the zone until infrastructural work within the zone is completed.

Finally, Table VII-10 depicts the total area already occupied within each public free zone. Because of its comparatively small size, the Suez (Port Tawfik) zone has already reached near saturation. The extremely large zone at Alexandria (El Ameria), with its planned phased development, still provides ample area (1.8 million net square meters) for the establishment of major industrial projects.

In conclusion, despite a slowing down of new activities in the public free zones since 1976, progress to date has been encouraging. With completion of the necessary infrastructure, the public free zones will experience a significantly increased growth rate, and provide a viable channel for foreign investment and the generation of local employment.

#### B. FINANCIAL STABILITY: 1974-1978

Statistics provided by the Free Zone Sector on revenues and expenses are presented in Tables VII-11 and VII-12. Table VII-11 reflects the current revenue position of the free zones. These figures were not audited by the Consultant. The figures reveal the potential of the free zones, as evidenced by Port Said, to contribute either to the Egyptian

TABLE VII-8  
TOTAL PROJECTS BY SECTOR  
PUBLIC AND PRIVATE FREE ZONES  
1978

Sector	Public	Private	Total
<u>Non-Industrial</u>			
Warehousing	73	7	80
Services	2	12	14
Commercial and Financial	<u>10</u>	<u>3</u>	<u>13</u>
Subtotal	85	22	107
<u>Industrial</u>			
Textile	5	2	7
Engineering	-	1	1
Chemical	3	4	7
Petroleum	8	8	16
Agricultural	-	1	1
Food and Beverage	2	1	3
Metallurgical	<u>1</u>	<u>-</u>	<u>1</u>
Subtotal	19	17	36
Total	104	39	143

Source: General Authority for Investment and Free Zones.  
Reynolds, Smith and Hills, 1979.

TABLE VII-9  
STATUS OF INDIVIDUAL PUBLIC AND PRIVATE FREE ZONES  
YEAR-END 1978

Free Zone	Number of Projects In Production	Total Planned Capital (L.E. 1000)	Total Planned Employment
<u>Public Free Zones</u>			
Cairo	13	5,420	1,049
Alexandria	15	12,053	2,760
Suez	6	1,889	88
Port Said	70	55,481	1,404
<u>Private Free Zones</u>			
Cairo	19	24,062	3,519
Alexandria	15	49,019	1,213
Suez	1	26,034	433
Port Said	4	792	133

Source: General Authority for Investment and Free Zones, 1979.  
Reynolds, Smith and Hills, 1979.

TABLE VII-10  
 AVAILABLE AREA FOR DEVELOPMENT  
 PUBLIC FREE ZONES  
 MID-1978

Region	Total Area (Square Meters)	Net Total Project Area (Square Meters)	Area Already* Occupied (Pct.) of Net Area
Alexandria	6,300,000	2,433,414	24.2
Suez (Port Tawfik)	80,000	44,630	92.0
Port Said	1,008,000	422,000	81.5
Cairo (El Nasr City)	697,640	335,760	12.8

\* Includes areas committed to projects in production, under execution, and approved.

Source: General Authority for Investment and Free Zones, 1979.  
 Reynolds, Smith and Hills, 1979.

TABLE VII-11  
 FREE ZONE ANALYSIS  
 REVENUES RECEIVED FOR SERVICES  
 (L.E.)

Public Free Zones	1976	1977	1978
<u>Port Said</u>			
Rent	652,024	720,542	1,305,478
Fees	67,149	406,613	1,235,285
Subtotal	<u>719,173</u>	<u>1,127,155</u>	<u>2,540,763</u>
<u>Suez</u>			
Rent	-	68,777	56,607
Fees	-	4,305	14,733
Subtotal	<u>-</u>	<u>73,082</u>	<u>71,340</u>
<u>Alexandria</u>			
Rent	-	-	264,899
Fees	-	-	260,059
Subtotal	<u>-</u>	<u>-</u>	<u>524,958</u>
<u>Nasr City (Cairo)</u>			
Rent	-	-	135,338
Fees	-	-	23,894
Subtotal	<u>-</u>	<u>-</u>	<u>159,232</u>
<u>Total Public Zones</u>			
Rent	652,024	789,319	1,762,322
Fees	67,149	410,918	1,533,971
Total	<u>719,173</u>	<u>1,200,237</u>	<u>3,296,293</u>
<u>Private Free Zones</u>	<u>-</u>	<u>197,413</u>	<u>405,505</u>
<b>TOTAL FREE ZONES</b>	<b>719,173</b>	<b>1,397,650</b>	<b>3,701,798</b>

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-12  
 FREE ZONE ANALYSIS  
 OPERATING AND CAPITAL EXPENDITURES  
 (L.E.)

Area	Fiscal Year					Budget 1979
	1974	1975	1976	1977	1978	
<u>Alexandria</u>						
Legalized Costs(1)	205,000	1,000,000	2,300,000	4,725,000	3,418,100	1,525,000
Actual Costs	205,000	450,000	2,299,377	4,628,296	6,091,111	-
<u>Nasr City</u>						
Legalized Costs(1)	307,000	2,255,000	970,000	1,642,500	2,318,700	630,000
Actual Costs	307,000	841,000	967,876	1,641,727	4,007,380	-
<u>Port Said</u>						
Legalized Costs(1)	-	-	1,000,000	400,000	705,000	320,000
Actual Costs	-	-	546,408	399,886	1,271,823	-
<u>Suez</u>						
Legalized Costs(1)	-	-	600,000	200,000	51,000	-
Actual Costs	-	-	600,000	200,000	50,537	-
<u>Adabiya</u>						
Legalized Costs	-	-	-	-	-	35,000
Actual Costs	-	-	-	-	-	-

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TABLE VII-12 (Continued)  
 FREE ZONE ANALYSIS  
 OPERATING AND CAPITAL EXPENDITURES  
 (L.E.)

Area	Fiscal Year					Budget 1979
	1974	1975	1976	1977	1978	
<u>Authority and Operating Costs(2)</u>						
Legalized Costs	38,000	245,000	155,000	127,500	428,700	650,000
Actual Costs	37,057	40,897	73,768	99,213	433,185	-
<u>Total</u>						
Legalized Costs(1)	550,000	3,500,000	5,025,000	7,095,000	6,921,500	3,160,000
Actual Costs	549,057	1,331,897	4,487,429	6,969,122	11,854,036	-

(1) Budget level.

(2) These costs (legalized and actual) include the following: Salaries, Operation Costs, Economic Studies, Automobiles, Other Transport Charges, and Office Equipment due to the free zones and the third section of the Authority Budget.

Source: Reynolds, Smith and Hills, 1979.

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Treasury or to assume direct responsibility for loans required to finish infrastructural improvements.

Table VII-12 identifies budget and actual figures for construction expenditures at each free zone and operating costs for the combined Authority. Again, these figures have not been audited. It should be cautioned that the Authority did not really begin to approach full staff levels until recently. Also, there is a dearth of operating personnel at the free zones which implies a substantial rise in the operating account figures.

It is suggested that by applying these revenue figures to the number of facilities established and the land leased, projections for free zones can be approximated. Also, by applying current costs to the remaining, undeveloped portions of the free zones (excluding the massive Alexandria zone), it becomes possible to approximate the remaining capital requirements at the existing zones.

### C. FINANCIAL AND COST/BENEFIT ANALYSIS

From these relatively few statistics, the task of projecting the anticipated contribution of free zones to Egypt becomes formidable. By following a practical approach and through the use of fairly conservative assumptions, a profile of attainable benefits can be developed. It is the Consultant's recommendation that the following program serve as measurable objectives for the Free Zone Sector to judge its annual performance and as a basis for future planning.

#### 1. Assumptions

For the cost/benefit analysis only costs to the Government of Egypt for establishing and operating the free zones, and the benefits to the economy of Egypt, are considered. Costs which accrue to investors, and the benefits which other countries receive through foreign ownership considerations, are of no real concern in this analysis. Several studies and past experience have indicated that many different types of industrial, warehousing, and service operations can run a profitable business within Egyptian free zones. It is up to the individual investor to determine the profitability of potential free zone operations, and it is up to the Free Zone Sector to analyze the investor's application to determine if Egypt will benefit significantly from the venture. The analysis assumes complete absorption of available land in the free zones, which is probably dependent on the normalization of relations between Egypt and the other Arab nations.

Employment. It is assumed that the future free zone projects will have at least the same rate of employment and business volume per feddan as do the existing investors. Given the increase in industrial participation which is expected in the future, the projected benefits herein can be considered conservative estimates.

As of June 30, 1978, the 243 approved projects in the four public Egyptian free zones accounted for 1,047,072 square meters of land absorbed for development out of a total available area of 8,085,640 square meters. Those investors projected their production level employment to reach a total of 12,213. This implies an average of approximately 49 employees per net developed feddan (1 feddan equals 1.038 acres). This figure is somewhat lower than what might reasonably be expected in the future owing to the current high concentration in warehousing operations. A larger percentage of industries in the future would serve to increase the average number of employees per net (developable for projects) feddan. However, the figure of 49 employees per net feddan is used herein to make projections of future employment and equates to approximately 20 employees per gross feddan. In addition to the justification for using this figure based on historic trends is the fact that the ratio most likely provides a conservative estimate upon which to base some of the benefits. In other countries, figures of 50 to 75 (or more) employees per net acre are frequently assumed for intensive development situations like a free zone. If the future proportion of industrial usage compared to that for warehousing is high relative to current usage in Egyptian free zones, then the employment benefits will be somewhat higher than calculated herein. Regardless, it is doubtful if employment per net feddan will decrease in the future unless a substantial shift to capital intensive projects occurs.

In the case of existing public free zones, the projected employment for existing projects was added to that derived from using 49 employees per feddan for the remaining available land in the zone. The 49 per feddan figure was used for all developable land in the Adabiya Free Zone. Tables VII-13 through VII-16 indicate the anticipated investor employment trends; the anticipated Free Zone Sector employment including customs, security, and central office employment; construction employment; and total man years.

Assumptions on percentages of unskilled, semi-skilled, and skilled workers which will likely be employed in the future within the public free zones are difficult to verify, as are their wages. Wages for "Approved" and "In Production" projects in the public free zones are available only in the form of projected wages. These figures were derived from applications submitted over the past several years, but there has been no attempt to bring these figures to current dollars. The Free Zone Sector intends to begin field-checking these figures in the near future. Actual wages paid to both Egyptians and non-Egyptians in the private free zones in 1978 are, however, available. We chose to use the average annual wages paid in these free zones (L.E. 1,634 for Egyptians and L.E. 6,001 for non-Egyptians) for our estimates of wages paid to public free zone workers. The use of this data is justifiable for several reasons. It is recent, and the jobs represent the approximate skills which will be required in the public free zones. Therefore, the skilled/unskilled ratio should be similar, as should the average wage, to that of the public free zones. The public free zones will

TABLE VII-13  
 FREE ZONE ANALYSIS  
 LAND SUPPLY/DEMAND EXPECTATIONS  
 AT FREE ZONES

Item	Port Tawfik	Port Said	Cairo	Alexandria	Adabiya	Total
Total Area (000 Sq. Meters)	80	1,008	698	6,300	3,200	11,286
Net Area (000 Sq. Meters)	45	422	336	2,433	1,376	4,602
Percent	56	42	47	39	43	41
1978 Occupied Area (000 Sq. Meters)	41	344	43	200	-	628
Percent of Available Land	92	82	13	8	-	14
Projected Absorption/Annual (000 Sq. Meters) 1991+	15	40	40	80	50 80	
Build-out Year	1980	1980	1985	2006	2001	

