PD-AAK-091
ISN 39373

PROJECT EVALUATION SUMMARY (PES) — PART I

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION OR AID/W OFFICE
Alliance for Engineering Cooperation 2638042	263-0042-6-00-1057-00	USAID/Cairo

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g. Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 84-15

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES	6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY ____ B. Final Obligation Expected FY ____ C. Final Input Delivery FY ____	A. Total $ ____ B. U.S. $ ____	From (month/yr.) June 1981 To (month/yr.) May 1984 Date of Evaluation Review June 1984

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

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Decision on whether or not to provide the Egyptian Society of Engineers with additional assistance or to let the present grant lapse as scheduled on June 30, 1984.	TPearson, DRPS/IDPS	June 1984

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9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☐ Financial Plan
- ☐ Logical Framework
- ☐ Project Agreement
- ☐ Implementation Plan e.g., CPI Network
- ☐ PIO/T
- ☐ PIO/C
- ☐ PIO/P
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☐ Continue Project Without Change
- B. ☐ Change Project Design and/or ☐ Change Implementation Plan
- C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Riad Mounir, DRPS/IDPS
Thomas Pearson, DRPS/IDPS
Gerald Zarr, AD/DRPS
Norman Sweet, AD/DPPE
Arthur Handley, DD

12. Mission/AID/W Office Director Approval

Signature: M.P.W. Stone

Typed Name: M.P.W. Stone

Date: 6-24-84

AID 1330-15 (3-78)

PROJECT TITLE(S) AND NUMBER(S)	MISSION/AID/W OFFICE
Alliance for Engineering Cooperation (263-0042-6-00-1057-00)	USAID/Cairo

PROJECT DESCRIPTION

The "Alliance for Engineering Cooperation" was formed between the U.S. and Egyptian engineering committee to improve the indigenous capabilities of the engineering profession in Egypt.

AUTHORIZATION DATE AND U.S. LOP FUNDING AMOUNT	PES NUMBER	PES DATE	PES TYPE
June 1981 $	84	June 1984	☐ Regular ☐ Other (Specify) ☐ Special ☑ Terminal
ABSTRACT PREPARED BY, DATE	ABSTRACT CLEARED BY, DATE		
Nemat Shafik, DPPE/PAAD June 10, 1984	Thomas Pearson, DRPS/IDPS		

This evaluation was conducted to assess project success at the end of a three year grant and to consider the possibility of additional funding. The evaluation was conducted by an engineering consultant from May 9-29 and included a 2 day visit to the headquarters of the American Association of Engineering Societies (AAES) in New York.

The report concludes that the Alliance has achieved "only moderate success" due to a lack of institutional capacity and motivation/commitment. The efforts of both parties were on a part-time basis. The Egyptian Society of Engineers (ESE) had no experience in outreach programs aimed at the practicing engineer. The AAES was also not oriented to managing and administering this grant efficiently.

Project accomplishments include seminars on land reclamation and town planning, three visits by AAES executive staff, and the acquisition of technical books, publications, and subscriptions to U.S. periodicals. The establishment and renovation of the Cairo Center for Continuing Engineering education (CEC), a major component of this grant, was intended to provide a resource for Egyptian engineers desiring to upgrade their technical capabilities. The CEC is operating on a limited basis largely due to a lack of staff-the positions for a full-time director and part-time assistant director are not presently filled. In retrospect, the report states that the Alliance was formed without full recognition of the "elite" character of the Egyptian Society of Engineers and the practical difficulties in outreach to the practicing engineer in Egypt.

The report recommends the provision of technical assistance to insure proper installment and use of recently purchased equipment ($35,000) and to cover operating expenses of the CEC for one year (LE 40,000). This phase-out of USAID support would give the CEC an opportunity to operate as originally intended and mute any criticisms that might arise from the U.S. and Egyptian engineering communities.

Lessons Learned: (1) Appropriate institutions should be chosen as implementing agencies. The Egyptian Society of Engineers represents less than 1.5% of the practicing engineers in Egypt and has no outreach experience. The use of AAES also resulted in implementation problems.
(2) Adequate staffing should be a precondition to the provision of assistance. The appointment of a full-time director of the CEC should have been a condition precedent to disbursement of grant funds.

