

PJ GAA 655

REGULAR EVALUATION
OF
TECHNICAL & FEASIBILITY STUDIES PROJECT
263-0042

USAID/Cairo
June, 1981

EVALUATION

203-0042

Since 1975 USAID/Cairo has obligated over \$56 million for technical and feasibility studies. This has been essential to permit both the U.S. and Egyptian governments to make appropriate investment decisions which will be best suited to Egypt longer term development needs. USAID also has legislative requirements levied upon it by the U.S. Congress, which call for a detailed analysis of engineering, technical, and administrative aspects of proposed project activities prior to obligation of U.S. funds. In addition to this legislative requirement, preinvestment analyses also are required from a standpoint of sound management practice to avoid, as much as possible, downstream implementation problems. Research may also lead to important technological or administrative breakthroughs or, failing this, may point the way to various options which the Egyptian Government may take in addressing problem areas.

The Egypt program is the largest of all U.S. Economic Assistance; however, funds are still limited to overall needs of the Egyptian economy. Studies and research financed under this Technical and Feasibility Studies project help the U.S. and Egyptian governments to allocate U.S. assistance to the highest priority areas.

This project has successfully mobilized the funds needed by the mission and the Egyptian government to enable them to make technical and economical decisions in planning overall program as well as specific project analyses.

The mobilization of these funds has been achieved with the minimum amount of time and administrative procedures. This has permitted the mission to maintain its large obligations portfolio.

As a result of the success of this project, the mission has submitted a project paper revision recommending a FY 1981 \$8.0 million not only to continue funding the technical and feasibility studies but also to include activities designed to transfer technological expertise, establish pilot project and finance the related commodities.

Major types of analyses and research activities funded under this grant may be classified under the following categories:

- A) Feasibility and Project Design Studies
- B) General and Sector Studies
- C) Evaluations

A. FEASIBILITY AND PROJECT DESIGN STUDIES

These studies assess whether a proposed project is worth pursuing, and if so, perform preparatory work for project implementation. Feasibility studies normally examine the economic viability of a project. This is particularly important to insure that as prices in Egypt rise towards world market levels, investment continue to be economically viable. Proposed projects also are subject to the test of financial viability to assure that they will not pose a drain on Egyptian budgetary resources over their life and will return dividends to the Egyptian economy. Finally, technical viability is examined with the objective of identifying the best way of carrying out a project. Once the

project has been determined to be worthwhile from an economic, financial and technical perspective these studies also often serve an important role in the actual project design. Depending upon the complexity of proposed investments and the economic issues associated with them, project design and feasibility studies may take from 3 months to a year to complete. As an example, a recent \$390,000 feasibility study (funded from a predecessor grant) of cement marketing and demand in Egypt, resulted in a decision to invest \$100 million in the Quattamiya Cement Plant.

B. GENERAL AND SECTOR STUDIES

A second major type of study activities undertaken by AID are general and sector studies. These typically examine the social and economic dynamics of a broad sector, the issues associated with the sector, and the investments or investment options which AID and the Egyptian Government may look at in the future. These normally take between 6 months and 1 year to complete, occasionally longer. An example of a sector study is the urban policy study which AID has recently undertaken at the request of the Egyptian Government. This study is examining the process by which urban growth is occurring in Egypt and when completed will provide Egyptian planners with a variety of options for channeling future growth in Cairo, Alexandria, other smaller existing cities and new cities. Another recent study examined the telecommunication sector and provided a detailed investment plan through the year 2000. The Government is using this as a basis for further telecommunications investments including approximately \$200 million in funding from AID.

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C. EVALUATIONS

There are normally mid-project examinations of activities to identify whether the project is achieving its stated purposes in the time planned. Most evaluations are relatively short-term in duration, taking weeks or a few months to complete. Outcome of evaluation have included changes in project emphasis or design, increased funding to projects and frequently experience which may be applied to other undertakings. A recent evaluation was completed on AID's Water Use and Management project, which has as its goal identifying differing ways of optimizing water use and on-farm practices. The recently completed evaluation led to a restructuring of the project which should enhance project results. A second recent evaluation example is that of the Basic Village Services project. This generally determined that the project was functioning well but did raise some longer term issues concerning maintenance and infrastructural development.