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-14

## FREE ZONE ANALYSIS

## INVESTOR PROJECTED EMPLOYMENT BY FREE ZONE

## EGYPTIAN/NON-EGYPTIAN

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total
	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	
1978	72	16	1,146	258	564	127	2,190	493	-	-	3,972	894	4,866
1979	212	48	2,009	452	945	212	2,952	664	-	-	6,118	1,376	7,494
1980	425	95	3,021	670	1,325	298	3,714	835	476	107	8,961	2,005	10,966
1981	425	95	4,071	850	1,705	384	4,745	1,007	952	214	11,898	2,550	14,448
1982	425	95	4,071	850	2,086	469	5,237	1,178	1,428	321	13,247	2,913	16,160
1983	425	95	4,071	850	2,466	555	5,998	1,350	1,904	428	14,864	3,278	18,142
1984	425	95	4,071	850	2,847	640	6,760	1,521	2,380	535	16,483	3,641	20,124
1985	425	95	4,071	850	3,256	732	7,522	1,692	2,856	642	18,130	4,011	22,141
1986	425	95	4,071	850	3,256	732	8,283	1,864	3,331	750	19,366	4,291	23,657
1987	425	95	4,071	850	3,256	732	9,045	2,035	3,807	857	20,604	4,569	25,173
1988	425	95	4,071	850	3,256	732	9,807	2,206	4,283	964	21,842	4,847	26,689
1989	425	95	4,071	850	3,256	732	10,568	2,378	4,759	1,071	23,079	5,126	28,205
1990	425	95	4,071	850	3,256	732	11,330	2,549	5,255	1,178	24,317	5,404	29,721
1991	425	95	4,071	850	3,256	732	12,146	2,666	6,019	1,329	25,917	5,672	31,589
1992	425	95	4,071	850	3,256	732	12,990	2,755	6,841	1,440	27,583	5,872	33,455
1993	425	95	4,071	850	3,256	732	13,759	2,919	7,663	1,551	29,174	6,147	35,321
1994	425	95	4,071	850	3,256	732	14,617	2,994	8,485	1,662	30,854	6,333	37,187
1995	425	95	4,071	850	3,256	732	15,392	3,152	9,307	1,773	32,451	6,602	39,053
1996	425	95	4,071	850	3,256	732	16,263	3,214	10,130	1,883	34,145	6,774	40,919
1997	425	95	4,071	850	3,256	732	17,042	3,368	10,130	1,883	34,924	6,928	41,852
1998	425	95	4,071	850	3,256	732	17,928	3,415	10,130	1,883	35,810	6,975	42,785
1999	425	95	4,071	850	3,256	732	18,712	3,564	10,130	1,883	36,594	7,124	43,718

TABLE VII-14 (Continued)

## FREE ZONE ANALYSIS

## INVESTOR PROJECTED EMPLOYMENT BY FREE ZONE

## EGYPTIAN/NON-EGYPTIAN

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total
	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	
2000	425	95	4,071	850	3,256	732	19,612	3,597	10,130	1,883	37,494	7,157	44,651
2001	425	95	4,071	850	3,256	732	20,400	3,742	10,130	1,883	38,282	7,302	45,584
2002	425	95	4,071	850	3,256	732	21,188	3,887	10,130	1,883	39,070	7,447	46,517
2003	425	95	4,071	850	3,256	732	22,107	3,901	10,130	1,883	39,989	7,461	47,450
2004	425	95	4,071	850	3,256	732	22,900	4,041	10,130	1,883	40,782	7,601	48,383
2005	425	95	4,071	850	3,256	732	23,693	4,181	10,130	1,883	41,575	7,741	49,316
2006	425	95	4,071	850	3,256	732	24,416	4,309	10,130	1,883	42,298	7,869	50,167
Total													
Pct.	0.8	0.1	8.1	1.7	6.5	1.5	48.7	8.6	20.2	3.8	84.3	15.7	100.0

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-15

## FREE ZONE ANALYSIS

## SUMMARY OF FREE ZONE CONSTRUCTION WORKERS\*

(MAN-YEARS)

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total
	Free Zone Sector	In-vestor											
1978	28	16	74	377	259	115	456	362			817	914	1,731
1979	5	48	11	377	30	107	233	215	244		523	747	1,270
1980		12	126	377	100	107	100	215		134	326	845	1,171
1981						107		215		134		456	456
1982						107		215		134		456	456
1983						107		215	96	134	96	456	552
1984						107	297	215		134	297	456	753
1985					273	115		215		134	273	464	737
1986								215		134		349	349
1987								215	187	134	187	349	536
1988								215		134		349	349
1989							214	215		134	214	349	563
1990								215		134		349	349
1991								215	224	215	224	430	654
1992								215		215		430	430
1993								215		215		430	430
1994							203	215		215	203	430	633
1995								215	137	215	137	430	567
1996								215		215		430	430
1997								215				215	215
1998							174	215			174	215	389
1999								215				215	215

TABLE VII-15 (Continued)

## FREE ZONE ANALYSIS

## SUMMARY OF FREE ZONE CONSTRUCTION WORKERS\*

(MAN-YEARS)

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total
	Free Zone Sector	In- vestor											
2000								215				215	215
2001								215				215	215
2002							186	215		186	215		401
2003								215				215	215
2004								215				215	215
2005								215				215	215
2006								196				196	196

\* Based on current estimates of Alexandria Free Zone, where one construction worker exists for each L.E. 30,000 spent on construction.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-16  
FREE ZONE ANALYSIS  
FREE ZONE EMPLOYMENT TOTALS (MAN YEARS)

Year	Port Tawfik				Port Said				El Nasr City			
	Free Zone	Investor	Con-struction	Total	Free Zone	Investor	Con-struction	Total	Free Zone	Investor	Con-struction	Total
1978*	7	88	88	183	12	1,404	451	1,867	16	691	374	1,081
1979	7	260	53	320	20	2,461	388	2,869	10	1,157	137	1,304
1980	10	520	12	542	30	3,691	503	4,224	13	1,623	207	1,843
1981	10	520		530	30	4,921		4,951	16	2,089	107	2,212
1982	10	520		530	30	4,921		4,951	18	2,555	107	2,680
1983	10	520		530	30	4,921		4,951	20	3,021	107	3,148
1984	10	520		530	30	4,921		4,951	23	3,487	107	3,617
1985	10	520		530	30	4,921		4,951	25	3,988	388	4,401
1986	10	520		530	30	4,921		4,951	25	3,988		4,013
1987	10	520		530	30	4,921		4,951	25	3,988		4,013
1988	10	520		530	30	4,921		4,951	25	3,988		4,013
1989	10	520		530	30	4,921		4,951	25	3,988		4,013
1990	10	520		530	30	4,921		4,951	25	3,988		4,013
1991	10	520		530	30	4,921		4,951	25	3,988		4,013
1992	10	520		530	30	4,921		4,951	25	3,988		4,013
1993	10	520		530	30	4,921		4,951	25	3,988		4,013
1994	10	520		530	30	4,921		4,951	25	3,988		4,013
1995	10	520		530	30	4,921		4,951	25	3,988		4,013
1996	10	520		530	30	4,921		4,951	25	3,988		4,013
1997	10	520		530	30	4,921		4,951	25	3,988		4,013
1998	10	520		530	30	4,921		4,951	25	3,988		4,013
1999	10	520		530	30	4,921		4,951	25	3,988		4,013
2000	10	520		530	30	4,921		4,951	25	3,988		4,013
2001	10	520		530	30	4,921		4,951	25	3,988		4,013
2002	10	520		530	30	4,921		4,951	25	3,988		4,013
2003	10	520		530	30	4,921		4,951	25	3,988		4,013
2004	10	520		530	30	4,921		4,951	25	3,988		4,013
2005	10	520		530	30	4,921		4,951	25	3,988		4,013
2006	10	520		530	30	4,921		4,951	25	3,988		4,013

TABLE VII-16 (Continued)  
FREE ZONE ANALYSIS  
FREE ZONE EMPLOYMENT TOTALS (MAN YEARS)

Year	Alexandria				Adabiya				Total			
	Free Zone	Investor	Con-struction	Total	Free Zone	Investor	Con-struction	Total	Free Zone	Investor	Con-struction	Total
1978*	20	2,683	818	3,521	-	-	-	-	55	4,866	1,731	6,652
1979	15	3,616	448	4,079	-	-	244	244	52	7,494	1,270	8,816
1980	20	4,549	315	4,884	18	583	134	735	91	10,966	1,171	12,228
1981	20	5,752	215	5,987	18	1,166	134	1,318	94	14,448	456	14,998
1982	20	6,415	215	6,650	18	1,749	134	1,901	96	16,160	456	16,712
1983	20	7,348	215	7,583	18	2,332	230	2,580	98	18,142	552	18,792
1984	20	8,281	512	8,813	26	2,915	134	3,075	109	20,124	753	20,986
1985	40	9,214	215	9,469	26	3,498	134	3,658	131	22,141	737	23,009
1986	40	10,147	215	10,402	26	4,081	134	4,241	131	23,657	349	24,137
1987	40	11,080	215	11,335	26	4,664	321	5,011	131	25,173	536	25,840
1988	40	12,013	215	12,268	35	5,247	134	5,416	140	26,689	349	27,178
1989	40	12,946	429	13,415	35	5,830	134	5,999	140	28,205	563	28,908
1990	55	13,879	215	14,149	35	6,413	134	6,582	155	29,721	349	30,225
1991	55	14,812	215	15,082	35	7,348	439	7,822	155	31,489	654	32,298
1992	55	15,745	215	16,015	53	8,281	215	8,549	173	33,455	430	34,058
1993	55	16,678	215	16,948	53	9,214	215	9,482	173	35,321	430	35,924
1994	55	17,611	418	18,084	53	10,147	215	10,415	173	37,187	633	37,993
1995	70	18,544	215	18,829	53	11,080	352	11,485	188	39,053	567	39,808
1996	70	19,477	215	19,762	70	12,013	215	12,298	205	40,919	430	41,554
1997	70	20,410	215	20,695	70	12,013		12,083	205	41,852	215	42,272
1998	70	21,343	389	21,802	70	12,013		12,083	205	42,785	389	43,379
1999	85	22,276	215	22,576	70	12,013		12,083	220	43,718	215	44,153
2000	85	23,209	215	23,509	70	12,013		12,083	220	44,651	215	45,086
2001	85	24,142	215	24,442	70	12,013		12,083	220	45,584	215	46,019
2002	85	25,075	401	25,561	70	12,013		12,083	220	46,517	401	47,138
2003	100	26,008	215	26,323	70	12,013		12,083	235	47,450	215	47,900
2004	100	26,941	215	27,256	70	12,013		12,083	235	48,383	215	48,833
2005	100	27,874	215	28,189	70	12,013		12,083	235	49,316	215	49,766
2006	100	28,725	196	29,021	70	12,013		12,083	235	50,167	196	50,598

\* 1974 to 1978 cumulative totals.

Source: Reynolds, Smith and Hills, 1979.

presumably begin to more closely approximate the private zones in their mix of industry and warehousing.

In addition, the private free zones had 81 percent Egyptian employees and 19 percent non-Egyptian in 1978. These same proportions were utilized to make projections of total wages paid to free zone workers at the smaller free zones, while Alexandria and Adabiya were assumed to have a declining proportion of non-Egyptians over time.

It is assumed that all wages paid to Egyptian workers will accrue to Egypt's economy, while 50 percent of those paid to non-Egyptians will accrue to Egypt. Half of foreign employee's income may legally leave Egypt, and it is assumed that it will.

The Government of Egypt will also receive benefits in the form of money paid by investors (through fringes on wages) for health and community services for employees. The actual figure of fringes paid on salaries by investors is close to 24 percent of wages. For the benefit analysis, we lowered that figure to 20 percent, since not all of the fringes will accrue to Egypt as the investors are allowed to have their own plans for employee benefits. Therefore, some profits and benefits of the fringes will be paid in foreign countries. The rest will go to Egyptian hospitals, or to Egyptian employees in their old age, etc., and should be counted as benefits to the Egyptian economy. Table VII-17 summarizes the impact of investor wages and fringes for the free zones. A similar analysis has been performed of the Free Zone Sector employees and is summarized on Table VII-18.

Fees and Rental. Various benefits will accrue to the Egyptian economy through the sales of goods and services by free zone investors. To estimate the total sales volume of the free zones, data from the Port Said Free Zone was used. In that zone, fees of L.E. 3.59 per square meter of allocated space were collected. It was assumed that this represents one percent of the sales volume of the zone per square meter. According to Article 46 of Law 43, annual duties will not exceed one percent of the value of goods entering or leaving the free zones. The fee collected for these items is actually closer to 0.75 percent. Also, transit goods are exempt from the fee, while fees collected on services do not exceed three percent of the annual value added of the project. Given the concentration of the Port Said Free Zone on warehousing and, to a lesser degree, industry, fee collection averaging one percent is reasonable. Also, in the future, the free zones are not expected to have a high volume of services, so the assumption of one percent should still be valid.

Therefore, the annual sales volume at Port Said is assumed to average L.E. 359 per square meter (using the one percent assumption), or L.E. 1,508,159 per feddan. These figures are then used to make conservative estimates of the sales volume of the various free zones.

