

PRG

UNCLASSIFIED

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C.

PROJECT PAPER

EGYPT - INDUSTRIAL PRODUCTION
Grant No. 263-0101

UNCLASSIFIED

PROJECT DATA SHEET

REVISION

ATTACHMENT B-11

1. COUNTRY/ENTITY

EGYPT

2. PROJECT NUMBER (7 DIGITS)

263-0101

3. BUREAU/OFFICE

A. SYMBOL
NE

B. CODE
03

4. PROJECT TITLE (MAXIMUM 40 CHARACTERS)

Industrial Production Project

5. PROJECT ASSISTANCE COMPLETION DATE (PAID) MM DD YY

11 03 18 51

6. ESTIMATED DATE OF OBLIGATION

A. INITIAL FY 78 B. QUARTER 4

C. FINAL FY 80

(ENTER 1, 2, 3, OR 4)

7. COSTS SHOWN OF EQUIVALENT SIZE 0.70

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FY	C. G	D. TOTAL	E. FY	F. G	G. TOTAL
AID APPROPRIATED TOTAL	53,945		53,945	95,000		95,000
GRANT	7,500		7,500	48,555		48,555
LOAN	46,445		46,445	46,445		46,445
OTHER U.S.						
HOST COUNTRY		30,000	30,000		57,718	57,718
OTHER DONORS:						
TOTALS	53,945	30,000	83,945	95,000	57,718	152,718

8. PROPOSED BUDGET AID FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY 78		H. 2ND FY 79		K. LIFE OF PROJECT	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
11 ESF	700	710	-	1,526		1,000		5,000	
121		720	-	1,000		2,600		4,426	
131		830	830		46,445	13,129		23,129	46,445
14		850	-	4,974		226		16,000	
TOTALS				7,500	46,445	16,055	0	48,555	46,445

10. SECONDARY TECHNICAL CODES (MAXIMUM SIX CODES OF THREE POSITIONS EACH)

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (MAXIMUM SEVEN CODES OF FOUR POSITIONS EACH)

A. CODE	BU	ENV	TNG
B. AMOUNT		16,000	2,000

13. PROJECT PURPOSE (MAXIMUM 450 CHARACTERS)

1. Improve institutional capability of GOE and public sector firms to plan and manage resource allocation in the Industrial Sector.
2. Improve capability of GOE and public sector industrial firms to design and implement projects.
3. Improve the environmental effects of selected plants.

14. SCHEDULED EVALUATIONS

INTERIM	MM	YY	MM	YY	FINAL	MM	YY
	1	28	2				

15. SOURCE/ORIGIN OF GOODS AND SERVICES

<input checked="" type="checkbox"/> OOO	<input checked="" type="checkbox"/> LOCAL
<input type="checkbox"/> OAI	<input type="checkbox"/> OTHER (SPECIFY)

16. ORIGINATING OFFICE CLEARANCE

SIGNATURE

TITLE

Director

DATE SIGNED

MM DD YY
7 10 10 79

17. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY
11 02 27 91

18. AMENDMENTS/NATURE OF CHANGE PROPOSED

EGYPT - INDUSTRIAL PRODUCTION PROJECT II

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EGYPT - INDUSTRIAL PRODUCTION PROJECT

SUMMARY AND RECOMMENDATIONS

1. Grantee: The Government of the Arab Republic of Egypt (GOE)
2. Executing Entity: The General Organization for Industrialization (GOFI)
3. Amount of Grant: \$25,000,000 (twenty-five million dollars).
4. Terms: Grant to be passed on to GOFI which will use the fund to supplement funds previously allotted under Project 263-0101 which provides loan and grant funds. FY 80 grant funds will provide for training (\$1,260,000), technical assistance (\$2,449,000), environmental subprojects (\$10,904,000), evaluation (\$100,000), equipment and vehicles (\$400,000), and capital subprojects (\$9,887,000). Up to \$6,868,000 of the total amount will be converted to local currency to support the U.S. consultants funded under the FY 78 authorization and supplemented under the current funding request. (See Section 612(b) request in Annex B.)
5. Total Project Cost: This is an estimated \$153.0 million project, of which \$95.0 million is being financed by A.I.D. (\$46.445 million in loan funds and \$48.55 million in grant funds). A.I.D. obligated \$53.945 million in FY 78 and \$16.055 million in FY 79. The remaining \$25.0 million from A.I.D. will be obligated in FY 80 or FY 81.
6. Source of Funds: FY 80 Economic Support Funds
7. Project Purpose: (1) Improve the institutional capability of the Ministry of Industry to plan and manage resource allocation to the industrial sector; (2) improve industrial production in selected public sector firms through the introduction of management assistance and capital equipment; and (3) abate industrial pollution through the introduction of technical assistance and pollution-control capital equipment.

Technical assistance will be provided to the General Organization for Industrialization (GOFI) to improve its internal management systems, to develop effective training programs, and to strengthen GOFI's methods and procedures for project analysis. Other technical assistance will provide expertise in such areas as marketing, cost control and organizational planning. Specific capital equipment needs will be analyzed on an individual plant basis within the broad framework of the industrial sector priorities established by the GOE. An environmental consulting firm will assess environmental problems caused by industrial pollution and recommend solutions. Air and solid waste pollutants, as well as liquid effluents, will be treated. Recommendations for specific environmental capital equipment will be made to individual applicant firms, and this equipment will be financed with project funds.

8. Funding Request: The GOE on July 27, 1979 has requested AID to finance the project up to \$100,000,000.
9. Statutory Checklist: Satisfied (See Annex D).
10. Recommendation: That a grant in the amount of \$25,000,000 be authorized on terms and conditions set forth in the Draft Authorization (Annex C).
11. Project Committee

USAID/Cairo

Chairperson	David C. Woody
Loan Officer	William Darkins
Engineer	Richard M. Williams
Economist	Peter Davis
Legal Advisor	William Loris
Program	George Flores
Controller	Raymond DeBruce

USAID/W

NE/PD, S. Stalla (Chairman)
NE/PD, D. Reese
NE/PD, L. Rosenberg
NE/PD, M. Kingery
NE/PD/PDS, S. Lintner
NE/TECH, P. Benedict
NE/TECH, M. Lukomski

NE/EI/E, J. Sperling
NE/DP, S. Chernenkoff
GC/NE, G. Bisson

I. INTRODUCTION

1.01. The Industrial Production Project (IPP) was authorized in FY 1978 and funded for a total of \$70 million (\$46,445 million loan and \$23.555 million grant). The following milestones have been passed as of October 1, 1979:

A) U.S. Consulting Firm, a joint venture of Arthur G. McKee and A.T. Kearney contracted and the resident team arrived in July and August 1979.

B) Two subproject feasibility studies began in September 1979 and will be completed in December.

C) Request for proposals for a training consultant contract sent to five bidders in September.

D) An environmental advisor on board (PASA with EPA) and proposals for a consulting contract for implementing environmental subprojects solicited in September.

1.02. Although the Project is about five months behind the implementation schedule given in the original Project Paper (dated August 7, 1978), much has been accomplished. Of particular importance was the establishment of an accepted framework and organization of the responsible Egyptian implementation Agency GOFI (General Organization for Industrialization) which allows the project to move now into full implementation and to perform its planned functions. GOFI has set up a project management group to work directly on the Project and in addition has assigned personnel from its technical, environmental, training and financial groups in specific aspects of its implementation. It has also held a series of meetings with public sector company officials to describe the project and has received and screened over 25 proposals for review and analysis. A systematic procedure for establishing subproject priority has been adopted. It has tested and is ready to enter into English language training over 160 company and GOFI personnel in preparation for feasibility study training.

In the initial period, the project was delayed for a five months period while GOFI reviewed proposals for the U.S. Consultant. The PP estimated this would require only one month. GOFI's hesitation in making its final decision is understandable given the large number of proposals, its unfamiliarity with the AID system and its well founded concern regarding its relationship with the Consultant. Other elements of the Project have moved along closer to the original schedule.

1.03. In the course of implementation of the Project to date, several differences in emphasis over the original concept have evolved. The major differences are:

A) It is now known that a much greater emphasis on management and technical assistance to GOFI and individual firms is desirable. This development came about from experience with the low quality of subproject applications received - many showing total confusion as to whether a project is even desirable - and the frequent strong requests from company management for such assistance, both specific and general.

B) A greater emphasis on training is also desirable, training for more students and with more depth. GOFI and several companies make frequent requests for greater scope of training.

C) More effort and more funds should be devoted to the environmental element of the Project. GOFI is under strong pressure from other Government ministries as well as from companies and private citizens to clean up industrial pollution. The original concept was to concentrate on reducing liquid pollutants in Alexandria. This should be expanded into a broad based effort in other areas.

1.04. This paper proposes additional funding for the Industrial Production Project in FY 80 for (1) expansion of pollution control, (2) broadening of training and management programs, (3) financing on a subgrant basis the costs of U.S. Architect/Engineering services for subproject implementation, and (4) financing of local costs of U.S. Architect/Engineering services and other U.S. consulting teams.

1.05. The Project's direction remains as described in the FY 78 Project Paper. However, with the experience gained over the last two years it is felt that environmental and management activities must be more clearly emphasized and supported along with needed direct grant and local cost support for U.S. consultant teams not originally planned. The discussion below provides justification for new funding.

There are no major issues to be dealt with in relation to the expansion of the project.

II. INDUSTRY IN EGYPT

A. The Industrial Sector

2.01. The problems of the industrial sector remain as described in Chapter II of the FY 78 PP. Since preparation of that PP, USAID and the McKee/Kearney consulting team together with representatives from GOFI have had contacts with a number of company managements and have visited several plants and had a more detailed look at 6 or 8 plants. The GOFI environmental advisor (from EPA funded under a Project PIO/T) together with his counterparts has looked at the pollution problems in over 35 plants mostly in the Alexandria area. The following observations of factories and their managements are supplementary to the general information in the FY 78 PP.

2.02. The top levels of company and plant management are generally impressive in their ability to keep dilapidated equipment running, their ambitions to improve the lot of their firms and employees and especially their realization of their own management inadequacies. Without exception managers asked for management and other technical assistance, general and specific, when they were advised of this element of the Project.

2.03. Most plants are in worse shape and more poorly run than was realized in 1978. Although much of the capital plant is old (e.g., an operating paper machine dating from 1870), obsolete and badly depreciated much of the new investment, largely using equipment from the East Bloc, is in distressing condition also, using obsolete technology (e.g., a mercury cell caustic chlorine plant still in construction), having spare parts shortages and inadequately trained operators.

2.04. Overemployment, although bad in some plants, may not be as prevalent overall as was previously thought.

2.05. The subsidy/price control system has management badly confused regarding priorities and profitability. Nevertheless, most factories manage to show at least a modest profit.

2.06. The short term potential for improvement in production of existing equipment by management and technical assistance appears to be large.

2.07. Most plants are bad polluters of the environment. Company and plant managers are surprisingly aware of the pollution problem and express strong desire to do something about it, although few are actually doing anything. Several of the polluters admit strong pressures from their neighbors to reduce pollution.

B. Planning

2.08. Planning continues to be lacking in most GOFI activities. Potential donors, lenders and investors are usually shown a grab bag of projects and the ones which get implemented are the ones attracting financing. However, several indications that planning is desired and is gradually being implemented are now evident. The most obvious example is this AID supported Industrial Production Project for which GOFI has set up a methodical subproject selection procedure. The World Bank and UNIDO have presented proposals for studying industry sectors to establish investment priorities.

C. 2.09. AID has learned a considerable amount about the nature of public sector industry and GOFI during the past year of close association. Further analyses over the next year should be more instructive. A U.S. consultant is now working as "In-House" advisor, assisting the Deputy Chairman and Head of the Central Department for Foreign Agreements on a daily basis, managing some of the more important aspects of their jobs especially as they relate to coordination with foreigners. This consultant is funded under this Project but acts separately from the McKee/Kearney team which is implementing the Project. An example of the effective use of this consultant is his recent assignment to assist GOFI in negotiation with a large U.S. firm which is proposing a joint venture glass plant. The In-House Consultant obtained an expert financial assistant from his firm and the two sat with GOFI during negotiations. The In-House consultant has been with GOFI only three months but this relationship is expected to build confidence within GOFI regarding its capacity to analyze problems, negotiate and make decisions. It is planned under this add-on funding to finance an expansion of this Consultant's role to assist with planning as well as improve GOFI's internal management capability.

