

263-0114

THE  
INSPECTOR  
GENERAL

AN AUDIT OF  
THE ALEXANDRIA PORT EQUIPMENT PROJECT  
AID LOAN NO.263-K-031

Audit Report No.6-263-82-3

December 7, 1981

In 1975 the basic construction and configuration of the Alexandria Port was about 150 years old. The hostilities in 1967 and 1973 left other Egyptian ports badly affected or closed. Accordingly, the Alexandria Port had to handle about 90 percent of Egypt's cargo. This traffic overburdened the already deteriorated condition of the Port and led to serious congestion which disrupted the flow of goods through EGYPT's main commercial channel.

The World Bank sponsored a \$151 million multi-donor project to relieve congestion and to accommodate future traffic in the Alexandria Port. The foreign exchange cost of the project totaled \$95 million of which \$31 million was provided by AID. The AID funds were used primarily to finance modern U.S.-made port equipment.

The AID assistance has contributed substantially to significant improvements in the operation and productivity of the Alexandria Port.

This report contains no recommendations.

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## BACKGROUND

### Summary

This is a multi-donor \$151 million project of which foreign exchange costs total \$95 million. AID has provided a \$31 million loan to purchase cargo, transportation and other equipment and related services from the U.S.

### The Port

In 1900 B.C. the Pharaohs built a port west of "Pharaohs Island" which was then called "Rakoda". Rakoda was located at the north west end of the Ras El-Teen Island. That original port was about 2400 meters long and 300 meters wide but was destroyed by the ravages of time before the arrival of Alexander the Great.

When Alexander occupied northern Egypt he built a bridge 1200 meters long and 200 meters wide from the shore to the Pharaohs Island. That bridge established two separate ports (see Exhibit A). The eastern port was used for military operations and the western port was used for commercial purposes. The city that was located around the port is now named Alexandria.

The western port is larger and deeper than the eastern port. As a result the western port has evolved to be the primary port of Alexandria (see Exhibit B). The current Alexandria port (the old western port) is oval in shape with a length of 4.8 kilometers and a width of two kilometers. The water surface in the port is approximately 7.5 km<sup>2</sup>.

Alexandria is located at the western extremity of the Nile Delta on a strip of land between the Mediterranean Sea and Lake Mariout. Alexandria is the second largest city of Egypt. The Port of Alexandria is the largest in Egypt and handles about three quarters of the country's foreign trade.

### The Problem

In 1975 the basic construction and configuration of the Alexandria Port was about 150 years old. There were only 11 general cargo berths that could accommodate ships that exceeded 130 meters in length and eight meters draft. Transit sheds and stacking yards were too small. Poor surface conditions throughout the port area caused rapid wear and tear on mobile equipment. Siltation alongside quays limited their use. Absence of modern cargo handling techniques had resulted in low productivity in handling

general cargo. Maintenance was a major problem. Lack of spare parts due to foreign exchange shortages and excessive use contributed to the poor state of most equipment.

The hostilities in 1967 and 1973 badly affected and, at times closed other Egyptian ports. This led to an increase in the share of Egypt's cargo handled by Alexandria Port from about 75 percent in 1966 to 90 percent in 1975. This increase in traffic overburdened the port and led to much of the deteriorated condition of the port discussed above. The situation had led to serious congestion in the port and thereby had disrupted the flow of goods through Egypt's main commercial channel. Egypt's economy was adversely effected by the disruption and inadequate flow of goods.

### The Project

This is a multi-donor project sponsored by the International Bank for Reconstruction and Development (IBRD, known as the World Bank).

IBRD described the objective of the overall project as follows:

"The project has as its general objective to relieve congestion at Alexandria Port and to accommodate future traffic. Because the port is obsolete in its design, which cannot be easily corrected, the project provides also for facilities outside the port area proper; this is to remove cargo to transit depots for storage, sorting and distribution. The project will also increase productivity of cargo handling operations through procuring additional equipment and improving maintenance. Lastly, operational improvements are expected to result from institutional improvements and training."

The main elements of the project were defined as:

- "(i) the dredging of 1.8 million m<sup>3</sup> accumulated sand in the existing entrance channels and harbor. This is maintenance dredging which has been deferred due to the lack of dredgers;
- (ii) completion of the opening of a new channel by dredging 800,000 m<sup>3</sup> to provide additional access, which will make ship traffic flows casier and safer to accommodate and control;
- (iii) paving and surfacing roads and work areas;

- (iv) establishing a new general cargo storage area outside the port;
- (v) building 550 m (3 berths) of deep sea quay;
- (vi) procuring floating, cargo handling, communication and transport equipment for port operations;
- (vii) procuring maintenance equipment;
- (viii) consultancy studies for management, organization, accounting and training; and
- (ix) consultancy services for final project design and engineering, including soil investigation, and preparation of tender documents."