PROJECT EVALUATION SUMMARY

PROJECT TITLE(S) AND NUMBER(S)	PROJECT PRIMARY OFFICE
Alliance for Engineering Cooperation (263-0040-6-00-1057-00)	USAID/Cairo

PROJECT DESCRIPTION

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AUTHORIZATION DATE AND U.S. LOP FUNDING AMOUNT	PES NUMBER	PES DATE	PES TYPE
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ABSTRACT PREPARED BY, DATE	ABSTRACT CLEARED BY, DATE	
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XD-AAR-091-A
ISN 39345

EVALUATION OF

ALLIANCE FOR ENGINEERING COOPERATION

AMERICAN ASSOCIATION OF ENGINEERING SOCIETIES - EGYPTIAN SOCIETY OF ENGINEERS

GRANT NO. 263-0042-6-00-1057-00

USAID/CAIRO

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

SUBMITTED BY:

JOHN P. ZEDALIS, P.E.

CONSULTANT

MAY 29, 1984

EVALUATION OF ALLIANCE FOR ENGINEERING COOPERATION
AMERICAN ASSOCIATION OF ENGINEERING SOCIETIES
- EGYPTIAN SOCIETY OF ENGINEERS

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EVALUATION OF ALLIANCE FOR ENGINEERING COOPERATION AMERICAN ASSOCIATION OF ENGINEERING SOCIETIES - EGYPTIAN SOCIETY OF ENGINEEERS

I. EXECUTIVE SUMMARY

The Alliance for Engineering Cooperation, composed of the American Association of Engineering Societies (AAES) and the Egyptian Society of Engineers (ESE), was created June 11, 1981. A 2-year grant to AAES in the amount of $318,325 and LE 133,900 was authorized on August 31, 1981, by the Mission director, USAID/Cairo. The grant's purpose was to improve the indigenous capability of the engineering profession in Egypt. The massive infrastructure development program undertaken by Egypt indicated local state-of-the-art deficiencies that might be greatly improved by a comprehensive program of technological exchanges of expertise and experiences between engineers of the two countries.

The grant mainly provided for the following:

1. The conduct of three (3) seminars in Egypt.

2. Staff and officer exchange visits between AAES and ESE.

3. Establishment of a Cairo Center for Continuing Engineering Education (managed and operated by ESE).

4. Publications Exchange and Development.

This evaluation indicates that only moderate success has been achieved by the Alliance during its approximate 3-year life (the grant was extended for one year to June 30, 1984). Two seminars were conducted that were rather successful in January and April of 1983. The third seminar was cancelled. The Center for Continuing Engineering Education is not yet operational. Audio/video equipment for the Center has just been procured. The reference library contains a modest amount of technical books and periodicals. Staff and officer exchange was limited and ESE representatives never were able to visit the U.S. until mid-March 1984, when they did so at their own expense (grant funds for this purpose were unavailable due to other expenditures). In particular, outreach activities aimed at the practicing engineer in Egypt have fallen far short of expectations.

The major reason for the lack of progress to date was that neither the AAES nor ESE, particularly the latter, were organizationally geared to conduct all the planned activities under the grant. The efforts exerted by both parties were literally on a part-time basis. There is

some indication that completion of the Continuing Education Center, along with provision of appropriate management staff, can be of benefit to a limited number of Egyptian engineers. Additional time and funds would be necessary to achieve this. Present grant funding is $370,574 and LE 108,568; all funds will be expended by June 30, 1984.

Action alternatives range from letting the present grant terminate as scheduled on June 30, 1984 to acceptance of AAES' proposal of May 12, 1983 for a full 1-year extension, to something in-between to permit an orderly phase-out of the grant as soon as practically possible. The latter option appears to be the most prudent as it would allow the Continuing Education Center a chance to operate as it was originally intended, and provide the external assistance from AAES that is believed necessary to ensure proper utilization of the $80,000 worth of audio/video equipment recently authorized for purchase and yet to be delivered. Consequently, the recommendation is made to provide for an extension of AAES' services for 3 months and the provision of LE funds to ESD for management and operation of the Center for not more than one year. The amount of extra funds that would be required for this is $35,000 and LE 40,000.

