A.I.D. EVALUATION SUMMARY PART I

(EXCISE FILLING OUT THIS FORM. FOLLOW THE ATTACHED INSTRUCTIONS) PD-AAT-125

A. REPORTING A.I.D. UNIT (Mission or AID/W Office) (ES # 86-3)

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN? yes [X] slipped [ ] ad hoc [ ]

C. EVALUATION TYPE: interim [X] final [ ] ex. post [ ] other [ ]

004220

ISN 1/4/87

D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program (s) evaluated; if not applicable, list title and date of the evaluation report)

Project #	Project/Program Title (or title & date of evaluation report)	First PROAG or equivalent (FY)	Most recent PACD (mo/yr)	Planned LOP Cost ('000)	Amount Obligated to Date ('000)
263-0061	Development Planning Studies	78	3/87	$22.8	$22.8

E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

Action(s) Required	Name of officer responsible for Action	Date Action to be Completed
1. HRDC and the Project Committee have rejected the evaluation report's recommendation that "...the current phase of assistance be succeeded by a five-year, follow-on project..." Rather, we have agreed to extend the project for one year at no additional cost to USAID contingent on Cairo University agreement on 2 and 3, below.	B. Wilder AD/HRDC	2/86
2. Seek and obtain approximately LE 2 million from non-project sources to meet Development Research and Technological Planning Center (DRTPC) local costs for the extension period.	Dr. Y.Kabil, DRTPC Director	9/86
3. Develop and present to USAID a marketing plan for DRTPC research services.	Dr. Y.Kabil, DRTPC J.dePass,MIT	9/86
4. Require MIT to provide assistance in marketing research services to the DRTPC or to obtain this assistance from other sources as appropriate.	W. Charleson, HRDC/ET	3/86
5. Increase USAID awareness of DRTPC resources, targeting appropriate USAID sections for distribution of reports, brochures and briefings.	W. Charleson, HRDC/ET	NA

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION mo 9 day 19 year 85

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

Signature Typed Name Date	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
	WCharleson, HRDC/ET AWilburn, HRDC/ET BWilder, AD/HRDC		SConly, DPPE/PE VMolldrem, DPPE/PE	GLaudato, AD/DPPE AHandly, DD FKimball, DIR K

ATTACHMENTS (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier)

Evaluation Report, Phase III Mid-Term Evaluation, Development Planning Studies Project (263-0061), September 1985

Attachments: Letter dated January 16, 1986, from Dr. Helmy Mahmoud Nammer, President, Cairo University and Chairman, DRTPC Board of Directors, to Frank Kimball, Director, USAID/Egypt.

ATTACHMENTS

COMMENTS BY MISSION, AID/W OFFICE AND BUREAU/CHAIRMAN on the Evaluation Report

This evaluation provides a useful and balanced assessment of the current status of the DRTPC applied research program in terms of both institutionalization and impact. The report is very well-written and organized. USAID's main criticism is that (i) the factual analysis on which evaluation conclusions are based is frequently superficial (perhaps owing to time constraints) and (ii) implementation of the 1983 evaluation recommendations is not given adequate attention.

Progress since the 1983 evaluation: It appears that the project now has a clear sense of purpose and specific objectives for the current phase, both of which were previously lacking. Progress has also been made towards eventual financial self-sufficiency, as demonstrated by a significant increase in contractual income. Despite this increased income from non-project sources, it is disappointing to note that little progress has been made towards the development and implementation of a marketing plan, as recommended by the 1983 as well as the current evaluation.

The current evaluation does not provide a satisfactory explanation as to why a marketing plan has not been produced. It is imperative that such a plan be developed and implemented. It would contribute to an improved understanding of the potential market for DRTPC services and of appropriate strategies for exploiting this market. It is, therefore, critical to DRTPC's long-term financial viability. If MIT is unwilling or unable to provide assistance in its development, MIT should be required by USAID to subcontract such assistance to an organization experienced in marketing analytical services.

Future Directions: The evaluation considers the project to be making an economically important contribution to the planning and implementation of development programs in Egypt. The evaluation, however, views the project's current time frame as too short to permit completion of the institution-building process. The evaluation considers two alternatives -- allowing the project to terminate on schedule and extending the project for one to two years. The team rejected these alternatives on the basis that if the project were to end on schedule the DRTPC would not realize its full potential, and that a short-term extension under the current operational mode would have only marginal value. Instead, the team recommended a five-year follow-on project to complete institutionalization of the applied research program. An important feature of the proposed new project would be the replacement of the current sole source technical assistance contract with MIT by competitive procurement of technical assistance in various substantive areas from different sources.

MISSION COMMENTS ON FULL REPORT

The USAID Project Committee agrees with the evaluation team that to terminate the project on schedule would jeopardize USAID investments in the project to date. However, the Committee believes that the proposal for a five-year follow-on project is not entirely appropriate at this time. In the Project Committee's opinion, prior to making a further, long-term commitment to the DRTPC in a significantly different form from the current project, USAID should require better evidence of the value that the GOE places on the project, as well as demonstrated GOE commitment to contribute to local project costs.

A request to the GOE for local currency funding for a one-year extension of the project would test the assumption that DRTPC activities are of value to the GOE. If the project has been as successful as the evaluation and CU/DRTPC state, DRTPC should be able to obtain funds from GOE sources to meet the local costs of a one-year extension. The extension would allow DRTPC to implement its marketing strategy and strengthen administrative systems, utilizing the balance of project funds -- an estimated $2 million -- remaining in the MIT contract, as well as the proposed local contribution.

Changes in the current operational mode would not be feasible within the proposed extension. However, in the event DRTPC performance during the extension period provided a strong justification for follow-on assistance, USAID endorses the evaluation recommendation that such a follow-on activity should provide for the diversification and competitive procurement of technical assistance services. Finally, if a successor activity is undertaken at some future date, USAID should consider incorporating this within the framework of the proposed S&T for Development project, particularly since this activity would probably require relatively small financial inputs from USAID.

CU itself favors a one-year extension at this time. (See attached letter from CU President, Dr. Nammer, to USAID Mission Director Kimball.). Accordingly, having considered the various alternatives, the Project Committee recommends a one-year extension of the project at no additional cost at this time, contingent on (i) DRTPC/CU obtaining the estimated LE 2 million in local cost requirements for the extension period from non-project sources and (ii) DRTPC agreement to develop a marketing plan for its services by September 30, 1986.

<u>Development Impact vs. Sustainability</u>: The evaluation indicates that there may be an inherent contradiction between the dual objectives of sustainability and development impact. The evaluation considers the long-term research studies funded by the project to have been more important from a development standpoint than the short-term contractual research emphasized during recent efforts to diversify funding sources. The report favors future emphasis on long-term technology planning studies. However,

these studies are likely to require continued subsidies and may therefore conflict with self-sufficiency objectives. For the moment, USAID believes the emphasis must be on institutional viability, particularly the development and maintenance of a non-project income stream sufficient to meet the core costs of the DRTPC.

Technical Review: The evaluation team was only able to review the quality of research studies in a cursory manner, and suggested that a technical panel review may be useful to USAID and DRTPC. Keeping in mind that the project is an institution-building and not a research project, it would appear more appropriate for DRTPC to develop a peer review process as part of its own internal quality control systems, which as the evaluation points out, need to be developed.

Replication: The evaluation recommends a replication of the DRTPC applied research model with other universities in Egypt or with universities elsewhere in the Middle East. There may be significant benefits to such replication in Egypt, particularly if collaborating institutions have strengths in areas complementary to those of Cairo University and the DRTPC. (This would also serve to avoid fragmentation of the small market for contractual research in Egypt.) However, while USAID agrees with the basis for the recommendation, it considers that replication should not be undertaken within the one-year extension currently contemplated. Should such efforts be undertaken at some future date in close collaboration with the USAID Office of Science and Technology, as suggested above, USAID should recognize the long time frame necessary to institutionalize applied research efforts, based on past experience.

H. EVALUATION ABSTRACT (do not exceed the space provided.

(Abstract of Evaluation Report)

This project aims to promote collaboration between the Egyptian academic community and the Government of Egypt (GOE) in applied research related to technical development problems. The Development Research and Technological Planning Center (DRTPC) was established as an autonomous unit within Cairo University (CU) in 1979 to provide a permanent institutional framework for the project. This evaluation was conducted by an in-house AID team, mid-way through the third phase of the project, to assess progress towards the institutionalization of the DRTPC. The major findings, conclusions and recommendations are:

* The project has successfully demonstrated a model for collaboration between academia and government (both Ministries and industry) in the application of scientific and technical expertise to Egyptian development problems.
* Under the project, CU-MIT-GOE research teams have conducted a series of studies of potential economic importance. Adoption of some suggested innovations has resulted in significant savings.
* The DRTPC research program has had an important educational impact on CU through the involvement of students and faculty and through stimulation of changes in the CU curriculum.
* Progress has been less satisfactory in the development of research administration ability to market DRTPC services, to develop computer and library facilities and to attract research teams in new areas.
* The DRTPC has made significant progress towards diversifying funding sources, but is still far from self-sufficient. Recent emphasis on commercialization of the Center's services has led to a shift away from long-term research of primary economic importance.
* MIT assistance has generally been highly valued by the DRTPC and has made an important contribution.
* USAID should use DRTPC services more extensively. Many sections in USAID are unaware of their availability.
* The team recommends that the current phase of USAID assistance be succeeded by a final five-year phase, emphasizing improved research management and, possibly, replication of the model. Different areas of technical assistance should be separately competed and awarded. Care should be taken not to diffuse project momentum during the transition to the recommended follow-on phase. This final phase should result in full institutionalization of the DRTPC. (Note: USAID does not accept this recommendation at this time.)

I. EVALUATION COSTS

1. Evaluation Team

Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (US$)	Source of Funds
Dr. John Daly	AID/W, SCI	3 weeks	$3,600	OE
Dr. John Monagle	USAID/Egypt	--	--	--
Dr. Tarek Selim	USAID/Egypt	--	--	--
Dr. David Carr	USAID/Egypt	--	--	--

2. Mission/Office Professional Staff Person Days (estimate) _____

3. Borrower/Grantee Professional Staff Person-Days (estimate) _____

A.I.D. EVALUATION SUMMARY PART II

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (Try not to exceed the 3 pages provided)
Address the following items:

- o Name of mission or office
- o Purpose of activity (ies) evaluated
- o Purpose of the Evaluation and Methodology Used
- o Findings and Conclusions
- o Recommendations
- o Lessons learned

USAID/EGYPT
PHASE III MID-TERM EVALUATION
DEVELOPMENT PLANNING STUDIES PROJECT (263-0061)

Project Purpose: The Development Planning Studies Project (DPSP) aims to strengthen the development planning and implementation process in Egypt. The project was initiated in 1978 to promote collaboration between the Egyptian academic community and GOE Ministries in applied research related to the design, analysis and implementation of technical development programs. The Development Research and Technological Planning Center (DRTPC) was established as an autonomous unit within Cairo University (CU) in 1979 to provide a permanent institutional framework for the project. The Massachusetts Institute of Technology (MIT) was selected as the U.S. counterpart institution to assist the DRTPC in working towards these objectives.

Purpose of the Evaluation: This is an interim evaluation of the third phase of the project (1984-87), intended to provide guidance for the final eighteen months of project implementation and to assess the potential for the Center to achieve institutional and financial viability by the current PACD, March 1987.

SUMMARY

Methodology: The evaluation report notes the difficulties inherent in the evaluation of analytical efforts and of the institutionalization of capacity to conduct analytical studies. The principal approach utilized by the team was a series of interviews with DRTPC Executive Committee members and staff, CU faculty, GOE "client" agencies, MIT faculty and administrative staff and AID personnel. The team conducted a superficial review of research reports to assure themselves that these were of acceptable quality, but they had neither the time nor the expertise for a detailed review of the quality of DRTPC research. However, they recommended such a review be undertaken. They also reviewed annual reports of the DRTPC and financial information on contractual income and expenditures.

Findings and Conclusions: In the team's assessment, the project has successfully demonstrated a model for University-Government collaboration in the application of expert scientific and technological skills to real, current Egyptian problems. This is a major accomplishment of the project.