2.10. GOFI has made a major effort over the past year to implement this Project and obviously sees this as the backbone of its efforts over the next few years, even if a relatively small part of its financing of industry is through this Project. Following the period during which consultant proposals were analysed, the contract was quickly negotiated and signed. A group of four professionals now works full time on the IPP and the Project enjoys

III. THE PROJECT

A. Project Purpose and Goal

3.01. The project purpose is the same as defined in the FY 78 PP except that more emphasis is now being given to environmental improvements. The restated purpose is: to improve the institutional capability of the Ministry of Industry to rationalize the industrial sector, primarily its method of allocating resources; to improve the capability of the Ministry and the public sector companies in the planning and implementation of projects; and to reduce the detrimental environmental effect of selected plants.

3.02. The project goal is the same as before, namely to increase Egypt's national income and to improve its balance of payments. The secondary goal will be to increase the efficiency and output of the industrial sector.

B. Project Description

3.03. Elements of the Project: The Project remains basically the same with four elements as in the FY 78 PP but with expanded emphasis in training, management assistance and environmental pollution control. The Logical Framework remains similar to that included in the FY 78 PP with minor changes as shown in Annex E.

3.04. Capital Subprojects: As shown in the Project Financial Plan, Table I, the incremental funding being requested will increase the total funding for capital subprojects from \$59.584 million to \$69.461 million including \$54.3 million for capital equipment and \$15.161 million for the cost of U.S. engineering services. This amount is estimated to be sufficient for about 20 subprojects. As of October 1, 1979, two subproject feasibility studies are underway for a total required funding of about \$10 million and three more will start in October. GOFI has requests for about 20 additional subprojects of which 6 additional studies should begin before the end of 1979 and the remainder can be undertaken and completed in FY 80.

Criteria for selection of capital subprojects remain the same as originally anticipated, namely that they be the modernization, rehabilitation, replacement or expansion of existing facilities including pollution control and that the maximum reloan will be \$10 million. GOFI has formalized its own selection criteria to

considerable high level attention. Organizing for the training program has progressed and the first group of students will begin English language training by October 1. Proposals have been solicited for a training consultant and a scope of work has been adopted.

2.11. The EPA environmental expert assigned to assist GOFI under a PASA financed under this Project has had exceptional support/ acceptance not only by GOFI but by other agencies of the GOE and by firms desiring to reduce pollution. GOFI has assigned a full time environmental assistant and he works daily with the Head of the Central Technical Department. GOFI has therefore encompassed the IPP fully, and appears organized to push all elements of the Project as fast as possible.

D. Environmental Pollution

2.12. The EPA advisor to GOFI, together with his GOFI assistants and interested parties from other GOE agencies has found that industrial pollution in the areas investigated, primarily Alexandria, is even worse than suspected. Although expressing concern over pollution, plant managers typically operate plants for their own convenience and don't hesitate to dump quantities of oil, chemicals, trash, etc. into the nearest canal, which is the source of their own and other plants' process and drinking water. A shocking example is the entire black liquor stream from the Rakta Paper Mill going directly into the canal. This liquid is normally burned for its high fuel value and to recover and recycle its chemicals. The principal Egyptian pollution law (Law 93 of 1962) is ineffectively enforced by the responsible agency, the Ministry of Public Health. The situation can be changed by public clamor but probably more quickly by responsible political officials such as the Governor of Alexandria who has expressed determination to clean up his city. The environmental element of this Project is the first effort backed by available funding to turn the tide of industrial pollution. GOFI, under the leadership of the EPA advisor has received strong support, at least verbal, from the involved parties: The National Research Center, Academy of Scientific Research Technology, High Institute of Public Health and the General Organization for Sewage and Sanitary Drainage (GOSSD) as well as local and provincials.

include, besides the above, the priority given by the GOE to the specific industrial sector (food, chemicals, building materials, etc.), the importance of the subproject to improving the condition of the plant to be improved, availability of local cost financing, social factors (employment, need for product) and the date of request. Following this criteria GOFI has prepared a priority list to follow in selection of the first potential subprojects for making feasibility studies (see Annex F).

3.05. Technical Assistance: The concept remains as stated in the FY 78 PP except that management assistance to GOFI has been added. Because of the large number of requests received for management assistance from firms, a line item to cover this assistance was added to the Financial Plan for FY 79 add-on funding and is being increased by about 50 percent with this FY 80 funding. It is now anticipated there will be four types of technical assistance in addition to the basic function of performing subproject feasibility studies:

(A) Assistance to GOFI: Senior officials of GOFI requested the establishment of an "In-House" consultant to work directly with the Deputy Chairman and his immediate staff to perform the following:

- 1) Help GOFI and other organs of the Ministry of Industry to improve their management systems and organization control.
- 2) At the request of GOFI improve production management practices at the plant level.
- 3) Analyze labor structure of existing firms and advise on improvements of labor utilization.
- 4) Help GOFI develop an effective management training program that can be used to upgrade management capabilities in manufacturing firms.
- 5) Assist GOFI in strengthening its methods and procedures for investment project analysis, presentations to and relationships with international and domestic financial institutions on the one hand and with the industrial sector on the other.
- 6) Take part in design of scopes of work for feasibility studies, as well as monitoring and evaluating them.

7) Assist GOFI in improving its system for resource allocation to the industrial sector.

Financing of the In-House consultant was included in Work Order No. 1 of the McKee/Kearney Contract. The incumbent arrived on July 2, 1979 and he has been working effectively on his assignment. It is planned with this FY 80 funding to expand this assistance to a team of three to assist lower levels of the GOFI staff.

(B) Company Assistance: A number of firms have requested assistance not directly connected with a subproject. This includes marketing, cost control and organizational planning. Several specific assignments are in the process of being filled.

(C) Plant Diagnosis: Even before the McKee/Kearney Consulting contract was signed it was discovered that many (if not most) firms applying for financing were unsure of their exact needs for improving their operations. Several requested that an expert in the field be sent for a short diagnostic survey to help determine the need, identify subprojects and assist with a scope of work for a feasibility study. This service was added to Work Order No. 1 for McKee/Kearney in the form of ten months of expert TDY time and the McKee/Kearney Team Leader will also contribute to this effort. It is highly likely that additional services of this type will be needed and another work order will be issued.

(D) Plant Technical Assistance: Several potential requirements for assistance in operating specific equipment and plants are under investigation.

3.06. Training: The original description of training to be provided under the Project remains valid. It was, however, found that the original budget of \$250,000 for a training consultant was far too low and this was increased from the FY 79 add-on and is being further increased here. (See Annex I for a calculation of training costs.)

Proposals for implementing the training were solicited in September and proposals will be received in November. It is anticipated that first courses can begin in early 1980 for the first group of students. GOFI was unable to perform the manpower analysis and this will be one of the first assignments of the training consultant. Preparatory to course work, most students will be given an eight week English Language course at American University Cairo starting in October 1979.

3.07. Environmental Improvements: Although under great pressure from GOE Ministries, Provincial Governors, companies and citizens to do something to control industrial pollution, GOFI was unable to make any progress in this area for the first six months of this Project. The available personnel were tied up on the lengthy analysis of the proposals for feasibility consultant and GOFI management was extremely reluctant to institute a similar course of action for selection of an environmental consulting firm to implement this element of the Project. In March an environmental expert from EPA became available to USAID and his services were offered to and accepted by GOFI as its "In-House Environmental Advisor". In the intervening time the following have been accomplished in this area:

- 1) A full time environmental counterpart has been assigned by GOFI.
- 2) Contacts have been made with all other agencies and institutions in Egypt directly connected with environmental control, especially the Ministries of Health, Housing, Irrigation and Agriculture, the National Research Center, the Academy of Scientific Research and Technology, the universities and the Governorate of Alexandria.
- 3) A survey of industry in the Alexandria area has been made by GOFI and the Advisor in the company of Ministry of Health, Provincial officials and other agencies to determine priority, and quick effect measures and projects.
- 4) Firms have been prequalified to bid for implementation A&E services and proposals have been solicited.

The original plan for reducing industrial pollution to the sewers of Alexandria is therefore in the early stages of implementation. By the end of 1979 it is expected that the consultant contract will have been signed and the consultant will be on board and beginning designs of pollution control equipment.

It is now planned to substantially increase the scope of the Environmental Improvement element of this Project by extending the coverage to Cairo, Helwan and the other priority localities and to begin control of other pollution besides liquid effluents. Air and solid waste pollution are especially critical in the Helwan-Cairo strip and with the mechanism for effective abatement

now being organized under this Project, this expansion should be included in planning at the earliest possible date and at least before the consultant contract is finalized. An increase of \$10 million for capital equipment and engineering and \$900,000 for additional consulting services will be required for the expanded scope.

C. Beneficiaries

3.08. Egypt is a country whose economy is highly dependent on agriculture but also one with a large foodstuffs import requirement. Although industry is at this time a fairly small producer of foreign exchange, it is still the sector with the largest potential to increase foreign exchange generation as well as to reduce net import requirements. Thus increasing industrial production and efficiency is a high priority policy of the GOE. Since most of existing industry is in the public sector a primary objective is to improve the efficiency of the existing public sector plants.

3.09. Increasing productivity and capacity utilization in the industrial sector will have beneficial employment effects as well as increasing the standard of living of the general consumer. These effects will include reduced disguised unemployment or under-employment caused by the GOE policy of requiring the public sector to absorb surplus labor.

3.10. Direct beneficiaries of this Project will be employees of the industrial concerns participating. Existing law requires that 25 percent of a public sector firm's profits be paid to firm's employees. To the extent that profits of a firm are improved the employees will benefit directly. Profits of industrial firms are currently affected more by various government controls such as price controls than by labor productivity. To the extent that the project is successful in supporting the GOE's stated objective of liberalizing pricing policies, all lower income Egyptians as well as the direct employees will tend to benefit.

D. Relationship to Other AID Activities

3.11. As stated in the FY 78 PP this Project fills a gap in AID's funding of industry between the area covered by the Commodity Import Program (CIP) and major industrial project financing. This area, covering small and medium projects is also covered by several other AID projects including the Private Investment Encouragement Fund (PIEF) and the Development Industrial Bank (DIB) loans and grants.

3.12. The training portion of this Project is supplementary to other AID funded training in the industrial sector, specifically the Middle Management Training project and the training portions of the DIB projects and PIEF.

3.13. The environmental pollution abatement portion of this Project is supplemental to AID financed sewerage programs, especially the Alexandria Sewage Project. It has been established that without considerable reduction in liquid effluent industrial pollution in Alexandria the effectiveness of a new sewer system in improving the environment will be greatly diminished.

E. Other Donors

3.14. The relationship of this Project to those of other donors has not changed substantially since preparation of the FY 78 PP. West Germany has increased its activities (by DM 250 million in 1979) and Arab countries have reduced theirs. The World Bank has proposed funding for a textile plant and is studying a project to modernize some pulp and paper mills including modernizing their pollution controls. The UNDP is established in the country with a program of \$38 million, about one fourth of which goes for industry programs.

F. Cost Estimate and Financial Plan

3.15. The summary financial plan in Table I shows the allotment of the additional request for \$25 million in categories the same as those in the FY 78 PP. The allotment for purposes of this Paper are shown better in Table II which gives a detailed estimate of how the funds will be disbursed by categories regardless of which fiscal year they were authorized. Estimates in Table II include and are based on experience to date with the McKee/Kearney Contract and the first few work orders under the contract.

