

A.I.D. EVALUATION SUMMARY: PART I 56787

A. REPORTING A.I.D. UNIT: USAID/EGYPT
 ES#: 87-01

B. WAS EVALUATION SCHEDULED IN CURRENT FY EVALUATION PLAN?
 yes x slipped ___ ad hoc ___

C. EVALUATION TIMING:
 interim x final ___
 ex post ___ other ___

D. ACTIVITY EVALUATED:

<u>Project #</u>	<u>Project Title</u>	<u>First PROAG (FY)</u>	<u>PACD (mo/yr)</u>	<u>Planned LOP Cost</u>	<u>Amount Obligated</u>
263-0123.2	Renewable Energy	1982	8/88	24,100	17,300

<u>E. ACTION DECISIONS APPROVED BY THE MISSION DIRECTOR</u>	<u>OFFICER RESPONSIBLE</u>	<u>TARGET COMPLETION DATE</u>
1. Project scope will be limited to the four field tests under procurement and establishment of a Renewable Energy Information System (REIS).	E. Peterson, L. Ervin USAID/HRDC/ST	<u>8/90</u>
2. Before proceeding with work in #1, the following are necessary:		
a. NREA appointment of a full-time coordinator.	NREA Chairman	<u>11/87</u>
b. NREA adoption of a management structure focused on completion work in #1.	NREA Chairman	<u>11/87</u>
c. Agreement by NREA and USAID on a realistic implementation schedule and project management process.	NREA Chairman & E. Peterson USAID/HRDC/ST	<u>1/88</u>
d. NREA assumption of responsibility for key implementation functions, i.e. annual operating plans, annual progress reports, and program review meetings.	NREA Chairman, NREA Project Coordinator	<u>1/88</u>
3. Following completion of #2, USAID will extend the PACD until completion of work (8/90)	USAID Director	PACD ext. <u>11/87</u> , but #2 work not yet completed
4. Phase out TA contract and hire Project Field Test Coordinator on host country contract.	NREA	<u>7/88</u>
5. Following satisfactory implementation of work in #1 (FY89), HRDC/ST will present an action memo detailing project progress and requesting approval to proceed with project redesign.	USAID/HRDC/ST	<u>10/88</u>
6. HRDC/ST and NREA will develop a concept paper defining scope of project redesign, including	USAID/HRDC/ST NREA	<u>11/88</u>
- mix of project elements,		
- management and implementation approach,		
- opportunities for private sector involvement as end users and manufacturers, and		
- estimated PACD and funds required.		

F. DATE OF MISSION REVIEW OF EVALUATION:

G. CLEARANCE/APPROVAL OF EVALUATION SUMMARY AND ACTION DECISIONS:

Technical Office/Directorate	Program/Evaluation Office	Deputy Director
E. Peterson, HRDC/ST <i>[Signature]</i>	J. Laudato, PPP/P <i>[Signature]</i>	G. Laudato, DD
L. Ervin, HRDC/ST <i>[Signature]</i>	V. Moldrem, PPP/P <i>[Signature]</i>	
W. Gelabert, AD/HRDC <i>[Signature]</i>	J. Patterson, AD/PPE <i>[Signature]</i>	

H. EVALUATION ABSTRACT

Through the Renewable Energy Field Testing (REFT) Project, USAID has obligated \$17.3 million to improve the capability of the GOE and private sector to analyze and evaluate new energy systems, to test commercially viable technologies, and to develop a data base and information system. To date, \$8.2 million has been committed of which \$5.122 million has been spent, primarily on technical assistance. This evaluation was to assess the current relevance of the project purpose and project progress, identify problems affecting implementation, and recommend appropriate action in light of the 1988 PACD. Major findings and conclusions follow:

- Technologies appear viable, even in today's economic environment for particular end uses. Wind may have significant potential for the energy grid.
- The GOE is committed to use of renewable energy in desert and remote areas and for conventional energy conservation and has increased budgetary support in both annual and two five year plans.
- Project Progress. The GOE now has a staffed and functioning institution (New and Renewable Energy Authority) capable of implementing project supported activities; however, the project is far behind schedule. Only construction of two field tests can be completed before the current PACD. Available information has not been fully utilized or disseminated.
- Problems Affecting Implementation. Project delays are primarily due to the management shortcomings of GOE/NREA, USAID, and the technical assistance contractor (TA). Project paper implementation plan was not realistic and was not revised to serve as a meaningful management control mechanism. The prime contractor's work was technically weak, delivered late, and completed without full GOE participation. During last year, resident contractor performance has improved and procedures have been streamlined.
- Redesign Required. Before any project activities other than field tests currently under procurement are approved, redesign is required to improve procurement/management procedures, expand technologies considered, and develop links with the private sector contractors, manufacturers, and end users.

ALTERNATIVES CONSIDERED: Option 2 is strongly recommended because renewable energy is economically and financially viable and has political support in Egypt. The U.S. is a logical source of technology and assistance.