In the team's assessment, the project has made considerable progress at the purpose level, i.e., in assisting GOE Ministries and companies in providing solutions to important practical problems. Central to this success was the establishment of effective interdisciplinary research teams from two prestigious U.S. and Egyptian universities. CU-MIT research teams have worked for a decade, in close association with technical experts from Egyptian client organizations, on a number of important problem areas -- water resource management, transportation

Date this summary prepared: December 23, 1985

planning, plastics production, energy conservation and planning, etc. The studies have identified and explored a number of important policy issues and suggested innovations of great potential economic importance. From reports of ministries, it would appear that a number of these innovations have been adopted and have resulted in substantial cost savings. Based on the perceived value of the Center's work by client agencies, it is viable and institutionalized.

The DRTPC has also contributed to improved understanding of development issues and improved planning and implementation of development programs. This is a long-term process, and one that is difficult to quantify. However, based on anecdotal evidence, the Center has been unexpectedly effective in achieving these goal level objectives. Specific examples cited by the report include DRTPC research on allocation of the Nile waters and on improved efficiency in steel production and electric power generation. The team noted that DRTPC research has focused on technological areas with a high potential economic pay-off. In summary, the evaluation confirms the overall value of the Center and suggests that, conceptually and practically, this is an important and sound project.

The evaluation also notes that the work of the Center has had a significant educational impact at CU. It has involved about 80 graduate students in CU/MIT projects each year and contributed to a substantial number of graduate degrees. It has also led to the introduction of new courses and in some instances to major changes (e.g., in electrical engineering) in the undergraduate and graduate curricula. The Center has also provided training in research for faculty members through 26 post doctoral fellowships.

This assessment of the Center's achievements, however, is tempered by the team's assessment that full institutional and financial viability is not achievable within the current phase and that progress has been less significant in developing capacity for research administration. This has been partly the result of funding delays and interruptions, particularly in 1983-84, and of changes in leadership.

Considerable progress has been made towards developing administrative capacity in areas such as accounting, publications, etc. However, despite AID's emphasis in the third phase of the DPSP on diversification of sources of funding, additional efforts are needed in marketing DRTPC services. In part, of course, this reflects the lack of a climate in Egypt which encourages contracting or seeking such analytical support as the DRTPC can provide, but still, much work remains to be done in marketing of research services to the GOE and donor agencies. There is also room for improvement in certain research support services, especially in library and computer facilities, and in attracting research teams in new areas.

MIT has made an important contribution to the project's success. MIT research collaboration has generally been very highly valued, although on a few occasions, MIT was unable to provide appropriate expertise. The evaluation team however noted the relatively high cost of MIT involvement. (MIT expenditures are twice those of the DRTPC). With the analytical strength of MIT deeply committed to the DRTPC, there has been little apparent need to stress development of local management capacity for quality control, but this capacity will be needed in the future.

Since 1983, AID has encouraged more rapid progress towards self-reliance of the DRTPC. The Center has had some success in diversifying sources of funding. Funding from Egyptian contractual sources increased

from L.E. 194,000 in 1981-82 to L.E. 422,000 in 1984-85. While the percentage of non-USAID funds coming in to the Center has shown a healthy increase and currently constitutes 56% of the DRTPC's income (excluding MIT expenditures), this is still considerably less than the L.E. 1.2 million needed for self-sufficiency. However, the team considered the targets for local revenue generation in the 1983 Strategic Operating Plan for the DRTPC to be unreasonably optimistic.

USAID emphasis on eventual financial self-sufficiency has thus resulted in considerable progress towards independence of the Center. However, the team felt that overemphasis on commercialization of DRTPC services has led to a shift away from longer-term efforts directed at economically more important technological issues to shorter-term efforts to explore more limited problems. The team also noted that AID itself has the potential to utilize DRTPC services more extensively and that many sections of AID that could profitably use the services of the DRTPC are unaware of their availability.

Recommendations: The report's principal recommendation is that the current phase of assistance be succeeded by a five-year, follow-on project that would be the final phase of USAID institutional development support and that should result in the firm establishment of an independent DRTPC. The focus of USAID assistance should be on research management. It is recommended the program emphasize long-term technology planning studies chosen by the GOE in collaboration with USAID, and continue subsidies for locally contracted short-term studies with a declining, matching formula. In the team's assessment, a final phase of assistance along these lines would help to ensure the full institutionalization of the DRTPC.

The report also suggests that a follow-on project consider replication of the DRTPC model with another university in Egypt and/or elsewhere in the Middle East. However, care should be taken to avoid diffusing the small existing market for applied technical research.

The report recommends that to meet changing technical assistance (TA) needs, TA in different areas be provided by different sources, and that unlike the current MIT contract, these TA contracts should be competitively awarded. The team saw the need for different kinds of TA to be provided in research collaboration, in research management (especially marketing), and in replication of the model. Careful attention should, however, be given to designing the transition to a new mode of TA to avoid disruption of Center activities and dispersal of ongoing research teams.

Finally, the report emphasizes the need to increase the awareness and utilization of DRTPC services by USAID. However, the team also notes the Center's concern that USAID utilization of its services should not detract from its credibility with GOE client Ministries and companies.

Lessons Learned: A critical factor in the success of this project appears to have been the selection of first-rate local and U.S. counterpart academic institutions. However, with the benefit of hindsight, more emphasis should have been given both in design and in the initial stages of implementation to strengthening research administration and marketing, which are essential to the successful institutionalization of the applied research process. Further, institutionalization efforts could not be completed within the planned time period. Such efforts need considerable time to mature, and project designs should provide a more realistic time frame for accomplishing institution-building objectives.

PRESIDENT'S OFFICE

Cairo January 20 1986

Draft letter from President Nammer

000050

January 16, 1986

DPPG
DD

ACTION TO HRDC DIR
ACTION TAKEN DATE 1/29
NAME INITIALS

Mr. Frank Kimball
Mission Director
U.S. Agency for International Development
Cairo, Egypt.

Dear Mr. Kimball:

It is my pleasure to inform you that the Cairo University Executive Committee of the CU/MIT Technological Planning Program has reviewed the Evaluation Report prepared in September 1985 by USAID. The Committee members appreciate very much the effort made by the evaluation team, and agree, in principle, with most of the findings reported. We concur with the report's positive view on the extend to which progress has been made at the DRTPC, and the importance that it has achieved in a short time not only as a research organization for Cairo University, but also as a major resource available to the Government of Egypt in science and technology. We at Cairo University take a special pride in the accomplishments of the DRTPC and its ability to address issues of national importance and provide practical solutions in several areas of high priority.

The achievements of the DRTPC have been unique in Egypt. This has been recognized by many ministries and government agencies, as was demonstrated at the recent annual technical conference. It is estimated that our work has resulted in savings to the Government of Egypt in excess of LE 100 million. Many of these organizations have independently sought the assistance of the Center, but additional time is needed to strengthen these connections, and to broaden the Center's technical and administrative base. Recent changes in government priorities will also require some adjustment at the DRTPC, but we are confident that we can meet these challenges and expand into new areas at the same level of excellence.

Rec'd cpl 1/21/86

We strongly believe that the DRTPC, because of its proven ability to produce and implement research results of high economic benefit, is in a unique position to assist the GOE at this critical point in time. The Center's flexibility in terms of organizational structure and access to the CU faculty allows it to attack new problems quickly and at relatively low cost. Losing this capability at Cairo University would be a serious loss, not only in terms of what has been achieved to date, but also in the sense that the Center provides a useful and innovative model for other Egyptian organizations.

With regard to the more specific findings of the evaluation report, we wish to emphasize our concurrence with the following points:

Conclusions: The evaluation report concludes that certain objectives have been attained by the program and can be replicated. Some of the most significant achievements are:

- The establishment of the organized team (interdisciplinary) approach needed for attack on problems.
- The establishment of mutual confidence between team members and companies/ministries.
- The development of strong cooperative relationships between CU faculty and company/ministry technical personnel.
- The establishment of a process for clear identification of major problems of economic importance for which practical results are needed.
- The achievement of important viable results.

Recommendations: The evaluation report offers several recommendations, of which we believe the following should be given special consideration:

- Marketing plans and procedures for DRTPC research should be given high priority.
- New areas of research that are of relevance to Egyptian development such as agricultural development, productivity improvement, urbanization, and management have to be activated and accordingly CU faculty members engaged in these disciplines have to be identified.
- Geater involvement with the private sector should be pursued.
- Overall research administration and services need improvement.
- The DRTPC should start to plan for future involvement with additional U.S. universities and other international organizations.

In summary, many significant achievements have been made. Because of the importance of the Center to Cairo University and the Government of Egypt, we believe that the CU/MIT Technological Planning Program should be extended for twelve months, to the end of March 1988. This would give us time to conclude the current program at the level of success originally envisged, by completing some essential developmental activities.
The attached sheet outlines the required budget for this period. It may be observed that the dollar component can be covered entirely from the funds which we expect to be remaining in the CU/MIT Program on July 1, 1986, wile the Egyptian pound component is the one that requires additional funding and is being requested.

The specific activities planned for the proposed period are the following:

- Opening new research areas of relevance to the GOE, such as agricultural development, productivity improvement, urbanization, and management capability development.

PRESIDENT'S OFFICE

Cairo _____ 197

- Strengthening the DRTPC's linkages to the private sector.
- Developing a marketing strategy for the DRTPC. This will involve primarily the Cairo University Excecutive Committee, but other possibilities will be considered, such as the establishment of a mini-research project to focus on marketing.

Conducting a thorough review of all the DRTPC's activities, expending those activities which have proved to be most rewarding, and reducing or phasing out others.

Improvement of the administation and services at the Center.

At this time, we would once again like to express our appreciation for the support and cooperation that has been provided by the Massachusetts Institute of Technology during the formative stages of the DRTPC, which has greatly expedited our development. Also, we wish to express our gratitude to the U.S. Agency for International Development for providing uninterrupted support to this program during its first critical stages of development. We look forward to continuing our relationship with you, which has been of such great benefit to both Cairo University and the Government of Egypt.

Very truly yours,

H. M. Nammer

Dr. Helmy Mahmoud Nammer
President, Cairo University
Chairman, Board of Directors, DRTPC

PRESIDENT'S OFFICE

Cairo _____ 197

CU/MIT TECHNOLOGICAL PROGRAM

PROPOSED EXTENSION BUDGET ($000/LE000)

	7/86-6/87		7/87-12/87		1/88-3/88	
	$	LE	$	LE	$	LE
Manpower Development	50	150	30	50		
Research	800	700	350	350		
Physical Support Systems	100	150	50	60		
Other Support	350	300	180	100		
Travel	80	50	40	30		
Dissem. of Results	20	20	15	10		
Contract Phaseout	—	—	85	—	50	30
TOTAL	1400	1370	750	600	50	30

Total U.S. Dollars = $2200

Estimated Funds Remaining as of 7 / 1 / 86 = $2200

Total LE Requested = $2000

XD-AAT-125-A
ISN 44598

EVALUATION REPORT
PHASE III MID-TERM EVALUATION
DEVELOPMENT PLANNING STUDIES PROJECT
(263-0061)

Prepared by:

Dr. John Daly, Team Leader
Dr. John Monagle
Dr. Tarek Selim
Dr. David Carr

September 1985
USAID/Egypt

XIV

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SUMMARY

I. EVALUATION OF THE DEVELOPMENT PLANNING STUDIES PROJECT

The Development Planning Studies Project (DPSP) is currently in Phase III of a long term effort to introduce University-Government-Industry collaboration in the analysis of development problems. Cairo University-MIT research teams have worked for a decade, in close association with technical experts from Egyptian client organizations, on a number of important problem areas--water resource management, transportation planning, plastics production, energy conservation and planning, etc. The studies have identified and explored a number of important policy issues, and suggested innovations of great potential economic importance. From reports of ministries a number of these innovations have been adopted which have resulted in substantial cost savings.

The successful demonstration of University-Government collaboration is a landmark in Egypt, and is a major accomplishment of this effort. Central to this success was the establishment of effective interdisciplinary research teams in association with a prestigious university.

The Development Research and Technology Planning Center (DRTPC) of Cairo University was established in 1979, with the support of the DPSP to institutionalize the concept (i.e, collaborative enterprise). Since 1983, AID appropriately managed the project to encourage more rapid progress toward long-term, institutional self-reliance of the DRTPC. Considerable progress has been made toward administrative capacity development (bookkeeping, publications, etc.) but more needs to be done in managing the computer and library services of the center. A crucial area in which major additional

efforts are needed is the marketing of research and services and the attraction of additional research teams. Relatively slow progress in this area reflects, in part, the lack of a climate in Egypt, or in USAID itself, which encourages contracting or seeking such analytic support as the DRTPC can provide. With the analytic strength of the MIT deeply committed to the DPSP, there has been little apparent need to stress local management approaches to quality assurance, but such management capacity will be needed in the future.