3.16. Somewhat under half of the FY 80 funding (\$9,837 million) will be added to the fund for capital subprojects bringing it to \$69,461 million in AID funding. The total additional amount will be on a grant basis to the companies to cover FX and local costs of A&E services for implementing subprojects (the actual amount to be subgranted to companies for A&E services will be \$15.161 million including FY 79 grant funds which previously were anticipated to be reloan). The amount reloaned to companies for capital equipment will be \$54.3 million, an increase of \$7.3 million. Of the \$54.3 million, \$46.455 million will be from the,

TABLE I
PROJECT FINANCIAL PLAN
\$000

	FOREIGN EXCHANGE					GOE TOTAL \$000	TOTAL \$000	
	AID LOAN FY 78	FY 78	FY 79	AID GRANT				
			FY 80	TOTAL (CONV. TO LC)*				
I. APPLICATION								
A. TRAINING		250	500	1,250	2,000	(680)	500	2,500
B. TECHNICAL ASSISTANCE								
1. CONSULTANT-GENERAL COSTS AND FEASIBILITY		2,176	700	1,680	4,556	(880)	650	5,206
2. MANAGEMENT			1,300	770	2,070	(570)	250	2,320
3. ENVIRONMENT		474	226	900	1,600	(370)	118	1,718
C. ENVIRONMENTAL SUBPROJECTS								
1. CAPITAL EQUIPMENT		4,500		7,400	11,900		4,500	16,400
2. SERVICES				2,500	2,500	(650)	INCL	2,500
D. EVALUATION		100		100	200		200	400
E. EQUIPMENT AND VEHICLES			200	400	600			600
F. SUBPROJECT RELOANS & REGRANTS								
1. CAPITAL EQUIPMENT	37,000		10,000	7,400	54,400		51,500	105,800
2. SERVICES	9,445		3,129	2,600	15,174	(4,150)	INCL	15,161
TOTAL	46,445	7,500	16,055	25,000	95,000	(7,300)	57,718	152,718
II. SOURCE								
USAID LOAN	46,445				46,445			46,445
USAID GRANT		7,500	16,055	25,000	48,555			48,555
GOE BUDGET							1,718	1,718
COMPANY FUNDS							56,000	56,000

* Included in Total

TABLE II
DETAILED COST ESTIMATE

	U.S. \$000 Equivalent			
A. <u>Training</u>	AID FUNDS		GOE	TOTAL
	FX	LC	Funding	
Training Needs Assessment, Course Development, Training Aids and Instructional Materials	300	60		360
Expatriate Instruction 90 mo. @ \$10,000 per MM	900	200		1,100
Home Office	100	10		110
Training Facilities & Office Space	30	50		80
English Language Instruction (@ \$200 per student week)		<u>360</u>		<u>360</u>
Total AID	1,330	680		2,010
GOFI and Company Support			<u>500</u>	<u>500</u>
Total	1,330	680	500	2,510
B. <u>Technical Assistance</u>				
1. Consultant General Costs & Feasibility Studies				
18 Mo. Contract Admin (McKee/Kearney W01)				
Resident	144	79		223
Home Office	160	12		172
Other Work Orders				
Resident	200	80		280
Home Office	150	25		175

Diagnostic Studies (M/K W01)

In Egypt	66	35	101
Home Office	80	1	81
Other Work Orders			
20 MM in Egypt	200	100	300
5 MM Home Office	50	10	60
Feasibility Studies (M/K W01)			
Resident	241	90	331
Home Office	377	14	391
Other Work Orders			
80 MM in Egypt	800	400	600
120 MM Home Office	<u>1,200</u>	<u>40</u>	<u>600</u>
Total AID	3,668	886	4,554
GOFI and Company Support	_____	_____	<u>650</u>
Total	3,668	886	650
			5,204

2. Management

18 Mo. GOFI In-House Consultant (McKee/Kearney W01)

Resident	250	101	351
Home Office	23	2	25
Other Work Orders			
Resident	500	200	700
Home Office	65	10	75

Company and Plant Assistance

Resident	600	170		770
Home Office	<u>60</u>	<u>9</u>		<u>69</u>
Total AID	1,498	573		2,071
GOFI and Company Support	<u> </u>	<u> </u>	<u>250</u>	<u>250</u>
Total	1,498	573	250	2,321

3. Environment

2 YR GOFI Advisor

PIO/T Dr. I.E. Wallen	141	41		182
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McKee/Kearney Contract

3 MM in Egypt	30	10		40
Home Office	15	2		17

Implementation Consultant Contract

57 MM Resident and TDY	900	300		1,200
Home Office	<u>150</u>	<u>15</u>		<u>165</u>
Total AID	1,336	368		1,604
GOFI and Company Support	<u> </u>	<u> </u>	<u>118</u>	<u>118</u>
Total	1,336	368	118	1,722

C. Capital Equipment Environment

Material and Equipment	12,000			12,000
A&E Services - In Egypt	1,400	600		2,000
Home Office	<u>450</u>	<u>50</u>		<u>500</u>
Total AID	13,850	650		14,500
GOFI and Company Support	<u> </u>	<u> </u>	<u>4,500</u>	<u>4,500</u>
Total	13,850	650	4,500	19,000

D. Evaluation

Total AID	200			200
GOFI	—	—	<u>200</u>	<u>200</u>
Total	200		200	400

E. Office Equipment and Vehicles

Office Equipment

McKee/Kearney W01	150			150
Other	200			200

Vehicles

McKee/Kearney W01	56			56
Other	<u>194</u>	—	—	<u>194</u>
Total AID	600			600

F. Subproject Reloans and Re grants

Material and Equipment (Reloans)	54,300			54,300
A&E Services (Re grants)				
In Egypt	7,500	3,800		11,300
Home Office	<u>3,500</u>	<u>361</u>	—	<u>3,861</u>
Total AID	65,300	4,161		69,461
Company Support	—	—	<u>51,500</u>	<u>51,500</u>
Total	65,300	4,161	51,500	120,961
Total A through F	87,782	7,318	57,718	152,718

Summary Application of Funds

AID Grant to GOFI	8,532	2,507		11,039
Regrant Environ. Proj.	13,850	650		14,500
Regrant to Companies	<u>11,000</u>	<u>4,161</u>		<u>15,161</u>
Total Grant	33,382	7,318		40,700
Reloans to Companies	54,300	_____	_____	_____
Total AID	87,782	7,318		95,000
GOFI Funds			1,718	1,718
Company Funds Environ.			4,500	4,500
Company Funds	_____	_____	<u>51,500</u>	<u>152,718</u>
Total	87,782	7,318	57,718	152,718

Summary Source of Funds

AID Loan	FY 78		46,445
AID Grant	FY 78		7,500
	FY 79		16,055
	FY 80		<u>25,000</u>
Total AID			95,000
GOFI Budget			1,718
Company Budget			<u>56,000</u>
Total Egyptian Contribution			57,618
Grand Total			152,718

FY 78 AID loan and the remainder, \$7.845 million from FY 79 and FY 80 grant funding. (Note Table I shows FY 78 and FY 79 funding as in existing loan and grant agreements. Actually \$9.445 million shows for services under the FY 78 loan will be replaced from FY 79 grant funds and all FY 78 loan funds will be reloaned to firms for equipment.)

3.17. Another large part of the FY 80 funding, \$10.904 million will be used to increase the grant funding for environmental sub-projects. The technical assistance portion will be increased by \$904,000 to pay costs of the GOFI environmental advisor (from EPA) and the expected costs of the feasibility consultant. Ten million dollars will be added to the allotment for capital equipment and direct implementation A&S services bringing this to \$14.5 million. The total amount for environmental improvements to existing industry is therefore being increased from \$5.2 million to \$16.104 million, thus greatly extending the scope of the environmental element of the Project as described in 3.07 above.

3.18. The remainder of the FY 80 funding, \$3.709 million will be used to increase the allotments for training, feasibility studies and management assistance, primarily to cover increased AID financing of local support costs of the U.S. Consultants.

G. Grant Financing A&E Services

3.19. One of the main changes in the AID implementation of the Project resulting from this incremental FY 80 funding will be financing of A&E services for subproject implementation on a grant basis to the individual companies. The reason for grant financing A&E services is to speed implementation and reduce resistance and friction resulting from high cost U.S. engineering services. Justification is as follows:

3.19.1. There is psychological resistance to acceptance of services from a foreign consultant, especially in cases where the implementing agency normally provides such services in-house, that is, with its own engineering staff. Under the extant norms of in-country engineering and construction practices, it may well be that such in-house services are adequate to meet usual project requirements. However, AID has generally been reluctant to accept the in-country norms relative to the technology employed, detail and completeness of engineering design, timeliness of project implementation, etc., and has pressed for introduction of U.S.

services to improve and accelerate project implementation. In addition to ensuring proper project implementation, there is an educational element served by utilization of U.S. engineering firms, particularly in those cases where the consultant is working in a counterpart relationship with the implementing agency. Nevertheless, the psychological resistance remains.

3.19.2. There are very high costs associated with U.S. engineering services - real costs which cannot be significantly reduced by negotiations without a corresponding reduction in the level of services. In addition to the high dollar costs of approximately \$10,000 per professional work-month all inclusive, there are very high local currency costs for the in-country support services of expatriates. As perceived by the implementing agencies, not without invidious comparison to their own salary levels, these costs are very hard to justify and approve and are accepted with reluctance, particularly when such costs must be carried directly by the implementing agency under loan terms.

3.19.3. Implementing agencies universally consider that the scope and level of services required by USAID are in excess of their needs. In most instances, the scope of work of the U.S. engineering firm requires that it participates in all facets of the Project, ensuring to a significant degree that AID procurement procedures are properly followed by the implementing agency, that project progress and shipping reports required by AID are prepared and submitted as specified, and that adequate (usually U.S.) engineering standards of design and construction are utilized throughout the Project. We recognize that this results in higher levels of effort - more work-months - than if these monitoring responsibilities were fully assumed by USAID or were not required. This fact is also recognized by the implementing agencies and, understandably, they are reluctant to assume the "extra" costs associated with USAID's monitoring requirements.

It should be noted that, in the cases of the Port Said Salines and the Alexandria Port Equipment projects, USAID approval of second-step grant financing was taken only after severe project delays, caused by the implementing agencies refusal to accept loan-financed A&E services, were experienced. In the case of the PVC Pipe Drainage project, A&E services were actually funded from the Feasibility Study Grant. USAID has recently approved second-step grant financing of A&E services relative to Loan No. 263-K-043, Urban Electricity Distribution, again, to overcome the resistance of the implementing agency in engineering services contracting.

H. AID Payment of Local Costs of U.S. Consultants

3.20. By authorization of the FY 79 add-on funding (\$16.055 million) AID approved of financing up to \$450,000 of the local costs of the feasibility consultant (McKee/Kearney) contract by 612 B determination. The approval was based on representations made to USAID by GOFI that its budget for studies had been drastically reduced and representations made to AID/W and the Department of State by the Egyptian ministerial economic team that local currency for all projects was extremely tight.

3.21. The approved amount of \$450,000 for local costs is nearly all allotted to approved work orders and the environmental advisor's PIO/T. Life of project (current funding including FY 80) local costs of the McKee/Kearney contract not including project implementation is currently expected to be \$1.459 million (see Table II) for general costs, feasibility studies and management assistance. The large increase over the \$450,000 already authorized is caused by the addition of the GOFI in-house consultant and company management assistance to the scope of the contract, the need to finance certain office costs such as office rental and nine months of subprofessional services in order to get the project implementation under way and various other unanticipated costs that GOFI's budget could not cover (e.g., \$41,000 for local costs of the environmental advisor's PIO/T).

3.22. In addition to local costs of the McKee/Kearney Contract, the local costs of the training contract will be \$680,000 including \$360,000 to pay for English language training. An additional \$370,000 will be needed for local costs of the environmental consultant (plus \$41,000 for the GOFI environmental advisor already allotted by PIO/T).

3.23. To finance the local cost of A&E contractors to implement the projects will require conversion of an additional \$4.8 million, \$650,000 for environmental subprojects and the remainder, \$4.15 million for capital subprojects (about \$200,000 per subproject). This will be under subgrants to the individual companies.

3.24. The total amount to be converted to local currency will therefore be \$6.85 million (plus \$450,000 authorization in FY 79), about 7 percent of the AID funding and 4.4 percent of the total project cost. The arguments for AID financing the local costs of U.S. consulting teams are basically the same as for its financing

consulting teams on a grant basis (see 13.3 above). In addition, financing of these local costs is a positive response to request of the ministerial economic team. The most favorable impact will be much faster implementation of subprojects by avoidance of tedious negotiations concerning amount and cost of local support for each reloan and subgrant for individual subprojects. Egyptian subcontractor costs and other local costs of the Project will be paid by GOFI from its budget or by individual firms for subprojects costs. It is the intention of USAID, should there be an industrial production project II in FY 81 or later, to move as much of the local costs proposed herein for AID funding to the GOE budget as is consistent with GOE funding capabilities.

I. Meeting of CPs and Covenants

3.25 Conditions precedent to first disbursement have been met for both the Loan and Grant Agreement for the FY 78 funding (and Amendments for FY 79 funding). Other Conditions Precedent to disbursement under both Agreements are for individual subprojects which will be met on a case by case basis except for training. The required training plan will be prepared by the Training Consultant.