A. MAJOR FEASIBILITY AND PROJECT DESIGN STUDIES

	<u>Amount (\$000)</u>
1. Agricultural Management Administration	302
2. Mineral, Petroleum, Groundwater Assessment	150
3. Edfu Pulp & Paper Plant	828
4. Telecommunications Master Plan	702
5. Electric Generating Plant at Shoubra	520
6. Suez Port Study	226
7. Port Said Port Modernization	1,588
8. Quattamiya Cement Plant	390
9. Free Zones Requirements Study	535
10. Electric Distribution Study	547
11. Port Said Water/Wastewater Study	201
12. Suez Watermarks & Wastewater Master Plan	750
13. Sinai Manganese Plant	853
14. Middle Management Education	443
15. Small Farmer Production Credit Study	138
16. Bus & Truck Maintenance Training	276
17. Cairo University Faculty of Law	220
18. Investment Information Center	651
19. Lake Quarun Chemical Plant	150
20. Provincial Cities - Basic Village Services Study	123
21. Oral Rehydration Study	240
22. Housing Finance	200
23. Alexandria Quarry 85	150

b

A.1. Agricultural Management Administration

302

Funds were used for the extension of the Agricultural Management Development project to help assure that a sound, basic management system will be established within the Ministry of Agriculture. This project trained agricultural managers and teachers in Egypt and in the U.S. This activity also led to a \$5.0 million grant in FY80 for agriculture management development.

A.2. Mineral, Petroleum and Groundwater Assessment

150

This activity supplied technicians, reports and other inputs into the design of the \$20.7 million Mineral, Petroleum, and Groundwater Assessment Program (263-0105) obligated in FY80. This activity will also fund pre-project activities during FY81 for a proposed \$16.5 million add-on in FY82.

This study (a) investigated alternative energy sources (thermal and hydro) for generation of an additional 600 megawatts of electric power and (b) included preparation of a full engineering/economic feasibility study selected plant type and site. It was used to help support \$100.0 million grant project in FY79; said project being multi-donor-funded, and support an addition \$90 million grant proposed for FY81.

A.6. Suez Port Study

226

These funds supplemented the ongoing Parsons Brinkerhoff/Kaiser Engineers study which led to the \$30 million in FY78 Suez Port Project loan.

A.7. Port Said Modernization

1,588

a. Port Said

This study represents an expansion of the Port Said Port Facilities study to cover additional rehabilitation and modernization of the port area. This expansion was necessitated by the fact that the proposed new port at Damietta will not be in operation before 1986 and, during the interim period, existing facilities at Port Said will be required to carry significant traffic increases. This study is being made through an amendment to the existing F.R. Harris port study contract.

b. Damietta Port Area

This study constitutes an expansion of the ongoing Port Said Port facilities study under which Damietta was selected as the most promising site for a new port facility. The study scope includes preliminary review of port infrastructure requirements and of the impact the proposed port project will have on the existing town of Damietta and environs. It was performed under an amendment to the existing Frederick R. Harris contract. Master planning and feasibility study of a proposed port project was conducted under the Harris contract.

A.8. Quattania Cement Plant

390

Funding for the second amendment to the contract between the Suez Cement Co. and H.K. Ferguson International for refinement of the engineering-economic analyses on the selected plant site. The results of this study led to an FY 78 \$95 million capital loan.

A.9. Industrial Free Zones

535

This study, supporting a proposed FY 81 project valued at \$25 million, included a review of the GOE application of free zone concepts in Egypt and provided recommendations concerning the organization, staffing and functions of the feasibility study of the most promising free zone project identified during the course of the study. The study has also recommended the completion of the existing Free Zones.

A.10. Electric Distribution Study

547

This grant provided consulting engineering services for the master planning and a feasibility study of expansion and rehabilitation of electric, distribution systems in Cairo, Alexandria and two provincial towns. Consultant services were also utilized to assist the Egyptian Electricity Authority in preparing technical specifications and bidding documents for needed materials and equipment. The overall study formed the basis of a \$48 million AID-funded project designed to initiate the expansion and rehabilitation of distribution systems in the cited cities.