In emphasizing the development of contractual support from Egyptian clients, and in preparing for the termination of the project in 1986, it appears that the DRTPC has begun to emphasize relatively short-term efforts to explore limited problems at the expense of longer-term efforts directed at economically more important technological concerns. We believe both are needed with emphasis on long term projects with major economic and social policy implications. MIT has continued vigorous research activities in support of the program at its campus, resulting in a relatively high portion of the $26 million being spent in the U. S.

Conceptually and practically, this is an important and fundamentally sound project. It is recommended that, when the present project terminates, a new project be funded which will continue assistance to strengthen the research management capacity of the DRTPC, which will fund a program emphasizing long-term technology planning studies chosen by the GOE in collaboration with USAID, and which will continue subsidies for the DRTPC studies contracted locally (with a declining, matching formula).

In developing the project the replication of the DRTPC model should also be considered.. It is recommended to separate technical assistance for the several components of the project, and use competitive bidding. To avoid disruption in center activities and dispersal of on-going research teams, careful attention should be given to arrangements for center support during the transition from an exclusive U.S. university relationship to broader technical services contracts.

USAID is also encouraged to assist the DRTPC in its international marketing efforts.

II. PROJECT BACKGROUND

The Development Planning Studies Project* (DPSP) has funded 29 studies of technological problems in Egypt. The studies involve experts from Cairo University, client agencies (typically in the Egyptian Government) and the Massachusetts Institute of Technology. In 1979 the Development Research and Technology Planning Center (DRTPC) of Cairo University was created to institutionalize the capacity to organize and carry out such work. The DRTPC has also managed 32 contracts financed totally by Egyptian organizations for aspects of these same or related projects. Appendix I provides lists of the projects funded through January 1985.

In general the projects involve quantitative analysis of complex technological issues, which are of direct importance in Egyptian Development. Examples are: how to schedule the allocations of Nile River water to optimize its benefits to Egypt, how to invest in and maintain the Egyptian transportation network to maximize economic benefits, or how to most efficiently extend electrical power and telephone to rural areas. Some of the projects have been more laboratory oriented, such as those which focussed on improving the quality of plastic water and gas piping made in Egypt, or how to improve the useful life of asphalt made for Egyptian roads. The projects have been characterized by the application of expert scientific and technological skills to real current Egyptian problems. Benefits from the projects include the improved understanding of Egyptian development problems, and increased use of advanced analytic techniques in client organizations which resulted in reported cost savings and provided feedback into the university educational system in course and curriculum development.

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*The term "project" will hereafter be reserved for the specific analytic projects undertaken under the DPSP umbrella.

Projects involve faculty members part time, since they continue to teach. Consequently, projects are sought which do not require labor intensive efforts to meet urgent needs. Similarly, the DRTPC does not take legal responsibility for the implementation of its work as would a consulting engineering or architectural firm, and does not compete with such firms for engineering contracts. Many of the projects undertaken by the center have continued for years, changing the focus from time to time as the work and understanding developed; such is the case in complex planning areas such as water resources and transportation. More recently, DRTPC locally financed studies have tended to be less than a year long.

The DPSP has been the subject of high level attention. President Mubarak discussed it this year with MIT President Grey. Administrator McPherson spent a day at MIT being briefed by DPSP and project staff. The Vice President for research of Cairo University testified on the DRPTC before a special committee of the Chamber of Deputies. Moreover, it has been the subject of political attack in segments of the press, and bureaucratic attack by parties within the university system. It has survived all this attention.

The first eight projects undertaken by the DPSP were selected from a list of key S&T problems prepared by the Joint Coordinating Committee for S&T, with the selection based on existence of capacity and interest in both Cairo University and MIT. Later projects came out of exploration of mutual interests by CU and MIT faculty. Most recently, projects have typically evolved out of discussions of Cairo University representatives with potential client organizations. Work on projects is done at MIT and in Cairo University, in the facilities of the departments whose faculties are involved in the projects. The DRTPC has its own building, with a staff of some 50 people, and includes a VAX mini-computer facility, word processing and reproduction facilities, and a small technical library.

The DPSP was first approved in March 1978, following the successful conclusion of a feasibility effort initiated in 1976 (funded by AID). The project has been amended in 1980 and 1984. Both amendments added funds to the project; the first sharpened the focus and the second increased emphasis on efforts to institutionalize the DRTPC. Total U. S. funding of the project has been approximately $26 million, of which $3.3 million were U. S. owned Egyptian pounds. It is difficult to calculate the value of Egyptian contributions to the DPSP, which include facilities, manpower, and financial contributions to specific studies, but they appear to be considerable. USAID has funded the DRTPC through individual project agreements, as have other donors, but such funds are minimal compared with the DPSP.

The DPSP has been implemented through a direct contract to MIT with the majority of the $26 million being spent in or through Massachusetts. MIT initially maintained a U. S. contractor in Cairo to provide technical coordination and project administrative assistance and to oversee disbursements in Egypt, but has, by agreement, turned over responsibility to the DRTPC since 1983.

The DRTPC has had one acting director and three permanent directors in its six year lifetime. The leadership gap in the transitions has delayed progress. The DPSP is under the management of the fourth AID project officer. MIT staffing has been relatively constant, as has the participation of project staff and members of the Egyptian Executive Committee overseeing the program.

The one major delay in the project occurred in 1983, when the GOE Ministry of Planning decided to reduce the proposed tranche of funding for the DPSP from $14 million to $7 million. This involved considerable revision of plans and perspectives, and some project activities were put on hold for a period of months while the proposal was revised to adjust to the final level of funding.

There have been three previous USAID evaluations of this project. The first was a relatively-informal, positive evaluation of the feasibility study. The second, done by an outside group of S&T experts, was very enthusiastic but probably seriously overestimated the degree to which DPSP studies influenced technological decisions in Egypt, and thus the economic benefits flowing from the project. The third evaluation done by Cairo based USAID personnel focused on the need to increase marketing capacity in the DRTPC to assure that it would eventually be economically self-sustaining.

III. EVALUATION METHODOLOGY

This is an interim evaluation of Phase III of the project, currently scheduled to end in March 1987. It was carried out to provide guidance for the final year of project implementation (see scope of work - Appendix III). Particular emphasis was to be placed on progress in the last two years toward fiscal viability of the DRTPC (in the event of discontinuation of AID subsidies). It appears that a proposal will shortly be forthcoming for an extension of the life of the DPSP with another tranche of funding, and it is assumed that this evaluation was also to provide a basis for the evaluation of that proposal.

The evaluation was conducted during a three week period by a team of four persons, all employed by AID. The team consisted of Dr. John Daly, A/SCI (Washington); Dr. John Monagle, S&T; Dr. Tarek Selim, UAD; and Dr. David Carr, PAAD. The first two are research administrators with technology policy experience. Dr. Selim is an engineer who prior to employment with AID was intimately acquainted with the DPSP. Dr. Carr is an economist.

It is difficult, conceptually, to evaluate the total impact of the DPSP. It is difficult to evaluate analytic efforts, and even more difficult quantitatively to evaluate the institutionalization of the capacity to conduct such studies. This would be true if the attention were directed solely at the DRTPC, but it is doubly true in that USAID objectives include improving analytic capacity in the University and in client organizations of the DRTPC.

The evaluation team has reviewed an interesting and useful report prepared under the direction of Dr. Holland on measures of the institutionalization of the DRTPC. In the report a formal study of institutionalization of DRTPC was proposed, but, for a variety of reasons, it was decided to conduct such a study informally. Results of the study were not available at the time of the evaluation. We have, therefore, used our collective judgement of the DPSP, and have not restricted our attention to those aspects of the DPSP which could be captured in quantitative indicators.

The principal approach taken in the evaluation was a series of interviews with members of the Executive Committee of the DRTPC, the Director and Deputy Director, Principal Investigators of the projects, representatives of client organizations, MIT technical and administrative staff, and AID staff. Unfortunately, due to their absence on home leave, it was not possible to interview the AID Project Officer nor his superior. The persons interviewed are listed in Appendix II. In an early meeting with Dr. Yehia Kabil, the Director of the DRTPC, he was provided with a list of specific and general questions that the team would be attempting to answer (Appendix IV). He had previously been provided with the scope-of-work for the evaluation. An outline guide for interviews was also prepared (see "Interview Structure" in Appendix IV), but was only used very loosely in the interviews. In general interviews lasted an hour or more. Some, such as those with the Director and Deputy Director of the DRTPC took place over the course of several hours on several different days.

Financial information was obtained from MIT (for U. S. dollar and Egyptian pound expenditures under the project) and from the DRTPC (for direct Egyptian contracts to the DRTPC). This was analysed, as were lists of projects, reports and training activities which were contained in annual reports of the DRTPC for the last four years. The team toured the facilities of the DRTPC and briefly reviewed many of the reports published in English over the history of the Project.

The general findings of the team were discussed with the Director of the DRTPC, then in a meeting with the Director, two members of the Executive Committee and USAID representatives, and finally a debriefing was held for some 15 to 20 members of the USAID staff. Comments from those briefings have been incorporated into this report.

The team did not evaluate the quality of the technical work done under the project in any detail. It was not charged with such responsibility. Neither did it have the expertise nor the time to do so adequately. It is suggested that some approach to such an evaluation may be desirable.

IV. EXTERNAL FACTORS

The DPSP has been operating in a very complex and changing environment. Such changes have affected the most important players, namely, the Government of Egypt, Cairo University, and USAID.

The GOE has gone through major changes in the past few years, both in terms of economic considerations and in terms of its attitudes toward studies and research. At the end of the 70's and early 80's there was a relative abundance of foreign exchange in the country from remittances, oil revenues, the Suez Canal, and Tourism. Now this situation seems to be changing, as all those incomes seem to be stagnating. The resulting budget pressures may make it more difficult to obtain funding for applied research in the near future in Egypt.

In the past few years GOE's attitude has also shifted with respect to acceptance of cooperative research. At first, acceptance was slow especially in industry. It was emphasized by both the director and research team members that prestigious foreign input has been instrumental in penetrating that resistance in the case of the Center. By the early 80's the process seemed to be firmly accepted. Recently, however, there has been GOE concern both over the amount of resources being consumed by studies and over the foreign involvment in them.

The concerns of the GOE have recently manifested themselves in two ways. First in 1983 they set a ceilling on the faculty renumerations on cooperative research [200% of base salary on any project for any faculty member and not more than 300% on cooperation on two or more projects]. The hourly rate for researchers on CU/MIT projects was set at LE 6 per hour in 1978 and has only recently been increased to LE 7. The upper limit on other DRTPC research is LE 10 per hour. This will make it more difficult for the Center to attract faculty to new joint efforts with US researchers in some fields. Second, the cabinet issued directives to all government and public sector agencies not to embark on any more studies involving foreign exchange without explicit prior approval of the Ministry of Planning. This will make it more difficult to secure contracts from government and, indirectly, industry in the near future.

Cairo University also has seen its share of change in that same period. Most notable is the increased exposure of the faculty and staff to foreign research, both through involvment with MIT or the FRCU program. At the same time funds for CU from the GOE budget did go up. The investment (capital) budget increased from about 30 million in 1978 to over 100 million in 1985. Even though that such an increase may not be very significant on account of high inflation, nevertheless CU has provided the Center with facilities in a new building and it is obvious that CU is keeping an active building program.

CU's leadership has also undergone several changes during the life of DPSP. Between 1976 and 1979 CU had three different presidents. This academic year a new president has just assumed office. Furthermore, a new Minister of Higher Education has been named recently. This means that the Center is expected to spend some time this academic year in assessing directions and options under its new leadership. Recent changes in other ministries will also require reestablishment of some working relationships.

The USAID program in Egypt has also undergone significant changes since the beginning of the DPSP. In the early days the program sought to reinforce the idea of cooperation between the USA and Egypt. This phase was followed by a phase of emphasis on institutional capacity building, infrastructure and services. Now the program is seeking to emphasize production.