3.26 Covenants in the FY 78 and 79 Loan and Grant Agreements are of three types: 1) criteria related to individual subprojects; 2) excluded subprojects (e.g., gambling facilities); 3) long term policy considerations. The covenant of interest to AID/NE (see STATE 190754 July 23, 1979) concerns the long range policy of the GOE to eliminate subsidies that hinder development of the industrial sector. The GOE continues to profess this policy and firms as well as GOFI continually push the issue. Some progress has been made. USAID requested a written report from the Ministry of Industry describing steps taken to implement this policy and evaluating progress to date. If this report is not received before the Grant agreement is signed, USAID will insert the requirement of such a report as a condition precedent to disbursement in the Agreement.

TABLE III

ESTIMATED YEARLY BUDGET (COMMITMENT BASIS)

US \$ 000 EQUIVALENT

	PROJECT TOTAL	1979	CALENDAR YEAR		1982 ON
			1980	1981	
A. <u>Training</u>					
AID FX	1330	700	400	230	
AID LC	680	400	200	80	
GOFI Budget	200	50	100	50	
GOE Other	<u>300</u>	<u>150</u>	<u>100</u>	<u>50</u>	
Subtotal	2,510	1,300	800	410	
B. <u>Technical Assistance</u>					
AID FX	6,402	2,400	2,600	800	602
AID LC	1,827	850	500	300	177
GOFI Budget	500	50	300	150	
GOE Other	<u>518</u>	<u>50</u>	<u>200</u>	<u>200</u>	<u>68</u>
Subtotal	9,247	3,350	3,600	1,450	847
C. <u>Capital Equipment Environment</u>					
AID FX	13,850	100	3,000	5,000	5,750
AID LC	650		250	300	100
Company Budgets	<u>4,500</u>		<u>1,000</u>	<u>1,500</u>	<u>2,000</u>
Subtotal	19,000	100	4,250	6,800	7,850
D. <u>Evaluation</u>					
AID FX	200			100	100
GOFI Budget	<u>200</u>			<u>100</u>	<u>100</u>
Subtotal	400			200	200

E. Office Equipment and Vehicles

AID FX	<u>600</u>	<u>400</u>	<u>200</u>	—	—
Subtotal	600	400	200		

F. Subproject Reloans and Re grants

AID FX	65,300		32,000	27,000	6,300
AID LC	4,161		2,250	1,600	311
Company Budgets	<u>51,500</u>		<u>24,000</u>	<u>23,500</u>	<u>4,000</u>
Subtotal	<u>120,961</u>	<u>0</u>	<u>58,250</u>	<u>52,100</u>	<u>10,611</u>
Grand Total	152,718	5,150	67,100	60,960	19,508

Summary

Non Capital AID FX	8,532	3,500	3,200	1,130	702
Non Capital AID LC	2,507	1,250	700	380	177
Capital AID FX	79,150	100	35,000	32,000	12,050
Capital AID LC	4,811		2,500	1,900	411
GOFI Budget	900	100	400	300	100
GOFI & Company Non Budget	818	200	300	250	68
Company Budget	<u>56,000</u>	—	<u>25,000</u>	<u>25,000</u>	<u>6,000</u>
Grand Total	152,718	5,150	67,100	60,960	19,508

IV. PROJECT ADMINISTRATION

A. General

4.01 With the FY 80 grant funded add-ons to this Project, the expanded scope of grant funded elements and extension of AID funding to cover the local costs of U.S. consultants, the breakdown in funding for the project has changed considerably as shown in the Financial Plan and as summarized below:

Items Grant Funded by AID

Training including local costs of U.S. consultants
Technical Assistance including local costs of U.S. consultants
Environmental Subprojects including capital equipment imported from the U.S. as well as US A&E consultants including their local costs
AID Evaluation Costs
Office Equipment and Vehicles for use of consultants
A&E Services for capital subproject implementation including the local costs of U.S. consultants

Items Loan Funded by AID

Capital equipment for capital subprojects imported from the U.S.

Items Funded by GOFI Budget

GOFI administrative costs
Egyptian subcontractors to U.S. training and technical assistance consultants
Local Training costs
Office costs of U.S. technical assistance consulting firms

Items Funded by Company Budgets

Local Engineering costs
Local equipment, material and construction costs
Office costs of U.S. A&E implementation services
Local training costs

4.02 The GOE administrative entity is the General Organization for Industrialization (GOFI) as described in the FY 78 PP. GOFI has organized a project management office consisting of a senior management consultant as chief and staffed at present with two additional engineers and a financial/administrative assistant. This staff works as the direct counterparts to the McKee/Kearney resident team. To date the group has been active in contract negotiations, orienting the resident team and screening subproject applications. Although the entire Project is under the supervision of this group, the training program has been handled to date mostly by members of the GOFI training department and the Environmental Advisor has been working in the technical section of GOFI. The points of contact are with the project management group and with the Head of the Central Department of Foreign Agreements.

B. Procedures

4.03 The procedure established by the FY 78 PP whereby an interested firm would fill out a preliminary application checklist for original consideration including sufficient information to prepare a scope of work for a feasibility study has proven to be too cumbersome to be workable. Of the first dozen requests first received only two approached the scope of information requested even after several tries. It developed from the beginning that few of the firms have a sound idea on what to do and how to proceed. Based on this experience the scope of the feasibility study contract has been considerably broadened to include diagnostic study and consultation by experts for a short period, 2 to 4 weeks, to assist the firms in evaluating their problems, to identify potential management and technical assistance requirements as well as potential subprojects. From this information a scope of work for a feasibility study or technical assistance can be prepared and a work order issued to the consultant. This procedure was successfully tried shortly after signing the McKee/Kearney contract and two work orders for feasibility studies in caustic/chlorine and refractories were issued shortly thereafter. More experience with actual cases will be needed to determine if this is the optimum procedure but the system has the flexibility to be shortened or lengthened for individual cases as needed. A variation of this plant diagnosis procedure which will be tried in the near future is an industry diagnosis, e.g., tanneries, which should lead to more than one technical assistance or capital subprojects in more than one plant or company.

4.04 The procedure for identifying and implementing environmental subprojects as described in the FY PP has been followed as far it went. The GOFI environmental Advisor (AID/PIO/T) and his counterparts have studied the Alexandria pollution situation in much more depth than the Camp Dresser and McKee survey, have identified some "quick fix" subprojects and established priority order for other subprojects based on the cost effectiveness and schedule. An environmental consultant to perform feasibility studies on identified subprojects and supervise implementation should be contracted for before the end of 1979. In the meantime short term assistance has been obtained from the McKee/Kearney contact to perform the priority studies. The same procedure will be followed for the expanded scope of the environmental element, i.e., a priority order for subprojects in other areas will be established following an in-depth survey of plants in the area and feasibility studies will be made by the environmental consultant.

2. Selection of Feasibility Consultant

Contract Signed	April 1, 1979	Actual
L/Comm Issued	May 17, 1979	Actual
Team Leader Arrived	July 9, 1979	Actual

3. Training Program

Advertisement placed for Consultant Request for Proposal Issued	September 1979
Proposals Received	November 1979
Consultant Contract Signed	January 1980
English Classes Begin	September 1979
Course Work begins	April 1980

4. Environmental Program

PIO/T for GOFI Environmental Advisor	May 26, 1979	Actual
Advertisement Placed for Consultant	June 20, 1979	Actual
Request for Proposals Issued	September 1979	
Proposals Received	December 1979	

Contract Signed	January 1980
First Feasibility Study Begins	February 1980
First Environmental Project Subgrant	April 1980

5. Capital Subprojects

Approval of First Subproject	January 1980
Approval of First Feasibility Work Order	September 1979

V. PROJECT IMPLEMENTATION

A. Schedule

5.01 As described above GOFI required five months to evaluate the large number of proposals received for the feasibility consultant. Except for this delay the schedule is not greatly behind that given in the FY 78 PP. The following comprehensive schedule is thought to be realistically possible based on a year's experience in dealing with the Egyptian implementing agency, a number of Egyptian firms and more recently the U.S. consulting team and by applying lessons learned on this and other projects. One of the main determinants of confidence in this schedule is that AID will finance local costs of U.S. consultants and will grant finance both FX and LC for A&E implementation contracts. The most likely delays, at this stage, would be expected to result from GOFI and company budget problems. The Mission, has, since June 1979, established a procedure whereby the GOE budgetary requirements for AID projects are coordinated directly with the Ministry of Finance as well as the responsible GOE agency. It is expected that this will minimize delays resulting from GOFI and company budget problems for this Project.

1. Documentation

FY 78 Project Authorization	Aug. 25, 1978	Actual
FY 78 Project Agreements	Aug. 31, 1978	Actual
FY 78 CP's Met Grant Loan	April 30, 1979	Actual
FY 79 Add-on Funding Authorization		Actual
FY 79 Project Agreements Amended	June 6, 1979	Actual
FY 80 Project Authorization	October 1979	
FY 80 Project Agreements	October 1979	
FY 80 CP's Met		None required
Complete first Feasibility Study	December 1979	
Approve First Subloan	January 1980	
First Subproject Completed	January 1982	

5.02 The estimated schedule of funding requirements, i.e. commitments by AID and budgets by the GOE, is shown on the attached Table III.

B. Terminal Date

5.03 The Project Assistance Completion Date will be 5 years from the date of the authorization of the FY 80 funding, or about October 1985.

C. Procurement

5.04 Goods and services financed under the foreign exchange portion of the AID funding will be procured in the U.S. in accordance with the provisions of AID Handbook 11.

5.05 Local costs financed under the AID grant will be limited to the support costs and allowances of U.S. consulting and engineering teams for the various elements and stages of the Project. Procedures for making the conversions will be as determined by the USAID Controller.

D. Monitoring and Reporting

5.06 AID has issued six implementation letters for the Grant Agreement and five for the Loan Agreement which cover the necessary monitoring, reporting, procurement and financial instructions and clear the Conditions Recedent. Regular monthly reporting was recently begun by the Consultant Team (McKee/Kearney) and will be done likewise by Environmental Consultant when the team begins its work. The Environmental Advisor (EPA PASA) has written several reports covering his investigation of specific problems and environmental planning by GOFI and himself. Each work order under the consultant contracts will be described in a final report and each subproject during implementation will be described in quarterly progress reports. AID monitoring is being done by one Project Officer assisted by an Industrial Engineer and a Capital Development Officer part time. Recently recruited Egyptian staff will also be used on the project.

E. Evaluation

5.07 Evaluation as described in the FY 78 PP will be started in 1981 at which time sufficient project experience will have been gained to warrant it.

VI. RECOMMENDATION, CONDITIONS AND

COVENANTS

A. Recommendation

6.01 It is recommended that AID authorize \$ 25 million additional grant funding to the Industrial Production Project in US FY 1980. The reasons for early fiscal year funding is to provide additional grant funding so that the difference in emphasis among the Project elements as described in Section III above can be implemented.

B. Conditions Precedent

6.02 Since CP's to first disbursement have been met for the FY 78 Grant no additional CP's of this type are needed. Additionally, CP's for disbursements for Environmental Subprojects and Training will remain as in the FY 78 Grant Agreement. However, since grant funds under this FY 80 funding will be regranted to individual firms, a new CP will be required as follows:

1. Conditions Precedent to Disbursement for Commodities or Services for Subprojects

Prior to any disbursement under the Grant, or to the insurance by AID of documentation pursuant to which disbursement will be made, for commodities or services for a specific subproject, the Grantee will expect as the Parties may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID:

(a) A complete Application Checklist acceptable to AID for each sub-project containing the following information:

(i) description of the industrial firm which will implement the sub-project and be the recipient of the Reloan ("Sub-borrower");

(ii) description of the subproject including technical financial, cost, economic, environmental and social aspects;

(iii) financial projections of the sub-borrower through line of the Reloan;

(iv) a statement of the nature, cost and source funding of technical assistance required to complete the sub-project.

(b) A feasibility study of the sub-project to be conducted by the consultant funded under the Grant.

(c) A Reloan Agreement acceptable to A.I.D. for the sub-project between the Borrower and the Sub-borrower pursuant to Section 6.3.

(d) Such other documentation as A.I.D. may require.

C. Covenants

No additional Covenants over those included in the FY 78 Grant Agreement are necessary.

700098

INVESTMENT AND FREE ZONES AUTHORITY



Annex A

Telex : 348 GAFTC UN

: 2335 INVST UN

Cable : INVESTAZON

P.O. Box 1007 CAIRO

Office of the Deputy Chairman

Mr. Donald S. Brown,
Director
Agency for International Development
American Embassy
CAIRO

ACTION TO	<u>CDE</u>	<u>P/M</u>
ACTION TAKEN	<u>Mr. Brown</u>	<u>DATE 8/10</u>
MAN	INITIALS	<u>752</u>

Cairo 27 July, 1978

Dear Mr. Brown,

The Ministry of Industry, General Organization for Industrialization (GOPI) has prepared a Five Year Plan for Industrialization by which we hope to improve the industrial output and efficiency of Egypt in the next few years. The first priority of this plan is to rehabilitate and modernize existing industrial facilities which are largely depreciated and obsolete, and the second priority is to complete projects already underway but which need additional investment for completion. Construction of new facilities is third priority.