A.11. Port Said Water/Wastewater Study

201

This grant provided additional required consultant services for the master planning and feasibility study of water and wastewater system improvements in the city of Port Said. The amended contract included services to conduct a special environmental study of the effects of discharging treated sewage effluent into the Suez Canal and Lake Manzala. The overall study formed the partial basis for a \$90 million AID-funded project for improvements to water and sewer systems in the Canal cities of Port Said, Ismailia, and Suez.

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A.12. Suez Waterworks and Wastewater

750

a. Suez City Water and Sewage

These funds supplemented the contract with Pirnie-Harris Int'l. for a master plan upon which the Canal Cities Water and Sewerage \$50 million project was partially based.

b. Suez Pipeline Planning and Design

The master-planning of the city of Suez area includes a proposed water pipeline running from Suez southward along the western shore of the Gulf of Suez to serve planned industrial development areas. As early construction of the pipeline is vital to the operation of the Suez Cement Company (AID Grants 263-0012 for \$100 million) whose plant is currently under construction about 40 kilometers south of Suez. Planning and final design of this pipeline was accomplished under an amendment to the Pirnie-Harris contract for master planning of the Suez City water and sewerage systems.

A.13. Sinai Ferro-Manganese

853

The General Organization for Industrialization has requested a study of the proposed re-establishment of the ferro-manganese plant at Abu-Zinema. The desk study update supplement to stage I has been received. Its findings are now under USAID/GOE consideration regarding stage II.

A.14. Middle Management Education

443

This pilot training program, initiated with prior-year (263-0025) funding, developed a methodology for improving the managerial skills of Egyptian middle managers associated with private and public entities involved in high priority areas for economic development. This activity led to a \$8.5 million grant, Management Development for Productivity, in FY 80.

A.15. Small Farmer Production

138

USDA, under a TASA agreement, carried out feasibility and design work which culminated in a FY 79 \$25 million grant to increase small farm income through provision of farm production inputs, including acceptable technological innovation.

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A.16. Bus and Truck Maintenance

276

PRC/Harris Corp., conducted a comprehensive study of the Bus and Truck Maintenance sector during an 8-month period in 1979. The study identified public sector bus and truck maintenance problems and proposed immediate and mid-term actions for improving performance. A feasibility analysis was conducted and, recommendations developed for a long-term maintenance improvement program to be used as a basis for a three - to - five-year period to upgrade vehicle maintenance performance. The \$4.5 million Vehicle Maintenance Project was obligated in July 1980.

A.17. Cairo University/Faculty of Law

220

A long term study of the feasibility of establishing a continuing legal education program in Egypt for practicing lawyers, both private and governmental.

A.18. Investment Information Center

651

This study provided alternative project designs for strengthening the Egyptian Investment Center which is charged with stimulating new foreign and domestic investments and expanding existing industry. The study developed recommendations concerning promotional and information activities, organization and staffing requirements, and implementation plans and costs. In addition, a plan for satisfying priority information needs was prepared. The study will also help establish the guidelines for a proposed FY 82 \$9 million grant for the Egyptian Investment Information Center.

A.19. Lake Quarun Chemicals

150

This grant was utilized to fund partially a contract for consulting engineering services for the technical/economic feasibility study of a chemical plant located on Lake Quarun at Fayoum, south of Cairo. This plant will be designed to extract chemicals from the saline lake waters. It is expected that this feasibility study will form the basis for an AID assisted joint venture project.

A.20. Provincial Cities Basic Services Study

123

This study assessed the chronic and acute physical urban infrastructure and governmental needs to improve prospects for decentralized urban management in the three provincial towns of Fayoum, Beni Suef, and Minya. Issues of government budgeting policy, sources of revenue, personnel regulations, rational growth and the capacity of local engineering and construction firms were evaluated. Guidelines were established for a proposed FY 81 \$20 million grant for provincial cities.