The DPSP activities followed these changes very carefully. During the early phase DPSP could afford and did work in many fields. The emphasis was on increasing capacity and creating avenues to absorb funds. In the second phase, this emphasis shifted to the institutionalization of the DRTPC and its support services. For the Center to have a future impact, however, it appears that its focus will have to be on production and productivity related issues.

V. KEY PROJECT ASSUMPTIONS

In planning the project it was assumed that it would be possible for interdisciplinary, interorganizational and international project teams to work together to approach practical problems or real importance to Egypt from a sound and sophisticated methodological perspective. This has proved to be true. In fact, given the history of failures of approaches to achieve this goal in other projects, the demonstration of the validity of this premise is one of the key accomplishments of this project.

It was also assumed that the analysis done in the DPSP will be of high quality because of the participation of MIT. We have done only the most minimal review of quality, to feel comfortable that analyses are up to basic professional standards, and they do pass such a superficial review. However, it is not obviously the case that the participation of a responsible U. S. institution guarantees quality or relevance of results. In fact, the degrees of precision, reliability, sophistication and complexity most appropriate for analysis depend on the type and scope of the problem being addressed, and may or may not be subject to international standards. If, as is suggested in

later sections of this report, AID seeks to use products of the DRTPC for its policy dialog with the GOE, it would be well advised to seek peer review of the applicability of study results to policy questions. For example, in the case of complex analytic models, such as the econometric or major technological models, it requires a great deal of experience and skill to assure that all policy relevant assumptions are identified, and that the sensitivity of policy recommendations to the precision of data and estimates is adequately explored. Examples abound in which painstaking and expert analysts have inadvertently made errors which are all but undetectable to any but their technical peers. A joint review by a group of fully qualified consultants selected by DRTPC or USAID staff would assure the appropriateness of the use of the results in the consideration of major policy questions.

It was also assumed that the results of these projects would be used to improve the efficiency of development efforts in Egypt. For example, in the second evaluation the authors wrote, "The teams are producing results which are being used by the Ministries. Thus far, eight of the 13 projects have led to at least one action decision and sometimes to several decisions.....A policy on control of the Nile flow from Aswan proposed in the National Water Plan could permit $40 million more of electricity annually without infringing on irrigation needs." This assumption appears to us to be simplistic. In general, any one study will provide only one among many sources of information to decision makers, who will base decisions on perceptions of risk and unanalysed political, social and economic factors as well as scientific analyses. Moreover, the benefits that flow from the decision will be economically allocated to the investments involved in that decision, as well as to the investment in research to support the decision. In short, while we believe that good analysis improves decisions, the effect is not direct, and the assertion remains an assumption.

VI. PROGRESS SINCE LAST EVALUATION

With respect to the Center as an independent, viable organization, there has been distinct progress since the last evaluation. To a large degree this progress can be measured only qualitatively and potentially but, nevertheless, it is positive and encouraging.

Despite this progress, major problems remain. The question of sufficient financial support to sustain services and provide for further growth remains to be answered. Staffing of the Center remains incomplete; organized procedures for marketing the services of the Center have not been developed; difficulties remain in obtaining the services of Cairo University faculty members for work in certain areas; additional attractive areas of work have been interrupted or have not been developed because MIT does not have counterpart faculty members or programs in the area (e.g., housing and agriculture); overall services of the Center (e.g., computing, word processing, library) still need substantial improvement; and potential clients in USAID sections have not been effectively informed of the available services of the Center.

Many of these needs have been pointed out in previous evaluations. Most of the problems are well-recognized by the administration of the Center but will require considerable additional time for solution. Overall, considering the time required, even under the most favorable circumstances, for the difficult task of establishing a new concept, i.e., contract research in Egypt, and the difficulties in organizing and servicing effective interdisciplinary teams, considerable progress has been made by the Center in achieving project goals.

The role and support of MIT in the overall project has been important and strong. Clearly, the access to highly qualified MIT faculty members, their heavy and constant interaction as colleagues in the definition of, and solutions to problems, the training opportunities for Egyptian faculty members and graduate students, the strong and detailed support by project representatives at MIT, and the outstanding reputation of the University have been crucial factors in upgrading the early development of the Center.

At this point, however, the participation of U.S. Universities, both in technical and support functions should be reanalyzed and the need for possible additional flexibility of operation of the Center carefully considered.

VII. INPUTS

Table I presents a summary of the funding for the centers operations during the period 1981-85. In 1983 the GOE decided to reduce the funding level for the 1984-86 period from $14 million to $7 million. Moreover there was a delay in making decisions about the project resulting in a need to put training and other activities on hold in 1983. The results show in Table I in terms of reductions in AID funding levels for 1983-1985.

Funding from Egyptian contractual sources increased from LE 194,000 in 1981-82 to LE 422,000 in 1984-85. Thus a healthy trend has been established, with a 235% rise in receipts from the GOE since 1982/83; the ratio of external contracts to USAID funds received by DRTPC accordingly rose from 11% to 56% over the period.

MIT expenditures from the DPSP are more than twice DRTPC expenditures from the DPSP and all other USAID sources.

TABLE I

RESOURCE FLOWS IN THE DPSP

Cash only - LE thousand (except where otherwise indicated)

	1981/82	1982/83	1983/84	1984/85	Total 4 years
DRTPC[1]	987	1,162	750	752	3,651
Other Donors[2] $	7	45	43	12	107
Cairo University[3] Salary payments	0	50	53	60	162
Cairo University[3] Receipts	(255)	(258)	(197)	(130)	(800)
MIT[4] $	2,189	2,083	1,753	1,471	7,496
GOE - Contributions[5]	0	0	7	2	9
Contracts[6]	194	126	279	422	1,021

See Appendix V for notes for this table.

In general other inputs to the project appear to have been appropriate and timely. MIT has provided technical assistance to the individual projects that is generally highly valued. However, interviews noted two occasions in which MIT was unable to locate a person with appropriate qualifications for specific efforts. In one case the evaluation team questioned the appropriateness of the U. S. activities in a project, and in another case the appropriateness was questioned by the Egyptian counterpart.

MIT also provided considerable and timely assistance in improving some support services of the DRTPC, and continued to provide computer and library related inputs.

USAID's management made a valuable contribution to the DPSP in strongly encouraging the DRTPC to diversify its sources of funding and to prepare for a termination of subsidies for collaboration with MIT. This encouragement has resulted in considerable progress toward independence on the part of the center. Although periodically contacted by the project officer on a mission-wide basis, it is apparent, however, that many sections of AID that could profitably have used the services of the DRTPC were unaware of their availability. It is suggested that USAID might provide more assistance to the DRTPC in the future in the area of marketing their services to USAID itself, to other donors, and to other countries. For internal purposes, USAID should establish a more formal mechanism for consideration of possible DRTPC services.

VIII. OUTPUTS

Primary emphasis during the third phase of the project has been on institutionalization of the Center and its financial viability. At this stage neither objective has been totally achieved, nor is it likely, in the time remaining, that they will be achieved.

In judging the present status of the project and the degree to which institutionalization has occurred, it is important to consider not only tangible outputs and the real but less tangible outputs which are ultimately

essential to institutionalization, but also the time frame under which these objectives were to have been reached. Also important are the rate at which progress is being achieved and the cultural and financial factors which have influenced that progress. Finally, it is important to analyze the overall uniqueness and impact of the program, including general government attitudes toward the value of research and development and the role of faculty members in solving national problems, the impact of the Center in academic training for future applied work and the degree to which new concepts have been institutionalized.

As of January, 1985 there were 19 ongoing projects; 10 are being undertaken jointly with MIT and 9 are independent Center projects. Of the latter, 6 have been initiated since the last evaluation. The projects cover the fields of water resources, transportation, energy and industry. Significantly, several of the new projects are follow-on activities arising from earlier work with ministries and industries. In the crucial area of independent funding for Center projects, there is a total volume for 1985 of L.E. 422,000 as compared to L.E. 279,000 for 1984 and L.E. 194,000 for 1982. This volume, while increasing, is considerably less than the L.E. 1.2 million needed for self-sufficiency as estimated by the Director of the Center. In his view, annual income can reasonably be expected to grow to L.E. 0.5 to 0.6 million by the end of the project period. A figure of LE 2,500,000 was used in the 1983 Strategic Operating Plan, which seems to the evaluation team to have been unreasonably optimistic.

According to the annual reports of the Center, a total of 22 conferences, workshops and seminars have been held since the beginning of the project for clients and present and potential project participants. A total of 56 internships, doctoral and postdoctoral fellowships have been supported.

Projects have been conducted for eight ministries or companies within the ministries. Independently funded (DRTPC only) projects have been conducted for seven ministries or companies within the ministries, and two international

donors (World Bank and ILO). It has not been possible for team members to judge overall or specific quality of the work. Indirect indicators that the work has been of generally high quality are gained from comments of end-users at ministries and industries who have been uniformly complimentary, and who have indicated the desire to use Center services in the future. In each case the role of MIT in CU/MIT projects was visibly recognized by the end-users.

A substantial number of Cairo University faculty members (196-CU/MIT projects, 119 local projects) and client technical staff (87-CU/MIT projects, 95-local projects) have participated in project studies.

With respect to some crucial aspects of the project it is clear that certain objectives with respect to actual project operation have been attained and can be replicated, these include:

- the establishment of the organized team (interdisciplinary) approach needed for attack on problems

- the establishment of mutual confidence between team members and companies/ministries

- the development of a strong cooperative relationship between CU faculty and company/ministry technical personnel

- the establishment of a process for clear identification of major problems of economic importance for which practical results are needed

-the achievement of important, viable results

Significant educational impact at Cairo University has resulted from the activities of the Center. Anecdotal information indicates that a substantial number of MSC and Ph.D. degrees have been obtained under the direction of participating faculty members. An estimated 80 Cairo university graduate

students per year have been involved in CU/MIT projects. New courses have been introduced in the graduate and undergraduate curriculum, e.g., plastics design and processing and, in the case of electrical engineering, major changes in the graduate and undergraduate curriculum have been effected. Additional training for Cairo University faculty members was provided through sponsorship of 26 postdoctoral fellowships.

All of the achievements represent considerable positive progress towards a viable, institutionalized Center. In measuring progress against stated goals of the project, considering the interruptions and delays encountered during the project period, the overall time frame for institutionalization and financial viability may have been unrealistic. The changes sought under the project towards project research, and the external support and involvement of University faculty in applied research, involve substantial cultural and political changes both within ministries and companies, and within the University. Those changes appear to be occurring at an increasing rate but a considerable additional time period may be anticipated before these concepts are fully established.

The question of matching funds represents one example of these changes. Failure to accept the principle by end-users has delayed projects of considerable importance. While considerable effort should be continued to seek such funds, flexibility in the requirement should be maintained. To do so will require continued support of the Center from other financial sources.

In the area of research administration and services, however, more progress could have been anticipated, despite uncertainties and delays in funding. Additional efforts are still needed to provide needed services for teams. Major efforts are needed to develop formal procedures for marketing center services to ministries, companies and foreign donors. Such efforts might include the preparation of brochures outlining the services of the center and brief details of previous accomplishments, more extensive circulation of the project reports and more publicity on workshops and conferences sponsored by the center.

The possibility of using the services of faculty members from other universities in Center projects and the extension of counterpart university participation should be thoroughly examined.

Care should be taken in the analysis of staff activities that these are not weakened in efforts to economize on Center costs. To the contrary, the expenditure of adequate funds both to support Center services and provide sufficient incentives and seed money for project development are critical factors in the further development of the Center to a critical mass which will ensure its growth as an independent unit.

Continual support for training of faculty and students is essential, particularly for new or anticipated project areas. Formal training by means of short courses or workshops for faculty in proposal writing, project planning and administration and in working with clients is also essential.

The specific research projects are a crucial part of the DPSP, because only by doing good analysis will the DRTPC learn to do it. Attention to the selection of appropriate project areas and to the quality of project work is key to development and institutionalization of DRTPC capacity. It is noted that the Logical Framework for the DPSP does not specify the individual projects as outputs. They represent a considerable direct cost, and have great value to the GOE and to USAID in themselves. We have treated them as outputs, and suggest that they should be so treated in the future, with approppriate revision of the Log-Frame (Appendix VII). We believe that more explicit attention to the importance and value of these products of the DPSP will help and encourage USAID and the GOE to value them more highly and use them more effectively.