This evaluation was conducted May 9-24, 1984. It included a 2-day visit to AAES' headquarters in New York City, and about 2 weeks in Cairo. Attachment No. 1 contains a list of persons contacted and interviewed during the evaluation. In addition, several pertinent articles and publications concerning the engineering situation in Egypt were reviewed in the process.

II. BACKGROUND

A. Project Conception and Justification

The formation of an "Alliance for Engineering Cooperation", between the U.S. and Egyptian engineering communities to improve the indigenous capabilities of the engineering profession in Egypt, was conceived in early 1980. The massive infrastructure development program undertaken by Egypt indicated local state-of-the-art technical deficiencies that might be greatly improved by a comprehensive program of technological exchanges of expertise and experiences between the engineers of the two countries. Moreover, it was evident that technical upgrading of the Egyptian engineers would enable them to participate more substantially in the design, engineering, and construction effort which was largely being accomplished by expatriate forces. Subsequently, this "institution-building" concept was nurtured throughout 1980 and, as its viability became more apparent, received strong backing from both USAID/Cairo and AID/Washington. A Special Consultant was hired by AID to further explore possible cooperative activities between the U.S.-Egyptian engineering communities and to identify specific programs which might be mutually beneficial. This Consultant's discussions with leaders of the American Association of Engineering Societies (AAES) led to a series of meetings in Cairo, in November 1980, with the Egyptian Society of Engineers (ESE). The Cairo meetings generated a great deal of enthusiasm for stronger ties between the two Societies and for the substantial benefits which would accrue to both.

It was agreed that this relationship should be implemented as soon as possible and, subsequently, AAES developed and submitted a request for grant funding of an "Alliance for Engineering Cooperation" to USAID/Cairo on January 20, 1981. While AAES' grant request was under review, USAID/Cairo agreed to separately grant-fund U.S. engineering participation in a "Construction Management Seminar", under the auspices of the Alliance which was already operating informally. The grant to AAES was for $21,756.00. The Seminar was conducted by the American Society of Civil Engineers (a member society of AAES) in Cairo, June 8-11, 1981. This Seminar was attended by some 200 participants (mostly Egyptians) and was judged to be a great success.

AAES and ESE signed a formal protocol agreement forming the Alliance for Engineering Cooperation on June 17, 1981. The

success of the Construction Management Seminar, in turn, generated even more enthusiasm and expectations for the newly ordained Alliance. USAID/Cairo had already given preliminary approval for the 2-year grant to AAES (with modifications) on May 11, 1981. However, the grant was not officially authorized until August 31, 1981 by the Mission Director. The authorized funding was U.S. $318,325 and LE 133,900; the original term of the grant was September 1981 through June 1983.

The grant to AAES mainly provided for the following:

1. The conduct of three (3) Seminars in Egypt;

2. Staff and officer exchange visits between AAES and ESE;

3. Establishment of a Cairo Center for Continuing Engineering Education (managed and operated by ESE), including necessary equipment and furniture.

4. Publications Exchange and Development.

The grant implied a high degree of collaboration between the two Societies in implementing the planned program. Local currency funds were provided for hiring Egyptian staff (Director, part-time Assistant Director, and Secretary) to manage and operate the education center. Since the program could not be definitively set forth within pre-scheduled time-frames, AAES was allowed considerable leeway in implementation. No periodic report submission to track progress was required. Responsibilities for expenditures in dollars and local currency was vested in AAES.

B. THE U.S. AND EGYPTIAN ENGINEERING ORGANIZATIONS

To place this project in proper perspective, an understanding of the role, function, and relationship to the engineering communities in their respective countries, by AAES and, ESE vis-a-vis the Syndicate of Engineers, is in order.

1. American Association of Engineering Societies (AAES)

AAES is a national organization comprised of 40 member engineering organizations representing nearly one million engineers in the United States. As a central coordinating organization, AAES focuses the resources of its member engineering societies on technical issues of national and

international importance. AAES was formed from the Engineers' Joint Council, circa 1979. AAES does not exercise any administrative or managerial control over member organizations but draws on them in executing its assigned functions. These functions mainly involve:

- advancement of the practice of engineering in the public interest.
- providing for regular and orderly communications among its member organizations.
- acting as an advisory and implementing agency for member organizations, as mutually agreed.
- organization and conduct of forums for the consideration of issues of interest.
- identifying of needs and opportunities for service in the engineering community.
- recommending appropriate programs of studies and research.
- undertaking, as mutually agreed to, activities that member organizations acting individually could not accomplish as well.
- fostering interactions between the engineering community and other cultural segments.