- Option 1: PACD extension with limited activities. This would permit completion of the four field tests currently under procurement and establish an information system to support field test collection. Conditions: New management structure (Full time NREA director, New TA delivery mechanism); Commitment by all parties to a realistic implementation plan; Increased participation and responsibilities for NREA.
- Option 2: PACD extension with project redesign. After proceeding with Option 1, undertake project redesign of project implementation approach, procurement procedures, and technical and institutional focus.
- Option 3: No PACD Extension. Cancellation of all current activities which cannot be brought to useful degree of completion by current PACD.

I. EVALUATION COSTS

1. Evaluation Team	Contract # OR TDY Person Days	Contract Cost OR TDY Cost (US\$)	Source of Funds
Russell J. deLucia, deLucia Assoc., Team Leader	PDC-5730-I-	\$43,845	263-0123.2
D. C. Braithwaite, Consultant	00-6110-00		
M. El Shafei, USAID Cairo/PPP/P			
2. Mission Staff Person Days: 20		3. Grantee/Staff Person Days _____	

J. MISSION COMMENTS:

This Evaluation has been extremely useful in focusing USAID and NREA attention on key implementation problems and suggesting practical solutions to improve project performance substantially.

1. Option 4. Because of the limited results of the project to date, the Mission considered a fourth option: cancellation of procurement currently underway and immediate cessation of project activities. This would be preferable to Option 3 for the following reasons:

- a. Construction for the wind energy and photovoltaic systems is scheduled for completion in the third quarter of FY88. This will not allow adequate time for testing and analysis of data, a primary objective of the project.
- b. USAID staff time would be released to finish design and initiate implementation of new more promising activities.

The primary question is NREA'S institutional capability and potential.

2. NREA Organizational Capability. The Evaluation Team's assessment was that the NREA has finally developed into a functioning organization with the capability of implementing the type of activities supported by the project. The NREA now has a cadre of field test managers and staff with appropriate training and technical experience. The Mission is concerned that the NREA may not be as strong an organization as suggested by the Evaluation. The NREA's actual capability has been obscured by poor performance of the technical assistance contractor and other issues. One indication that organizational capacity may be less than that indicated by the Evaluation is the difficulty NREA has had in responding to the conditions precedent recommended for both Options 1 and 2.

3. Recommended Option. The Mission is concerned that the issue of the NREA's organizational capacity and project commitment be demonstrated before proceeding with redesign. The period of construction and field testing is just beginning. To immediately begin redesign would distract from these important implementation tasks. The Mission is concerned that this work as well as establishing of the Renewable Energy Information Service (REIS) receive priority and full attention of NREA management and staff.

Thus USAID recommends an implementation period of a year for a reduced number of project activities. NREA will gain experience in management of a consultant under host country contract and expanded implementation responsibilities. This program will leave NREA with experience in project design, contracting, testing and an information system at the PACD whether or not redesign and expansion of activities is undertaken. During this period, both parties can assess the effectiveness of the new project management system, and the strengths and weaknesses of the current procurement system and testing system that will be useful if redesign is undertaken subsequently. If the NREA and USAID can successfully implement a reduced program during the next year, HRDC/ST will inform the USAID Director in an Action Memorandum and request permission to proceed with redesign.

A.I.D. EVALUATION SUMMARY: PART II
K. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS & RECOMMENDATIONS

USAID/EGYPT
RENEWABLE ENERGY FIELD TESTING (263-0123.2): MID-TERM EVALUATION

PROJECT DESCRIPTION: The Renewable Energy Field Testing (REFT) Project was intended to improve the capability of the GOE and private sector to analyze and evaluate new energy systems, to test commercially viable technologies, and to develop a data base and information system. USAID obligated \$17.3 million in 1982; to date \$8.2 million has been committed of which \$5.122 million has been spent, primarily on technical assistance.

EVALUATION PURPOSE AND METHODOLOGY: This evaluation was to assess the current relevance of the project purpose and project progress, identify problems affecting implementation, and recommend appropriate action in light of 1988 PACD. To improve performance, recommendations for changes in project design and implementation approach were also requested.

Evaluation data sources included project documents and reports and discussions with the technical assistance contractor and staff of USAID, the New and Renewable Energy Authority (NREA), and other GOE organizations.