The total cost of the project was estimated to be \$151 million in dollars and dollar equivalent as presented below:

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Percentage of</u> <u>Foreign Exchange</u> <u>to Total Project Costs</u>
	----- (US\$ million) -----			
a. Dredging	1.59	6.42	8.01	
b. Paving/Surfacing	1.38	0.59	1.97	
c. Berth construction	10.32	13.58	23.90	
d. Storage facilities	<u>3.30</u>	<u>2.00</u>	<u>5.30</u>	
Total civil works	16.59	22.59	39.18	57.7
e. Floating equipment	8.77	19.81	28.58	
f. Cargo handling equipment	8.43	17.09	25.52	
g. Transport equipment	5.67	8.33	14.00	
h. Other	<u>1.25</u>	<u>3.37</u>	<u>4.62</u>	
Total equipment	24.12	48.60	72.72	66.8
i. Consultants and Training	<u>1.42</u>	<u>2.75</u>	<u>4.17</u>	
Sub Total	42.13	73.94	116.07	63.7
j. Contingencies	<u>13.87</u>	<u>21.06</u>	<u>34.93</u>	
Total	56.00	95.00	151.00	62.9
	=====	=====	=====	

The Government of Egypt (GOE) through the Alexandria Port Authority (a unit of the Ministry of Maritime Transport) agreed to provide all local currency costs for the project.

IBRD, AID and the Overseas Economic Cooperation Fund (OECF) of the Japanese Government agreed to finance the foreign exchange costs of the project in the amounts and for the purposes listed below:

	<u>US\$ million</u>
<u>IBRD</u>	
Civil works	22.70
Floating and other equipment	6.17
Consultants' Services	2.75
Contingencies	<u>13.38</u>
Total	<u>45.00</u>
<u>USAID</u>	
Cargo handling equipment	16.04
Transport equipment	7.96
Other equipment	1.37
Contingencies and Consultant Services	<u>5.43</u>
Total	<u>30.80</u>
<u>OECF (Japan)</u>	
Floating equipment	16.30
Contingencies	<u>2.90</u>
Total	<u>19.20</u>
Grand Total	<u>95.00</u>
	=====

Implementation of the project was planned for the five-year period from 1976 through 1980.

AID provided a loan of \$31 million to the GOE for reloan to The Alexandria Port Authority (APA). This Loan Agreement was numbered 263-K-031 and was dated July 29, 1976. The Loan Agreement provided foreign exchange costs for purchase, from the U.S., of cargo handling, transportation and other equipment and related services for APA.

### The Purpose and Scope of the Audit

We made this audit to (a) determine the propriety of the procurement of the AID-financed equipment and services, (b) verify the receipt and use of the AID-financed equipment and services, and (c) evaluate the effect the AID inputs had on the port operations in relationship to the planned project accomplishments.

To accomplish our purpose we reviewed the procurement process from development of specifications through procurement to receipt and uses of selected items. We visited the project site to physically determine the location and actual use of specific equipment. We also reviewed the operations and records of the AID-financed consultant at the project site. We examined selected operations of the APA and reviewed their books and records as necessary to establish their activities in relation to the project. We also reviewed APA's books and records on the IBRD and OECD assistance to the project to establish necessary data for evaluation purposes.

Our audit was made during the period from May through September 1981. The audit covered the period from project inception, July, 29, 1976, through June 30, 1981. As of June 30, 1981 \$29.9 million of the \$31 million of AID funds obligated for the Project had been disbursed. The audit was made in accordance with prescribed standards for government audits.

This is the first audit of the Alexandria Port Equipment Project by the AID Inspector General.

## AUDIT FINDINGS AND CONCLUSIONS

### Project Accomplishments - AID

The AID Project assistance has contributed substantially to significant improvements in the operations and productivity of the Alexandria Port during the period from 1976 through 1980.