AAES maintains permanent councils (with membership mainly from its member organizations) on educational, engineering, public, and international affairs. The latter council contains the US-Egyptian Alliance for Engineering Cooperation.

AAES' current programs entail the Engineering Manpower Commission; the Industry Advisory Committee; the Alliance; the Office for Support of Technological Innovation; the Engineering Faculty Shortage; Publications for the Engineering Profession; and Conferences.

2. Egyptian Society of Engineers (ESE)

ESE is similar to AASE insofar as its role and function is concerned. However, unlike AAES which was formed by agreement of its member societies, ESE is the "mother" of all the

individual societies in Egypt. Established by royal decree in 1920 to promote the engineering and scientific interest, ESE currently has about 2,000 members. These 2,000 members are scattered among 10 disciplinary societies, namely the Egyptian Societies of Civil Engineers, Architectural Engineers; Mechanical Engineers; Electrical/Electronic Engineers; Management Engineers, Irrigation Engineers; Mining Engineers; Chemical Engineers; Planning Engineers; and the Egyptian Society of Consulting Engineers. The Architectural, Civil, Management and Irrigation Societies are the largest, having about 900, 600, 200 and 100 members respectively.

ESE's membership is somewhat selective although any newly graduated engineer can join as an "Associate". Current ESE membership is largely composed of engineering faculty staff, high government officials, and consulting engineers who have attained renown in their profession. On a stature level, ESE is more akin to the National Academy of Engineering in the U.S. ESE's President is appointed by a Presidential Commission.

Except for a short period during this grant, ESE does not have a full-time hire management or administrative staff. Its activities are conducted via the part-time voluntary services of its members. With its mandate to "promote the engineering and scientific interest" in Egypt, ESE has expressed deep interest in upgrading the technical capability of the Egyptian engineering community.

ESE publishes a quarterly "Journal" and proceedings of the Seminars and Conferences it sponsors. In addition, it is the repository or caretaker of all publications, papers, and proceedings of Seminars/Conferences in Egypt. Special assignments are also undertaken on direction of the President, e.g., recommendations on the building of the Aswan Dam, and currently, housing development.

3. THE SYNDICATE OF ENGINEERS

Every engineer working in Egypt, local and foreign is required by law to register with the Syndicate of Engineer and pay annual dues. The Syndicate is basically a "union" and its main function, besides the registry, is administering a pension and benefits program. However, it is also a quasi-technical organization in the sense that it publishes appropriate engineering articles in its monthly Journal.

A breakdown of the numbers of engineers in different disciplines, as registered with the Syndicate is as follows:

Civil	32,300
Architectual	15,000
Mechanical	45,650
Electrical	34,770
Chemical	3,570
Nuclear	320
Mining	4,235
Textile	3,008
Total	138,853

Thus, it can readily be seen that ESE, with its 2,000 membership, represents less than 1.5 percent of the practicing engineers in Egypt.

III. ACCOMPLISHMENTS TO DATE

A. GRANT ACTIVITIES

The activities to be implemented under the original grant and accomplishments/progress to date are as follows:

1. Seminar Series

Three seminars were scheduled to be conducted in Egypt, namely on:

a) Mechanical Equipment and Engineering Techniques Applicable to Land Reclamation Projects in Egypt

b) Codes and Standards

c) Utilization of Systems Approaches in Engineering

The Alliance changed the topics in the latter two seminars, substituting "Town Planning" and "Energy Efficiency". The Energy seminar was later cancelled, primarily because ESE said they could not develop a suitable audience for the seminar. Thus, only two seminars were actually held: (1) the Land Reclamation Seminar, January 17-20, 1983; and (2) the Town Planning Seminar, April 17-19, 1983.