TABLE VII-17

## FREE ZONE ANALYSIS

## PROJECTED INVESTOR WAGE, FRINGE BENEFITS

## ACCRUING TO EGYPT

(L.E. MILLIONS)

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total
	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	
1978	0.1	-	2.3	0.9	1.1	0.4	4.4	1.8	-	-	7.9	3.1	11.0
1979	0.4	0.2	4.1	1.6	1.9	0.8	6.0	2.4	-	-	12.4	5.0	17.4
1980	0.8	0.3	6.1	2.4	2.7	1.1	7.5	3.0	1.0	0.4	18.1	7.2	25.3
1981	0.8	0.3	8.2	3.1	3.5	1.4	9.6	3.6	1.9	0.8	24.0	9.2	33.2
1982	0.8	0.3	8.2	3.1	4.2	1.7	10.6	4.2	2.9	1.2	26.7	10.5	37.2
1983	0.8	0.3	8.2	3.1	5.0	2.0	12.1	4.9	3.9	1.5	30.0	11.8	41.8
1984	0.8	0.3	8.2	3.1	5.8	2.3	13.7	5.5	4.8	1.9	33.3	13.1	46.4
1985	0.8	0.3	8.2	3.1	6.6	2.6	15.2	6.1	5.8	2.3	36.6	14.4	51.0
1986	0.8	0.3	8.2	3.1	6.6	2.6	16.8	6.7	6.7	2.7	39.1	15.4	54.5
1987	0.8	0.3	8.2	3.1	6.6	2.6	18.3	7.3	7.7	3.1	41.6	16.4	58.0
1988	0.8	0.3	8.2	3.1	6.6	2.6	19.9	7.9	8.7	3.5	44.2	17.4	61.6
1989	0.8	0.3	8.2	3.1	6.6	2.6	21.4	8.6	9.6	3.9	46.6	18.5	65.1
1990	0.8	0.3	8.2	3.1	6.6	2.6	22.9	9.2	10.6	4.2	49.1	19.4	68.5
1991	0.8	0.3	8.2	3.1	6.6	2.6	24.6	9.6	12.2	4.8	52.4	20.4	72.8
1992	0.8	0.3	8.2	3.1	6.6	2.6	26.3	9.9	13.9	5.2	55.8	21.1	76.9
1993	0.8	0.3	8.2	3.1	6.6	2.6	27.9	10.5	15.5	5.6	59.0	22.1	81.1
1994	0.8	0.3	8.2	3.1	6.6	2.6	29.6	10.8	17.2	6.0	62.4	22.8	85.2
1995	0.8	0.3	8.2	3.1	6.6	2.6	31.2	11.3	18.8	6.4	65.6	23.7	89.3
1996	0.8	0.3	8.2	3.1	6.6	2.6	32.9	11.6	20.5	6.8	69.0	24.4	93.4
1997	0.8	0.3	8.2	3.1	6.6	2.6	34.5	12.1	20.5	6.8	70.6	24.9	95.5
1998	0.8	0.3	8.2	3.1	6.6	2.6	36.3	12.2	20.5	6.8	72.4	25.0	97.4
1999	0.8	0.3	8.2	3.1	6.6	2.6	37.9	12.8	20.5	6.8	74.0	25.6	99.6

TABLE VII-17 (Continued)

## FREE ZONE ANALYSIS

## PROJECTED INVESTOR WAGE, FRINGE BENEFITS

## ACCRUING TO EGYPT

(L.E. MILLIONS)

Year	Port Tawfik*		Port Said		El Nasr City		Alexandria		Adabiya		Total**		Total
	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	
2000	0.8	0.3	8.2	3.1	6.6	2.6	39.7	12.9	20.5	6.8	75.8	25.7	101.5
2001	0.8	0.3	8.2	3.1	6.6	2.6	41.3	13.5	20.5	6.8	77.4	26.3	103.7
2002	0.8	0.3	8.2	3.1	6.6	2.6	42.9	14.0	20.5	6.8	79.0	26.8	105.8
2003	0.8	0.3	8.2	3.1	6.6	2.6	44.8	14.0	20.5	6.8	80.9	26.8	107.7
2004	0.8	0.3	8.2	3.1	6.6	2.6	46.4	14.5	20.5	6.8	82.5	27.4	109.9
2005	0.8	0.3	8.2	3.1	6.6	2.6	48.0	15.0	20.5	6.8	84.1	27.9	112.0
2006	0.8	0.3	8.2	3.1	6.6	2.6	49.5	15.5	20.5	6.8	85.6	28.4	114.0

\* Port Tawfik's Egypt figures are based on L.E. 1634/year plus 24% benefits.

Port Tawfik's Non-Egypt figures are based on L.E. 6,000/year plus 20% benefits and Egypt accruing 50%.

\*\* Non-Egypt figures are based on the value of foreign exchange.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-18  
FREE ZONE ANALYSIS  
FREE ZONE SECTOR COSTS, EMPLOYMENT (L.E. MILLIONS)

Year	Port Tawfik				Port Said				El Nasr City			
	Free Zone Customs Security Employmt.	Wages* Fringes	Other Costs	Total Egypt Costs	Free Zone Customs Security Employmt.	Wages* Fringes	Other Costs	Total Egypt Costs	Free Zone Customs Security Employmt.	Wages* Fringes	Other Costs	Total Egypt Costs
1978**	7	.02	.01	.03	12	.04	.01	.05	16	.05	.07	.13
1979	7	.02	.01	.03	20	.06	.04	.10	10	.04	.07	.11
1980	10	.03	.02	.05	30	.10	.07	.17	13	.04	.22	.26
1981	10	.03	.02	.05	30	.10	.07	.17	16	.05	.25	.30
1982	10	.03	.02	.05	30	.10	.07	.17	18	.06	.24	.30
1983	10	.03	.02	.05	30	.10	.07	.17	20	.07	.24	.31
1984	10	.03	.02	.05	30	.10	.07	.17	23	.07	.20	.27
1985	10	.03	.02	.05	30	.10	.07	.17	25	.08	.20	.28
1986	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1987	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1988	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1989	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1990	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1991	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1992	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1993	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1994	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1995	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1996	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1997	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1998	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
1999	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2000	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2001	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2002	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2003	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2004	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2005	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19
2006	10	.03	.02	.05	30	.10	.07	.17	25	.08	.11	.19

TABLE VII-18 (Continued)  
FREE ZONE ANALYSIS  
FREE ZONE SECTOR COSTS, EMPLOYMENT (L.E. MILLIONS)

Year	Alexandria				Adabiya				Total			
	Free Zone Customs Security Employmt.	Wages* Fringes	Other Costs	Total Egypt Costs	Free Zone Customs Security Employmt.	Wages* Fringes	Other Costs	Total Egypt Costs	Free Zone Customs Security Employmt.	Wages* Fringes	Other Costs	Total Egypt Costs
1978**	20	.07	.08	.20	-	-	-	-	55	.18	.23	.41
1979	15	.05	.10	.15	-	-	-	-	55	.17	.22	.39
1980	20	.06	.28	.34	18	.06	.21	.27	69	.23	.76	.99
1981	20	.06	.33	.39	18	.06	.21	.27	70	.24	.84	1.08
1982	20	.06	.33	.39	18	.06	.21	.27	72	.25	.83	1.08
1983	20	.06	.33	.38	18	.06	.21	.27	73	.26	.83	1.09
1984	20	.06	.33	.39	26	.09	.19	.26	82	.29	.77	1.06
1985	40	.13	.40	.53	26	.09	.19	.28	104	.37	.84	1.21
1986	40	.13	.40	.53	26	.09	.19	.28	104	.37	.75	1.12
1987	40	.13	.40	.53	26	.09	.19	.28	104	.39	.75	1.14
1988	40	.13	.40	.53	35	.11	.25	.36	113	.39	.81	1.20
1989	40	.13	.40	.53	35	.11	.25	.36	113	.39	.81	1.20
1990	55	.17	.50	.67	35	.11	.25	.36	128	.43	.91	1.34
1991	55	.17	.50	.67	35	.11	.25	.36	128	.43	.91	1.34
1992	55	.17	.50	.67	53	.17	.27	.44	146	.49	.93	1.46
1993	55	.17	.50	.67	53	.17	.27	.44	146	.49	.93	1.46
1994	55	.17	.50	.67	53	.17	.27	.44	146	.49	.93	1.46
1995	70	.22	.58	.80	53	.17	.27	.44	161	.54	1.01	1.59
1996	70	.22	.58	.80	70	.21	.29	.50	178	.58	1.03	1.61
1997	70	.22	.58	.80	70	.21	.29	.50	178	.58	1.03	1.61
1998	70	.22	.58	.80	70	.21	.29	.50	178	.58	1.03	1.61
1999	85	.26	.66	.92	70	.21	.29	.50	193	.62	1.11	1.73
2000	85	.26	.66	.92	70	.21	.29	.50	193	.62	1.11	1.73
2001	85	.26	.66	.92	70	.21	.29	.50	193	.62	1.11	1.73
2002	85	.26	.66	.92	70	.21	.29	.50	193	.62	1.11	1.73
2003	100	.31	.74	1.05	70	.21	.29	.50	208	.67	1.19	1.86
2004	100	.31	.74	1.05	70	.21	.29	.50	208	.67	1.19	1.86
2005	100	.31	.74	1.05	70	.21	.29	.50	208	.67	1.19	1.86
2006	100	.31	.74	1.05	70	.21	.29	.50	208	.67	1.19	1.86

\* Based on L.E./year plus 24% fringe.

\*\* Includes years from 1974 to 1978.

Source: Reynolds, Smith and Hills, 1979.

As previously mentioned, it is assumed that fees on total sales currently average around one percent and that these fees will continue to average around one percent in the future. This will presumably be true in all the free zones, both for existing and future projects.

A direct benefit to Egypt will also come in the form of rent collected by the Free Zone Sector from the investors. The rent to be collected on a per square meter basis is calculated using existing rates for each present free zone, and projected rates for Adabiya. The results of the analysis of fees and rentals are shown on Table VII-19.

Investor Contributions. The investors are anticipated to stimulate the Egyptian economy through means other than wages. The most direct examples are local purchases for production, operating and maintenance costs, and the return of profits of Egyptian capital.

Of the total purchases made by firms in Egyptian free zones, only a portion will actually affect the local economy. For instance, the firms located in Port Tawfik purchase approximately 5 percent of their materials locally, while at Port Said local materials are estimated to approximate 10 percent of the total purchases. At both Alexandria and Nasr City, local materials will likely make up approximately 15 percent of purchases; while at Adabiya, it should be between 20 and 25 percent as Adabiya will be oriented to the local economy. These figures are based on past experience at the existing free zones, and on concepts of the types of industries which will locate in the new zones. Total purchases are estimated by taking the figure derived for total sales and subtracting wages, fringes, fees, rent, profit, plus operational expenditures. The remainder should approximate the purchases being made by the free zone firms. The local purchases will represent one of the largest contributions to the local economy.

Operational expenditures include such items as private security, building maintenance, and utility bills. An analysis of the approximate annual costs of such items were used to derive a figure approximating 2 percent of total sales.

Another benefit coming from free zone sales will be Egyptian investment profits. Currently approved projects in the public free zones show foreign capital investment to be 92.6 percent of the total capital investment for those projects, with local (Egyptian) investments being approximately 7.4 percent. We are assuming that profits will be distributed in the same proportion as the initial capital investment, and that the proportion of local to foreign capital will remain fairly stable over time. Since foreign profits can be repatriated, we are assuming that only 7.4 percent of total profits will accrue to Egypt.

Surveys of American industry profits yields averages (depending on the sector) ranging from 5 to 12 percent of total sales. Considering the

TABLE VII-19

## FREE ZONE ANALYSIS

## FEES AND RENTAL REVENUES

CONVERTED TO L.E. MILLIONS

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total
	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	
1978	0.02	0.13	1.7	2.7	0.2	0.0	0.7	0.2	-	-	2.6	3.03	5.63
1979	0.1	0.05	1.4	1.1	0.3	0.1	1.0	0.3	-	-	2.8	1.55	4.35
1980	0.2	0.05	1.4	1.1	0.4	0.1	1.3	0.4	0.2	0.1	3.5	1.75	5.25
1981	0.2	0.05	1.5	1.1	0.6	0.2	1.6	0.4	0.4	0.1	4.3	1.85	6.15
1982	0.2	0.05	1.5	1.1	0.7	0.2	1.9	0.5	0.5	0.2	4.8	2.05	6.85
1983	0.2	0.05	1.5	1.1	0.9	0.2	2.2	0.6	0.7	0.2	5.5	2.15	7.65
1984	0.2	0.05	1.5	1.1	1.0	0.3	2.4	0.7	0.9	0.3	6.0	2.45	8.45
1985	0.2	0.05	1.5	1.1	1.2	0.3	2.7	0.8	1.1	0.3	6.7	2.65	9.35
1986	0.2	0.05	1.5	1.1	1.2	0.3	3.0	0.8	1.3	0.4	7.2	2.75	9.95
1987	0.2	0.05	1.5	1.1	1.2	0.3	3.3	0.9	1.4	0.4	7.6	2.85	10.45
1988	0.2	0.05	1.5	1.1	1.2	0.3	3.6	1.0	1.6	0.5	8.1	3.05	11.15
1989	0.2	0.05	1.5	1.1	1.2	0.3	3.9	1.1	1.8	0.5	8.6	3.15	11.75
1990	0.2	0.05	1.5	1.1	1.2	0.3	4.2	1.2	2.0	0.6	9.1	3.35	12.45
1991	0.2	0.05	1.5	1.1	1.2	0.3	4.4	1.2	2.3	0.6	9.6	3.35	12.95
1992	0.2	0.05	1.5	1.1	1.2	0.3	4.7	1.3	2.5	0.7	10.1	3.55	13.65
1993	0.2	0.05	1.5	1.1	1.2	0.3	5.0	1.4	2.8	0.8	10.7	3.75	14.45
1994	0.2	0.05	1.5	1.1	1.2	0.3	5.3	1.5	3.1	0.9	11.3	3.95	15.25
1995	0.2	0.05	1.5	1.1	1.2	0.3	5.6	1.6	3.4	1.0	11.9	4.15	16.05
1996	0.2	0.05	1.5	1.1	1.2	0.3	5.9	1.6	3.7	1.0	12.5	4.15	16.65
1997	0.2	0.05	1.5	1.1	1.2	0.3	6.2	1.7	3.7	1.0	12.8	4.25	17.05
1998	0.2	0.05	1.5	1.1	1.2	0.3	6.5	1.8	3.7	1.0	13.1	4.35	17.45
1999	0.2	0.05	1.5	1.1	1.2	0.3	6.7	1.9	3.7	1.0	13.3	4.45	17.75