During the life of the project the number of ships received and serviced in the Alexandria Port increased from 3100 in 1975 to 3962 in 1980. A primary objective of the project was to increase the Alexandria Port's ability to receive and service ships carrying general cargo. This ability was increased at a greater rate than the increase in ship traffic. That is, while the ship traffic increased from 3100 to 3962 the number of general cargo ships processed through the Alexandria Port during the same period increased from 1500 in 1975 to 2572 in 1980. The number of general cargo ships in 1980 represents a 71 percent increase over 1975. The amount of general cargo from the ships that the Alexandria Port Authority handled increased from 3.2 million metric tons in 1974 to 6.5 million metric tons in 1980. This represents a 103 percent increase in tonnage of general cargo processed through the Port during this period. Productivity in handling general cargo substantially surpassed the planned target. The tons per hook-hour rate\* for general cargo was 8.9 in 1975. The Project Agreement required the Alexandria Port Authority to increase productivity to 11.3 tons per hook-hour on handling general cargo. The Alexandria Port Authority processed general cargo during 1980 at a rate of 13.2 tons per hook-hour.

During 1975 about 15 million metric tons of cargo were processed through the Alexandria Port. In 1980 the Alexandria Port Authority processed cargo totaling 23.2 million metric tons. This amounts to an increase of 8.2 million metric tons of cargo, 55 percent more cargo than in 1975.

In 1977, prior to delivery of the AID-financed equipment, ships waited an average of 6.3 days for processing. During 1980 the average waiting time per ship was 3.3 days. This improvement in ships waiting time reduced estimated demurrage charges related to the Alexandria Port operation from \$26 million in 1975 to about \$2 million in 1980.

\* Example: One crane and a gang of employees unload 80 tons of general cargo from a ship's hold during an eight-hour workday. Their hook-hour ton rate is 10.

Alexandria Port Authority officials told us that without the AID-financed project assistance they could not have maintained operations at the 1975 levels, let alone achieve substantial improvements in their Port operations. We concur in this opinion.

Implementation of the AID-financed project was completed in August 1981, about two years later than originally planned.

#### Project Accomplishments - OECD (Japan)

The OECD financed project contributed significantly to the improvements in the Alexandria Port Authority ability to process ships through the Alexandria Port.

OECD financed 28 major pieces of floating equipment and related services for the Alexandria Port Authority. The floating equipment consisted of pilot, service and tug boats. Total foreign exchange assistance provided APA through the OECD project was about \$19 million.

The Alexandria Port berth area is small with many small and shallow quays. The navigation channels into the Port are limited. This combination makes it difficult to maneuver and berth ships. Due to limited pilot, service and tug boats only about 25 ships could be berthed at the same time in the Alexandria Port during 1975. Currently, through use of the OECD financed boats up to 60 ships can be at berth at the same time for processing.

The OECD project was completed in July 1981 about two years later than the originally planned date.

#### Project Accomplishments - IBRD

IBRD developed and designed the overall project and took the lead in financing the largest share (\$45 million) of the \$95 million foreign exchange costs. IBRD financing ranged from paving roadways to building storage facilities to berth construction. Unfortunately, the IBRD project is behind schedule and the Alexandria Port Authority has requested a three year extension. Accordingly, the IBRD project has not contributed to the extent planned for in assisting the Alexandria Port Authority to improve the operations of the Alexandria Port.

Nevertheless, the IBRD project has provided positive assistance which has helped improve the condition and operation of the Alexandria Port. As of July 1981 IBRD had disbursed about \$17 million under their loan to the Alexandria Port Authority. About \$5 million was used to purchase two floating cranes and about \$9 million was used to finance dredging and repairs to quays. The two floating cranes unload lighters and cargo from ships at anchor, enabling use of previously wasted water space in the harbor. The additional unloading space allowed more ships to be unloaded concurrently and thereby reduced the ships' waiting time.

The IBRD financed dredging increased the depth of the harbor entrance and the depth around certain quays. This increased depth allowed larger ships to enter the harbor and unload at berth.

The IBRD loan also financed over \$2 million of consultant services for the Alexandria Port Authority.

The major elements of the IBRD project that have not been implemented or completed are: (a) berth construction of a new container station, (b) paving/surfacing and, (c) storage facilities. Implementation and completion of these three major elements should increase the efficiency of the Alexandria Port operations.

### Project Monitoring

USAID/Egypt's monitoring of the Alexandria Port Equipment Project has been sufficient to keep the project on track and to accomplish the overall project purpose.