This is to request the assistance of your Agency with financing the industrialization Plan to meet the first two priorities. Assistance will be needed to pay for feasibility studies, technical assistance and training as well as imported material and equipment from the U.S. We would also like to be able to use part of the requested fund to buy environmental protective equipment and devices for certain highly polluting industrial facilities. The financing requested is up to \$ 100 million for these purposes which is an amount that can be programed and disbursed over the next five years for projects already available and waiting for funding. The Egyptian Pound financing for local costs associated with each of the sub-projects, technical assistance and training will be provided by the Egyptian Government or by the companies involved.

Clara, Cairo,

A. S. Brown
Deputy Chairman

For Investment Authority
In Charge of Assistance to Egypt

BEST AVAILABLE DOCUMENT

32

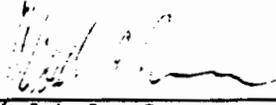


UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

CAIRO EGYPT

EGYPT - INDUSTRIAL PRODUCTION PROJECT
CERTIFICATION PURSUANT TO ARTICLE 611 (e),
FOREIGN ASSISTANCE ACT

I, Donald S. Brown, the Principal Officer for the United States Agency for International Development Mission in Egypt, having taken into account, among other things, the maintenance and utilization of projects in Egypt previously financed or assisted by the United States, do hereby certify that in my judgment, Egypt has both the financial capability and the human resources capability to effectively maintain and utilize the industrial facilities to be financed under the Industrial Production Project.



Donald S. Brown
Director

October 12, 1974
Date

Amendment to Original 612 (b) Recommendation

The Project will need U.S. \$ 6.85 Million in Egyptian Pounds, additional to the \$ 450,000 authorized in FY 79, in order to finance the local currency support costs of the U.S. Consultants/Contractors. These costs will be incurred in support of the following project activities:

- (1) The training program in Egypt to give up to 400 professional personnel in GOFI and selected companies instructions in feasibility studies, project implementation and English Language;
- (2) Feasibility Studies of related subprojects including plant diagnostics
- (3) The expansion of the scope of services of the prime contractor to include more management assistance to GOFI and to various companies included in the sub-projects;
- (4) The environmental consulting firm which will perform diagnostics and feasibility studies for the environmental portion of the project.
- (5) The architect/engineering services to implement the capital sub-projects

The conversion of U.S. Dollar funds to Egyptian Pounds would permit the timely, expeditious implementation of all aspects of the Project. There are considerable financial costs associated with the in-country support of U.S. consultants/contractors. The Arab Republic of Egypt (A.R.E.) is budgeting Egyptian Pounds in support of local costs which are associated with the Project, namely the costs of local subcontractors and the local costs of the capital subprojects. This is reasonable and prudent given the terms of IMF Standby Agreement with Egypt and the need to restrict the growth in the money supply vis a vis growth in real resources in the Egyptian economy.

The mission has considered the use of U.S. owned Egyptian Pounds to finance these local currency costs, however, because of the high level of activity in Egypt over the past three years, the amount of excess Egyptian Pounds available for programming is nil. The allocation plan which was submitted earlier this year by the U.S. Embassy, did not include this Project. Furthermore, if U.S. owned Egyptian Pounds were made available to this Project, there would be an inevitable inflationary impact on the Egyptian economy which would probably provoke a corresponding reduction in further A.R.E. disbursement against other priority activities.

It is highly unlikely because of the present budgetary constraints that the A.R.E. would terminate the agreements which bind the parties to this Project. However, the most likely resources for the A.R.E., if required funds are forthcoming from AID, would be curtail new development initiatives. This action could seriously affect pending AID economic development proposals. Therefore, in light of the aforementioned considerations and given the fact that this Project is one of AID's most important initiatives in the development/ rehabilitation of the Egyptian industrial sector, we recommend the conversion of the U.S. \$6.85 Million to Egyptian Pounds. These Pounds will be restricted to disbursements for in-country support of U.S. consultants/contractors.

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

THE ADMINISTRATOR

SECOND AMENDMENT
TO
PROJECT AUTHORIZATION

Name of Country: Arab Republic of Egypt Name of Project: Industrial
Development Project
Number of Project: 263-0101

1. Pursuant to Part II, Chapter 4, Section 531 of the Foreign Assistance Act of 1961, as amended, I hereby further amend the authorization for Project 263-0101, as approved on August 30, 1978, and as amended on May 1, 1979 (the "Project") as follows:

A. I authorize planned obligations for the Project of not to exceed Ninety-five Million United States Dollars (\$95,000,000), of which up to \$48,555,000 will be in grant funds and up to \$46,445,000 will be in loan funds, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing the foreign exchange and local currency costs for the Project. Of the \$15,000,000 in grant funds planned for obligation in FY 1980, not more than Six Million Eight Hundred Fifty Thousand United States Dollars (\$6,850,000) may be utilized to assist the Cooperating Country in financing local costs required for the Project.

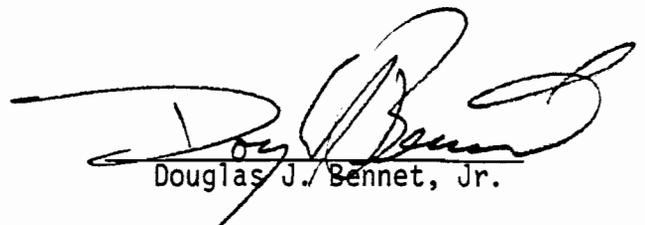
B. Paragraph b., Source and Origin of Goods and Services, as amended on May 1, 1979, is amended to read as follows:

b. Source and Origin of Goods and Services

Goods and services financed by A.I.D. under the Project shall have their source and origin in the United States and the Arab Republic of Egypt, except as A.I.D. may otherwise agree in writing.

2. All other provisions of the Project Authorization approved on August 30, 1978, as amended on May 1, 1979, and as above amended, remain unchanged.

74 JAN 1980
Date


Douglas J. Bennet, Jr.

5010 - PROJECT CHECKLIST

Items below are statutory criteria applicable generally to projects:
 1. FAA funds and project criteria applicable to individual fund
 2. Development Assistance (with a sub-category for criteria
 applicable only to loans); and Economic Support fund.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD
 ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT.

1. FY 79 App. Act Unnumbered;
FAA Sec. 653(b); Sec. 634A.
 - (a) Additional funding for the
 submitted in AID FY80
 Budget to the Congress
 - (a) Describe how Committees
 on Appropriations of Senate
 and House have been or will be
 notified concerning the project;
 - (b) is assistance within
 (Operational Year Budget)
 country or international
 organization allocation reported
 to Congress (or not more than
 \$1 million over that figure)?
2. FAA Sec. 611(a) (1). Prior to
 obligation in excess of \$100,000,
 will there be (a) engineering,
 financial, and other plans
 necessary to carry out the
 assistance and (b) a reasonably
 firm estimate of the cost to
 the U.S. of the assistance?
 - (a) Yes
 - (b) Yes
3. FAA Sec. 611(a) (2). If further
 legislative action is required
 within recipient country, what
 is basis for reasonable
 expectation that such action
 will be completed in time to
 permit orderly accomplishment
 of purpose of the assistance?

There is no further host
 country legislative action
 required.

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4. FAA Sec. 611(b); FY 79 App. Act Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973? Not Applicable
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistance Administrator taken into consideration the country's capability effectively to maintain and utilize the project? Yes
6. FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. This project is not susceptible for execution as a regional or multilateral project.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. The purpose of this project is to improve the institutional capability of the Ministry of Industry to rationalize the industrial sector, primarily its method of allocating resources; and to improve the capability of the Ministry of Industry and the public sector industrial companies to plan and implement projects. In addition, the project proposes to reduce the detrimental environmental effects caused by certain industrial firms.

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8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

The primary source/origin, nationality designation for the procurement of goods and services from AID funds will be the United States. Any exceptions to this requirement will require prior approval of AID.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

Existing agreements have requirements to this effect, and subsequent amendments will retain these requirements.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

Yes. Prior experience has proven that release of such foreign currencies has not been a problem. We do not contemplate any problems with the release of these currencies under this project.

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes.

12. FY 79 App. Act Sec. 603. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

Not Applicable.

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CRITERIA FOR PROMPT

Development Assistance Project
Criteria

Not Applicable

a. FAA Sec. 101(S), 111, 112, 113. Extent to which activities will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: (include only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)

Not Applicable.

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- (1) [103] for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, is full account taken of needs of small farmers; Not Applicable
- (2) [104] for population planning, under Sec. 104(c); if so, extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research; Not Applicable
- (3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens non-formal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development; Not Applicable
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- (4) [106] For technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:
- Not Applicable
- (i) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;
- Not Applicable
- (ii) to help alleviate energy problems;
- Not applicable
- (iii) research into, and evaluation of, economic development processes and techniques;
- Not Applicable
- (iv) reconstruction after natural or manmade disaster;
- Not Applicable
- (v) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance;
- Not Applicable
- (vi) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.
- Not Applicable
- c. [107] Is appropriate effort placed on use of appropriate technology?
- Not Applicable.

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d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?

Not Applicable

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

Not Applicable.

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental and political processes essential to self-government.

Not Applicable.

g. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

Not Applicable.

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2. Development Assistance Project
Criteria (Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.

Not Applicable

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

Not Applicable

3. Project Criteria Solely for
Economic Support Fund

a. FAA Sec. 531(a). Will this assistance support promote economic or political stability? To the extent possible, does it reflect the policy directions of Section 102?

(a) Yes. This project will promote the efficient, economic production of goods/services and improve the quality and quantity of priority products. Consequently, a reduction in import requirements and decreased unemployment. American private enterprise will be greatly involved.

b. FAA Sec. 533. Will assistance under this chapter be used for military, or paramilitary activities?

(b) No

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5C(3) - STANDARD ITEM CHECKLIST

Items below are statutory items which normally will be covered routinely in rice procurements of an assistance agreement dealing with rice implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of goods and services financed? Yes, procurement will be done in accordance with AID regulations.

2. FAA Sec. 604(a). Will all commodity procurement financed be from the U.S. except as otherwise determined by the President or under delegation from him? Yes

3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will agreement require that marine insurance be placed in the U.S. on commodities financed? Yes

4. FAA Sec. 604(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? There will be no such procurement.

5. FAA Sec. 608(1). Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items? Consideration will be given to the use of excess property when practical.

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A.

6. FAA Sec. 603. (a) Compliance with requirement in Section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage^{of} commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.

Yes

7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

Technical assistance will be from private enterprise on a competitive contract basis. It is not contemplated that the facilities of other federal agencies will be utilized.

8. International Air Transport. Fair Competitive Practices Act, 1974

If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-flag carriers will be utilized to the extent such service is available?

Yes

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A.