2. Staff and Officer Exchange

The grant lacked specificity on the number of staff that might be involved and the frequency of exchange visits. As it turned out, AAES executive staff were only able to visit Egypt once in March-April 1982 and twice during the time the seminars were held in 1983. ESE officers did not exchange visit under the grant at all, although they requested approval from USAID/Cairo for a delegation of 5 to visit the U.S. in August 1983. This request was turned down by USAID as being excessive in numbers and also because it was deemed to be inappropriate during the review of an extension proposal submitted by AAES May 12, 1983, and need for prior evaluation of the grant. Ultimately, three ESE officers did visit AAES in New York, as well as AID/Washington, in March 1984, primarily to select the video equipment for the Continuing Education Center. This visit was financed by ESE at their own expense - no AID funds were involved.

3. Cairo Center for Continuing Engineering Education

A major part of this grant project is the establishment of a Cairo Center for Continuing Engineering Education (CEC) to be open to all practicing engineers. The CEC is to contain necessary facilities and services staff, equipment, and furnishings to make it a viable convenient place for Egyptian engineers desiring to upgrade their technical capabilities.

a) Facilities and Services

The CEC is to contain a specially designed reference library of current engineering texts; have audio/video capability; and contain appropriate search mechanisms for securing engineering information on desired topics.

b) Staff

The grant specifies that the CEC will be staffed by an Egyptian Director, a part-time Assistant Director, and a Secretary.

c) Equipment and Furnishings

The grant also provided for the purchase (or lease) of the necessary equipment and furnishings to operate the CEC such as: telex, typewriter, telephone, copy machine, video and cassette equipment, tables, chairs, etc.

As of date, the CEC is only ready for very limited operation. The renovation of a large room in the ESE headquarters was completed at a cost of LE 34,000 (this was scaled down from a first-round estimate of LE 110,000). Furnishings are sparse but appear adequate for the near future. A modest amount of technical books and periodicals are in evidence (mostly sent by AAES). However, the request for purchase of the audio/video equipment was only submitted by AAES on April 18, 1984, a month after ESE representatives confirmed purchasing the equipment selected by AAES. Purchase approval was given by AID on May 4, 1984. It is estimated that the equipment will not arrive in Egypt for several months.

Successful management and operation of the Center requires a full-time Director; this was recognized and provided for in the grant. However, ESE had a difficult time in finding a suitable manager (Dr. Mohammed Kamel) for the Center. Dr. Kamel was

finally hired in April 1982. He later resigned, ostensibly over a policy dispute, in the Fall of 1983. The Assistant part-time Director was never hired. As of date, both of these positions are vacant and there are no funds to finance them. One full-time secretary, originally hired about the same time as Dr. Kamel, is still working.

4. Publication Exchange and Development

This item in the grant provides for the acquisition of technical books and publications, and subscriptions to U.S. periodicals. A very small number of publications have also been procured from Europe, e.g., British Standards. Some 33 subscriptions have been arranged by AAES. To date, approximately $13,600 has been expended on books and periodicals. Another $10,000 micro-filmed engineering information is yet to be procured under the final funding tranche, just approved. ESE has published Proceedings on the two seminars held in Cairo.

B. COMMENTARY:

The above-cited record of accomplishments indicates that only moderate success has been achieved during the Alliance's approximate 3-year life. Born in an atmosphere of euphoria and with the worthiest goals, the Alliance practically came to a standstill right after the grant was authorized. The two seminars that were held in 1983 reflect AAES' major inputs, and the slow struggle to refurbish the CEC is ESE's only achievement of measure. To date, there is seemingly little to show for the $360,574 and LE 108,568 that will have been expended by the Grantee over the life of this project.

This evaluator finds many reasons for the difficulties and blame to be shared by all parties to the grant. Some circumstances were unavoidable, others were caused by apparent misunderstandings or indifference. On several aspects, the plan of implementation appeared to be not thoroughly thought out. Most importantly of all, the objectives of a program of this sort just could not be achieved realistically within the short time-frame allotted(even with the one-year extension).

The major reasons and circumstances contributing to the project's failure to meet objectives are:

1. The basic operational structure of ESE which is wholly dependent on the part-time efforts of its members. To some extent, this was recognized in the grant, as a full-time Managing Director

was provided for to run the CEC, but perhaps not enough. Decision-making under this system becomes very elusive and was evidenced in the late requests for local currency grant advances and the hiring of the manager for CEC, ESE's failure to hire this manager until April 1982, greatly inhibited progress.