TABLE VII-19 (Continued)

## FREE ZONE ANALYSIS

## FEES AND RENTAL REVENUES

CONVERTED TO L.E. MILLIONS

Year	Port Tawfik		Port Said		El Nasr Cicy		Alexandria		Adabiya		Total		Total
	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	Egypt	Non-Egypt	
2000	0.2	0.05	1.5	1.1	1.2	0.3	7.0	2.0	3.7	1.0	13.6	4.55	18.15
2001	0.2	0.05	1.5	1.1	1.2	0.3	7.3	2.0	3.7	1.0	13.9	4.55	18.45
2002	0.2	0.05	1.5	1.1	1.2	0.3	7.6	2.1	3.7	1.0	14.2	4.65	18.85
2003	0.2	0.05	1.5	1.1	1.2	0.3	7.9	2.2	3.7	1.0	14.5	4.75	19.25
2004	0.2	0.05	1.5	1.1	1.2	0.3	8.2	2.3	3.7	1.0	14.8	4.85	19.65
2005	0.2	0.05	1.5	1.1	1.2	0.3	8.5	2.4	3.7	1.0	15.3	4.95	20.25
2006	0.2	0.05	1.5	1.1	1.2	0.3	8.7	2.4	3.7	1.0	15.5	4.95	20.45
Total	5.5	1.5	43.5	33.5	30.5	7.7	137.3	38.3	66.7	18.6	283.9	101.83	385.73

Source: Reynolds, Smith and Hills, 1979.

sectors most likely to locate in the free zones, and the fact that most foreign companies will wish to put their risk capital in a fairly high profit operation, it is assumed that average profits of companies in the free zone will be approximately 12 percent. Total profits which will accrue to Egypt are expected to be 7.4 percent of 12 percent of total sales value, or 0.9 percent of sales. Table VII-20 summarizes the investor contributions, other than wages, to the Egyptian economy.

Investment. Benefits will also be derived from expenditures by the investors during the construction phase of their operation. These expenditures will include wages and fringes paid to construction workers, as well as local materials purchased for construction. A figure of L.E. 115 per square meter of developed land is assumed for this purpose and less than 30 percent is assumed to accrue to Egypt.

Likewise, benefits to the Egyptian economy will accrue directly from expenditures for the establishment of infrastructure at the free zones by the Free Zone Sector, both in the form of construction workers' wages, and in terms of local materials used in construction. It is assumed that 70 percent of the infrastructure costs will be spent for Egyptian goods and labor, while the remaining 30 percent will be primarily used to purchase foreign materials. This ratio is derived from the current proportions spent at the free zones. Tables VII-21 and VII-22 summarize the investment activity.

Free Zone Sector Costs and Benefits. The Free Zone Sector, through its annual operation and maintenance of the free zones, also benefits the Egyptian economy in the form of jobs for staff, security, customs, and service personnel, as well as in the form of material purchases. Wages are anticipated make up an average of approximately 78 percent of the annual operation and maintenance costs and it is assumed that all of these personnel will be Egyptian, and that all of their wages will enter the local economy. As with investors' employees, the fringes paid on wages will also accrue to the Egyptian economy. However, in this case, no foreign health or retirement plans will be involved, so the full 24 percent of wages paid on fringes will be used. Of course, all of these items (wages, fringes, and materials) are also expressed directly as costs as well as benefits in the cost/benefit analysis.

In addition to the above, there are numerous benefits to Egypt which will come from the construction of the public free zones which are non-quantifiable. These would include the transfer of technology and associated increase in skills in the Egyptian labor force, improvement in the quality of life of many Egyptians, and the indirect benefits which will come about from the money being spent by the free zone workers. Also, while most foreign equipment will return to the investor's home country when a project is terminated, some of it will undoubtedly remain in Egypt. Similarly, when an investor vacates a building, it becomes the property of the Government of Egypt, thus providing a further source of revenue.

TABLE VII-20  
FREE ZONE ANALYSIS  
SUMMARY OF SALES VALUE, LOCAL PURCHASES, LOCAL EXPENSES,  
AND LOCAL PROFITS BASED ON CURRENT TRENDS (L.E. MILLION)

Year	Port Tawfik					Port Said					El Nasr City				
	Total Sales	Local Purchases	Local Expenses	Local Profits	Total Contribution	Total Sales	Local Purchases	Local Expenses	Local Profits	Total Contribution	Total Sales	Local Purchases	Local Expenses	Local Profits	Total Contribution
1978	1.5	-	-	-	-	123.5	1.0	2.5	1.1	4.6	15.4	1.7	0.3	0.1	2.1
1979	8.0	0.3	0.2	0.1	0.6	137.5	1.1	2.8	1.2	5.1	29.8	3.3	0.6	0.2	4.1
1980	16.0	0.6	0.3	0.1	1.0	144.5	1.1	2.9	1.3	5.3	44.2	4.9	0.9	0.4	6.2
1981	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	58.5	6.5	1.2	0.5	8.3
1982	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	72.9	8.1	1.5	0.6	10.2
1983	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	87.2	9.7	1.7	0.8	12.2
1984	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	101.6	11.4	2.0	0.9	15.3
1985	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1986	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1987	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1988	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1989	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1990	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1991	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1992	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1993	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1994	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1995	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1996	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1997	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1998	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
1999	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2000	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2001	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2002	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2003	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2004	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2005	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
2006	16.0	0.6	0.3	0.1	1.0	151.5	1.1	3.0	1.4	5.5	117.0	13.1	2.3	1.1	16.5
Total	441.5	16.5	8.3	2.8	27.6	4,344.5	31.8	86.2	40.0	158.0	2,983.6	333.8	58.8	27.7	421.4

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TABLE VII-20 (Continued)  
FREE ZONE ANALYSIS  
SUMMARY OF SALES VALUE, LOCAL PURCHASES, LOCAL EXPENSES,  
AND LOCAL PROFITS BASED ON CURRENT TRENDS (L.E. MILLION)

Year	Alexandria					Adabiya				
	Total Sales	Local Purchases	Local Ex-penses	Local Profits	Total Contri-bution	Total Sales	Local Pur-chases	Local Ex-penses	Local Profits	Total Contri-bution
1978	71.8	6.7	1.4	0.6	8.7	-	-	-	-	-
1979	100.5	11.5	2.0	0.9	14.4	-	-	-	-	-
1980	129.2	15.2	2.6	1.2	19.0	18.0	3.4	0.4	0.2	4.0
1981	158.0	18.7	3.2	1.4	23.3	35.9	6.7	0.7	0.3	7.7
1982	186.7	22.3	3.7	1.7	27.7	53.8	10.1	1.1	0.5	11.7
1983	215.4	26.0	4.3	1.9	32.2	71.8	13.4	1.4	0.6	15.4
1984	244.1	29.9	4.9	2.2	37.0	89.8	16.8	1.8	0.8	19.4
1985	272.8	33.7	5.5	2.5	41.7	107.7	20.1	2.2	1.0	23.3
1986	301.6	37.4	6.0	2.7	46.1	125.6	23.5	2.5	1.1	27.1
1987	330.3	40.9	6.6	2.9	50.4	143.6	26.8	2.9	1.3	31.0
1988	359.0	44.6	7.2	3.2	55.0	161.5	30.2	3.2	1.5	34.9
1989	387.7	48.3	7.7	3.5	59.5	179.5	33.6	3.6	1.6	38.8
1990	416.4	51.9	8.3	3.7	63.9	197.5	36.9	3.9	1.7	42.5
1991	445.2	55.6	8.9	4.0	68.5	226.2	42.3	4.5	2.0	48.8
1992	473.9	59.3	9.5	4.3	73.1	254.8	47.7	5.1	2.3	55.1
1993	502.6	62.9	10.1	4.5	77.5	283.6	53.0	5.7	2.6	61.3
1994	531.3	66.7	10.6	4.8	82.1	312.3	58.4	6.2	2.8	67.4
1995	560.0	70.4	11.2	5.0	86.6	341.0	63.8	6.8	3.1	73.7
1996	588.8	74.1	11.8	5.3	91.2	369.8	69.1	7.4	3.3	79.8
1997	617.5	77.9	12.3	5.6	95.8	369.8	69.1	7.4	3.3	79.8
1998	646.2	81.7	12.9	5.8	100.4	369.8	69.1	7.4	3.3	79.8
1999	674.9	85.6	13.5	6.1	105.2	369.8	69.1	7.4	3.3	79.8
2000	703.6	89.5	14.1	6.3	109.9	369.8	69.1	7.4	3.3	79.8
2001	732.4	93.2	14.6	6.6	114.4	369.8	69.1	7.4	3.3	79.8
2002	761.1	96.9	15.2	6.9	119.0	369.8	69.1	7.4	3.3	79.8
2003	789.8	100.6	15.8	7.1	123.5	369.8	69.1	7.4	3.3	79.8
2004	818.5	104.4	16.4	7.4	128.2	369.8	69.1	7.4	3.3	79.8
2005	847.2	108.1	16.9	7.6	132.6	369.8	69.1	7.4	3.3	79.8
2006	873.4	111.5	17.5	7.9	136.9	369.8	69.1	7.4	3.3	79.8
Total	13,739.9	1,725.5	274.7	123.6	2,123.8	6,670.4	1,246.8	133.4	59.7	1,439.9

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-21  
FREE ZONE ANALYSIS  
SUMMARY OF FREE ZONE SECTOR INVESTMENT  
LOCAL, FOREIGN CURRENCY (L.E. MILLION)

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total		Total	Foreign Investment*
	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign		
1978**	.60	.25	1.56	.66	5.43	2.33	9.57	4.10	-	-	17.16	7.34	24.50	10.49
1979	.10	.05	.22	.10	.44	.19	4.90	2.10	5.13	2.20	10.79	4.64	15.43	6.63
1980	***	***	2.65	1.13	2.10	.90	2.10	.90	-	-	6.85	2.93	9.78	4.19
1981			***	***	-	-	-	-	-	-	-	-	-	-
1982					-	-	-	-	-	-	-	-	-	-
1983					-	-	-	-	2.01	.86	2.01	.86	2.87	1.23
1984					-	-	8.53	3.65	-	-	8.53	3.65	12.18	5.21
1985					***	***	-	-	-	-	-	-	-	-
1986							-	-	-	-	-	-	-	-
1987							-	-	3.92	1.68	3.92	1.68	5.60	2.40
1988							-	-	-	-	-	-	-	-
1989							6.45	2.77	-	-	6.45	2.77	9.22	3.96
1990							-	-	-	-	-	-	-	-
1991							-	-	4.70	2.01	4.70	2.01	6.71	2.87
1992							-	-	-	-	-	-	-	-
1993							-	-	-	-	-	-	-	-
1994							6.17	2.64	-	-	6.17	2.64	8.81	3.77
1995							-	-	2.87	1.23	2.87	1.23	4.10	1.75
1996							-	-	-	-	-	-	-	-
1997							-	-	-	-	-	-	-	-
1998							5.28	2.26	-	-	5.28	2.26	7.54	3.23
1999							-	-	***	***	-	-	-	-
2000							-	-	-	-	-	-	-	-
2001							-	-	-	-	-	-	-	-
2002							5.60	2.40	-	-	5.60	2.40	8.00	3.43
2003							-	-	-	-	-	-	-	-
2004							-	-	-	-	-	-	-	-
2005							-	-	-	-	-	-	-	-
2006							***	***	-	-	-	-	-	-
Total	.70	.30	4.43	1.89	7.97	3.42	48.60	20.82	18.63	7.98	80.33	34.41	114.74	48.86

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TABLE VII-21 (Continued)  
 FREE ZONE ANALYSIS  
 SUMMARY OF FREE ZONE SECTOR INVESTMENT  
 LOCAL, FOREIGN CURRENCY (L.E. MILLION)

Year	Alexandria Redesign		Redesign Total		Redesign Total	Foreign Investment*
	Local	Foreign	Local	Foreign		
1978**	9.57	4.10	17.16	7.34	24.50	10.49
1979	4.90	2.10	10.79	4.64	15.43	6.63
1980	2.10	.90	6.85	2.93	9.78	4.19
1981	-	-	-	-	-	-
1982	-	-	-	-	-	-
1983	-	-	2.01	.86	2.87	1.23
1984	6.24	2.67	6.24	2.67	8.91	3.81
1985	-	-	-	-	-	-
1986	-	-	-	-	-	-
1987	-	-	3.92	1.68	5.60	2.40
1988	-	-	-	-	-	-
1989	4.50	1.93	4.50	1.93	6.43	2.76
1990	-	-	-	-	-	-
1991	-	-	4.70	2.01	6.71	2.87
1992	-	-	-	-	-	-
1993	-	-	-	-	-	-
1994	4.25	1.82	4.25	1.82	6.07	2.60
1995	-	-	2.87	1.23	4.10	1.75
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	3.67	1.57	3.67	1.57	5.24	2.24
1999	-	-	-	-	-	-
2000	-	-	-	-	-	-
2001	-	-	-	-	-	-
2002	3.91	1.67	3.91	1.67	5.58	2.39
2003	-	-	-	-	-	-
2004	-	-	-	-	-	-
2005	-	-	-	-	-	-
2006	-	-	-	-	-	-
Total	39.14	16.76	70.87	30.35	101.22	43.36

\* U.S. dollars in millions; rate of exchange: L.E. 70 = \$1.00.