1. FY 79 App. Act Sec. 105. Does the contract for procurement contain a provision authorizing the termination of such contract for the convenience of the United States? yes

B. Construction

1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest? yes
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? yes
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million? yes

C. Other Restrictions

1. FAA Sec. 122(e). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? yes
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? Not applicable

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3. FAA Sec. 610(h). Do arrangements preclude promoting or assisting the foreign aid projects or activities of communist-bloc countries, contrary to the best interests of the U.S.?
- Existing Loan and Grant Agreements contain such provisions and subsequent amendments will retain the same.
4. FAA Sec. 636(1). Is financing not permitted to be used, without waiver, for purchase, long-term lease, or exchange of motor vehicle manufactured outside the U.S., or guaranty of such transaction?
- Financing is not permitted for such purposes, without A.I.D. waiver.
5. Will arrangements preclude use of financing:
- a. FAA Sec. 104(f). To pay for performance of abortions or to motivate or coerce persons to practice abortions, to pay for performance of involuntary sterilization, or to coerce or provide financial incentive to any person to undergo sterilization?
- Yes
- b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property?
- Yes
- c. FAA Sec. 660. To finance police training or other law enforcement assistance, except for narcotics programs?
- Yes
- d. FAA Sec. 662. For CIA activities?
- Yes
- e. FY 79 App. Act Sec. 104. To pay pensions, etc., for military personnel?
- Yes

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- f. FY 79 App. Act Sec. 107.
To pay U.N. assessments? Yes
- g. FY 79 App. Act Sec. 107.
To carry out provisions of
FAA sections 209(d) and 251(h)?
(transfer of FAA funds to multi-
lateral organizations for lend-
ing.) Yes
- h. FY 79 App. Act. Sec. 112.
To finance the export of nuclear
equipment, fuel, or technology
or to train foreign nations in
nuclear fields? Yes
- i. FY 79 App. Act Sec. 601.
To be used for publicity on
propaganda purposes within
U.S. not authorized by Congress? Yes

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: _____
From FY _____ to FY _____
Total U.S. Funding: _____
Date Prepared: _____

Project Title	OBJECTIVELY MEASURABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program of Technical Assistance for the Industrial Sector to which this project is related:</p> <ol style="list-style-type: none"> Increase Egypt's national income and improve the balance of payments. Improve the capability of Egypt to increase the efficiency and output of the industrial sector. 	<p>Measures of Goal A, B events:</p> <ol style="list-style-type: none"> Increase in production and replacement of imports. Improvements in the quality of projects selected for implementation. 	<p>1. Statistical data published by the GOE, GOFI, IBRD etc as a result of various industrial sector studies.</p> <p>2. Production data of firms.</p>	<p>Assumptions for achieving goal targets:</p> <p>Policies of the GOE must continue to encourage industrial development as a means of improving the economy.</p>
<p>Project Purpose:</p> <ol style="list-style-type: none"> Improve the institutional capability of the Ministry of Industry and the public sector industrial firms to plan and manage the resource allocation in the industrial sector. Improve the institutional capability of the Ministry of Industry and the public sector industrial firms to design and implement projects. Improve the environmental effects of selected industrial plants. 	<p>Conditions that will indicate purpose has been achieved: End of project status:</p> <ol style="list-style-type: none"> A smoothly operating system in the Ministry of Industry for planning and managing industrial projects. Improved capability of firms in managing projects. Better implementation of projects in selected firms. Less environmental pollution by selected firms. 	<ol style="list-style-type: none"> Evaluation study of the operations of GOPI and the effectiveness of firms in planning and managing projects. Visible evidence and reports on amount of effluents. 	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> Local currency must be made available for local costs. Funds required for raw materials must be available. The GOE must permit import of materials and services including raw materials as required. GOPI and selected industrial firms agree to invest funds in environmental protective equipment.
<p>Outputs:</p> <ol style="list-style-type: none"> Trained and experienced personnel at the Ministry of Industry and in selected public sector firms in planning and managing resource allocation. Completed and operating improvements in the production facilities of selected plants. Improved environmental controls and facilities of selected plants. 	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> Over 100 trained management and operating personnel. Fifteen to 20 modernized, rehabilitated or expanded industrial plants. Lower contamination of environment by 5 or more industrial plants. 	<ol style="list-style-type: none"> USAID and Ministry of Industry site inspection reports. Consultant reports. 	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> The performance of GOPI in screening and approving and monitoring the sub-projects is adequate and timely. Adequate trained and trainable personnel must be made available.
<p>Inputs:</p> <ol style="list-style-type: none"> AID grant and loan funds used to procure services and materials from the U.S. Feasibility technical assistance and training services financed under the AID grant. Local currency funds provided by the GOE budget, commercial banks, equity contribution and interest cash flow. Trained and experienced personnel provided by the Ministry of Industry and the sub-projects. 	<p>Implementation Target (Type and Quantity):</p> <ol style="list-style-type: none"> Sub-grant agreement to GOPI and a contract for consulting services. Feasibility studies and technical services for selected firm. Reloan to selected firms and procured and installed production facilities. Sub-grants to selected firms and installed environmental protective equipment. Further training and experience by Ministry of Industry and company personnel. 	<ol style="list-style-type: none"> AID/GOE loan agreement, sub-grant and reloan agreements and disbursement records. Feasibility study reports. Company financial records Company employee and production records. 	<p>Assumptions for providing inputs:</p> <ol style="list-style-type: none"> Contracts are signed and material and services delivered on a timely basis. Local currency requirements are provided on a timely basis.

APPENDIX 2
TABLE 11-191

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FOOD STUFF INDUSTRY

Srl No.	Priority	Company Name	Work	Definition	Remarks
1	IA	Alex. Oil & Soap Co.	Feasibility	Replacement of Caustic Soda Plants	AGM
2	IA	Edible Oil Sector	Diagnostic	<p>Integrated study to formulate a policy and strategy to cover edible oil needs until 1985, the study should include:</p> <p>a) Raising the efficiency and enhancing the productivity of the existing plants, including storage facilities; mechanization of the handling of raw materials and the final products and by-products; utilization of idle capacity; and renewal and replacement of obsolete plants.</p> <p>b) Defining the possibilities of establishing new extraction plants and refineries for imported oil-seeds or for local oilseed (other than cotton seeds) taking in consideration preparing a strategy for the importation of oil seeds.</p>	AGM
3	IA	Starch & Sweeteners Sector	Diagnostic	Revision of the sectoral study on the production of starch and sweeteners and, in addition, the study of the utilization of alternative raw materials in particular, non-edible wheat flour.	AGM
4	IB	The Egyptian Starch & Yeast Co.	Feasibility	Replacement and modernization of the fatty alcohols production unit.	AGM
5	IB	The Egyptian Salt & Soda Co.	Feasibility	Replacement of oil extraction plant from cotton seeds.	AGM

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Srl No.	Priority	Company Name	Work	Definition	Remarks
6	2	Edfina Food Canning Co.	Feasibility	Integrated Agro-industrial Complex in Ismailia.	AGM & AGK
7	2	Edfina Food Canning Co.	Feasibility	Shrimp farms.	AGM & AGK
8	2	Egyptian Sugar & Distillation Co.	Management Development Study	Improvement and modernization of storage and purchasing systems.	ATK
<u>MINING AND REFRACTORIES INDUSTRY</u>					
1	IA	Egyptian Co. for Refractories	Feasibility	Replacement and renewal of the existing production lines, development of production and increasing the production capacity of high alumina refractories and to undertake the production of monolithics.	ATK
2	IA	El-Nasr Co. for Refractories and Ceramics (Sornaga)	Feasibility	Replacement and renewal and increasing the capacity of production of clay sewer pipes.	ATK
3	IA	Sinai Manganese Co.	Feasibility	Restudy and completing the implementation of the project of exploitation of Ras Malaab gypsum and the development of new high quality products of good economic return.	AGM
4	IA	El-Nasr Saline Co.	Feasibility	Replacement and renewal of the crushing and refining factories at El-Mex.	AGM
5	IB	El-Nasr Glass & Cristal Co.	Diagnostic	Replacement and renewal and developing of the two plants of Shoubra and Moustorod for bottles and flat glass.	ATK

ES

CHEMICAL INDUSTRIES

Srl No.	Priority	Company Name	Work	Definition	Remarks
1	1A	El-Nasr Fertilizers Co.	Feasibility	Replacement of nitric acid plant	AGM
2	1A	Abou Zaabal Fertilizers & Chemical Co.	Feasibility	Replacement of the Horshief furnaces with fluidized bed process, for burning the pyrite ore.	AGM
3	1B	Leathers and Tanneries Sector.	Diagnostic	Studying and evaluating the current status of the two tanneries and leather plants to define the requirements of each tannery in some or all the following aspects: a) Replacement and renewal of the equipment. b) Developing the production and enhancing the productivity and loading of the existing facilities. c) Adding new products to increase the level of manufacturing the leather. d) Improving the economic return of the production.	AGM & ATK
4	1B	The Middle East Paper Mill (SIMO)	Feasibility	Replacement and renewal and development of the existing production lines considering the results of Studler Hurter Sectoral Studies.	
<u>METALLURGICAL & ENGINEERING INDUSTRIES</u>					
1	1A	El-Nasr Casting Co.	Feasibility	Replacement and renewal and development bottle-neck relieving of the Alex & Cairo foundries.	ATK
2	1A	Misr Engineering Tools Co.	Diagnostic	Completion of the special tools project and production development of the old jobbing workshops.	ATK
3	2	El-Nasr Steel Pipes & Fittings Co.	Diagnostic	The definition of the project and study is postponed till consultation with AID.	ATK

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SOCIAL IMPACTS OF INDUSTRIALIZATION

Egypt is committed to a policy of increased industrial production. As the population increases, this policy becomes more and more essential to the survival and health of the people. With increased industrial development and production will come more food, clothing, and shelter along with the increased availability of jobs and higher living standards.

However, along with only a few other countries, the social problems of industrial development are especially acute in Egypt. Almost total dependence on irrigation for food production, along with the hot summer temperatures and insufficient underground water supplies in most of the country, have resulted in severe restriction of centers of population and the abundance of important cultural developments to the Nile River Valley and Delta. Although industry need not necessarily be restricted in the same way, it is more difficult and thus more expensive to provide necessary transportation of products, labor, energy, and raw materials, separated from population centers where shared costs and services are available.

Among the direct social impacts of industry in Egypt are those concerned with health, cultural values and recreation, energy distribution, land use, water availability, governmental organization, and living conditions. Although not fully proven by research investigation, there appears to be a net reduction of

average length of life in Helwan as a result of exposure to industrial air pollutants. Health effects may be magnified by overcrowded living conditions for workers or by inadequate health protection measures inside or outside the factory. Factory wastes may be harmful because they are toxic or because they interfere with alternative uses of the water, air or land.

Industry may release products to interfere with cultural values and recreation by destroying such values as antiquities, parks, bathing beaches, fishery resources, wildlife, or it may simply make an otherwise pleasant environment unsightly or malodorous. Industry may exploit its employees through heavy, hard labor, that simply leaves the workers too tired to enjoy life.

Energy distribution is a particular problem in Egypt. Trunk electric power lines are centered on Cairo and since industrial production is especially dependent upon reliable electricity sources, the location of large industries must follow the available power. Losses of electricity during transmission are too great to allow unnecessary wastage through dispersion of industry.

Increased industrialization must go hand in hand with land use planning. A first consideration in the location of new industry should be to remove it from competition for space with agriculture. Air polluting industries should be on elevated land where stack height need not be of such concern for diffusion of wastes.

Water polluting industries should be located so as to have special sources of water, and even so, provision for waste treatment may be essential. Industrial development should be downwind in the direction of the prevailing winds, and downstream from important alternative water uses.

Industry tends to require large volumes of water and special accounting is essential for industrial development. In Alexandria, for example, nearly half of the total water use of the four million people is for industry. Industry may require water that is more pure than drinking water (e.g. for boilers) and may have many expensive or less expensive options for its use depending on factory location. Reuse of water is frequently more feasible in industry than for other municipal uses.

Governmental organization tends to become more complex as industrial plants become more numerous. Not only is this true in Egypt where the largest percentage of industry is operated by the Government, but measures are always necessary to balance the forces of big industry with its needs and contributions, and the interests of labor and other components of the general population. Government may need to develop and enforce rules of conduct among industry and its competition as well as to enforce quality of life standards for the country. Measures of success provide a constant need for study by university professors and researchers as well as by the governmental participants.

Improved living conditions are the common goal of industry, the government and the people. Industrial factories make this possible by judicious planning, operation, and example. A clean factory with good housekeeping practices can inspire citizens to maintain their homes, public parks, transportation, museums, and other facilities in better condition. Improved availability of reasonably priced products is essential, but in the absence of pride in the quality and appearance of factory outputs it is unlikely that the neighborhood of the factory will be any better maintained than the factory itself.

The industrial factory can have many positive social impacts on a community. As a major source of income it tends to cause people to be pleased with its presence. As leaders in the factory, the management can more easily assume leadership in local affairs. As mentioned earlier, an example of good housekeeping is likely to be followed by the community in its every day activities. If the factory management expects and receives good labor service from its employees, others in the community are likely to require higher labor productivity. A well located factory that has installed and operating pollution control equipment is likely to be an asset to any community. By providing salaries and new goods for trade the factory encourages and supports the development of better residences, schools, religious structures, recreational facilities, retail stores and social arrangements. With planning for this outcome, Egypt can continue to provide leadership in the developing countries of the world.

THE CONTROL OF INDUSTRIAL POLLUTION

Background

The Government of Egypt has undertaken a program to control pollution from municipal and industrial wastes. Under Law 93 of 1962 the discharge of human and industrial wastewater into public waterways came under full regulation with a permit system and punishment for violation. This basic law is supplemented by other laws (e.g. Law 13 of 1904, Law 35 of 1946, Law 196 of 1953, Law 50 of 1967), orders (Order of 13 October 1924, Order of 9 April 1936), decrees (Decree Number 2703 of 1966, Decree Number 649 of 1967), and circulars (Circular Number 1 of the General Department for Urban Environmental Health, undated).