A.21. Oral Rehydration Study

240

This study developed the detailed analysis necessary for the development of a planned FY 81 \$15 million Diarrhea Control Project. The project will address the excessive infant and child mortality which could be prevented by early and appropriate treatment of diarrhea diseases. The study will require the services of seven American consultants and four Egyptian professionals.

A.22. Housing Finance

200

This study incorporated the information generated from current studies of the informal housing and informal (non-institutional) finance mechanisms. The study detailed specific procedures for adjustment in current banking practice in Egypt in order to mobilize private savings resources and apply them specifically for purposes of increasing the supply of privately built low and middle income urban housing.

Quay 85 of Alexandria Port is being lengthened by approximately 90 meters in order to off-load larger grain vessels in the future. However, the area being dredged to construct the quay consists of very poorly compressible material, and a soils study has indicated that at certain points in the placement and surcharging of concrete blocks the safety factor was marginal and a very slow incremental loading of blocks and fill was proposed to offset this problem. The present rate of construction of Quay 85 will, however, delay the completion of the Alexandria site of the Grain Silo project (763-K-028). This study:

- a) described and evaluated the condition of existing soils,
- b) determined the capability of the finished quay to accept the planned loads, and
- c) reviewed the possibility of safely accelerating the construction of the quay.

OTHER FEASIBILITY & PROJECT DESIGN STUDIES

	<u>AMOUNT (\$000)</u>
Pipe Drainage	92
Alexandria Wastewater	85
Ismailia Wastewater Design	77
Basic Village Services	39
Solar Energy	50
Small Farmer Project Activity	19
Ministry of Education Needs Assessment	20
Vocational Training Minia University	55
Private Sector Credit-Needs Analysis	65
Transport/Vocational Education	48
Infrastructure Requirements Services for 3 Governorates	88
Polyester Fiber Plant	11
Values for Cairo Water Fountain	75
Alexandria Port Survey	72

B. MAJOR SECTOR AND GENERAL STUDIES

	<u>AMOUNT (\$000)</u>
1. Renewable Energy	116
2. Informal Housing Sector Study	220
3. Basic Education	144
4. New Lands Development	443
5. National Urban Policy	1,532
6. Industrial Policies Study	180
7. Off-Farm Rural Employment	395
8. Land Development-Infrastructure Survey	167

1. Renewable Energy

116

This activity funded the services of a contractor to provide to USAID several options for possible renewable energy activities as well as to contract qualified technicians to provide technical inputs into renewable energy aspects of various industrial projects. Results from this activity will provide basis for pre-project activities for a proposed \$13.0. FY 82 Utility Management & Renewable Energy project.

2. Informal Housing Sector

220

This study focuses on the physical, financial and social aspects of private housing construction which does not receive government building approval. Such housing in Egypt reportedly comprises half the total new housing stock. Based on the findings of the study, to be carried out in Cairo and one provincial city, the contractor will make recommendations to improve shelter for low income people incorporating the cost and social advantages found in this characteristically popular method of resolving the national housing problem.

3. Basic Education Survey

144

The GOE is currently attempted to align its educational systems, particularly grades 1 through 9, with the economy, thereby making schooling less "academic" and open to more children. This study, conducted by a joint team of Egyptian and American educators, was completed in August 1979. It identified problems and constraints in this regard and suggested a list of priorities which could be used to develop a strategy for initiating educational reform to be funded from a proposed \$35 million FY 81 Basic Education.

4. New Lands Development

443

This project design activity was aimed at meeting the high Egyptian interest in new lands development in such a manner that financial inputs in new lands would have a higher return than in the past while also seeking to maximize equity considerations. The feasibility team completed the study early in 1980. The study concluded that further investments in the previously reclaimed area being studied were not likely to provide satisfactory economic returns. A follow-on linear programming study that examined alternative cropping patterns, output prices and yield assumptions verified that extreme caution should be taken considering programs in new land investments.

5. National Urban Policy

1,532

The Egyptian Government is faced with broad policy issues relative to the structural development of urban areas to accommodate its growing population. A study is now underway to research and analyze Egypt's past and present urbanization patterns; formulate and evaluate urban development strategies; and recommend policy alternatives to guide and manage urban growth in Egypt. Results of this study will establish the guidelines for a planned \$40 project-\$20 million to be obligated in FY 81.