\*\* Total of 1974-1978 expenditures.

\*\*\* Available free zone land absorbed.

Source: Reynolds, Smith and Hills, 1979.

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TABLE VII-22

## FREE ZONE ANALYSIS

## SUMMARY OF INVESTOR CONSTRUCTION EXPENDITURES

## TOTAL AND EGYPT PROPORTION

(L.E. MILLIONS)

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total	
	Total	Egypt	Total	Egypt	Total	Egypt	Total	Egypt	Total	Egypt	Total	Egypt
1978	5.09	0.46	29.37	1.27	10.64	0.45	29.50	3.30	0.0	0.0	74.60	5.48
1979	9.54	0.85	44.06	1.90	11.22	0.47	29.50	3.30	0.0	0.0	94.32	6.52
1980	9.54	0.85	44.06	1.90	15.95	1.30	23.60	2.64	15.95	1.30	109.10	7.99
1981			14.69	0.63	15.95	1.30	23.60	2.64	15.95	1.30	70.19	5.87
1982					15.95	1.30	23.60	2.64	15.95	1.30	55.50	5.24
1983					15.95	1.30	23.60	2.64	15.95	1.30	55.50	5.24
1984					15.95	1.30	25.52	2.08	15.95	1.30	57.42	4.68
1985					13.72	1.12	25.52	2.08	15.95	1.30	55.19	4.50
1986							25.52	2.08	15.95	1.30	41.47	3.38
1987							25.52	2.08	15.95	1.30	41.47	3.38
1988							25.52	2.08	15.95	1.30	41.47	3.38
1989							25.52	2.08	15.95	1.30	41.47	3.38
1990							25.52	2.08	15.95	1.30	41.47	3.38
1991							25.52	2.08	25.52	2.08	51.04	4.16
1992							25.52	2.08	25.52	2.08	51.04	4.16
1993							25.52	2.08	25.52	2.08	51.04	4.16
1994							25.52	2.08	25.52	2.08	51.04	4.16
1995							25.52	2.08	25.52	2.08	51.04	4.16
1996							25.52	2.08	25.52	2.08	51.04	4.16
1997							25.52	2.08			25.52	2.08
1998							25.52	2.08			25.52	2.08
1999							25.52	2.08			25.52	2.08

TABLE VII-22

FREE ZONE ANALYSIS

SUMMARY OF INVESTOR CONSTRUCTION EXPENDITURES

TOTAL AND EGYPT PROPORTION

(L.E. MILLIONS)

Year	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total	
	Total	Egypt	Total	Egypt	Total	Egypt	Total	Egypt	Total	Egypt	Total	Egypt
2000							25.52	2.08			25.52	2.08
2001							25.52	2.08			25.52	2.08
2002							25.52	2.08			25.52	2.08
2003							25.52	2.08			25.52	2.08
2004							25.52	2.08			25.52	2.08
2005							25.52	2.08			25.52	2.08
2006							23.29	1.90			23.29	1.90

Source: Reynolds, Smith and Hills, 1979.

Various costs to the Government of Egypt will result from the completion of the existing free zones and the construction of the Adabiya Free Zone. The most obvious includes the cost of establishing each zones' infrastructure, as well as operation and maintenance costs for the zones.

In addition, there is the cost of providing community services (health care, pensions, etc.) for all free zone workers. This is paid for primarily through fringes on wages. Therefore, fringes not already included in the above costs (infrastructure and operations and maintenance) should be added into the total cost to the government.

Shadow Pricing. In the past several years, a number of organizations have employed shadow pricing techniques for cost/benefit studies in Egypt. Shadow prices were derived for currency exchange, wage rates, and various goods and services, to make them more accurately reflect their value or cost to the economy. For instance, the official exchange rate for Egyptian Pounds to foreign currency was substantially different from the parallel rate which formerly existed. It was felt that the parallel rate much more accurately reflected the true value of the Egyptian Pound on the world market. Since calculations were necessarily made at the official rate, the currency was assigned a shadow factor, which, in effect, brought it down to a level that was close to its actual value. Similarly, owing to high unemployment and underemployment in Egypt, wages did not accurately reflect their true value to the economy while subsidies, tariffs, and duties distorted the true value (or cost to the government) of various goods and services. Therefore, labor and select goods and services were assigned shadow factors as well.

The government subsidizes many goods and services purchased in Egypt. Therefore, when free zone employees purchase certain items, it represents a differential cost to the government. The U.S. State Department has recently noted that the amount which the government has to pay to subsidize goods and services purchased by an average worker amounts to about 25 percent of his wages. While this percentage varies with an individual's purchases, the 25 percent figure presumably represents a reasonable average. Therefore, as a cost to the government, the analysis used 25 percent of all wages paid to staff, construction workers, and all Egyptian employees of the investors. Also the 25 percent figure was applied to the half of non-Egyptian's wages which would be spent in Egypt.

In addition, the 25 percent figure is also applied to all local construction materials used in the free zones. Some of these materials are subsidized, though an exact figure is not accurately determinable. The figure used herein is thought to give reasonable consideration to this factor of the Egyptian economy. The cost of providing electricity and water and sewer services to the individual investors is assumed to be

double the investors' cost, to cover the extremely high subsidies on these items.

In reviewing various studies which employed shadow pricing in Egypt, it was noted that the shadow factor for some items varied quite substantially from study to study, and many were of questionable validity. In attempting to resolve the differences between shadow prices and to verify others, two important observations were made. First, reliable data is not available for use in calculating shadow factors for many commodities. Judging from the variance in factors employed in other studies, it is evident that many of them were based on simple guesses. Second, the two most important factors which made shadow pricing necessary in Egypt in the first place have changed substantially. The official rate of currency exchange has recently been changed to more closely reflect actual market value. Also, the existing wage rates are now a much better reflection of market value, as there is a fairly high employment rate in all levels of society, and the wage rates have gone up with competition for jobs. These considerations have led the World Bank to discontinue their use of shadow pricing in Egypt. They are now using the existing market rates to reflect the true market value of the currency, wages, goods, and services.

We have decided to follow this same basic course by eliminating most shadow pricing. To consider subsidies on goods and services purchased by the investors and all employees in the free zones, relationships between expenditures and subsidies were isolated and are noted as government costs. Additionally, the rate of exchange for L.E. to U.S. dollars is ranged between the official rate of L.E. 0.70/\$1.00 and L.E. 0.85/\$1.00. Too, subsidies on electricity are included in the government costs by utilizing a rate/kWh double that charged to the free zone investors.

## 2. Financial Summary

The application of the assumptions described above results in cash flow profiles for the existing free zones which are summarized in Tables VII-23 through VII-27: the Adabiya financial cash flow was presented in Chapter IV.

Because of its relatively small area, Port Tawfik does not present a significant factor in the financial considerations. Port Tawfik will generate revenues for Egypt. While it will require management and control, it should not be considered as a crucial free zone.

Port Said is significantly operational at minimum investment cost to Egypt (aside from possible off-site investments which were not covered in this report). The key statistic for Port Said is that the Egyptian investment costs should be recovered by the early 1980s. Substantial variation in expenses would not detract from the free zone performance.

TABLE VII-23  
 FREE ZONE ANALYSIS  
 PORT TAWFIK FREE ZONE CASH FLOW  
 (L.E. MILLIONS)

Year	Investment	Revenues	Expenses	Free Zone Income	Cash Flow
0 (1979)*	(.99)	.15	(.03)	.12	(.87)
1	(.15)	.25	(.05)	.20	.05
2		.25	(.05)	.20	.20
3		.25	(.05)	.20	.20
4		.25	(.05)	.20	.20
5		.25	(.05)	.20	.20
6		.25	(.05)	.20	.20
7		.25	(.05)	.20	.20
8		.25	(.05)	.20	.20
9		.25	(.05)	.20	.20
10		.25	(.05)	.20	.20
11		.25	(.05)	.20	.20
12		.25	(.05)	.20	.20
13		.25	(.05)	.20	.20
14		.25	(.05)	.20	.20
15		.25	(.05)	.20	.20
16		.25	(.05)	.20	.20
17		.25	(.05)	.20	.20
18		.25	(.05)	.20	.20
19		.25	(.05)	.20	.20
20		.25	(.05)	.20	.20
21		.25	(.05)	.20	.20
22		.25	(.05)	.20	.20
22		.25	(.05)	.20	.20
23		.25	(.05)	.20	.20
24		.25	(.05)	.20	.20
25		.25	(.05)	.20	.20
26		.25	(.05)	.20	.20
27	<u>.09</u>	<u>.25</u>	<u>(.05)</u>	<u>.20</u>	<u>.29</u>
Total	(1.05)	6.90	(1.38)	5.52	4.47

Investment Payback Year = 1985  
 Present Value at 20% = .87  
 Internal Rate of Return = 20%

\* Represents present value of construction for period 1976-1979 at 6%.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-24  
 FREE ZONE ANALYSIS  
 PORT SAID FREE ZONE CASH FLOW  
 (L.E. MILLIONS)

Year	Investment	Revenues	Expenses	Free Zone Income	Cash Flow
0 (1979)*	(2.77)	2.50	(.10)	2.40	( .37)
1	(3.78)	2.50	(.17)	2.33	(1.45)
2		2.60	(.17)	2.43	2.43
3		2.60	(.17)	2.43	2.43
4		2.60	(.17)	2.43	2.43
5		2.60	(.17)	2.43	2.43
6		2.60	(.17)	2.43	2.43
7		2.60	(.17)	2.43	2.43
8		2.60	(.17)	2.43	2.43
9		2.60	(.17)	2.43	2.43
10		2.60	(.17)	2.43	2.43
11		2.60	(.17)	2.43	2.43
12		2.60	(.17)	2.43	2.43
13		2.60	(.17)	2.43	2.43
14		2.60	(.17)	2.43	2.43
15		2.60	(.17)	2.43	2.43
16		2.60	(.17)	2.43	2.43
17		2.60	(.17)	2.43	2.43
18		2.60	(.17)	2.43	2.43
19		2.60	(.17)	2.43	2.43
20		2.60	(.17)	2.43	2.43
21		2.60	(.17)	2.43	2.43
22		2.60	(.17)	2.43	2.43
23		2.60	(.17)	2.43	2.43
24		2.60	(.17)	2.43	2.43
25		2.60	(.17)	2.43	2.43
26		2.60	(.17)	2.43	2.43
27	.56	2.60	(.17)	2.43	2.99
Total	(5.99)	72.60	(4.69)	67.91	61.92

Investment Payback Year = 1981  
 Internal Rate of Return = 100%+

\* Represents present value of construction for period 1974-1979 at 6%.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-25  
 FREE ZONE ANALYSIS  
 EL NASR CITY FREE ZONE CASH FLOW  
 (L.E. MILLIONS)