2. AAES also was organizationally not geared to managing and administering this grant efficiently. At first, the Executive Director of AAES was responsible for managing the grant. The record indicates sporadic contacts with USAID/Cairo and ESE through the latter part of 1981 (but no response from the latter until December 1981) attempting to get things going. AAES subsequently hired a special consultant for grant management but he was unable to visit Cairo until April 1982 (when ESE had finally hired their manager for CEC). The year 1982 was practically a total loss for the Alliance insofar as progress was concerned. The next AAES' visits were during the seminars in January and April 1983. In September 1983, both the Executive Director and grant consultant left AAES and a new grants manager was hired. The new grants manager is competent but has not been able to visit Cairo due to lack of funds. Additionally, during 1982 and 1983, AAES had its own internal "political" problems and is still seeking an Executive Director, as of this writing.

3. AID's own personnel, who had encouraged the formation of the Alliance, and had been the prime movers in securing grant funds, were all transferred to other jobs or departed Egypt during 1982 to mid-1983. The departure of these people appeared to create a definite interest void. ESE, being pretty much left on their own, simply did not have the "push" to do much.

4. The Grantee AAES, and ESE, were totally unfamiliar with AID practices, accounting and disbursement procedures. It took AAES a good while to adjust to these procedures.

5. The length of time it has taken AID to get this evaluation underway must also share some of the blame. Originally programed in June 1983, it was not until date, mid-May 1984, that it finally got underway. AAES submitted a proposal to extend the grant to AID/C on May 12, 1983 but they were advised by letter dated June 6, 1983 that it could not be considered until an evaluation of the present grant was completed. This letter further advised AAES that the existing grant's completion date was being extended to September 30, 1983 and to "minimize expenses" in the interim, except for procurement of equipment

for the CEC. This completion date was later extended to June 30, 1984 to permit expenditure of remaining funds.

6. The problems encountered in transferring funds to ESE and the establishment of a local bank account. ESE did not receive its first funds until mid-June 1982 (after hire of the CEC manager in April 1982) in the amount of L.E. 25,332 (unfortunately, the tranfer occurred via a dollars conversion by AAES, and had to be corrected). It was not until August 1982 that definitive procedures were worked out with AID assistance.

7. The lack of a requirement for periodic progress reports by the Grantee. Only a summary report of accomplishments was submitted by AAES on April 6, 1983, in conjunction with their proposal of 5/12/83 for a 2-year continuance of grant activities.

IV. PROJECT RELATIONSHIPS AND BENEFITS

A. TECHNOLOGY TRANSFER

The scope of work for this evaluation states that, "throughout the original grant proposal and subsequent AAES documents, there is frequent reference to the "mutually beneficial" nature of Egyptian-American engineering cooperation. These same documents essentially indicate a one-way flow of services, resources, and efforts from U.S. engineers to their Egyptian counterparts." This evaluator finds this observation to be largely true but not necessarily bad. Technology transfer in itself connotes a one-way effort from the most capable to those of lesser expertise. If the recipient benefits, then the objective of technology transfer is accomplished. Unfortunately, except for the limited audience reached by the two seminars, and some publications received by ESE from AAES, the recipient, in this case the Egyptian engineering community, has benefitted very little, from the grant's activities thus far. Final judgment must, however, await completion of the Continuing Education Center and its utilization when fully operational (the CEC's benefit to the practicing Egyptian engineer is discussed further below).

B. TRAINING MECHANISMS

1. Seminars

As noted previously, two seminars were conducted by the Alliance in Cairo: one on "Land Reclamation", the other on "Town Planning." Seminars, (lectures by prominent experts), are an effective means of transferring technology. The first Seminar on Land Reclamation was judged to be highly successful, attracting about 200 Egyptian engineers. The second, on Town Planning was moderately less so, as only about 100 Egyptian engineers attended. However, the lecturers only had about eight weeks to plan and implement this seminar and the subject material was more oriented towards U.S. techniques rather than focusing on the propriety and feasibility of the government's satellite new town strategy

about which there are widely diverse opinions in Egypt. On the whole, the seminars were very useful but expensive to conduct. Although exact figures could not be secured, it is estimated that each seminar cost about $25,000 to conduct.