Our audit resulted in a conclusion that, in effect, AID did a good job but could have done better. We do not intend to detract from the USAID/Egypt nor the Alexandria Port Authority's accomplishments, however; if USAID/Egypt's monitoring and follow-up procedures had been more thoroughly implemented, project accomplishments might have been greater. More thorough monitoring of this project by USAID/Egypt may have prevented the following from developing:

1. The Project Paper implementation plan included a step that "The APA will supervise the project. It is establishing a special unit under its Chairman's direct control to monitor the project and to conduct relations with AID and other financing organizations. The unit will include a project manager, civil engineer, accountant and financial analyst, and economist. The unit should be established by June 1, 1976. It will monitor project execution and prepare quarterly reports for AID."

This special unit monitoring concept was carried forward into the AID-project consultant-contract. Article II covering project monitoring included the statement "The APA has established a special unit under the control of its Chairman to directly monitor the project and conduct relations with engineers/consultants and the lending institutions."

The Alexandria Port Authority established this unit on October 2, 1976. But, the unit was in effect, established in name only. The Alexandria Port Authority could not tell us why the unit did not become operational.

2. Due to the complex interrelationship of the project USAID/Egypt included as a condition precedent to disbursement of loan funds a requirement for "a detailed project implementation schedule in chart form, showing the interrelationships among all project activities, including those financed by IBRD, OECD and AID, and a plan for the integrated execution of these activities."

Four parties were involved in financing the overall project. Each party provided a part of the overall project. Each discrete part of the project would, in and of itself, assist the Alexandria Port Authority to improve the operations and efficiency of the Port. But, each donor's part of the project was also interrelated with the other parts; e.g., IBRD would dredge channels allowing more and larger ships access to the harbor; OECD would provide pilot and tug boats to process the ships' traffic to berth; AID would provide equipment to unload the ships' cargo; and, the GOE would provide additional land for storage space.

In June 1977 the Alexandria Port Authority provided implementation schedules and requested USAID/Egypt to accept them as fulfillment of the condition precedent. The Alexandria Port Authority's request also included an explanation that:

"We have furnished your office several schedules showing the planned flow of work between the IBRD, AID and OECF. These schedules are not as detailed as we would like to have, but in our opinion only after we have contracted with the U.S. consultant, the IBRD consultant and the OECF consultant can we hope to incorporate a detailed, interrelated implementation plan.

"The planning of this project is largely dependent upon the work and recommendations of these three consultants. Once the three consultants are contracted, start their studies and discuss the project between each other, we expect to have them create the master schedule."

USAID/Egypt accepted the implementation schedules as fulfilling the condition precedent. However, USAID/Egypt never received the "detailed, interrelated implementation plan."

Officials of the Alexandria Port Authority advised us that they had not prepared the detailed implementation plan. When we discussed the project with the Alexandria Port Authority's Chief Engineer on the project he complained about the absence of a PERT chart or any implementation plan to hold the overall project on its critical path.

We conclude that the plan which should have been available to the USAID/Egypt in monitoring the progress of the AID project in relationship to the other inputs was not available and therefore not used.

The absence of the special unit and a detailed project implementation schedule may have contributed to the deficiency discussed below:

The paving and surfacing aspect of the IBRD project has not been started. The IBRD project included financing for paving and surfacing within the Port. The IBRD Project Paper stated that "Paving and surfacing in the Port area is necessary to avoid damage to cargo handling equipment and to permit the extensive use of forklift trucks, which is necessary for palletization. 100,000M<sup>2</sup> to be paved under the project will complete APA's present program of paving and surfacing, the execution of which is presently limited by cement import restrictions."

- The USAID/Egypt Project Paper said "Poor surface conditions throughout the port area cause rapid wear and tear on mobile cargo handling equipment."
- The AID-financed cargo handling equipment has been in the Port and operating for up to two years. Accordingly, we conclude that the AID-financed equipment has been used less efficiently than it would have been and now has a shorter life expectancy than it would have had if the IBRD project had been implemented timely.

3. The absence of the special unit and lack of a detailed plan may also have contributed to the underuse of the AID-financed pallets.

The AID project financed procurement of 10,000 pallets and assembly equipment at a cost of \$568 thousand.

AID wanted to encourage palletization, and AID-financed equipment was selected accordingly, because, AID had determined that the absence of modern cargo handling techniques such as palletization had resulted in low productivity in handling general cargo. The IBRD Project Paper showed that the Alexandria Port Authority would need 10,000 pallets by 1979 to handle the expected cargo levels.