Year	Investment	Revenues	Expenses	Free Zone Income	Cash Flow
0 (1979)*	(9.35)	.16	(.11)	.05	(9.30)
1	(3.00)	.38	(.26)	.12	(2.88)
2		.54	(.30)	.24	.24
3		.80	(.30)	.50	.50
4		.94	(.31)	.63	.63
5		1.14	(.27)	.87	.87
6		1.34	(.28)	1.06	1.06
7		1.54	(.19)	1.35	1.35
8		1.54	(.19)	1.35	1.35
9		1.54	(.19)	1.35	1.35
10		1.54	(.19)	1.35	1.35
11		1.54	(.19)	1.35	1.35
12		1.54	(.19)	1.35	1.35
13		1.54	(.19)	1.35	1.35
14		1.54	(.19)	1.35	1.35
15		1.54	(.19)	1.35	1.35
16		1.54	(.19)	1.35	1.35
17		1.54	(.19)	1.35	1.35
18		1.54	(.19)	1.35	1.35
19		1.54	(.19)	1.35	1.35
20		1.54	(.19)	1.35	1.35
21		1.54	(.19)	1.35	1.35
22		1.54	(.19)	1.35	1.35
23		1.54	(.19)	1.35	1.35
24		1.54	(.19)	1.35	1.35
25		1.54	(.19)	1.35	1.35
26		1.54	(.19)	1.35	1.35
27	.92	1.54	(.19)	1.35	2.27
Total	(11.43)	37.64	(5.82)	31.82	20.39

Investment Payback Year = 1992  
 Present Value at 10% = 6.18  
 Internal Rate of Return = Approximately 7%

\* Represents present value of construction for period 1974-1979 at 6%.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-26  
 FREE ZONE ANALYSIS  
 ALEXANDRIA FREE ZONE CASH FLOW  
 (L.E. MILLIONS)

Year	Investment	Revenues	Expenses	Free Zone Income	Cash Flow
0 (1979)*	(22.24)	1.29	(.22)	1.07	(21.17)
1	( 3.00)	1.66	(.34)	1.32	( 1.68)
2		2.02	(.39)	1.63	1.63
3		2.39	(.39)	2.00	2.00
4		2.76	(.39)	2.37	2.37
5	(12.18)	3.13	(.39)	2.74	( 9.44)
6		3.50	(.53)	2.97	2.97
7		3.86	(.53)	3.33	3.33
8		4.23	(.53)	3.70	3.70
9		4.60	(.53)	4.07	4.07
10	( 9.22)	4.97	(.53)	4.44	( 4.78)
11		5.34	(.67)	4.67	4.67
12		5.70	(.67)	5.03	5.03
13		6.07	(.67)	5.40	5.40
14		6.44	(.67)	5.77	5.77
15	( 8.81)	6.81	(.67)	6.14	( 2.67)
16		7.18	(.80)	6.38	6.38
17		7.54	(.80)	6.74	6.74
18		7.91	(.80)	7.11	7.11
19	( 7.54)	8.28	(.80)	7.48	( 0.06)
20		8.65	(.92)	7.73	7.73
21		9.02	(.92)	8.10	8.10
22		9.38	(.92)	8.46	8.46
23	( 8.00)	9.75	(.92)	8.83	0.83
24		10.12	(1.05)	9.07	9.07
25		10.49	(1.05)	9.44	9.44
26		10.86	(1.05)	9.81	9.81
27	25.25	11.19	(1.05)	10.14	35.39
<b>Total</b>	<u>(45.74)</u>	<u>175.14</u>	<u>(19.20)</u>	<u>155.94</u>	<u>110.20</u>

Investment Payback Year = 1984  
 Present Value at 10% = 20.37  
 Internal Rate of Return = Approximately 9%

\* Represents present value of construction for period 1974-1979 at 6%.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-27

## FREE ZONE ANALYSIS

## ALEXANDRIA (REDESIGN) FREE ZONE CASH FLOW

(L.E. MILLIONS)

Year	Investment	Revenues	Expenses	Free Zone Income	Cash Flow
0 (1979)*	(22.24)	1.29	(.22)	1.07	(21.17)
1	( 3.00)	1.66	(.34)	1.32	( 1.68)
2		2.02	(.39)	1.63	1.63
3		2.39	(.39)	2.00	2.00
4		2.76	(.39)	2.37	2.37
5	( 8.91)	3.13	(.39)	2.74	( 6.17)
6		3.50	(.53)	2.97	2.97
7		3.86	(.53)	3.33	3.33
8		4.23	(.53)	3.70	3.70
9		4.60	(.53)	4.07	4.07
10	( 6.43)	4.97	(.53)	4.44	( 1.99)
11		5.34	(.67)	4.67	4.67
12		5.70	(.67)	5.03	5.03
13		6.07	(.67)	5.40	5.40
14		6.44	(.67)	5.77	5.77
15	( 6.07)	6.81	(.67)	6.14	.07
16		7.18	(.80)	6.38	6.38
17		7.54	(.80)	6.74	6.74
18		7.91	(.80)	7.11	7.11
19	( 5.24)	8.28	(.80)	7.48	2.24
20		8.65	(.92)	7.73	7.73
21		9.02	(.92)	8.10	8.10
22		9.38	(.92)	8.46	8.46
23	( 5.58)	9.75	(.92)	8.83	3.25
24		10.12	(1.05)	9.07	9.07
25		10.49	(1.05)	9.44	9.44
26		10.86	(1.05)	9.81	9.81
27	21.19	11.19	(1.05)	10.14	31.33
Total	<u>(36.28)</u>	<u>175.14</u>	<u>(19.20)</u>	<u>155.94</u>	<u>119.66</u>

Investment Payback Year = 1983

Present Value at 10% = 24.47

Internal Rate of Return = Approximately 11%

\* Represents present value of construction for period 1974-1979 at 6%.

Source: Reynolds, Smith and Hills, 1979.

El Nasr City appears marginal on a financial basis. High value, labor intensive industry will be required to significantly improve this free zone's profile.

Two cash flow profiles are presented for Alexandria. The adjusted profile reflects cost savings anticipated with changes in construction criteria and design standards after the first phase program is complete. In both cases there is a fair financial attraction for the free zone, although Egypt's investment debits are significant to date. It is our professional opinion that the financial returns for Alexandria will exceed those projected as only 39 percent of total land area is assumed to be producing revenue in the financial analysis.

### 3. Benefit/Cost Summary

A profile of the Free Zone Sector, through absorption of the current available land area, is summarized on Table VII-28. The combined picture is based upon the conservative assumptions detailed at the beginning of this section. In essence, the free zones present a highly attractive profile and should create over 50,000 jobs at full employment.

As can be seen on Table VII-28, the investment cost to Egypt of providing employment at the free zones approximates L.E. 3,000 per job. This figure compares with much higher "acceptable" costs (according to the consultants) approximating L.E. 10,000 for employment. The reason for the low cost is obvious: the investor is placing the bulk of the funds.

It should also be noted that the annual free zone payroll approximates total Egyptian investment cost. Thus, the payback on the Egyptian investment, even if only in the form of payroll, is extremely rapid.

The foreign exchange created by the free zones, after initial construction expenditures by Egypt, is also positive. The free zone investor creates a local currency account through the exchange of foreign currency which is used for payroll and local purchases. This account can be financed through sales value.

To determine the amount of foreign exchange which will accrue to Egypt as a result of free zone investment, each of the major benefit categories was subdivided into its local and foreign components, as displayed on Table VII-29. First, the wages (and fringes paid on them) of investors' employees were assumed to be paid 50 percent through foreign currencies. The Free Zone Sector desires that all wages be paid through foreign currencies, but in fact, a much lower portion are. The

TABLE VII-28  
FREE ZONE ANALYSIS  
SUMMARY OF FREE ZONE STATISTICS  
FOR COST/BENEFIT ANALYSIS

Category	Port Tawfik	Port Said	El Nasr City	Alexandria	Adabiya	Total
Total Employment(1)	14,825	137,560	104,559	466,649	221,426	945,019
Average Annual(2)	511	4,743	3,605	16,091	7,635	32,587
Total Free Zone Investment(3)	1.00	6.32	11.39	55.90	26.61	101.22
Cost/Job Created (L.E.)	1,957	1,332	3,160	3,474	3,485	3,106
Annual Payroll Spent in Egypt at Full Employment(4)	0.99	9.32	7.55	54.40	22.20	94.46
Annual Payroll(5)/Total Investment	0.99	1.47	0.66	0.97	0.83	0.93
Annual Local Expenditures:						
Local Currency	0.6	5.7	4.5	19.7	9.5	40.0
Foreign Currency	1.8	14.2	20.4	100.3	62.5	199.2
Value of Sales	441.5	4,344.5	2,983.6	13,739.9	6,670.4	28,179.9
Benefit Stream 1978-2006(3)	68.75	575.7	721.6	3,481.7	2,087.4	6,935.15
Average Benefit Stream	2.37	19.9	24.9	120.1	72.0	239.1
Egypt Costs 1978-2006	14.3	120.1	97.4	437.5	200.4	869.7
Average Cost	0.5	4.1	3.4	15.1	6.9	30.0
Benefit/Cost Ratio	4.81	4.79	7.41	7.96	10.42	7.97

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TABLE VII-28 (Continued)

## FREE ZONE ANALYSIS

## SUMMARY OF FREE ZONE STATISTICS

## FOR COST/BENEFIT ANALYSIS

Category	Port Tawfik	Port Said	El Nasr City	Alexandria	Adabiya	Total
Shadow Costs-Total Subsidies	10.9	112.3	84.1	388.9	182.1	778.3
Adjusted Benefit/Cost	2.73	2.48	3.98	4.21	5.46	4.21
Foreign Exchange Benefit /Cost Range(6)	2.37- 2.73	2.17- 2.48	3.42- 3.98	3.61- 4.21	4.65- 5.46	3.61- 4.21
Rate of Return on Investment 1978-2006	20%	100+%	7%	11%	11%	14%

(1) Man years.

(2) Averaged over 1978-2006 period.

(3) L.E. millions.

(4) Investors' employees only; in L.E. millions.

(5) Includes total payroll and fringes accruing to Egypt.

(6) First value calculated at \$1=85 piasters; second at \$1=70 piasters.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-29  
FOREIGN EXCHANGE ACCRUING TO EGYPT  
(L.E. MILLIONS)

Category	Port Tawfik		Port Said		El Nasr City		Alexandria		Adabiya		Total	
	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign
<b>Benefits:</b>												
Wages-Investors	15.2	15.2	155.6	155.6	118.1	118.2	521.8	521.8	247.5	247.5	1,058.2	1,058.3
Rent & Fees		7.05		77.0		38.2		175.6		90.0		387.85
Profit & Expenditures		27.7		163.0		421.5		2,124.9		1,436.9		4,174.0
Constr. - FZ Section	0.5	0.2	3.1	1.3	5.6	2.4	27.4	11.7	13.0	5.6	49.6	21.2
Constr. - Investors	0.1	1.4	1.1	13.5	0.8	10.5	6.1	75.9	2.6	33.1	10.7	134.4
FZ Sector Op. & Maint.	1.4		5.5		6.3		16.5		11.2		40.9	
<b>Total</b>	<b>17.2</b>	<b>51.55</b>	<b>165.3</b>	<b>410.4</b>	<b>130.8</b>	<b>590.8</b>	<b>571.8</b>	<b>2,909.9</b>	<b>274.3</b>	<b>1,813.1</b>	<b>1,159.4</b>	<b>5,775.75</b>
<b>Costs:</b>												
FZ Sector Investor	0.7	0.3	4.4	1.9	8.0	3.4	39.1	16.8	18.6	8.0	70.8	30.4
All Other*	24.2		226.1		170.1		770.5		355.9		1,546.8	
<b>Total</b>	<b>24.9</b>	<b>0.3</b>	<b>230.5</b>	<b>1.9</b>	<b>178.1</b>	<b>3.4</b>	<b>809.6</b>	<b>16.8</b>	<b>374.5</b>	<b>8.0</b>	<b>1,617.6</b>	<b>30.4</b>

\* Includes subsidies.

Source: Reynolds, Smith and Hills, 1979.

50 percent figure is thought to be a conservative estimate. Rent, fees, profits accruing locally, operations and maintenance, and local purchases, all investors' expenditures are assumed to be paid through foreign currencies.

The Free Zone Sector investments for infrastructure which will accrue to Egypt were divided into a 70 percent local funding and 30 percent foreign funding ratio. This breakdown was previously displayed in Table VII-21. The investors' construction expenditures accruing to Egypt were divided into local and foreign currencies in the same proportion as overall investment (7.4 percent local and 92.6 percent foreign). Free Zone Sector operations and maintenance costs were assumed to be all paid for in Egyptian Pounds.

On the cost side, total Free Zone Sector costs were split into the 70:30 ratio described above for the infrastructure. All other costs will accrue solely to the Egyptian government, and are assumed to be paid for through Egyptian Pounds.