IX. PURPOSE

It is in terms of its overall purpose, assistance to ministries and companies in providing solutions to important practical problems, that most progress within the Center has occurred. Interdisciplinary and interorganizational teams have been formed and have worked efficiently for a period of several years in some cases. For several important ministries, such as Electricity, Transportation and Irrigation and in such industries as iron, steel and aluminum, the value of the work of Center teams has been clearly established. The comments of individual ministries and company representatives, the continued participation of ministry personnel in project activities, the incorporation of results of studies into future plans of ministries and companies, and the continued financial support, albeit at a relatively low financial level, indicate that the Center, in this respect, is already viable, and, in effect, institutionalized.

Less readily assessable is the progress made administratively in establishing the Center as a smoothly functioning research and development unit. Since the last evaluation there have been significant holding periods while additional funding arrangements have been made, an overall reduction in the level of support, administrative changes with the departure of the MIT Cairo representative, and a change in the Director of the Center. Even considering these factors, there still has been potentially valuable progress in the Center's operational development. The new Director is a distinguished academic administrator, who is able to devote full time and attention to the Center and has begun a careful assessment of staffing needs and quality and the need for and supportability of services. Responsibility for local accounting has been transferred to the Center in a generally satisfactory way; the concept of matching funds from end-users for project support has been introduced; a new procedure for determining indirect costs has been developed and approved by USAID; and additional contacts with Deans and other administrators at Cairo University have been made to describe the Center and seek additional faculty involvement.

It is also noted that the project Log-Frame does not identify the understanding of development issues output from the individual projects and the policy recommendations of those projects as indicators of achievement of project purpose. They are clearly indicators of the degree to which the DPSP is likely to achieve the overall goal of improving development, and they are important per se. We suggest that the Log-Frame be revised to identify improvement of understanding of key technological issues in Egyptian development as a project purpose.

X. GOAL/SUBGOAL

The goal of the project is to improve the planning and implementation of development programs in Egypt. Obviously, accomplishment of this goal through the improvement of the capacity for development planning will be a long term process, with measurement of accomplishments very difficult to quantify.

In fact, anecdotal evidence suggests that the DPSP is unexpectedly effective in achieving this goal. A senior member of the Ministry of Irrigation said that the DPSP Nile Water project is improving understanding of the trade-offs in allocation and release of Nile waters. A senior official of the Iron and Steel Co. said that the DRTPC is helping to make significant improvements in the efficiency of steel production. The Minister of Electricity agreed that the DRTPC is making contributions to improved understanding of issues in electrical power generation and distribution in Egypt. The Chairman of the Egypt Gas Co. said that the DRTPC is providing valuable assistance in setting standards for natural gas distribution in Egypt that are increasing the efficiency of his organization. Members of project teams suggested that DPSP funded analysis was, or would soon be, instumental in introducing changes in the road maintenance policy and in the composition of asphalt used in road building that have important economic implications for Egypt. Members of the Executive Committee cited studies of migration in the construction industry as raising consciousness of the importance of emigration in depleting the skilled trades, and influencing decisions to start new schools for occupational training. Others mentioned other donor financed projects in electrical power and transportation that were planned using results of DPSP projects.

Similarly, the creation of sophisticated national income models would enable GOE policy makers to make frequent tests of alternative economic reforms if the decision is made to do so.

These areas of influence are economically important. In fact, the evaluation team was particularly impressed by the precision with which the DPSP projects had focussed on technological areas with very large ratios of potential economic pay-off to study cost.

According to reports of ministries, as published in annual reports of the project, substantial savings resulted from several projects. The Ministry of Irrigation reported that the use of water resource planning models in scheduling releases from the Aswan High Dam has produced annual savings of LE 20 million without infringing on irrigation needs. Results of studies of the electric power system were reported by the Ministry of Electricity to have savings ranging between 11 and 22 percent of annual costs.

We re-emphasise, however, that not all the benefits of the decisions can be attributed to the studies. For example in the case of the Iron and Steel Company, the company had for years had an Energy Department, and was encouraged to improve efficiency by recent increases in its price for coke. It also has its own research facilities, and invested its resources in pilot studies to test the recommendation made. Moreover, one report from MIT suggested that the optimum conditions for operation of the major process of concern were not yet completely certain. In addition, the recommended retrofitting was constrained by capital limitation of the company.

All in all, the result confirms the value of the center, but illustrates the conceptual difficulty in ascertaining just what value to attribute to the specific technical choice that was made, and what portion to attribute to the work of the DRTPC.

XI. BENEFICIARIES

Many of the projects undertaken by DRTPC will have wide-spread benefits for Egypt, and especially for low income groups. The development of a social accounting matrix by the DRTPC is particularly important in allowing explicit estimation of the equity impacts of alternative economic policies. The areas of Water Resources, Rural Electrification, and Urban Transportation are all areas that impact a large number of the underprivileged groups in Egypt.

The work of the Center in these areas could allow for a more efficient and more equitable use of resources that would make the majority of the people better off. The Nile Water flow model is oriented toward better use of the available water and eventually should increase the productivity and income of the farmers. The studies for protection against flash floods benefit primarily the rural poor in upper Egypt, while the intercity transportation and the road maintenance models would lead to better transport policies that would benefit the Egyptian consumers through better and cheaper transportation of all goods.

XII. UNPLANNED EFFECTS

The DPSP has, in the course of trying to achieve its purpose, also created in the DRTPC the capacity to analyze some of the questions that are very pertinent to USAID's strategies in Egypt. For example, the Water Resources project has developed models that can very well be used to analyze the effects of various projects in the Agriculture and Irrigation sectors in Egypt. The Urban Transportation models could also be used to evaluate the merits of investing in different alternative projects.

All approvals and amendments to the DPSP by USAID in the course of its life have not anticipated any environmental effect to the program. Many of the projects carried out by the Center, however, do have a potential to affect environmental issues. Water resources, urban transportation, and energy

studies are clear examples. All these studies, in permitting better planning, provide a vehicle for better understanding and analyzing environmental impacts of all these development projects.

The specific projects have, in some cases, produced results which can be transported elsewhere. For example, the team was informed that the Nile River Model resulted in new analytic tools that are now being investigated in the U.S. by the TVA for its own planning. Similarly, the continuing work on the River models, which has extended the analysis to the entire basin provides a basis for improvement of water resource planning in Sudan, Tanzania and other countries.

One possible negative unintended consequence of project management efforts was noted. At the time that the Project Paper was revised in 1984 it apparently was not intended to refocus the project on shorter term, but less economically important technical issues. This apparently did happen, however, as an unintended result of delays in project funding in 1984 and of over-emphasis on commercialization of the DRTPC services.

XIII. SPECIAL COMMENTS

In the course of the evaluation certain things were noted that seem worth bringing to the attention of the parties concerned that do not fit well within the framework of the evaluation. They are noted in this section without particular order.

It has been noted that there is no formal training involved in the program on working with people from foreign countries. Short seminars on this topic might be useful for new Egyptian and American participants. Similarly some guidance might be provided to governmental and university representatives as they begin to embark on interdisciplinary and interinstitutional cooperative efforts. Moreover, an important function of the research management of the center will be to facilitate measures to overcome barriers to cooperation among differing participants in collaborative research.

The DPSP Project Agreement has not allowed the purchase of laboratory equipment. In many cases equipment of Cairo University has been used, and in some cases the University or the client has purchased new equipment. However, in some cases, work has been handicapped by lack of relatively modest equipment or delayed by the lag in obtaining such equipment through normal channels. In any future project some support for modest specialized equipment purchases should be included.

It has been noted that nearly $10 million was deobligated from the USAID PVC Pipe project due to difficulties in the management of the pipe factories. It should be noted that the CU-MIT Plastics project has apparently had great success in working to improve production in several Egyptian plastics factories. Coordination of the two projects might have been helpful.

There is a new initiative to begin to develop the capacity to design VLSI circuits, to be manufactured elsewhere, which will be assembled into Egyptian built telephone switching centers. This project is an extremely interesting technology transfer concept, which would fit well in the S&T Cooperation project under design. Similarly, a USAID project officer interested in conducting an interview survey for telephone system planning has been put in contact with the DRTPC by the evaluation team.

Dr. Fawzi, the Deputy Director of the DRTPC, has been trying to obtain support for development of a training and research center to improve the quality of leather produced by small scale shops in a intensely populated leather center. He has been put into contact with Bob Mitchell in IS, but the project might be of interest to the training or decentralization project officers as well.

The CU-MIT project on energy in the metals industry appears directly relevant to the energy conservation projects of USAID, and the Principal Investigator has been put in contact with Eric Peterson of S&T.

The DRTPC should cooperate with other centers for possible assistance in identification of policy issues, major areas of emphasis, possible sharing of personnel, and organization of a development process (with FRCU/university linkages providing preliminary training of faculty members; the Academy of Scientific Research and Technology (ASRT) serving as a generator of possible high priority areas; and the National Research Center (NRC) serving as potential collaborators/participants in planning and implementation of projects).

XIV. ISSUES AND RECOMMENDATIONS

1. Support for long term analysis in the DRTPC. Given the increasing emphasis in USAID on policy dialog with the GOE, and given the $26 million investment of USAID grant funds in the DPSP to develop the capacity to do serious analysis, there has been relatively little USAID use of the DRTPC's services. Similarly while there have been examples of funding from the World Bank and the ILO, comparatively little such support has been received. While it seems appropriate that USAID itself use the capacity built in the DRTPC, care will have to be taken to assure that the mutual interest of the GOE in the analyses is real and obvious, to avoid any possible public misunderstanding or misrepresentation of the purpose of DRTPC policy analysis.

Alternatives:

a. The Project Officer could work with DRTPC staff more intensively to encourage marketing of their services to USAID. This would require the assistance of USAID upper management, but will also require considerable Project Officer time to do well, and will require development of DRTPC marketing capability.

b. USAID/Cairo could make it a policy to involve the DRTPC in appropriate projects and contracts for technical policy analysis being discussed with the GOE.. This would be done best by integrating the DRTPC into the technology management process, but would be difficult to manage, and would require negotiations with host country contractors.

c. A block grant could be made providing a fund for support of GOE agency-requested long term technology policy studies, with a joint USAID-GOE panel to define priorities for specific studies. This simplifies the approval process, provides long term continuity in support, but distances the research from the implementation process.

d. The DRTPC could be encouraged to seek support from donors and to seek contracts in other countries. Funding could be allocated for such marketing, and other AID missions in the region encouraged to contract with the DRTPC.

Recommendation: We recommend a combination of alternatives a, c and d. The DRTPC is particularly concerned that any such support be sensitively arranged in light of their memories of past unfavorable publicity on their U.S. connection, but are generally supportive of the recommended approach.

2. Continued support for strengthening the DRTPC research management capacity:

Alternatives:

a. The support for the DRTPC could be terminated with the conclusion of the current MIT contract. This would be the least costly alternative, and the center would probably survive as a relatively small institution performing short-term applied research.

b. The current project could be extended for a year or two under the current operational mode. There would be some improvement in the administrative and managerial functions of the center, but little marginal gain.

c. The technical assistance for the DRTPC could be extended for 5 years, with emphasis on research management skills. This would be most expensive, but would be likely to increase the capacity of the DRTPC to market effectively, and to assure the quality of its products.

Recommendation: we recommend alternative c. The DRTPC is pleased with this recommendation.

3. Extension of the Model. Since the second evaluation it has been assumed that the "institutionalization" phase of the DPSP would be followed by a "replication" phase. It seems that even if the decision is made now to continue assistance to building the capacity of the DRTPC, one might begin the replication of the concept in other locations. We believe that the key elements in the early phases of the development of such a program are: 1.) the combined forces of a strong host country university and a strong U.S. university, 2.) the insistence on the model of long term cooperation on technical problems of high social and economic priority for the country, 3.) the projects to be conceived and carried out by interdisciplinary,

international teams, 4.) the provision of financial incentives for the participation of host country governmental and university staff, and 5.) the early and continuing emphasis on institutionalization of the process, combined with long term support necessary for the institutionalization to take place.

Alternatives:

a. Postpone the replication until the DRTPC is functioning even more effectively. This would be the safest approach, but would run the risk of postponing important benefits by a period of years.

b. Begin the replication in one or two Egyptian universities, perhaps Alexandria or Ain Shams. This would have relatively high probability of success, and would help to meet the need for analytic services in Egypt (especially in the areas outside Cairo), but might complicate the task of completing the development of the DRTPC.

c. Begin the replication of the DRTPC concept in another country. Jordan has suggested a project of this nature if AID/Amman funds were to be made available. Again this is an interesting concept if the scarce management talent were available.