FINDINGS AND CONCLUSIONS:

1. Technologies appear viable, even in today's economic environment for particular end uses. Wind may have significant potential for the national electrical energy grid.
2. The GOE is committed to use of renewable energy in desert and remote areas and for conventional energy conservation. Budgetary support has been increased in both annual and two five year plans. President Mubarak is personally interested in this project. The team concluded that USAID would lose credibility if the project ended without producing anything but studies, after spending over \$4 million on technical assistance.
3. Project Progress. The project is far behind schedule. This evaluation should have taken place as early as a year ago, when it could have provided more timely advice. As a result of the project, the GOE now has a staffed and functioning institution (New and Renewable Energy Authority) capable of implementing project supported activities. There are currently four field tests under procurement, but only one could be brought to a useful degree of completion by the PACD.
4. Problems Affecting Implementation. Project delays are primarily due to management shortcomings of the NREA, the technical assistance contractor and USAID.

a. Technical Assistance. The poor quality of technical assistance has affected both technology transfer and training. Most reports were poor in quality and usually late. Reports by both prime and subcontractors were not prepared jointly as specified in the PP and RFP, but independently in the U.S. The NREA staff complained that the TA team dealt directly with AID and did not address NREA staff concerns. Poor quality reports have required numerous revisions and slowed procurement. The two documents relating to training do not contain a comprehensive or long range coherent training strategy for NREA staff. A training project has never been formalized. The prime contractor promised internal quality control review, but this has not been systematically implemented.

The financial reporting system of the technical assistance contractor is not sufficiently disaggregated to monitor activities on any test in detail. Status reports were received too late for use in project management and control. The contractor did not fulfill commitment to provide better financial and management reporting. After continued complaints, the TA contractor replaced personnel in early 1987. The current resident manager is more effective, but backup has not improved. The team recommended termination of the TA contract and substitution of PSC Field Test Coordinator position.

B. NREA. During implementation, the project has been managed through three GOE institutions which has slowed development of staff. USAID Project directors have had responsibility for other donor financed projects as well as other organizational functions. Staff allocation was a problem as the project moved from one organization to another, but this issue has been resolved. The evaluation team concluded that the REFT now has a qualified and capable counterpart team in place, but a full time director (at least 80%) is needed for more effective control and implementation.

NREA counterparts have been very dissatisfied with the USAID direct contracting mechanism which provided inadequate GOE control. This problem was exacerbated by inexperience and the project design which called for U.S. based field test design and review. The team recommended that future technical work be prepared jointly in country and that the NREA assume responsibility for key project implementation functions including future contracting.

c. USAID. Project implementation problems resulted in part from project design, but primarily from failure to revise original concepts as permitted by the PP and RFP in a timely, thoughtful manner.

Casual changes in TA provision and procurement were made post PP without consideration of demands on AID management. PP design called for PASA contract to provide TA and subsequent field test procurement. Later USAID/Cairo assumed responsibility for field test procurement without considering the need for US support. The team noted that these procurements are complex for their dollar value and that sources may not be familiar with exportation, USAID, or Egypt

A private consultant was selected through competitive, direct contract process. Problems with the TA contractor began immediately when alternative personnel replaced those in the original tender. The USAID project manager expressed dissatisfaction with TA performance, but many controls still need strengthening. Before additional field test procurements, the team recommended redesign with involvement of contracting specialists to assure greater control and to devise a less time consuming, U.S. supported procurement process.

Project paper and subsequent implementation plans have been unrealistic and thus useless for project control and monitoring. A project monitoring system for this type of project is provided in an annex. The team recommended that a realistic plan, after taking into consideration the capabilities of NREA, be negotiated and used to hold parties accountable.

The implementation strategy outlined in the PP called for a seven step process covering application review to field test evaluation. Only the first three steps have been completed for all eleven tests. Three are ready for Step 5: review and selection of installation contractors. The training value of this process has been largely negated because the prime contractor prepared most documents using its own staff. The NREA's role was primarily reactive. The PP envisioned a Renewable Energy Information System primarily for use of field test data. The team noted that considerable information is available and recommended the REIS be set up soon as a resource for the NREA and other organizations active in this area. The team recommended concentrating project management resources on the REIS and the four tests ready for implementation to evaluate the process before proceeding with the remaining tests.

5. Issues for Project Redesign. Redesign can be minimal to address previously identified problems and allow completion of work already begun or broader to permit implementation of activities discussed in the project paper, but not yet undertaken. Additional issues include:

a. NREA's Budgetary Resources and Sustainability. REFT constitutes 40% of the NREA's budget. Ways to increase resources after project completion need to be examined, i.e. consulting services.

b. Institutional Focus. The PP called for participation with other groups, including the private sector. Other groups are implementing renewable energy projects and could benefit from NREA's test results and provide important feedback on comparative project implementation efficiency and actual operating results. The private sector needs to be involved both as end users of information and as potential manufactures. Local manufacture could significantly reduce cost of technologies and encourage widespread acceptance.

c. Technological Focus. The technological review process in the PP does not consider local manufacturing capabilities and the potential use of REFT generated information in encouraging private sector commercial development.

L. ATTACHMENT:

1. Midterm Evaluation of USAID/GOE RENEWABLE ENERGY FIELD TESTING PROJECT, prepared by deLucia and Associates, Inc., Cambridge, MA U.S.A. with Mona El Shafei, Program Office, USAID/Cairo

Drafted by: J. Laudato, PPP/P
RENEW2 on Janna, 9/15/87