In order to determine the effect of varying foreign exchange rates on the cost benefit results, we first assumed a rate of 70 piasters per dollar for both the local and foreign currency totals. We then derived a ratio of benefits to costs for each free zone. Next, we held the local currency at 70 piasters per dollar (near the official exchange rate) and let the foreign currency conversion go to 85 piasters per dollar. A new, more conservative, benefit/cost ratio was derived for each zone. This then provides a range which can be used to express the magnitude of direct benefits which can be expected from each free zone through the year 2006, as opposed to the costs of developing and operating the zones.

Each free zone generates a positive benefit/cost ratio for Egypt. The factors which impact this ratio most significantly are: a) the local purchases, and b) the net usable land area. In the case of local purchases, the Adabyia Free Zone is assumed to purchase between 20 to 25 percent of its production materials locally. Lowering this to 15 percent reduces Adabyia's benefit/cost ratio from 5.5 to 3.9. However, Adabyia and Alexandria both are projected at extremely low usable land/total land ratios. U.S. industrial park developers would not contemplate projects where the land available to tenants averages 40 percent of total land area as is the case in these two free zones. It is our professional opinion that the end usable land area will exceed these projections without increasing investment costs, thus creating the opportunity for higher benefit/cost ratios.

Tables VII-30 through VII-34 summarize the benefit/cost ratios for each free zone.

TABLE VII-30  
FREE ZONE ANALYSIS  
BENEFITS AND COSTS ACCRUING TO EGYPT FROM PORT TAWFIK  
(FINANCIAL VALUES IN L.E. MILLIONS)

Year	Employment Total	Investors Wages & Fringes	Rental and Fees	Free Zone Sector Operations Expenditures	Investors* Profits & Expenditures	Total Benefits
1978**	183	0.1	0.15	0.6	0.8	1.65
1979	320	0.6	0.15	0.13	1.2	2.1
1980	542	1.1	0.25	0.05	1.2	2.6
1981	530	1.1	0.25	0.05	1.0	2.4
1982	530	1.1	0.25	0.05	1.0	2.4
1983	530	1.1	0.25	0.05	1.0	2.4
1984	530	1.1	0.25	0.05	1.0	2.4
1985	530	1.1	0.25	0.05	1.0	2.4
1986	530	1.1	0.25	0.05	1.0	2.4
1987	530	1.1	0.25	0.05	1.0	2.4
1988	530	1.1	0.25	0.05	1.0	2.4
1989	530	1.1	0.25	0.05	1.0	2.4
1990	530	1.1	0.25	0.05	1.0	2.4
1991	530	1.1	0.25	0.05	1.0	2.4
1992	530	1.1	0.25	0.05	1.0	2.4
1993	530	1.1	0.25	0.05	1.0	2.4
1994	530	1.1	0.25	0.05	1.0	2.4
1995	530	1.1	0.25	0.05	1.0	2.4
1996	530	1.1	0.25	0.05	1.0	2.4
1997	530	1.1	0.25	0.05	1.0	2.4
1998	530	1.1	0.25	0.05	1.0	2.4
1999	530	1.1	0.25	0.05	1.0	2.4
2000	530	1.1	0.25	0.05	1.0	2.4
2001	530	1.1	0.25	0.05	1.0	2.4
2002	530	1.1	0.25	0.05	1.0	2.4
2003	530	1.1	0.25	0.05	1.0	2.4
2004	530	1.1	0.25	0.05	1.0	2.4
2005	530	1.1	0.25	0.05	1.0	2.4
2006	530	1.1	0.25	0.05	1.0	2.4
Total	14,825	30.4	7.05	2.1	29.2	68.75

TABLE VII-30 (Continued)  
 FREE ZONE ANALYSIS  
 BENEFITS AND COSTS ACCRUING TO EGYPT FROM PORT TAWFIK  
 (FINANCIAL VALUES IN L.E. MILLIONS)

Year	Free Zone Sector Operations & Subsidies	Investors Construction Subsidies	Investors Utilities & Subsidies	Employee Services (Fringes)	Subsidies on Employee Expenditures	Total Costs	Benefit/Cost Ratio
1978**	1.0	0.2	-	-	-	1.2	
1979	0.2	0.2	0.2	0.1	0.1	0.8	
1980	0.06	-	0.3	0.25	0.25	0.86	
1981	0.06	-	0.3	0.25	0.25	0.86	
1982	0.06	-	0.3	0.25	0.25	0.86	
1983	0.06	-	0.3	0.25	0.25	0.86	
1984	0.06	-	0.3	0.25	0.25	0.86	
1985	0.06	-	0.3	0.25	0.25	0.86	
1986	0.06	-	0.3	0.25	0.25	0.86	
1987	0.06	-	0.3	0.25	0.25	0.86	
1988	0.06	-	0.3	0.25	0.25	0.86	
1989	0.06	-	0.3	0.25	0.25	0.86	
1990	0.06	-	0.3	0.25	0.25	0.86	
1991	0.06	-	0.3	0.25	0.25	0.86	
1992	0.06	-	0.3	0.25	0.25	0.86	
1993	0.06	-	0.3	0.25	0.25	0.86	
1994	0.06	-	0.3	0.25	0.25	0.86	
1995	0.06	-	0.3	0.25	0.25	0.86	
1996	0.06	-	0.3	0.25	0.25	0.86	
1997	0.06	-	0.3	0.25	0.25	0.86	
1998	0.06	-	0.3	0.25	0.25	0.86	
1999	0.06	-	0.3	0.25	0.25	0.86	
2000	0.06	-	0.3	0.25	0.25	0.86	
2001	0.06	-	0.3	0.25	0.25	0.86	
2002	0.06	-	0.3	0.25	0.25	0.86	
2003	0.06	-	0.3	0.25	0.25	0.86	
2004	0.06	-	0.3	0.25	0.25	0.86	
2005	0.06	-	0.3	0.25	0.25	0.86	
2006	0.06	-	0.3	0.25	0.25	0.86	
Total	2.8	0.4	8.3	6.85	6.85	25.2	2.73

\* Includes construction.

\*\* 1974 to 1978 cumulative totals.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-31  
 FREE ZONE ANALYSIS  
 BENEFITS AND COSTS ACCRUING TO EGYPT FROM PORT SAID  
 (FINANCIAL VALUES IN L.E. MILLIONS)

Year	Employment Total	Investors Wages & Fringes	Rental and Fees	Free Zone Sector Operations Expenditures	Investors* Profits & Expenditures	Total Benefits
1978**	1,867	3.2	4.4	1.6	9.5	18.7
1979	2,869	5.7	2.5	0.3	10.0	18.5
1980	4,098	8.5	2.5	2.8	10.2	24.0
1981	4,951	11.3	2.6	0.2	10.4	24.5
1982	4,951	11.3	2.6	0.2	5.5	19.6
1983	4,951	11.3	2.6	0.2	5.5	19.6
1984	4,951	11.3	2.6	0.2	5.5	19.6
1985	4,951	11.3	2.6	0.2	5.5	19.6
1986	4,951	11.3	2.6	0.2	5.5	19.6
1987	4,951	11.3	2.6	0.2	5.5	19.6
1988	4,951	11.3	2.6	0.2	5.5	19.6
1989	4,951	11.3	2.6	0.2	5.5	19.6
1990	4,951	11.3	2.6	0.2	5.5	19.6
1991	4,951	11.3	2.6	0.2	5.5	19.6
1992	4,951	11.3	2.6	0.2	5.5	19.6
1993	4,951	11.3	2.6	0.2	5.5	19.6
1994	4,951	11.3	2.6	0.2	5.5	19.6
1995	4,951	11.3	2.6	0.2	5.5	19.6
1996	4,951	11.3	2.6	0.2	5.5	19.6
1997	4,951	11.3	2.6	0.2	5.5	19.6
1998	4,951	11.3	2.6	0.2	5.5	19.6
1999	4,951	11.3	2.6	0.2	5.5	19.6
2000	4,951	11.3	2.6	0.2	5.5	19.6
2001	4,951	11.3	2.6	0.2	5.5	19.6
2002	4,951	11.3	2.6	0.2	5.5	19.6
2003	4,951	11.3	2.6	0.2	5.5	19.6
2004	4,951	11.3	2.6	0.2	5.5	19.6
2005	4,951	11.3	2.6	0.2	5.5	19.6
2006	4,951	11.3	2.6	0.2	5.5	19.6
Total	137,560	311.2	77.0	9.9	177.6	575.7

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TABLE VII-31 (Continued)  
 FREE ZONE ANALYSIS  
 BENEFITS AND COSTS ACCRUING TO EGYPT FROM PORT SAID  
 (FINANCIAL VALUES IN L.E. MILLIONS)

Year	Free Zone Sector Operations & Subsidies	Investors Construction Subsidies	Investors Utilities & Subsidies	Employee Services (Fringes)	Subsidies on Employee Expenditures	Total Costs	Benefit/Cost Ratio
1978**	2.7	1.2	2.5	0.7	0.7	7.8	
1979	0.5	1.2	2.8	1.2	1.2	6.9	
1980	4.7	1.2	2.9	1.8	1.7	12.3	
1981	0.2	-	3.0	2.4	2.3	7.9	
1982	0.2	-	3.0	2.4	2.3	7.9	
* 1983	0.2	-	3.0	2.4	2.3	7.9	
1984	0.2	-	3.0	2.4	2.3	7.9	
1985	0.2	-	3.0	2.4	2.3	7.9	
1986	0.2	-	3.0	2.4	2.3	7.9	
1987	0.2	-	3.0	2.4	2.3	7.9	
1988	0.2	-	3.0	2.4	2.3	7.9	
1989	0.2	-	3.0	2.4	2.3	7.9	
1990	0.2	-	3.0	2.4	2.3	7.9	
1991	0.2	-	3.0	2.4	2.3	7.9	
1992	0.2	-	3.0	2.4	2.3	7.9	
1993	0.2	-	3.0	2.4	2.3	7.9	
1994	0.2	-	3.0	2.4	2.3	7.9	
1995	0.2	-	3.0	2.4	2.3	7.9	
1996	0.2	-	3.0	2.4	2.3	7.9	
1997	0.2	-	3.0	2.4	2.3	7.9	
1998	0.2	-	3.0	2.4	2.3	7.9	
1999	0.2	-	3.0	2.4	2.3	7.9	
2000	0.2	-	3.0	2.4	2.3	7.9	
2001	0.2	-	3.0	2.4	2.3	7.9	
2002	0.2	-	3.0	2.4	2.3	7.9	
2003	0.2	-	3.0	2.4	2.3	7.9	
2004	0.2	-	3.0	2.4	2.3	7.9	
2005	0.2	-	3.0	2.4	2.3	7.9	
2006	0.2	-	3.0	2.4	2.3	7.9	
Total	13.1	3.6	86.2	66.1	63.4	232.4	2.48

\* Includes construction.

\*\* 1974 to 1978 cumulative totals.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-32  
 FREE ZONE ANALYSIS  
 BENEFITS AND COSTS ACCRUING TO EGYPT FROM EL NASR CITY  
 (FINANCIAL VALUES IN L.E. MILLIONS)

Year	Employment Total	Investors Wages & Fringes	Rental and Fees	Free Zone Sector Operations Expenditures	Investors* Profits & Expenditures	Total Benefits
1978**	1,081	1.5	0.2	5.6	3.6	10.9
1979	1,304	2.7	0.4	0.6	5.5	9.2
1980	1,843	3.8	0.5	2.4	7.6	14.3
1981	2,212	4.9	0.8	0.3	9.7	15.7
1982	2,680	5.9	0.9	0.3	11.6	18.7
1983	3,148	7.0	1.1	0.3	13.6	22.0
1984	3,617	8.1	1.3	0.3	16.7	26.4
1985	4,401	9.2	1.5	0.3	18.0	29.0
1986	4,013	9.2	1.5	0.2	16.5	27.4
1987	4,013	9.2	1.5	0.2	16.5	27.4
1988	4,013	9.2	1.5	0.2	16.5	27.4
1989	4,013	9.2	1.5	0.2	16.5	27.4
1990	4,013	9.2	1.5	0.2	16.5	27.4
1991	4,013	9.2	1.5	0.2	16.5	27.4
1992	4,013	9.2	1.5	0.2	16.5	27.4
1993	4,013	9.2	1.5	0.2	16.5	27.4
1994	4,013	9.2	1.5	0.2	16.5	27.4
1995	4,013	9.2	1.5	0.2	16.5	27.4
1996	4,013	9.2	1.5	0.2	16.5	27.4
1997	4,013	9.2	1.5	0.2	16.5	27.4
1998	4,013	9.2	1.5	0.2	16.5	27.4
1999	4,013	9.2	1.5	0.2	16.5	27.4
2000	4,013	9.2	1.5	0.2	16.5	27.4
2001	4,013	9.2	1.5	0.2	16.5	27.4
2002	4,013	9.2	1.5	0.2	16.5	27.4
2003	4,013	9.2	1.5	0.2	16.5	27.4
2004	4,013	9.2	1.5	0.2	16.5	27.4
2005	4,013	9.2	1.5	0.2	16.5	27.4
2006	4,013	9.2	1.5	0.2	16.5	27.4
Total	104,559	236.3	38.2	14.3	432.8	721.6