Recommendation: Alternatives b and c are recommended. The DRTPC is in favor of alternative c, but for alternative b, it is concerned that too early replication in another Egyptian university might result in dangerous dilution of resources for a small contractual market. USAID points out that replication in Egypt might involve opening one or more branch offices of the DRTPC (with obvious changes in Executive Board membership) rather than the creation of a new organization.

4. Continued Subsidies for the DRTPC. Currently the overhead expenses of the DRTPC are excessive compared with the income from the sale of services. If one or more of the alternatives described above is taken, the need for

subsidies will be greatly reduced, but there is still a likely modest need in most circumstances for several years. Subsidies will be particularly helpful in promoting the continued participation of U. S. experts in the projects of the DRTPC, which the evaluation team believes to be important in most cases.

Alternatives:

a. Reduce overhead. It seems likely that considerable reductions in the so called core budget of the DRTPC could be achieved through improved management of the computer and library functions (perhaps combined computer resources, reduction in ambitions for the library using supplementary services from NTIS and other libraries, automation of bookkeeping, etc.) We see no reason not to embark on such an effort.

b. Seek the support of Cairo University or the GOE to provide line item subsidies for the DRTPC. This alternative would be a long term solution to the financial needs, but would probably result in bureaucratization of procedures inimicable to the quality of the DRTPC work.

c. Provide several years more USAID subsidies, probably on a declining basis, matching Egyptian derived project income.

Recommendation: we recommend a combination of alternatives a and c. The DRTPC is concerned with increasing its efficiency and perceives the need for continued subsidies, but is strongly opposed to seeking subsidies from Cairo University or the GOE. At least one of the leaders of the DRTPC stressed the need to provide subsidies in a way that stimulates the DRTPC staff to sell services, and not to substitute U.S. support for Egyptian funding.

5. Source of Technical Assistance. The contract with MIT has been justified on a sole source basis in the past. We believe this should not continue. In fact, we believe that there are three different kinds of technical assistance needed and that it may be desirable to seek different sources for each.

DRTPC project area assistance: There will be a continuing need for U. S. involvement in specific DRTPC project areas, especially in new areas which they are contemplating. The Director of DRTPC has listed several present and new areas in which the DRTPC could be expected to make substantial contributions (see Appendix VI). We suggest that, in each case, the center consider seeking a senior expert from a U. S. university who would be put on long-term retainer, and who would be provided with funding for his own and his graduate students participation in contracted project activities. This person would also be provided with training in cross-national work as appropriate, and would be expected to engage in facets of institution building including training of colleagues in research management, and provision of relevant scientific and technological information. The best people for such work will have to carefully identified, and they will not be motivated to work in Egypt for the relatively small contract fees available. The will be motivated by the specific research opportunities, by a sense of professional responsibility, and by the opportunities for professional collaboration. Contracting procedures should be chosen accordingly. MIT cooperation may be continued in some established areas, while new organizations may be involved in others.

DRTPC management improvement assistance: We recommend that a new contractor be introduced to provide technical assistance to the DRTPC in research management, including the presence of a long term resident advisor to focus on improving marketing and quality assurance. It is desirable for the DRTPC to have the advantage of more than one institutional view in its formative period. We suggest open bidding, but expect that university related or formerly university related contracted research centers such as Research Triangle Institute, Denver Research Institute, Stanford Research Institute, etc. would be encouraged to bid. Alternatively, the mission could consider private vendors of analytic services--eg A. D. Little, Abt Associates, The Analytical Sciences Corporation, RAND--or direct university contract. This recommendation is in no way a criticism of MIT, which deserves great credit for the technical work it has done, and the assistance it has provided Cairo

University--MIT merits praise for the singular success of this effort. The recommendation is based on the desire to give the DRTPC new perspectives, and to provide managerial assistance complementary to that which MIT has so capably provided in the past.

Assistance for the Replication of the Concept: In this situation we believe it is useful for a single very strong U. S. institution (with the collaboration of Cairo University) to have the responsibility, to provide for a coordinated set of project inputs in areas where the two universities have common strengths. This contractor should be chosen through a competitive process, but due weight should be given in the selection process with experience with this kind of program and to experience in the host country organizational environment.

The DRTPC agrees with the desirability of continuing technical assistance in the projects and in research management. It is concerned that it be able to continue to have a relationship with MIT, which it values highly, but accepts the utility of broadened technical contacts. USAID also agrees with the desirability of opening the contracting process, through competitive host country contracting to broaden the base of U.S. university participation.

6. Extension of the Current Project: A draft proposal has been prepared for the extension of the current MIT contract, implying an extension of the current project. If a reasonable number of the above recommendations are accepted, we recommend completing the current project on schedule, and developing a new project to replace it. (It would be possible of course to fold the recommended efforts into the new S&T project or some other umbrella project if the mission prefers to do so.) This project should result in the firm establishment of DRTPC and should be the final phase of USAID institutional development support. It is noted that the preparation for such a project would have to begin almost immediately to have it in place by March, 1987, to allow transition to new arrangements and to prevent a loss of momentum in the DRTPC. The DRTPC did not comment on this recommendation other than to note the need for transition funding, perhaps believing it to be procedural and USAID's responsibility.

The project, if all the recommendations were to be taken, would be a five year effort (with perhaps $10 million for the DRTPC and $3 million per year for the replication center) including:

In the DRTPC:

- Host country contracting with the DRTPC
- Long-term technical assistance to the DRTPC in research management, emphasizing marketing and quality assurance, provided by a new contractor
- Support for long-term project area advisors
- Selection of specific long-term analytic projects, of interest to the GOE and USAID, with increased participation of GOE/USAID in the specification of studies and use of results
- Support from other donors and projects in other countries
- A streamlined DRTPC
- Increasing counterpart funding in the form of more study contracts for relatively short term analyses
- Declining subsidies for the DRTPC core costs in the form of matching funds for Egyptian contracts.

In the Replication activities:

- A single long-term counterpart university
- A project activity somewhat more economical, but patterned after the CU-MIT efforts.
- Perhaps starting two or three years into the project
- With an organizational form to be decided, but closely related to and perhaps a subsidiary of the DRTPC.

7. Recommendations on USAID Project Management: The actions to be taken on the current project will obviously depend on the recommendations that are

accepted. It is suggested that the Mission management and project manager: 1.) continue to take steps under any conditions to encourage the DRTPC to emphasize marketing, 2.) focus on encouraging DRTPC to provide minimal but adequate core services, and 3.) increase awareness of the DRTPC potential in USAID.

It is recommended that the present project paper be amended to explicitly include the development of understanding of technological issues in development. The project has spent millions on this implicit purpose, and it would be potentially useful to have the end of project evaluation focus on just what has been learned about development in Egypt through this investment.

Currently the individual projects under the DPSP are being planned to end in 1986, or to be continued at a rate of expenditure commensurate with Egyptian funding expectations. If it is decided to develop a follow-on project, the planning for some of the projects will have to be revised, and the decision as to which project will be continued at the higher level will have to be made quickly to minimize discontinuities. In particular, the use of seed money to encourage the formation of new projects will be an important consideration for the use of remaining funds. Management expenditures at both DRTPC and MIT should be carefully reviewed, according to the decisions made on the above recommendations, to assure their suitability for the proposed changes.

The Project Officer should take vigorous steps to disseminate information on this project in USAID, including organizing briefings on key projects for USAID staff, redistribution of major past reports to USAID/Cairo and AID/Washington staff, providing cables on DRTPC capabilities to selected missions, writing articles on the DRTPC for Horizons, frontlines and/or other publications, and encouraging USIA attention to the project. It is emphasized that many of the services of the DRTPC and many of the analytic products of the CU-MIT efforts are of world-wide interest, and dissemination efforts

should focus on, but not be limited to, the Cairo Mission and the ANE Bureau. Since potential use of DRTPC services should be defined early in project planning, it would be highly advantageous to assign additional responsibility to an individual in the Program Office for liaison with project officers to encourage the use of the center.

The Mission should also take steps to better coordinate the DPSP project with the University Linkages, ASRT and new Science and Technology Project, as well as with other projects dealing with development research and technology planning.

XV. LESSONS LEARNED

The following observations are derived from overall consideration of the project. They are believed to be generally applicable to similar developments in other countries and become even more important where there is lower recognition of the value of research and development and where lower capabilities for applied research exist than is the case in Egypt.

A. Research Operations and Planning

1. It is possible to focus the attention of university faculty members on problems of major economic importance to development problems and to organize their efforts as interdisciplinary teams to carry out projects providing important practical results.

2. It is important to have a high quality experienced university counterpart to cooperate in project selection, project planning and management and close cooperative effort in project implementation. Cross-cultural training should be provided for faculty members from both sides.

3. Individual projects should be planned for a discrete, effective time period maintaining a balance between long term and short term effort, but ensuring timeliness of use of results when problem criticality requires it.

4. Care should be exercised at the beginning of the program not to swamp developing country personnel with overwhelming information on new technology and/or techniques. Workshops and seminars should be carefully structured to meet this need. Training and assistance in the project formulation and project management should also be provided in a formal way.

5. Participation by faculty members from other universities as team members should be substantial - not only to insure success of projects, but also to extend the concept of contract research and to begin to provide the basis for replication of the center concept.

B. Management

1. Counterpart involvement in development of research administration and marketing are essential components in developing countries without a history of contract research.

2. Marketing plans and procedures should be planned at the beginning of the project. In addition to the more traditional in-country marketing mechanisms, there should be plans for substantial expenditures to build contacts and visibility, an information base on in-country activities, and contacts with foreign donors. Residency for faculty "in the field" (at ministries/companies) is an effective method to define problem and gain acceptance.

3. Education and training activities need to be carefully planned to:

   a) Increase effectiveness of participating team members in ability to carry out project objectives.

   b) Provide appropriate education (doctoral and post-doctoral level) to expand future efforts in critical areas.

   c) Provide a reservoir of talent (on a carefully selected basis) for participation in counterpart projects of high economic importance.

4. Supporting services must be provided but careful attention should be given to access to such services from other available sources (e.g., library, computer) to reduce the demand for overhead support.

5. Centralized facilities which allow teams to assemble, which provide centralized services and provide identity and visibility are an important, if not essential, requirement.

6. Salary incentives funding Government and Industry participants in joint analytic efforts should be provided to encourage their participation until they learn to value the expert perspective for itself.

7. Careful attention needs to be given to the amount of funding for the counterpart university so that an inordinate amount would not be concentrated in this portion of the activity, perhaps reducing the effect of funding the in-country effort and detracting from the need for the local Center to become economically and technologically independent (possibly maintaining dependence and false security because of large amounts of money available).

C. General

All planning should be done with careful analysis of the cultural/political/financial structure of operating systems, allowing sufficient time for a progressive growth of the concepts, and operational growth to occur in an orderly manner. It is important to remember that decisions/changes by ministries/companies depend not only on technological (scientific) findings, but also on political and other managerial aspects.