The unassembled pallets arrived at the Port in October 1980. We made our first audit fieldtrip to this project in June 1981. At that time the unassembled pallets were still in storage. We asked the Alexandria Port Authority why the pallets were not assembled and in use. We were told that the pallets would be assembled soon. During our last audit trip to the Port in October 1981, we verified that the Alexandria Port Authority had assembled about 1,000 of the pallets.

USAID/Egypt officials stated that they were aware of the delay in assembling the pallets. They noted (a) resistance by Egyptians to the use of pallets in cargo handling and (b) that an AID-financed Worker's Training Center is being developed to overcome problems such as this.

We can not say that the pallets would not have been assembled if we had not made this audit. We also could not definitely establish that the pallets were not used due to the lack of IBRD's paving and surfacing within the Port. However, IBRD has stated that the paving was necessary for intensive use of forklift equipment which is necessary for palletization. Therefore, we concluded that more thorough monitoring by USAID/Egypt may have resulted in more timely assembly and use of 10,000 AID-financed pallets.

4. The Loan Agreement required that the goods and services to be financed under the Loan be listed in the Implementation Letters.

USAID/Egypt did not issue Implementation Letters listing the goods and services financed under the Loan. The project files do not show why the Implementation Letters were not issued.

We did not find any direct negative effect on the Project due to this non-compliance. However, without this control the Mission had to rely on the borrower for readily available data on authorized procurement.

5. The USAID/Egypt issued an implementation letter in August 1977, advising the Alexandria Port Authority to "Please refer to Handbook 11 Chapter 3 for provisions regarding marking and signs. Rather than require the AID clasped hands emblem on each item of equipment, a permanent plaque should be installed at each project site denoting joint cooperation between the Government of the Arab Republic of Egypt and AID."

About 50 percent of the major pieces of equipment we inventoried had AID emblems affixed to them. However, no permanent plaques were installed at the site denoting the joint cooperation between the GOE and AID.

6. The loan agreement required the Alexandria Port Authority to complete a study of appropriate incentives for obtaining the services of qualified staff, and the recruitment of such staff by December 31, 1977. This study was not made. The USAID/Egypt did not follow-up until April 1981 when the new project officer asked the Alexandria Port Authority for a status report. The USAID/Egypt had not received an answer by the time our audit was completed. However, the AID-financed consultant on this project complained to us during the audit that when they trained employees they lost them to better paying jobs outside the Alexandria Port Authority.

7. The loan agreement required the Alexandria Port Authority to have their books, records and financial statements audited annually. The loan agreement also required that the Alexandria Port Authority furnish AID copies of their audited statements each year no later than six months after the end of their fiscal year.

At the time of our audit USAID/Egypt had not received any audited statements on the Alexandria Port Authority operations.

8. One section of the loan agreement required the Alexandria Port Authority to take, from time to time, all possible action (including the adjustment of its tariffs and rates) necessary or required to produce revenues sufficient to cover the operating expenses of APA (including depreciation and adequate maintenance) and to yield an annual rate of return of not less than nine percent on the depreciated replacement cost of APA's net fixed assets in operation.

The Alexandria Port Authority's certified audited statements showed a rate of return of 25 percent on historical costs of fixed assets for FY 1980. However, the Alexandria Port Authority had not developed the revaluation numbers necessary to estimate replacement cost of their fixed assets. The Mission had not followed up to ensure this loan requirement was fulfilled. Accordingly, there was no data available to verify the Alexandria Port Authority's rate of return based on revalued fixed assets.