TABLE VII-32 (Continued)  
 FREE ZONE ANALYSIS  
 BENEFITS AND COSTS ACCRUING TO EGYPT FROM EL NASR CITY  
 (FINANCIAL VALUES IN L.E. MILLIONS)

Year	Free Zone Sector Operations & Subsidies	Investors Construction Subsidies	Investors Utilities & Subsidies	Employee Services (Fringes)	Subsidies on Employee Expenditures	Total Costs	Benefit/Cost Ratio
1978**	9.3	0.4	0.3	0.3	0.3	10.6	
1979	0.9	0.3	0.6	0.6	0.5	2.9	
1980	3.9	0.3	0.9	0.8	0.8	6.7	
1981	0.4	0.3	1.2	1.0	1.0	3.9	
1982	0.4	0.3	1.5	1.3	1.2	4.7	
1983	0.4	0.3	1.7	1.5	1.4	5.3	
1984	0.3	0.3	2.0	1.7	1.7	6.0	
1985	0.4	0.4	2.3	2.0	1.9	7.0	
1986	0.2	-	2.3	2.0	1.9	6.4	
1987	0.2	-	2.3	2.0	1.9	6.4	
1988	0.2	-	2.3	2.0	1.9	6.4	
1989	0.2	-	2.3	2.0	1.9	6.4	
1990	0.2	-	2.3	2.0	1.9	6.4	
1991	0.2	-	2.3	2.0	1.9	6.4	
1992	0.2	-	2.3	2.0	1.9	6.4	
1993	0.2	-	2.3	2.0	1.9	6.4	
1994	0.2	-	2.3	2.0	1.9	6.4	
1995	0.2	-	2.3	2.0	1.9	6.4	
1996	0.2	-	2.3	2.0	1.9	6.4	
1997	0.2	-	2.3	2.0	1.9	6.4	
1998	0.2	-	2.3	2.0	1.9	6.4	
1999	0.2	-	2.3	2.0	1.9	6.4	
2000	0.2	-	2.3	2.0	1.9	6.4	
2001	0.2	-	2.3	2.0	1.9	6.4	
2002	0.2	-	2.3	2.0	1.9	6.4	
2003	0.2	-	2.3	2.0	1.9	6.4	
2004	0.2	-	2.3	2.0	1.9	6.4	
2005	0.2	-	2.3	2.0	1.9	6.4	
2006	0.2	-	2.3	2.0	1.9	6.4	
Total	20.2	2.6	58.8	51.2	48.7	181.5	3.98

\* Includes construction.

\*\* 1974 to 1978 cumulative totals.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-33  
FREE ZONE ANALYSIS  
BENEFITS AND COSTS ACCRUING TO EGYPT FROM ALEXANDRIA - ADJUSTED  
(FINANCIAL VALUES IN L.E. MILLIONS)

Year	Employment Total	Investors Wages & Fringes	Rental and Fees	Free Zone Sector Operations Expenditures	Investors* Profits & Expenditures	Total Benefits
1978**	3,521	6.2	0.9	9.8	13.4	30.3
1979	4,079	8.4	1.3	5.1	17.2	32.0
1980	4,884	10.5	1.7	2.4	21.8	36.4
1981	5,987	13.2	2.0	0.4	26.1	41.7
1982	6,650	14.8	2.4	0.4	30.5	48.1
1983	7,583	17.0	2.8	0.4	35.0	55.2
1984	8,813	19.2	3.1	6.6	39.8	68.7
1985	9,469	21.3	3.5	0.5	44.5	69.8
1986	10,402	23.5	3.8	0.5	48.9	76.7
1987	11,335	25.6	4.2	0.5	53.2	83.5
1988	12,268	27.8	4.6	0.5	57.8	90.7
1989	13,415	30.0	5.0	2.0	62.3	99.3
1990	14,149	32.1	5.4	0.7	66.7	104.9
1991	15,082	34.2	5.6	0.7	71.3	111.8
1992	16,015	36.2	6.0	0.7	75.9	118.8
1993	16,948	38.4	6.4	0.7	80.3	125.8
1994	18,084	40.4	6.8	4.9	84.9	137.0
1995	18,829	42.5	7.2	0.8	89.4	139.9
1996	19,762	44.5	7.5	0.8	94.0	146.8
1997	20,695	46.6	7.9	0.8	98.6	153.9
1998	21,802	48.5	8.3	4.5	103.2	164.5
1999	22,576	50.7	8.6	0.9	108.0	168.2
2000	23,509	52.6	9.0	0.9	112.7	175.2
2001	24,442	54.8	9.3	0.9	117.2	182.2
2002	25,561	56.9	9.7	4.8	121.8	193.2
2003	26,323	58.8	10.1	1.1	126.3	196.3
2004	27,256	60.9	10.5	1.1	131.0	203.5
2005	28,189	63.0	10.9	1.1	135.4	210.4
2006	29,021	65.0	11.1	1.1	139.7	216.9
Total	466,649	1,043.6	175.6	55.6	2,206.9	3,481.7

TABLE VII-33 (Continued)  
 FREE ZONE ANALYSIS  
 BENEFITS AND COSTS ACCRUING TO EGYPT FROM ALEXANDRIA - ADJUSTED  
 (FINANCIAL VALUES IN L. E. MILLIONS)

Year	Free Zone Sector Operations & Subsidies	Investors Construction Subsidies	Investors Utilities & Subsidies	Employee Services (Fringes)	Subsidies on Employee Expenditures	Total Costs	Benefit/Cost Ratio
1978**	16.3	1.2	1.4	1.3	1.3	21.5	
1979	8.4	0.7	2.0	1.8	1.7	14.6	
1980	4.0	0.7	2.6	2.2	2.2	11.7	
1981	0.5	0.7	3.2	2.7	2.6	9.7	
1982	0.5	0.7	3.7	3.2	3.0	11.1	
1983	0.5	0.7	4.3	3.6	3.5	12.6	
1984	11.1	0.7	4.9	4.1	3.9	24.7	
1985	0.7	0.7	5.5	4.5	4.4	15.8	
1986	0.7	0.7	6.0	5.0	4.8	17.2	
1987	0.7	0.7	6.6	5.5	5.2	18.7	
1988	0.7	0.7	7.2	5.9	5.7	20.2	
1989	8.2	0.7	7.7	6.4	6.1	29.1	
1990	0.8	0.7	8.3	6.8	6.6	23.2	
1991	0.8	0.7	8.9	7.3	7.0	24.7	
1992	0.8	0.7	9.5	7.8	7.5	26.3	
1993	0.8	0.7	10.1	8.2	7.9	27.7	
1994	7.8	0.7	10.6	8.7	8.3	36.1	
1995	1.0	0.7	11.2	9.1	8.8	30.8	
1996	1.0	0.7	11.8	9.6	9.2	32.3	
1997	1.0	0.7	12.3	10.1	9.7	33.8	
1998	7.0	0.7	12.9	10.5	10.1	41.2	
1999	1.2	0.7	13.5	11.0	10.5	36.9	
2000	1.2	0.7	14.1	11.4	11.0	38.4	
2001	1.2	0.7	14.6	11.9	11.4	39.8	
2002	7.7	0.7	15.2	12.4	11.9	47.9	
2003	1.3	0.7	15.8	12.8	12.3	42.9	
2004	1.3	0.7	16.4	13.3	12.8	44.5	
2005	1.3	0.7	16.9	13.7	13.2	45.8	
2006	1.3	0.6	17.5	14.2	13.6	47.2	
Total	89.8	20.7	274.7	225.0	216.2	826.4	4.21

\* Includes construction.

\*\* 1974 to 1978 cumulative totals.

Source: Reynolds, Smith and Hills, 1979.

TABLE VII-34  
FREE ZONE ANALYSIS  
BENEFITS AND COSTS ACCRUING TO EGYPT FROM ADABIYA  
(FINANCIAL VALUES IN L.E. MILLIONS)

Year	Employment Total	Investors Wages & Fringes	Rental and Fees	Free Zone Sector Operations Expenditures	Investors* Profits & Expenditures	Total Benefits
1978**	-	-	-	-	-	-
1979	244	-	0.3	5.1	-	5.4
1980	735	1.4	0.5	0.3	5.7	7.9
1981	1,318	2.7	0.7	0.3	9.4	13.1
1982	1,901	4.1	0.9	0.3	13.4	18.7
1983	2,580	5.4	1.2	2.3	17.1	26.0
1984	3,075	6.7	1.4	0.3	21.1	29.5
1985	3,658	8.1	1.7	0.3	25.0	35.1
1986	4,241	9.4	1.8	0.3	28.8	40.3
1987	5,011	10.8	2.1	4.3	32.7	49.9
1988	5,416	12.2	2.3	0.4	36.6	51.5
1989	5,999	13.5	2.6	0.4	40.5	57.0
1990	6,582	14.8	2.9	0.4	44.2	62.3
1991	7,822	17.0	3.2	5.1	51.6	76.9
1992	8,549	19.1	3.6	0.4	57.9	81.0
1993	9,482	21.1	4.0	0.4	64.1	89.6
1994	10,415	23.2	4.4	0.4	70.2	98.2
1995	11,485	25.2	4.7	3.3	76.5	109.7
1996	12,083	27.3	4.7	0.5	79.8	112.3
1997	12,083	27.3	4.7	0.5	79.8	112.3
1998	12,083	27.3	4.7	0.5	79.8	112.3
1999	12,083	27.3	4.7	0.5	79.8	112.3
2000	12,083	27.3	4.7	0.5	79.8	112.3
2001	12,083	27.3	4.7	0.5	79.8	112.3
2002	12,083	27.3	4.7	0.5	79.8	112.3
2003	12,083	27.3	4.7	0.5	79.8	112.3
2004	12,083	27.3	4.7	0.5	79.8	112.3
2005	12,083	27.3	4.7	0.5	79.8	112.3
2006	12,083	27.3	4.7	0.5	79.8	112.3
<b>Total</b>	<b>221,426</b>	<b>495.0</b>	<b>90.0</b>	<b>29.8</b>	<b>1,472.6</b>	<b>2,087.4</b>

TABLE VII-34 (Continued)  
FREE ZONE ANALYSIS  
BENEFITS AND COSTS ACCRUING TO EGYPT FROM ADABIYA  
(FINANCIAL VALUES IN L.E. MILLIONS)

Year	Free Zone Sector Operations & Subsidies	Investors Construction Subsidies	Investors Utilities & Subsidies	Employee Services (Fringes)	Subsidies on Employee Expenditures	Total Costs	Benefit/Cost Ratio
1978**	-	-	-	-	-	-	
1979	8.6	-	-	-	-	8.6	
1980	0.3	0.4	0.4	0.3	0.3	1.7	
1981	0.3	0.4	0.7	0.5	0.5	2.4	
1982	0.3	0.4	1.1	0.8	0.8	3.4	
1983	3.7	0.4	1.4	1.1	1.1	7.7	
1984	0.4	0.4	1.8	1.3	1.4	5.3	
1985	0.4	0.4	2.2	1.6	1.6	6.2	
1986	0.4	0.4	2.5	1.8	1.9	7.0	
1987	6.9	0.4	2.9	2.1	2.2	14.5	
1988	0.4	0.4	3.2	2.4	2.5	8.9	
1989	0.4	0.4	3.6	2.6	2.7	9.7	
1990	0.4	0.4	3.9	2.9	3.0	10.6	
1991	8.3	0.7	4.5	3.3	3.5	20.3	
1992	0.6	0.7	5.1	3.9	3.9	14.2	
1993	0.6	0.7	5.7	4.1	4.3	15.4	
1994	0.6	0.7	6.2	4.5	4.7	16.7	
1995	5.4	0.7	6.8	4.9	5.1	22.9	
1996	0.6	0.2	7.4	5.3	5.5	19.0	
1997	0.6	-	7.4	5.3	5.5	18.8	
1998	0.6	-	7.4	5.3	5.5	18.8	
1999	0.6	-	7.4	5.3	5.5	18.8	
2000	0.6	-	7.4	5.3	5.5	18.8	
2001	0.6	-	7.4	5.3	5.5	18.8	
2002	0.6	-	7.4	5.3	5.5	18.8	
2003	0.6	-	7.4	5.3	5.5	18.8	
2004	0.6	-	7.4	5.3	5.5	18.8	
2005	0.6	-	7.4	5.3	5.5	18.8	
2006	0.6	-	7.4	5.3	5.5	18.8	
Total	44.6	-	133.4	96.4	100.0	382.5	5.46

\* Includes construction.

\*\* 1974 to 1978 cumulative totals.

Source: Reynolds, Smith and Hills, 1979.