Industrial air, water, solid wastes and noise pollution have the potential to contribute environmental and human damages, such as lowered land values, human diseases, unsightliness, noxious odors, destruction of animal or plant life, increased corrosion, and elimination of alternative uses such as for recycling, recreation, or use by other industries. Such pollution usually involves severe changes in acidity, color, temperature, suspended solids or dissolved material or the addition of bacteria, viruses, floating material, organic substances or toxic chemicals.

The major sources of industrial pollutants are (1) mining and manufacture of products, (2) demolition of buildings, (3) burning of fossil fuels, industrial materials or industrial wastes, (4) production of potable waters, (5) leaching from industrial wastes, (6) processing of foods, oils, and other products, (7) the transportation of materials and (8) improper housekeeping of raw, intermediate, and final products. Solid wastes may become pollution problems particularly from packaging materials, tire residuals, discarded metal goods, rubble and quarry debris, dredge spoil, slag heaps and tailings, and organic residuals from foods, paper, textiles, chemical processing, oils and sludges.

The discharge of industrial wastes into municipal wastewater systems may physically damage the system, overload the sewage treatment plant, or neutralize the action of the sewage treatment plant, reducing its effectiveness. Conventional municipal treatment plants usually are not designed to handle special chemical materials, such as detergents, pesticides and toxic substances, which may appear in industrial wastes.

In Egypt the impact of the discharge of such wastes may be especially severe because of the limited river system of the Nile and its canals and the heavy population concentration in the irrigated Nile Valley. Government policy has been

established to make a maximum use of political power at the level of the Governorates, but the local supply of qualified industrial and sanitary engineers is generally not sufficient to maintain adequate pollution control information and to suggest recommended action. Laboratories with appropriate equipment for sampling and analyses are also very limited in number as well as in support funds.

Generally Egypt has adopted the principle that the "polluter pays" in dealing with industrial pollution. Insofar as possible, the factory is expected to clean up its own operations at its own expense. Although factory managers are generally interested in cleaning up pollution (they have received complaints from neighbors, they have observed the distasteful aspects of the pollution in the factory, or they have been notified officially that their effluents do not conform to existing standards), very limited foreign currency has been available for the purchase of equipment and too little expert advice is available to assist in selecting and installing the appropriate equipment for wastes treatment.

Limited assistance has been given to the companies by the Egyptian government in carrying out surveys, collecting laboratory analyses and suggesting remedial actions, however,

the resources of the government are not equal of the formidable task. Support has been obtained to initiate a program of installation of pollution control equipment for the priority industries, however, much remains to be done.

Origin of the Problem

The need for assistance to industrial concerns in eliminating environmental air, water, solid wastes and noise hazards both in plant and external to the plant became particularly apparent through studies of the non-industrial sector. For example, the study of the Alexandria sewerage system showed that at least eleven major polluters were dumping industrial effluents into the city system and others planned to do so. Under the Alexandria master plan study, nearly half of the pollution load of the city was estimated to come from industrial sources.

The master plan report for Alexandria estimated that 85 of the 168 factories in the area should be provided with antipollution equipment at a capital cost of \$58,591,000 before the municipal sewage system could be operated properly, and nearly \$3 million would have to be added to the annual operating costs of the factories in order to keep the equipment in good operating condition.

Scientists from the High Institute of Public Health have studied several of the industrial pollution problems and concluded that very high priority should be given to pollution control of industries dumping their wastes into Lake Maryut. Scientists from the same Institute along with others from the Faculty of Science have gathered information to show that Abu Kir Bay is heavily polluted, particularly from wastes entering from Tabia (industrial) Drain.

In the exercise of its responsibility, representatives of the Ministry of Public Health have analyzed wastes from many Alexandria and other Egyptian industries and informed the management of the industries that pollution levels exceed those set under Law 93 of 1962. The General Organization for Sewerage and Sanitary Drainage of Alexandria also has joined in the conclusions that industrial pollution at harmful levels is entering Mahmoudia Canal, Lake Maryut and the adjacent Mediterranean Sea.

In the present situation no laws exist to control air pollution and no organized effort has been made to dispose of solid wastes in a manner suitable to avoid environmental pollution. In addition to rubble, trash, and building wastes, it is estimated that as much as 360,000 cubic meters of sludge is produced by Alexandria industries each year,

and this contributes substantially to the total problem.

Pollution Control in Egypt

1. Information

For the development of pollution control measures in Egypt there is an urgent need for much information to be developed. Preventive measures must be taken, ranging from good housekeeping practices through improved industrial processes and the recycling of water, to the separation of waste fractions and the recycling of by-products. The information needed includes details of the production process for each of the types of industry. The wastes must be sampled and analyzed in a way to identify their sources as well as their effects, including health and environmental hazards.

2. Fixing of Quality Objectives

In determining the course of action to be taken, the Government must not only establish environmental quality objectives based on human health, ecology and social aspects, but also it must consider the basic economic needs of the country. Norms or standards can be established, but provision must be made for exceptions, and procedures must be established to negotiate when it is advantageous to relax the standards in order to meet other more urgent concerns. The quality objectives may be met by adjusting industrial production levels,

by locating the industries at an alternate site, by alteration of design details or output based on weather conditions, by controlling the type of fuel used, by providing appropriate counter pollution measures, by permitting only certain production processes, by providing alternative lands for fish and/or wildlife, or by other rational means. The enforcement of standards, as such, may be the least desirable method of pollution control.

3. Monitoring of Essential Data

The control of pollution may be properly administered only after the acquisition of accurate data on the production processes and the resultant water, air, and solid waste materials. Proper collecting and handling of samples is equally as important as proper analyses in arriving at decisions for pollution control. Highly reliable laboratories, frequently using standards and other controls on data accuracy, must be available and utilized. The data should be representative of average and of extreme conditions. Follow-up is important to assure that the equipment performs in accordance with specifications.

4. Age of the Factories

Factories belonging to the Government have been purchased

from many sources over many years. Motors, pumps, and other equipment from the different sources often have been installed to operate in parallel. It is a credit to Egyptian technical capability that the equipment is maintained and that it continues to function. In one paper plant one machine is 109 years old and still operates. However, the condition of the equipment often results in the production of excessive wastes as well as in losses of raw materials, lubricating oils, and processed products in excessive quantities. The oils and other materials frequently may have permeated the factory grounds so that land surface may be almost totally submerged in a sea of waste materials. It may be difficult if not impossible to operate such a plant without substantial continuing pollution.

5. Toxic Chemicals

Partially because of the age of the existing factories, the processes used in manufacture of products are generally simple. The raw materials and products are uncomplicated. The wastes also are relatively simple and thus may be easy to treat. With the addition of sophisticated machinery and modern technology will come more complex chemical wastes which may be more difficult to dispose

of properly. Not many of the existing factories have created severe problems for the operation of a municipal sewage treatment plant except for overloading the system. The addition of more varied modern textile processes and materials, for example, will create pollution problems of a more serious toxic nature. Procedures for reducing or avoiding exposure will be required to be developed and adopted.

6. Financial Commitment

Capital funds for the purchase of some pollution equipment have been made available in Egypt, however much more funding will be necessary to meet the current need. With the pricing policies set by the Government in many of the industries, it is not necessarily difficult to obtain company funds for local construction costs. On the other hand, the costs of operation of the equipment may become more onerous with time and it may be difficult to keep the equipment operating properly for more than a few years. As wages increase and inflation of costs continue, the companies may have to be monitored frequently to determine whether the pollution control equipment is working. This will be particularly true where complex equipment may require special maintenance, trained personnel or expensive imported chemicals.

7. Equipment Design

As already noted, Egyptian industrial products tend to be relatively simple, and the wastes are not complicated in chemical structure. However, the choices in pollution control techniques may be greater in number under these circumstances and the proper decisions on the method of pollution control may be more difficult. To meet the pollution control objectives, it may be possible to reduce the volume of wastewater by evaporation, by recycling from one process to another, by recycling within the same process, by modifying the process, or by installing new processes or new equipment. The release strength of the waste may be reduced by neutralization or by suspended solids removal by sedimentation, flotation, and/or screening. There may be chemical coagulation, absorption, adsorption, ion exchange, reverse osmosis, oxidation reduction, or wet combustion of the wastes to make them less noxious. The wastes may be filtered through various rate sand or carbon filters or they may be centrifuged. Wastes may be lagooned, disposed into a deep well, or used in spray or flow irrigation. Sludges may be taken to a land fill, digested, dried, barged, pumped, composted, incinerated, or concentrated for re-use. Solutions to the waste control problems of the individual factory should be

chosen to make the most effective use of the land available and to meet the objectives of the industry and the Egyptian government.

8. Coordination with Municipal Sewage Projects

The Company's least expensive option for disposal of industrial wastes generally would be to release them into a municipal sewer. In cases where the sewerage system has adequate load capacity and there are no toxic chemical problems, this could properly be the chosen solution. Such an option should not be automatically selected, however, since the municipal treatment plant may lack capacity to process the wastes or there may be another factory releasing wastes that will react in the sewer to create problems. In order to maintain its independence to expand production, to change or to add product lines, and to control its production processes, an industry should provide for pretreatment of its wastes before releasing them into a public sewer. The level of pretreatment to be provided should be as agreed between the municipality and the management of the industry.

9. Laws and Regulations

Administration of Egyptian pollution control laws is cumbersome. The Ministry of Public Health is responsible for technical aspects of Law 93 of 1962, which prohibits the discharge of human and industrial wastewater into public waterways unless it conforms to specified standards. A permit system is established. Enforcement of the law is charged to the Ministry of Housing, generally working through the Sewerage and Sanitary Drainage organizations in the Governorates. The Ministry of Public Health has residual authority when local action is not taken. A High Committee for Water in the Ministry of Health establishes the technical standards for wastewater, and these quality norms are promulgated by decrees of the Ministry of Housing. The Ministry of Irrigation makes laboratory tests for water quality as do the Ministries of Agriculture, Industry and other operating ministries. As mentioned earlier, a number of laws, decrees and orders have been issued, however these have not been brought together for evaluation of their coverage with respect to specific cases of industrial pollution. Copies of the applicable laws are not easily available.

There appears to be ^aneed for codification of the laws as they apply to industries, with respect to both their coverage of air, water, and solid waste pollution and the applicability of international agreements adhered to by Egypt.

10. Manpower

Although salaries of professionals working on problems related to pollution control in Egypt are not high, they are reasonably

balanced with the costs of products and services so that working in Egypt is quite satisfying. The foreign demand for trained manpower, particularly in other Arab countries, is currently very high and some of the countries provide excellent salaries. Many Egyptians find it highly desirable to work several years in another country and then to return with more amenities than they might otherwise have. With increased availability of Western training and the purchase of equipment from the Western Countries has come better management and increased research competence. This has resulted in a better understanding of pollution problems by both industry and the educated public as well as a better capability to monitor and to control industrial pollution. Manpower to implement such programs is not a severe problem, however there remains an acute shortage of manpower with full knowledge of the alternatives in the control of industrial pollution. An even more difficult immediate problem is the lack of knowledge of available equipment and devices that can serve to reduce pollution from factories.

11. Rates of Production

Often the production of products in Egypt is much less than the demand. There is an urgent governmental program to establish new industries. Although it is governmental policy to disperse such industries, they still tend to locate in urban areas near already available energy and transportation sources. In some cases the development of new industries includes adequate provision for pollution control. In many others the economic need is felt to be so important that the provision

or operation of pollution control equipment may be very limited. The location of new polluting industries next to older polluting industries is occurring at the same time as substantial increases in total Egyptian population and concentration of that population in urban areas. There should be a mechanism for considering the control of pollution in the Egyptian Government whenever any new project is considered. The goal should be to consider pollution control along with all newly planned industrial expansion. This is particularly true when more sophisticated chemical industries are added.

PROGRAMS UNDERWAY

In spite of the limited financial and manpower resources much is being done to clarify the issues in control of industrial pollution and to develop ways of alleviating the problem. This section of the report describes some of those activities.