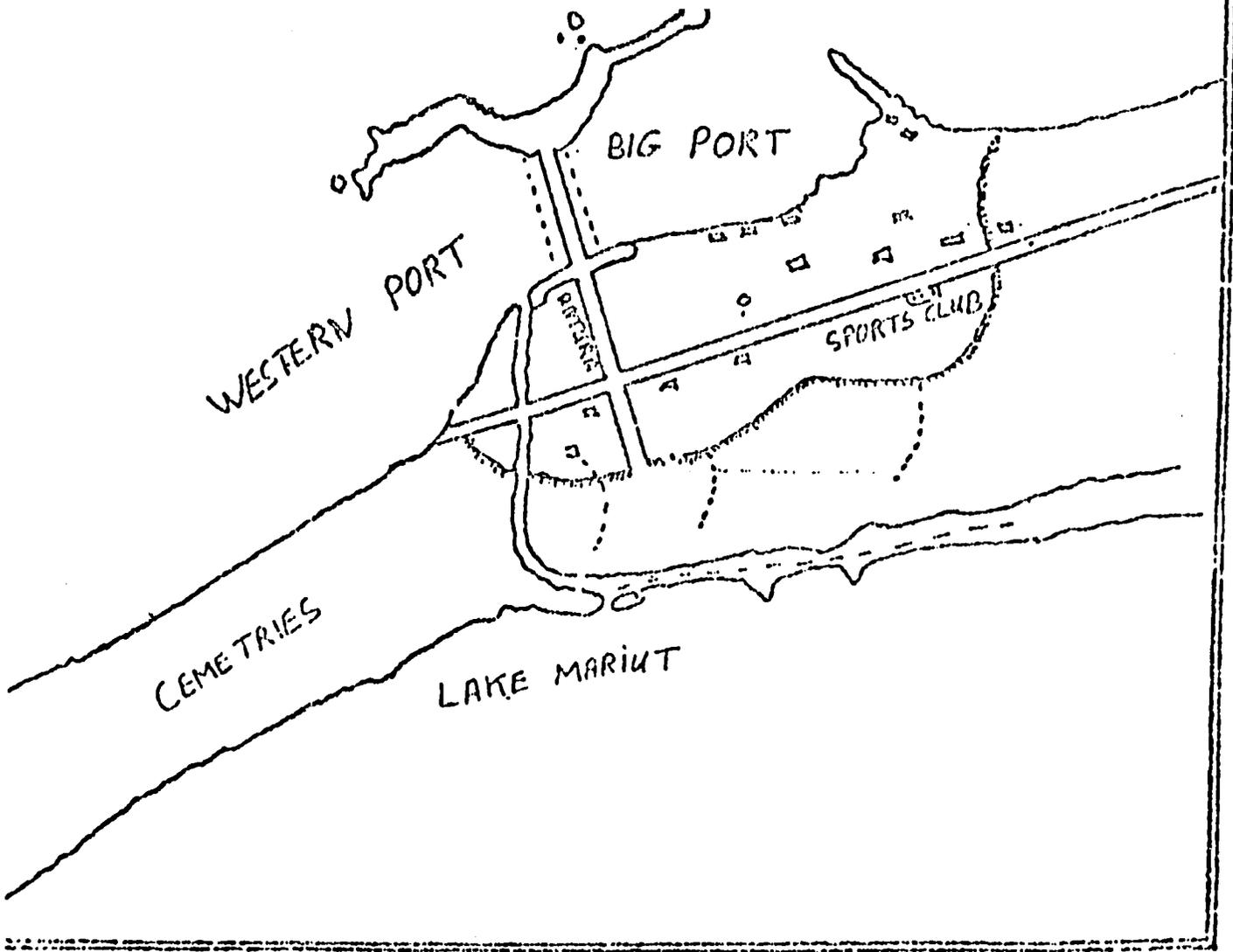
9. The AID Project Paper stated that "AID will participate in IBRD-sponsored and coordinated evaluation and appraisal of the project. Evaluation will seek to determine the degree to which the project favorably affected the ship and cargo-handling capacity of the Alexandria Port, to what extent it did so, and whether it was accomplished within projected cost parameters and according to schedule."

IBRD had not sponsored or coordinated an evaluation of the Project. Therefore, USAID/Egypt could not participate in an IBRD evaluation of the Project.

The above nine items should have been implemented during the life of a project. But, the AID Project is completed and we do not believe it would be cost-effective to now make recommendations for implementation of omitted procedures.

(P)

MAP OF ANCIENT ALEXANDRIA





LIST OF REPORT RECIPIENTSUSAID/EGYPT

Director	5
Regional Inspector General for Investigations & Inspections (RIG/II/C)	1

AID/WASHINGTON

AID Deputy Administrator	1
Assistant Administrator/Bureau for Near East (AA/NE)	5
Office of Egypt/Israel Affairs--Egypt Desk (NE/EI)	1
Bureau for Near East (Audit Liaison Office)	1
Bureau for Program and Management Services (AA/SER/SA)	6
Bureau for Program and Policy Coordination/Office of Evaluation (PPC/E)	1
Legislative and Public Affairs Office of IDCA	1
Office of Development Information and Utilization (DS/DIU)	4
Office of the General Counsel (GC)	1
Office of Financial Management (FM/ASD)	1
Office of Legislative Affairs (LEG)	1
Office of the Inspector General (IG)	1
Office of Policy, Plans and Programs (IG/PPP)	1
Office of Investigations and Inspections (AIG/II/W)	1
Executive Management Staff (IG/EMS)	12

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