2. Continuing Education Center

A major part of the Alliance's activities is the establishment of the Cairo Center for Continuing Engineering Education. At present, it only contains a modest amount of technical books and publications for its reference library. The Audio/video equipment is currently being procured, along with a selected number of cassette tapes containing instructional material. The acquisition of this equipment will complete the CEC, and all remaining funds will then have been expended.

The establishment of the CEC is a worthy objective under the grant. However, even with the audio/video equipment it will fall significantly short of truly being a Continuing Engineering Education Center. It was reported by ESE that "many" engineers have already used the library but exact figures could not be obtained (it is estimated that perhaps 100-200 visits have been made). It was optimistically stated that the audio/video tapes and access to the U.S. Engineering Index (via telex) will attract "many" more engineers. It should be noted that ESE representatives themselves downgraded the present facilities commenting that some of them had personal libraries just as large.

The technical reference library needs more texts. The periodical publications seem sufficient. The single individual viewing system of video material is inherently restrictive. Big-screen projection should also be available so that a larger audience can view them. However, there are no funds for this equipment in the present budget.

The present telex communication with AAES in New York is vital to coordinating present activities (along with the telephone). The telex tie-in is also supposed to serve as a medium for requesting and rapidly locating specialized technical information from the U.S. Societies. However, with termination of grant funds, it is difficult to envisage how this service (which apparently has not been utilized to date) could continue. ESE will not have funds to service individual engineers' requests unless they are charged. Also, since search service is not free, AAES will be unable to respond adequately, except perhaps on a courtesy basis for a short-time. The long-term aspects of this service are consequently rather dim.

C. Staff and Officer Exchange

The evaluator believes that staff and officer exchange visits are of benefit only to those directly involved. Certainly, the practicing engineer, to whom the project is purportedly principally directed, does not benefit. Exchange visits under the grant are only useful for coordinating grant activities. Many of ESE's executive members already travel to foreign conferences and meetings, with travel and attendance costs being borne by the institution they work for, and sometimes from ESE funds.

D. Mutual Benefits

It is impossible to quantitatively measure the benefits AASE and ESE have gained from this grant, as it was established. Certainly, ASEE members have gained a greater appreciation of the Egyptian engineering community and Egypt's technological problems. On the other hand, ESE, and the Egyptian engineering community have only marginally benefitted thus far. Given more time (and more funds) it is possible that meaningful progress can be achieved by the Egyptians themselves. The interest is there and the basic mechanisms are in place, but it is doubtful whether the necessary funds for successful operation and continuance will be forthcoming from the Egyptian engineering community.

E. Engineer Development in Egypt

It has already been noted that ESE with its 2,000 members represents less than 1.5 percent of the engineers in Egypt. In essence, ESE represents the professional "elite" of the engineering and scientific community, but hardly the interests and aspirations of the practicing engineer, especially those in government. To reach the latter, would be a very difficult task because of the prevailing system which does not offer much incentive to him to develop professionally, as opportunities for jobs and job advancement are limited. Roughly 60 percent of newly graduated engineers join the government, where they are guaranteed employment. The better graduates enter the private sector, but many of these jobs are on a sub-professional (technician) level. Others go overseas to work or continue their studies if they can afford it. To be sure, personal motivation or drive ultimately dictates success, but actual job availability and the monetary, social and cultural aspects, all tend to limit opportunities in Egypt. Given this climate, many good engineers became technically stagnent, and after so many years, have little interest in continuing education and simply pay their dues (to the Syndicate).

Thus, to be successful, any program directed towards upgrading the skill level of the Egyptian engineer must be founded on the development of some kind of incentive system on a national level. This system, in turn, must provide adequate compensation or bonuses for individual achievement attained through continuing education, participation in the professional societies, and work experience. Such an incentive program, developed in collaboration with the ESE, and/or the Syndicate of Engineers, would go a long way to meeting the Government's objective of acquiring the technical self-sufficiency required for development of a strong industrial base.