1. Recycling of Wastes

Egypt has one of the most complete systems for the recycling of resources in the world. Nearly all non-ferrous metals are collected and delivered to factories where they can be re-used. Glass containers are re-used and much of the broken glass is collected and re-used as cullet in new glass manufacture. Good quality paper is generally recycled into paper products or paperboard and even heavily used textile products may be reprocessed as industrial rags. Animal food is often made from wastes from food processing. Thermoplastics are often recycled and tires are retreaded after first use. Straw and baggasse are used for paper products. There is a great interest in

most factories in the possible use of by-products.

2. Pollution Control in New Plants

Many of the newly established industries in Egypt are required by conditions of the lending agency to install adequate pollution control equipment. In some cases there is no followup to assure that the equipment is operating or even operable, however the technology for pollution control is at least being brought into the country.

3. Plant Modernization

Egypt has entered into a loan agreement which provides for the installation of new equipment, new process lines, and modernization of existing factories. A condition of this loan is the adequate provision of pollution equipment to control wastes from the affected processes. Other loan agreements for major rehabilitation of an industry usually require that ~~the recipient industry be prepared~~ the recipient industry be prepared to meet not only Egyptian laws with respect to pollution control, but guidelines or standards of the donor organization.

4. Dispersal of Industries

In accordance with Egyptian policy, new industries are being located in planned areas such as 10 Ramadan, Sadat City and Amryia. Industry is being encouraged to locate near the canal cities and near the cities of Upper Egypt. Just as the dispersal of brick factories has been advantageous in relegating the air particulates problem to lesser concentrations affecting fewer people, it is practical to have more water used for

dilution or for clean-up of wastes outside a major concentration of water users.

5. Cooperation Among Ministries

The capabilities of several ministries are being brought to bear on the pollution control problem in several ways.

- a. A Master plan for water use is being prepared by the Ministry of Irrigation with cooperation from several ministries including Industry, Agriculture, Public Health, and others.
- b. A study of the water quality of the Nile is underway in the Academy of Scientific Research and Technology with cooperation from the Ministries of Irrigation, Public Health, Agriculture and Industry, and the National Research Center among others.
- c. A study of the effects of ^{the} Aswan High Dam on water quality in the Nile and in the Mediterranean is underway within the Ministry of Irrigation in cooperation with other Ministries.
- d. The ministry of Industry has made surveys of industrial pollution in Mahmoudia Canal and other Alexandria waters in cooperation with the Ministries of Housing, Public Health and Irrigation as well as with the Governorate and the University of Alexandria.
- e. The Ministry of Public Health has made many studies of specific industries and municipal and residential waters and air pollution in cooperation with several Ministries,

Universities and Institutions.

- f. The Ministry of Agriculture and the Universities have gathered much information on the effects of industrial pollution on fisheries, on wildlife, on agricultural products, and on other human resources. Most recently the Agriculture Ministry has established a Wildlife Service which will have continuing involvement and concern with pollution problems.
- g. The Ministry of Public Health has initiated many studies of polluttional effects on workers and in-plant safety in cooperation with the Ministry of Industry, the Academy of Scientific Research and Development and Universities.

6. Direct Support for Pollution Control

An existing project in the Ministry of Industry consists of grants for the foreign exchange purchase of pollution control equipment to be installed by GOFI in the worst polluting of existing industries. Initially established in part to assure proper operation of the Municipal sewage treatment works in Alexandria, the project includes water, air, noise and solid wastes pollution control devices in any Egyptian industry. The availability of such grants is expected to move the existing industries into a new awareness and responsibility for clean-up and maintenance of a more pleasant Egyptian environment.

RECOMMENDED ACTIVITIES

In addition to the many worthwhile projects already underway to characterize and resolve problems of industrial pollution in Egypt,

the following actions could be taken, whenever practicable, to further improve the quality of life.

1. Fixing of Quality Objectives and Standards

At the National level a code of laws and regulations should be developed to integrate the objectives in pollution control set by existing documents and to develop concepts for noise, air, solid wastes, and water disposal on a rational basis. The law should be broad and general, providing a framework for the protection of human and natural resources, and an organizational structure suitable for problem identification and problem solution through protection of migratory birds from oil to designation of waste disposal sites. A broad range of choices should be left to local authorities to determine the degree of control that would be desirable based on political, economic and social values. The degree of control should be based on the type of wastes produced, its toxicity, the available land for disposal, the density of the population, the use of the product, etc. The strictest pollution controls should be instituted in densely populated, heavily utilized areas. Actions should be avoided that (1) degrade the quality of the human environment, (2) curtail the range of beneficial uses of the environment, or (3) may have secondary effects to degrade the environment.

2. Provision of Expert Advice and Assistance

As indicated above, the alternatives for pollution control in industry are many and varied. It is recommended that there

be developed in Egypt a full capability in the form of an office to review and recommend proposals for pollution control as they may apply to new and existing Egyptian industry. As fully developed, the responsible Environmental Office would (1) operate laboratories to collect and analyze data to assess the pollution problem, (2) provide a full range of engineering advice on alternative solutions to pollution control, (3) have a capability to respond to management, worker or citizen complaints, (4) operate cooperative programs with other Ministries and organizations monitoring pollution levels and effects, (5) participate in setting product specifications (lead in gasoline, sulfur in fuel oil, toxicity of detergents, mercury in paints, etc.) and the planning of safety programs for workers, (6) assist in locating new industries in low pollution zones, (7) provide data and cooperation in design of environmentally sound projects for the protection of natural resources, (8) maintain full information on conforming with Egyptian and international conventions, laws, decrees, orders, regulations, etc. affecting pollution control, (9) provide specialist support in major pollution program and training areas, (10) assure environmental review of major construction projects, and (11) study and develop means of mitigating polluttional effects.

3. Information Program

A public information program should be developed, aimed at industrial workers and their families. Based on public health aspects of industrial pollution (bacterial and viral diseases, toxic chemicals effects, safety practices, etc.), and improvement of the quality of life (clean-up of trash, proper disposal of solid wastes, reduction of noise, provision of recreational facilities), workers and their families could be encouraged to participate in anti-pollution programs as well as in recycling at minimum cost to the factories or the government.

4. Solid Waste Disposal

A specific program should be developed to locate sites for solid wastes disposal, easily accessible from industrial establishments. These should provide for landfill, incineration or composting of wastes. Such a program would require integration from the national government but would have to be implemented through the Governorates.

5. Industrial Site Location

There should be more direct involvement of pollution control interests in planning for new industrial locations and in modifications of existing industries. The pollution control participant should be prepared to advise on alternative, least expensive ways to meet quality of life objectives, and to present the anticipated beneficial and harmful aspects of operation of industrial factories at the suggested sites, along

with ideas on how to alleviate any problems noted.

6. Pollution Equipment

Each new industrial construction project of the Egyptian government should have included provisions for air, water, solid wastes and/or noise pollution control devices, as appropriate, to protect the environment from further deterioration. Laws and regulations to achieve this goal should be developed in the near future.

7. Annual Reports

An annual report should be prepared on progress in industrial pollution control in Egypt.

Training Cost Estimates

1. Training Needs Analysis, Course Development and Production of Instructional Materials

a. Training Needs Analysis (2 men for 1 month) \$20,000b. Course Development*

22 weeks of instruction (3 courses of 6 weeks each and 1 course of 4 weeks) being taught 36 hours each week (6 days of 6 hours each) times 8 hours of CD @ \$44 per hour for each hour of instruction.

280,000

c. Instruction Materials Duplication 60,000**

Total \$360,000

2. Instruction Operations

5 man staff teaching up to 3 courses at one time for 18 months.

90 man-months @ \$10,000 per mm = 900,000

Personnel support costs (housing,

schooling, etc.) = 200,000**

\$1,100,000

* Will produce Instructor Guides and Student References in the U.S., plus make/purchase all audio-visual support.

** Expenditure made in L.E.

- 2 -

3. Home Office Support	
1 man for 18 months, plus travel overseas	\$100,000
	<u>10,000**</u>
	\$110,000
4. <u>Training Facilities and Office Space</u>	
a. Projectors, Video Players and Office Equipment	\$ 30,000
b. Rental of Instructional and Office Space (18 months)	40,000**
c. Furniture Rental	<u>10,000**</u>
	\$ 80,000

Cross-Check on Costs

1. If 425 students were to receive 5 weeks of training each in "off-the-shelf" courses conducted in Egypt by expatriates teachers, the cost would be:

$$425 \times 5 \times \$750 = \$1,593,750$$

2. Total of 1,2,3 & 4 above = \$1,650,000

for the same amount of training in courses "tailored" to the students' needs.

Additional cost of alternative

$$2 \text{ is } \$ 56,250$$

Technical Assistance Cost Estimates

A. McKee Kearney Contract Work Order No. 1 (June 3, 1979) covering Resident Team and General Costs (See attached Analysis of Estimated Costs) Plus Sub Work Orders No. 1 for Omar Seif El Din and Sabbour Subcontracts (GOE Funded through GOFI budget)

	<u>McKee/Kearney</u>		<u>\$000</u>
	<u>Subcontractors</u>	<u>Resident</u>	<u>Home Office</u>
Internal Management Consulting	4205	25.3	495.8
Diagnostic Studies	101.4	81.0	182.4
Feasibility Studies	430.4	390.7	821.1
Project Implementation	61.6	79.0	140.6
Management and Administration	253.0	172.4	425.4
Environmental Study		<u>9.4</u>	<u>9.4</u>
	1,266.9	757.8	2,024.7

McKee/Kearney Resident Team 75 MM

Home Office 108.5MM

Total 183.5 MM

Includes Equipment and Vehicles \$205,530 and Local Support Costs (Office Rental, Egyptian Non Professional Salaries for 9 months during Project Start-up etc.) \$189,000 (LE 132,300)

	<u>AID total</u>	<u>\$000</u>	<u>Net</u>
		<u>Prorated Equipment</u>	
Internal Management Consulting	445.8	69.8	376
Diagnostic Studies	182.4	<u> </u>	182

Feasibility Studies	821.1	99.1	722
Project Implementation	140.6	8.6	132
Management and Administration	425.4	25.4	399
Environmental Study	<u>9.5</u>	<u> </u>	<u>9</u>
	2024.7	202.9	182.0

B. McKee/Kearney Contract Work Order No. 2 (Sept. 17, 1979) covering Feasibility Study for Caustic Chlorine Plant (See attached Analysis of Estimated Costs).

	Total \$000	McKee/Kearney \$000		
	<u>Subcontractors</u>	<u>Resident</u>	<u>Home Office</u>	<u>Total</u>
Feasibility Study	33.872	6.864	145.023	151.887
Plus \$16,418 for Resident Office Personnel funded under Work Order No. 1.				
Total Cost Work Order 2 \$202,177.				

C. McKee/Kearney Contract Work Order No. 3 (September 17, 1979) covering feasibility Study for Refractories Plant.
(See attached Analysis of Estimated Costs).

	Total \$000	McKee/Kearney		
	<u>Subcontractors</u>	<u>Resident</u>	<u>Home Office</u>	<u>Total</u>
Feasibility Study	25.955	4.147	166.494	170.641

Plus \$10,171 for Resident Office Personnel furnished under Work Order No. 1. Total Cost \$206,767

D. Estimates for Additional McKee/Kearney Work Orders

1. Management and Administration - Estimate for additional years with resident team averaging four to supervise remaining studies but primarily project implementation team.

$48 \text{ months} \times 4 = 196 \text{ mm} \times 10,000 = \text{say } \$200,000$

Home office costs will be a lower ratio to resident costs than WOI because of lesser start-up supervision.

Est. 75% of resident costs = $75 \times 200,000 = \$150,000$

Estimate LC support for resident team at 40% of FX cost. $0.4 \times \$200,000 = \$80,000$

Est. LC support for home office supervision of project at 15% of FX cost $0.15 \times \$150,000 = \text{say } \$25,000$.

2. Diagnostic Studies - Estimate 20 mm in Egypt and 5 mm Home Office at \$10,000 per mm.

Per diem in Egypt $20 \text{ mm} \times \$75 \text{ per day} = \text{say } \$50,000$

3. Feasibility Studies - Total number feasibility studies estimated at 20 cost at \$120,000 not including resident staff time = \$2400,000 of which \$20,000 each is LC (\$400,000). Estimate 40% of time in Egypt and 60% Home Office

4. Management - Estimate doubling of GOFI. In House management assistance from that in Work Order No. 1

Company and plant assistance estimate 60 mm in the field at \$10,000 per mm (\$600,000) plus 30% for LC support (\$180,000) and plus 10% for Home Office Support.

E. Environmental Technical Assistance

Estimate diagnostic work done by a resident team with costs one half that the McKee/Keanny resident team under Work Order No. 1.