APPENDIX I

CU-MIT PROJECTS

MANUFACTURING

1. Small Scale Industries; Said/Berger; 77-78
2. Plastics; Salamoni/Refai/Kabil/McGarry; 77-on-going
3. Automotive Production Planning; Sarhan/Bitran; 81-84
4. Energy in Metals Industry; Maghraby/Wilson; 81-on-going

ECONOMIC PLANNING

5. Macroeconomic and Sectoral Planning; Din/Eckaus; 77-80
6. Petroleum Resource Development; Shafei/Choucri; 80-83
7. Energy Policy; Shafei/Choucri; 81-on-going

WATER RESOURCES

8. Groundwater; Amer/Wilson; 77-82
9. Nile Flows; Salem/Bras/Eagleson; 77-84
10. Water Resources; Assiouti/Marks; 78-on-going
11. Qattara Depression; Fandi/Harleman; 81-83
12. Hydrology of Agriculture; Salem/Bras/Eagleson; 83-on-going

ELECTRICAL AND ELECTRONICS ENGINEERING

13. Electrical Power; Sobki/Husein/Kirtley/Weitzman;77-83
14. Rural Development Communication; Kamal/Pool; 78-83
15. Informatics(mini project); Kamal/Moavenzadeh; 83-84

TRANSPORTATION

16. Urban transportation; Hawary/Wilson/Gakenheimer; 77-78
17. Intercity Transportation; Hawary/Moavenzadeh; 79-on-going
18. Asphalt Performance; Osman/Baligh; 79-85;*
19. Railway Freight; Salama/Martland/Sussman; 84-on-going*

URBAN STUDIES

20. Urban Infrastructure; Hattab/Gakenheimer;77-83
21. Urban Planning; Yousry/Sadek/Hamdi; 83-84

HOUSING AND CONSTRUCTION

22. Housing and Construction; Erian/Habraken; 77-80

HEALTH CARE

33. Health Care Delivery; Shahbender/Eckaus; 77-80
24. Ultrasound in Cancer Treatment; Youssef; 84-85;*

DEMOGRAPHY

25. Labor Migration; Din/Choucri; 77-81

OTHER

26. Railway Brake Lining; Khattab; 84-85;*
27. Pipe Leakage Diagnosis; Baghdadi; 84-85;*
28. Effects of Ion-Films on Cutting Tools; Soliman; 84-85;*
29. Gypsum (mini project); Sinbawy/Moavenzadeh; 82-83

* included in January 1985 Program Report or Newsletter

Of 29 projects ever undertaken with CU-MIT project support, 10 were apparently active in January 1985, according to the Newsletter or the report of the Annual Meeting.

DRTPC PROJECTS

MANUFACTURING

1. Burnt Lime for BOF Process; Maghraby
2. Hadisolb Computer; Maghraby
3. Cooling Sintering Lines; Bayoumi
4. Pharmaceutical Chemical Systems; Balbaa
5. Plastics; Salamony
6. Computerized Model for Iron & Steel; Maghraby

ECONOMIC PLANNING

7. Social Acounting Matrix Update #; Din

WATER RESOURCES

8. Owienat Groundwater; Salem
9. Wadi Technology*; Salem
10. High Aswan Dam*; Salem

ELECTRICAL AND ELECTRONICS ENGINEERING

None

URBAN STUDIES

11. Urban Planning; Yousry
12. El Fayoum City Planning #; Sadek
13. Sinai Study and Plan #; Hakim
14. El Amal City Planning #; Yousry
15. Planning Youth Villages #; Yousry

TRANSPORTATION

16. Traffic Management in Heliopolis*; Noureldin
17. Canal Lock Upgrading*; Assiouti
18. Inland Navigation; Assiouti
19. Asphalt Performance*; Osman
20. Central Nasr and Gesr El Suez Workshops; Alaili/Hawary
21. Delta Road Maintenance #; Hawary

HOUSING AND CONSTRUCTION

22. Cement Market #; Ebeid

HEALTH CARE

23. Family Planning Organization Information System #; Manmoud

DEMOGRAPHY

24. Hajj Project; Shafei
25. Employment of Women #; Din
26. Manpower Demand #; Din

OTHER

27. Data Mangement for Central Control Agency; Hosni
28. Education Information Systems #; Omar

# indicates projects completed prior to 1982.
* active in 1985, but obtained GOE financing prior to 1984
_____ separates those completed prior to 1985 from those still active.

Of the 28 projects funded at the DRTPC prior to January, 1985 10 were still active at that time. Five of the ten active were funded prior to 1984. 12 of the 28 projects were funded (and 11 completed) prior to 1982. Thus we may conclude that:

5 were funded in 1984

11 were funded in 1982-83

12 were funded prior to 1982.

APPENDIX II

LIST OF PERSONS INTERVIEWED

DRTPC

Dr. Yehia Kabil, Director
Dr. Ibrahim Fawzi, CU, Deputy Director
Dr. Abdel Moneim Awadullah, Economic Counselor
Dr. Hassan Ismail, Board of Directors
Dr. Salah Shahbender, Board of Directors
Dr. Mohamed Maher Abaza, Minister of Electricity and Energy (DRTOC Board of Directors)

Ministries/Companies

Dr. Emad El Sharkawy, Deputy Chairman, Egyptian Electricity Authority
Dr. Hamdi El Shaer, Deputy Chairman, Egyptian Electricity Authority
Dr. Talat El Tablawy, Director, Renewable Energy Organization
Dr. Salah El Din Bayoumi, Water Master Plan, Ministry of Irrigation
Dr. Abdel Hamid Abu Bakr, Chairman, Egypt Gas Co.
Dr. Nabil Hashem, General Technical Manager, Egypt Gas Co.
Dr. Ahmed Afifi, Helwan Iron and Steel Co.
Eng. Fekry Abou Aref, Helwan Iron & Steel Co.
Dr. M. Izaiza, Helwan Iron & Steeel Co.

Principal Investigators

Dr. Eng. Ibrahim M. El Assiouty, CU
Dr. M.G. Maghraby, CU
Dr. M. El Hawary, CU (former Director of DRTPC)

Dr. Abdel-Wahab M. Amer, CU
Dr. Salah El Sobki, CU
Dr. Essam E. Khalil, CU
Dr. Fawzi El Refaie, CU
Dr. Saad El Raghy, CU
Dr. Gouda Abdel Khalek, CU
Dr. Mohamed El Salamoni, CU
Dr. Sief Khorshid, CU

MIT

Dr. Fred Moavenzadeh, MIT
Ms. Jean DePass, MIT
Dr. Nazli Choucri, MIT

USAID

Dr. Adel Gohar, AID
Dr. Bernard Wilder, AID
Dr. Adolph Wilburn, AID
Ms. Shanti Conly, AID

APPENDIX III
Scope of Work for Evaluation
Development Planning Studies Project
(263-0061)

A. Purpose of Evaluation

This interim evaluation of the Development Planning Studies Project is intended to assess progress towards the institutionalization of the Development Research and Technology Planning Center (DRTPC), Cairo University, as a framework for organizing applied research on Egyptian development problems. The focus will be on progress since the 1983 evaluation towards achievement of the end-of-project status elaborated in the 3-year strategic operating plan for the DRTPC dated July 1983*, with particular attention to fiscal viability.

The evaluation will provide guidance for the final year of project implementation and make recommendations for adjustments in the scope and level of funding and effort necessary to achieve institutionalization of the center's applied research assistance to the GOE by the end of the current project. It should also identify any additional assistance deemed necessary for achievement of project purpose.

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*In response to a key recommendation of the 1983 evaluation, CU/MIT and DRTPC prepared a Strategic Operating Plan which clarified the desired end-of project status, including measurable indicators.

B. Background

This project attempts to strengthen the development planning and implementation process in Egypt. Subsequent to the U.S. commitment in the mid-1970's to substantial, longterm, economic assistance to Egypt, the limited development planning capability of GOE Ministries was identified by both the U.S. and Egypt as a major constraint to development assistance. In response to this problem, the project was initiated in 1978 to create a permanent institutional framework to promote collaboration between the Egyptian academic community and GOE Ministries in applied research related to the design, analysis and implementation of technical development programs. The DRTPC was chartered as an autonomous research unit within Cairo University (CU) in March 1979 as the initial step in developing the institutional framework for the project. MIT was selected to provide technical assistance to the DRTPC.

During the first phase of the project, efforts focused primarily on long-term research projects in order to establish the viability of the collaborative approach. During the second phase of the project, the primary emphasis has been on institutionalization of the center and its financial viability. Total project funding, 1978-86, is budgeted at $22 million. The budget for the period July 1983 to December 1986 is $10 million.

Specific activities supported during the current project extension period (1983-1986) are:

(i) Applied Research ($3.9 million): Emphasis to shift from long-term CU/MIT projects to short-term DRTPC projects including proposal development and matching grants.

(ii) Manpower Development ($959,000): Fellowships for CU students and faculty at CU/MIT; mid-career fellowships for GOE personnel; short courses by individual research projects.

(iii) Dissemination of Results ($74,000): Conferences, seminars, workshops; publication of technical reports/newsletters to promote overall awareness of the center's activities.

(iv) Research Support Systems ($1.1 million): Development of DRTPC library and computer facilities.

(v) Administration ($3.9 million): Continued support for DRTPC & MIT administrative and indirect costs; strengthening of major administrative functions including finance.

C. Scope of Work:

The team will use the Project Evaluation Summary, logical framework and the DRTPC Strategic Operating Plan, July 1983, as guidelines for measuring progress. Specifically, the team should:

1. Assess the status of 1983 Evaluation Recommendation. Have CU/MIT and DRTPC addressed the issues raised in the 1983 evaluation report? Have policy directions been strengthened and specific plans developed and implemented towards achievement of project objectives?

2. Assess the adequacy of project inputs. Are activities supported under the project extension adequate/appropriate to achieve DRTPC institutionalization? Has MIT technical assistance evolved to reinforce the emphasis on institutionalization in the extension period?

3. Describe trends in project outputs since 1983. Have there been quantitative and qualitative changes in the applied research and educational activities of the DRTPC since the last evaluation? If so, what? Do they reinforce institutionalization objectives?

4. Evaluate GOE Ministry/agency utilization of DRTPC research/education services. What is the overall credibility of DRTPC among its "clientele"? Is it perceived as a center of excellence? What are trends in GOE Ministry/agency utilization of DRTPC research/education services and in their initiation and funding of collaborative projects? How can GOE utilization of DRTPC services be further strengthened?

5. Evaluate project impact on stimulating Egyptian academic participation in development-oriented applied research. What are trends in the ivolvement of CU departments, faculty members and students? Are top-quality faculty involved? Retained? Has the full potential been tapped? Are incentives adequate? How can the project further strengthen CU faculty involvement?

6. Evaluate progress under the project since 1983 towards financial and administrative viability. Is the fiscal strategy and cost structure conducive to long-term financial viability? What are trends in non-AID funding for program, administrative and indirect costs? To what extent are center overhead charges meeting "core" costs? Provide a quantitative assessment.

   Is the project marketing strategy appropriate? Successful? How can the project further strengthen marketing of its services?

Is potential demand adequate to sustain the center in the long-term? Is self-sufficiency a realistic long-term objective? A relevant one? i.e., are economic rates of return to research and educational activities sufficient to warrant long-term support from other sources? From where might such support be obtained?

Are administrative systems in place and functioning smoothly? Do administrative and support services create an environment optimal for research? How can they be further strengthened?

7. Assess continued relevance of the project purpose. What evidence is there that research results are utilized by GOE Ministries in development planning and program implementation? Have educational activities upgraded GOE agency skills, and if so, are these skills being utilized? Cite specific examples of the application of research findings and utilization of trained personnel. Include estimated economic rates-or-return to the extent this is feasible.

Is investment in the DRTPC justified in the light of the overall supply/demand situation for applied technical development research in Egypt today? Are there other similar centers? If so, how does the DRTPC "rate" in comparison? Is it indeed a center of excellence?

To what extent has AID coordinated this activity with other AID-funded efforts to mobilize Egyptian scientific and technological expertise to work on technical development problems? To what extent has AID utilized DRTPC services? If not, what not?

D. Team composition

The evaluation will be conducted over a three week period beginning September 2, 1985, by a three person team. The team will include two USAID/Cairo staff with experience in science and technology research administration and economics. The third team member and team leader will be an institutional development specialist from AID/W on TDY. The team leader will remain in country four weeks in order to finalize the report.

E. Methodology

The methodology for the evaluation should be to review previous USAID evaluation reports and CU/MIT and DRTPC reports; to conduct meetings with CU/MIT faculty committees, the DRTPC Board of Directors and staff, Cairo University and GOE participants and the Ministry end-users of project research. The team should assess progress to-date by the MIT research project on DRTPC institutionalization in the collection and analysis of data, and incorporate available findings into the evaluation report to the extent feasible.

F. Reporting Requirements

The team will submit a draft report and recommendations by September 19 for discussion with DRTPC, MIT and USAID staff. The team will revise the ddraft to reflect DRTPC, MIT and USAID comments and submit a final report no later than September 26, 1985.

G. Administrative Arrangements

Since this will be an in-house team, USAID will provide routine administrative support. No special arrangements are necessary. HRDC/ET will provide secretarial support for typing of the draft and final reports.

APPENDIX IV

GENERAL QUESTIONS

1. What changes should be made in DRTPC Charter (e.g., more involvement in implementation of results of studies) to allow the DRTPC to function more effectively?

2. To what extent, and for what time period, should MIT remain involved in the future activities of DRTPC?

3. How should the marketing of DRTPC capabilities/services be changed or enlarged to produce a larger volume of R&D activity?