6. Industrial Policies Study

180

The purpose of this study is to analyze Egyptian industrial development objectives and to identify policy and program needs necessary to obtain those objectives, so that USAID can better determine useful allocations of its capital resources. The study will encompass policies and programs needed to improve public and private sector efficiency, Egyptian comparative international market advantages; labor, employment and wage problems; and the position of women in the industrial labor force.

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7. Off-Farm Rural Employment

395

Michigan State University (MSU) and three Egyptian Universities are undertaking a detailed survey of rural off farm employment in Qaliubia, Fayoum and Beheira. The survey is providing the data on which to base the design of a project to stimulate off-farm employment in Egypt. MSU provided three full-time and several short-term consultants and the Egyptian faculties provided long-term and short-term personnel and office space. These agreements have been reached between MSU and the Faculties of Agriculture of Alexandria University, Cairo University at Fayoum and Zagazig University at Moshtohor, Qaliubia. The survey is expected to take two years, with enough information available after one year to select an initial area with potential for new off-farm productive employment.

8. Land Development - Infrastructure Study

167

This study assessed the exploitable characteristics of vacant land within a graduated radius of Cairo and/or one secondary town. Both agricultural and non-agricultural land was studied. Because it is anticipated that most of the vacant land desirable for large scale urbanization is owned by the government, the study also evaluated the constraints and procedures to plan, urbanize and sell government land for private building purposes.

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OTHER SECTOR & GENERAL STUDIES

	AMOUNT (\$000)
Irrigation Sector Study	80
Employment Opportunities for Women	18

C. EVALUATIONS

	AMOUNTS (\$000)
<u>Urban Electric Distribution Evaluation</u>	400

This study will provide an in-depth evaluation of the AID-funded Urban Electricity Distribution Project (Loan No. 263-K-043) in the context of an overall assessment of like activities being carried out under other donor financing, e.g., IBRD. The study will also update an earlier feasibility study of the activity as to costs and benefits. The completed study will assist Mission decision-making relative to possible expansion of the current AID-funded project.

OTHER EVALUATIONS

Science & Technology	53
Development Planning Studies	36
Basic Village Services	65
Agricultural Development Systems	40
Water Use & Management	25

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RESEARCH UNDER USAID PROGRAM

I. Introduction

To date approximately 6 percent of AID's Program has been devoted to analyses, research and research activities. These activities fall into several broad categories, including feasibility/project design studies, general or sector studies, project activities with important research elements and evaluation activities.

AID funds research for a variety of reasons. From a program-wide perspective analyses and research are essential to permit both the U.S. and Egyptian Governments to make appropriate investment decisions which will be best suited to Egypt's longer term development needs. USAID also has legislative requirements levied upon it by the U.S. Congress, which call for a detailed analysis of engineering, technical and administrative aspects of proposed project activities prior to obligation of U.S. funds. While legislatively required, in AID's judgement preinvestment analyses also are required from the standpoint of sound management practice in order to avoid as much as possible downstream implementation problems. Additionally, research in critical problem areas may lead to important technological or administrative breakthroughs or, failing this, may point the way to various options which the Egyptian Government may take in addressing problem areas. Finally, despite the fact that the Egypt program is the largest in U.S. Foreign Assistance history, funds are still limited relative to overall needs of the Egyptian economy. Studies and research help the U.S. and Egyptian Governments to allocate U.S. assistance to the highest priority areas. An explanation of the major types of analyses and research activities funded by AID follows:

A. Feasibility and Project Design Studies

These studies assess whether a proposed project is worth pursuing, and if so, perform preparatory work for project implementation. Feasibility studies normally examine the economic viability of a project. That is, these feasibility studies determine whether allocating resources to a project makes sense on the basis of product and factor prices which are corrected for subsidies implicit in the actual market prices for these products and factors. Making these corrections and evaluating projects on the basis of them is of paramount importance to Egypt's development prospects. Specifically, today's investment decisions must be based on viability considerations for the future. If they are not, much of the

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investment that will take place today will be worthless and, therefore, not contribute to Egypt's development. Egypt's energy prices, for example, will eventually have to rise to world market levels because the government simply cannot afford to subsidize them much longer. If investments are made on the basis of the subsidized energy prices which exist now, they may prove to be unprofitable in the future when energy prices have to rise. At this point, the investments will either have to be scrapped or subsidized at the expense of Egypt's budget revenues. It is to preclude this from happening that USAID feasibility studies are an absolutely essential input into our decision making process. It is Egypt which benefits from the process.