4. What past accomplishments of the DRTPC are most appropriate as prototypes for future efforts and why are these chosen as models?

5. What are the main constraints to the development of the DRPTC?

6. In terms of the greatest benefits to Egypt, what would be the optimum mix of projects in five to ten years in the future? What part of the budget for such a mix of projects should be provided by fees to clients? By subsidies from Cairo University of the Government of Egypt?

7. What three specific recommendations for the improvement of this project do you feel would be most beneficial in the evaluation report?

SPECIFIC EVALUATION QUESTIONS

1. Annual reviews are mentioned in the Strategic Operating Plan. Have these been held? If so, what were results?

2. What new ministries/other customers have been added on a yearly basis? (Establishment of trends).

3. What has been the extent of follow-on funding by same ministries? (re-use of DRTPC by previous clients).

4. What is the total of CU faculty involved (on a yearly basis)? How many faculty used again in a follow-on or new project?

5. What is the relationship of DRTPC to leadership of faculty at CU (discussions, information flow in center activities, etc.)?

6. What is relationship/cooperation, if any, between DRTPC and University Linkages, Academy of Scientific Research and Technology or other research centers?

7. What evidence exists that shows actual application of results by clients as end-users?

8. Is there a monitoring of research activities/results of projects by DRTPC? Ministries or other end-users? (as evidence of satisfactory work).

9. What new university courses have evolved from DRTPC research activities/interests? New degree programs?

10. Have ministries supported training/fellowships with GOE funds because of involvement with DRTPC?

11. What is the role of MIT in setting directions for research? Policy formulation for DRTPC? Marketing strategy? Marketing efforts?

12. What is present marketing strategy? Status of marketing strategy plan mentioned in SOP (pg 33)?

13. Has MIT provided all necessary and appropriate assistance within these areas of expertise?

14. What have been the trends in expenditures for the DRTPC by source of funding, and by function funded since 1977? (We are working with you to further specify this information).

INTERVIEW STRUCTURE

Program, Projects, Activities

I. Project History (Participants)

A. Outline Statement (PI)
(Project Description)

B. Extent of Participation (CU, MIT, end-users)

1. Numbers and turn-over

2. Time

3. Conceptualization

C. Project Support

1. Facilities

2. Source of planning and implementation funds

D. Overall Success and Failure Directions

E. Difficulties or Obstacles

II. Project Selection (General)

A. Project Identification

1. Who, what, when, where, how?

2. Criteria (including constraints)/Priority

B. Activity Identification

1. Criteria/Priority

C. Future Project Selection

D. Future Activity Selection within Projects

III. Project Procedures and Operations

A. Methodology

B. Technology Transfer

1. To project (How crucial in past? future?)

2. From project to end-user

C. Project Management (Details)
Past/Future - Role of Center

D. Project Support Structure
Past/Future - Role of Center
(Question of Support Services)

E. Training
Extent, type, rationale for selection, future uses of training, additional future needs, international/local, academic/craft, long/short term, apprentice

IV. Financial Aspects

A. DRTPC Budget

1. Total project budget

2. Project budget by categories (admin. support, research support, overhead, etc.)

3. Other aid support

4. Local projects budgets

B. Division or Budget - MIT/CU/DRTPC

C. Overhead Distribution

D. Actual Funds Remaining - Proposed Allocation for Next Two Years

E. Funding by Year

1. Local support by total volume and expenditure

2. CU/MIT expenditures (by year)

F. Estimates of Future Income (Daly Method)

1. External influences - present and future

2. Economic situation - vis a vis future of control

G. Project Expenses or Support Services

V. Inputs

A. MIT Participation/Response

B. Financial Inputs

C. Physical Inputs - Commodities

D. Information Availability and Inputs

E. Relative Inputs on Decisions by MIT

VI. Outputs

A. Quantity, Quality, Timeliness, Benefits (Relationship to Level of Effort)

B. Level of Effort (Average) - Daily/Weekly/Monthly

C. Possibilities and Requirements for Full Time - Efforts

D. Unintended Consequences

VII. Marketing

A. Marketing Policy

B. MArketing Organization

C. Marketing Resources

D. Project Marketing by PI

APPENDIX V

NOTES FOR TABLE I

Notes:

1. Includes both CU/MIT Program and Economic Modelling project; the former figures are 731, 893, 619, 632 and 2,375 respectively. The totals spent from 1976/77 through 1984/85 are $16.041 million and LE 6.686 million or together the equivalent of $24 million. These are amounts received by the D.R.T.P.C. Those received by the MIT are shown in that row.

2. ILO for WID project and World Bank for economic modelling project. A possible Saudi contribution of LE 500,000 for a study on pilgrims is still being negotiated.

3. CU contribution in the form of salaries for the D.R.T.P.C. staff seconded from CU. In kind contributions such as for rent and equipment are not included. A D.R.T.P.C. accountant suggests that these contributions could be approximated by the difference between an "ordinary" 64% overhead rate and that actually negotiated: from January - June 1985, the rate was 38% and during the two previous fiscal years 32%.

4. Extracted from MIT supplied table on "U.S. Dollar Spending." We deleted the amounts recorded for fellowships, computer, library and "D.R.T.P.C. Expenses." These totalled 524, 310, 244 and 277 ($ 000) respectively.

5. Contributions not directly related to contracts received from CAPMAS and the Egyptian Electricity Authority. The Ministry contributions estimated in table 6 in the 1983 Strategic Operating Plan are the salaries

of persons and equipment used by GOE agencies in connection with D.R.T.P.C. projects. These estimates have not been updated and are not really germane for appraising the D.R.T.P.C.'s financial viability.

6. The major projects have involved funding over this four year period as follows (in LE thousand). Parafinic asphalt - 125, Abu Tartour railway - 105, flash floods - 65, inland navigation - 62, pilgrims - 62, and maintenance of delta roads - 116.

APPENDIX VI

DRTPC R&D CATEGORIES (EXISTING AND PROPOSED)

Existing:

- -Manufacturing
- -Economic Planning
- -Electrical & Electronics Engineering
- -Transportation
- -Urban Studies
- -Housing and Construction

Proposed:

- -Agricultural Development
- -Management
- -Productivity
- -Energy

AID 1020-20 (11-72)
Supp. Guide 1

APPENDIX VII
PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OFFICIAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETURNED OR SUBMITTED.)

Project Title & Number: Development Training 63-0125

Life of Project: From FY 85 to FY 92
Total U.S. Funding: $2.00 million
Date Prepared:

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1)	Measures of Goal Achievement: (A-2)	(A-3)	Assumptions for achieving goal targets: (A-4)
To increase the operational effectiveness and efficiency of Egyptian institutions contributing to selected key development goals by providing more and better training opportunities.	1. The relative number of Western trained middle and upper level Egyptian personnel working in key development sectors increases faster than the growth of the employed labor force. 2. Egyptian organizations involved in the project will be able to better plan and execute their activities.	Ministry of Manpower and CAOA data. Surveys of particular Egyptian institutions served by the project. Project evaluations.	The operational effectiveness/efficiency of an organization will increase as the number and quality of middle and upper level manpower increases. That technical and managerial skills acquired in the U.S. are appropriate for the organizational structures/operations of Egyptian institutions working in key development areas. Egyptian institutions will place individuals trained under the project in positions commensurate with the level and kind of training received. Egypt will continue its developmental relationships with the West, particularly the U.S.

APPENDIX VII -

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Development Training - 263-0125

Life of Project: From FY 85 to FY 92

Total U.S. Funding $102 million

Date Prepared:

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose: (B-1) To design and implement a better organized and more efficient Egyptian training program and to train Egyptians in the U.S. and Egypt.	Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2) 1. The GOE is producing and using training plans to make more efficient use of its resources to train and use people to meet key development needs. 2. A talent bank and in-country inventory system of training institutions are being used in preparation of training plans. 3. Expanded and improved English language training programs are producing more and/or better trained Egyptian students. 4. Egyptians trained in the U.S. and Egypt.	(B-3) 1. Receipt of training plans, evaluation of the plans and USAID and GOE allocation of resources based on the plans. 2. Visual examination and evidence that the talent bank and in-country assessments have been used to develop the training plans. 3. Annual reports of admissions, test results and measurement of the cost effectiveness of programs. 4. USAID and GOE training records. 5. Annual reports and evaluations of in-country training institutions being assisted under the project.	Assumptions for achieving purpose: (B-4) 1. The GOE will use an existing institution to centralize the coordination of training investment. 2. The coordinating institution will have the power and authority to make recommendations concerning: a. the selection and placement of trainees; and b. the improvement of in-country training institutions to include English language training 3. The MPIC and USAID will act in accordance with the coordinating agencies recommendations.

Best Available Document

APPENDIX VII

AID 1020-20 (11-73) SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: Development Training 263-0125

Life of Project: From FY 85 to FY 92
Total U.S. Funding: $109 million
Date Prepared:

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs: (C-1)	Magnitude of Outputs: (C-2)	(C-3)	Assumptions for achieving outputs: (C-4)
1. Training i. Peace Fellows with completed study programs a. operations of local professional organization enhance ii. Individuals trained to increase operational efficiency iii,a. Individuals provided English language training for overseas training. b. English language teachers trained. c. English language institutions improved d. Egyptians receiving English language for use in Egypt	1. i. 16,000 person months (approx. 275 students p.a. a. 10 professional meetings held by returnees ii. 4,500 person months of training provided iii. 4000 trained b. 1000 teachers trained c. 15 d. 5000	i. Project files and data from Missions Department & CAOA a. Surveys and project files ii. Project and CAOA files iii. Project and contractor files. Test results from institutions providing the training. Surveys of English language training institutions. Fulbright program files.	1. The GOE will continue to seek overseas training for key individuals. Egyptians will continue to seek training opportunities. Professional organizations exist in Egypt and U.S. counterpart organizations are willing to interact with Egyptian professional organizations.
2. An Egyptian organization is operating and has procedures in place and people trained to carry out following tasks: a. develop manning tables b. translating manning tables into training plans c. insuring consistency between individual GOE agency plans d. assessing in-country training capacity e. developing and using a talent bank f. relaying training requirements	2. one organization (perhaps two if tasks must be shared. (for tasks 2. a-f) 15 procedural plans developed; four plans for storing, analyzing & retrieving data; 200 core staff trained to use plans & procedures; 25 in-country training assessments produced; one talent bank in operation with semi-annual reports	2. Examination of organizational legal mandates and manning tables (a-f) project evaluation; training plan submissions to donor agencies and GOE talent bank publications; in-country training assessment records.	2. The GOE has the basic organizational infrastructure for developing and using training plans. The GOE is seriously interested in rationalizing procedures for selecting, training and using human capital.
3. The in-country training capacity of Egyptian training institutions in key development areas improved by staff upgrading, new materials and equipment	3. 10 in-country training institutions improved by upgrading 200 staff and provision of materials	3. Project files; reports from training institutions on numbers trained and test results.	3. There is a basic in-country training capacity in place and it can be improved by selected inputs. The GOE will meet normal operating and capital costs

APPENDIX VII

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

AID 1330-5 (9-78) Supplement 1

Project Title & Number: Development Training 263-0125

Life of Project: From FY 85 to FY 92
Total U.S. Funding: $109 million
Date Prepared:

PAGE 4

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS			MEANS OF VERIFICATION					IMPORTANT ASSUMPTIONS
Project Inputs: (D-1)	Implementation Target (Type and Quantity) (D-2)			(D-3)					Assumptions for providing inputs: (D-4)
			(000$)						
By Project Components	TA Long-Term	TA Short-Term	Training	Commod	Local Support	Contin-gency	Eval Audit	TOTAL	
I. Training									
-Peace Fellows	-	-	36,750	1,000	1,630	1,170	400	41,000	
- Non-Project Training	-	-	19,025	-	-	750	225	20,000	
- English Language Trng.	6,000	3,000	7,353	1,500	350	1,547	250	20,000	
II. Institution Building	2,311	2,046	900	900	191	852	300	7,500	
III. Up-Grading in-Country Training Institutions	3,487	3,000	7,787	4,000	-	2,026	200	20,500	
TOTAL	11,798	8,046	71,815	7,400	2,221	6,345	1,375	109,000	

Verification from USAID Project and Financial Records

USAID and the GOE will be able to establish appropriate contract procedures for implementing project activities.

Funds will be made available for project activities.