Proposed projects also are subject to the test of financial viability to assure that they will not pose a drain on Egyptian budgetary resources over their life and will return dividends to the Egyptian economy. Finally, technical viability is examined with the objective of identifying the best way of carrying out a project. Once the project has been determined to be worthwhile from an economic, financial and technical perspective these studies also often serve an important role in the actual project design. Depending upon the complexity of proposed investments and the economic issues associated with them, project design and feasibility studies may take from 3 months to a year to complete. As an example, a recent \$390,000 feasibility study of cement marketing and demand in Egypt, resulted in a decision to invest \$100 million in the Quattamiya Cement Plant.

B. General and Sector Studies

A second major type of study activities undertaken by AID are general and sector studies. These typically examine the social and economic dynamics of a broad sector, the issues associated with the sector, and the investments or investment options which AID and the Egyptian Government may look at in the future. These normally take between 6 months and 1 year to complete, occasionally longer. An example of a sector study is the urban policy study which AID has recently undertaken at the request of the Egyptian Government. This study is examining the process by which urban growth is occurring in Egypt and when completed will provide Egyptian planners with a variety of options for channeling future growth in Cairo, Alexandria, other smaller existing cities and new cities. Another recent study examined the telecommunications sector and provided a detailed investment plan through the year 2000. The Government is using this as a basis for further telecommunications investments including approximately \$200 million in funding from AID. Another study jointly commissioned by AID and the British Government lays out similar plans for Cairo Sewage network.

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C. Project Research

Research is frequently the objective or a major element of AID's project activity. These activities are generally undertaken when the Egyptian Government has either identified a need for research in a specific area (such as agriculture or industrial technology) or there is a pilot research activity showing promise at identifying broader possibilities for investment.

Research projects normally take between 3 and 5 years to complete with occasional efforts taking up to 7 years. The Rice Research and Training project presently being implemented with the Ministry of Agriculture is an example of this type of research. Under this program various types of rice varieties will be tested under differing circumstances to determine the best combination of factors to achieve an increase in rice yields. Variables such as fertilizer, soil, cultural acceptability, water needs and yields will be tested, and, on development of an acceptable package, extension information will be prepared. A second example of this type of project is AID's Major Cereals project, a \$47 million effort, of which approximately \$20 million is directly related to research, aimed at increasing yields of wheat, barley, sorghum, forages and legumes in Egypt. This project will test alternate farm plans and varieties with the major objective of increasing cereal production in Egypt. Another example of a research project is the private sector feasibility studies project which will provide funding for potential U.S. investors to test the feasibility of potential investment in the Egyptian economy.

D. Evaluation

The final subheading of studies undertaken by AID is evaluation. These are normally mid-project examinations of activities to identify whether the project is achieving its stated purposes in the time planned. Most evaluations are relatively short-term in duration, taking weeks or a few months to complete. Outcomes of evaluation have included changes in project emphasis or design, increased funding to projects and frequently experience which may be applied to other undertakings. A recent evaluation was completed on AID's Water Use and Management project, which has as its goal identifying differing ways of optimizing water use and on-farm practices. The recently completed evaluation led to a restructuring of the project which should enhance project results. A second recent evaluation example is that of the Basic Village Services project. This generally determined that the project was functioning well but did raise some longer term issues concerning maintenance and infrastructural development.

I. FEASIBILITY AND PROJECT DESIGN STUDIES

	Amount	Status (1)
Mineral, Petroleum, Groundwater Assessment	150	C
Edfu Pulp and Paper Plant	828	C
Electric Generating Plant at Shoubra	520	C
Suez Port Study	226	C
Port Said Port Modernization	1,588	I
Electric Distribution Study	547	C
Port Said Water/Wastewater Study	201	C
Manganese Plant in the Sinai	853	C
Small Farmer Production Credit Study	138	C
Bus and Truck Maintenance Training	276	C
Lake Quarun Chemical Plant	150	C
Oil Seed Production Facility	69	P
Tallow, Oils & Fat Facilities in Alex Port	12	P
Desert Land Farming Irrigation Program	50	I
Quattamiya Cement Plant	390	C
Cairo Groundwater Survey	1,000	P
Grain Storage and Distribution	800	P
Pipe Drainage	92	C
Alexandria Wastewater	85	C
Flat Glass Plant	161	C
Ismailia Wastewater Design	77	C
Basic Village Service	39	C
Solar Energy	50	C
Small Farmer Low Cost Farm Implementation	19	C
Ministry of Education Needs Assessment	20	C
Vocational Training Minia University	55	C
Private Sector Credit Needs Analysis	65	P
Transport/Vocational Education	48	C
Basic Infrastructure Requirements Services for 3 Governorates	88	C
Polyester Fiber Plant	11	C
Alexandria Port Survey	72	C
Free Zones Requirements Study	200	C
Oral Rehydration Survey	240	I
Technical Nurse Training	30	I
Data Collection Requirements of the Ministry of Agriculture	8	C
Telecommunications Master Plan	702	C
Suez Waterworks & Wastewater Master Plan	792	C
Provincial Cities - Basic Village Services Study	123	C
Energy Policy Planning and Utility Mgmt Study	600	P
Stock Exchange and Money Market Needs Analysis	350	P
Irrigation and Water Management Project Design	500	I
Alexandria Ouay 85 Design	150	P

Agricultural Support	350	P
New Lands Development	250	P
Neighborhood Sanitary Services	300	P
Transportation Sector	900	P
Multi-Sector Science & Technology Study	150	P
Housing Finance Assessment	200	C
Analysis of Employment	150	P
Health Sector Assessment	200	P
Measurement & Projection of Agricultural Inputs	500	P
Port Operations Activity	150	P
Irrigation Development Technical Studies	400	P

II. SECTOR & GENERAL STUDIES

New Land Development	443	C
Renewable Energy	116	C
Basic Education	144	C
National Urban Policy	1,532	I
Industrial Policies Study	180	I
Off Farm Rural Employment	395	P
Agricultural Policy and Inputs Analysis	12	P
Financial Sector Survey	73	P
Cairo Land Development-Infrastructure Survey	167	C
Sector Studies of Small Scale Enterprise	275	P
Fertilizer and Pesticides Requirements	60	P
Employment Opportunities for Women	68	C
Housing Sector Funding Needs	68	P
Irrigation Sector Study	80	C
Informal Housing Sector Study	270	I

III. PROJECTS WITH RESEARCH COMPONENTS (2)

Applied Science & Technology Research	24.4 Million
Water Use & Management	7 Million
Rice Research & Training	9.8
Agricultural Mechanization (40)	25
Support Systems for Agricultural Development	12.9
Poultry Improvement	4.5
Development Planning Studies	15.8
Aquaculture Development	27.5
Major Cereals & Legumes Research (47)	20
Small Scale Agricultural Equipment Research	1.7
Improvement of Industrial Production (95)	5
Mineral, Petroleum, Groundwater Survey	20.7
Private Sector Feasibility Studies	5
Sinai Planning Studies	5
Work Force Planning & Development Research	3
Technical & Feasibility Studies	40
Multi-Sector Research & Development	20
Agricultural Data Collection & Analysis	5

256 Million

25

IV. EVALUATIONS

Science and Technology	53	C
Development Planning Studies	46	C
Basic Village Services	65	C
Ag. Development Systems	40	C
Water Use and Management	25	C
Min/Plan Assessment of Administration	8	P
Nile River Barrages	25	I
Industrial Production Evaluation	50	P

- (1) C = Completed
I = In Process
P = Planned

(2) Numbers in parenthesis are total project costs, including capital elements.