V. SUMMATION OF VALUE OF ACTIVITIES TO DATE AND FUTURE

It is clear, from the record of accomplishments to date, and the way the Alliance is presently structured, that the fulfillment of grant objectives has only been moderately successful. In particular, outreach activities aimed at the Egyptian engineering community (the practicing engineer) have fallen far short of expectations and there is not much, under the present system, that can be done to significantly improve this by extending the grant for another 2 or 3-year period. At best, the Continuing Education Center can only serve a limited number of engineers. Even so, if only a hundred engineers benefit and transmit their newly acquired knowledge to others, e.g., in the Faculties of Engineering, private consulting firms, and the government, then the Center will at least have some worth and it deserves the chance to achieve this.

Consequently, AAES revised proposal of May 12, 1983 ought not be seriously considered since it is largely an offering of more of the same. However, these are certain residual activities covering the setup of the CEC, e.g. coordinating tie-ins with the Engineering Information Index, NTIS information system, etc., and acquisition of additional microfilm - microfiche material, that it seems prudent to provide for the continuance of AAES' services for this purpose, but only for a very limited time.

In retrospect, it is apparent that the Alliance was created, and grant funds awarded, without full recognition of all the nuances, particulary the prestige elements involved between the ESE and the Syndicate of Egyptian Engineers, and the practical difficulties in outreach to the practicing engineer in Egypt. The best answer to the latter might be regular publication of good technical periodicals, each oriented towards a specific discipline. Coupled with "Workshops", specifically oriented towards technical problems in Egypt, (in lieu of Seminars), and conducted from time-to-time, these activities would produce more positive results at much lower cost. There is also no good reason that the Egyptian Societies, with or without the umbrella of ESE, could do this very well on their own, if they had the funds.

Lastly, it should be mentioned that the grant was initiated and brought to fruition by some very prominent persons and correspondingly prestigious institutions. Their motivations were well-intentioned and expectations were high for the project's success. The consideration of alternatives ought to recognize this prestige, perhaps even "political", factor.

VI. ALTERNATIVES AND RECOMMENDATIONS

The following alternatives present themselves:

1. Let the present grant lapse as scheduled on June 30, 1984.

2. Consider the full 2-year continuation of AAES' services as outlined in their proposal of May 12, 1984, with modifications (as is Budget: $768,820; LE 300,550).

3. Discontinue AAES' services as of June 30, 1984 and provide a direct local currency grant to ESE for the express purpose of operating the Continuing Education Center for not more than one year (Estimated Cost: LE 40,000), if such grant is feasible.

4. Extend the grant for not more than 3 months to provide for the continuance of AAES' services to insure proper resolution of residual matters concerning the CEC, but provide no more local currency to ESE (Estimated Cost: $35,000).

5. A combination of alternatives 3 and 4, i.e., AAES' services for 3 months and a local currency grant to ESE.

Recommendations:

1. It appears prudent to allow the CEC a chance to operate as it was originally intended, and to provide the necessary external assistance to ensure proper utilization of the $80,000 worth of equipment recently authorized for purchase. An orderly short-term phase out of AID support should also mute any criticisms that might arise from the engineering communities in the U.S. and Egypt. Therefore, Alternative No. 5 is recommended.

2. The fact that this grant did not wholly achieve its objectives does not mean that this concept of technical institution-building does not deserve further consideration by AID. The need for professional (and technician) development is still

badly needed in Egypt (and other developing countries). Indeed, national self-sufficiency cannot be attained without it. It is recommended that AID consider supporting the establishment of an incentive system for engineers on a national level, the framework for which has been suggested elsewhere in this report (See Section IV, E.).

ATTACHMENT NO. 1

PERSONS INTERVIEWED RE GRANT ACTIVITIES

American Association of Engineering Societies

Mr. Carl Frey, former Executive Director and Grant Manager
Mr. Daniel Dosamantes, Grant Manager (present)

Egyptian Society of Engineers

Dr. Ahmed Moharram, President
Dr. Mohamed M. El-Hashimy, Secretary - General
Dr. Mohie El Din Selim, Treasurer
Dr. Mostafa M. Soliman, Board Member
Prof. I.A. El Demerdash, Past President
Hammed Kaddah, Board Member
Dr. Ali Kamel, Former Manager, CEC (declined to be interviewed)

Egyptian Syndicate of Engineers

Mr. Ismail Osman, Assistant Secretary General
Three other officers (names unsecured)

Agency for International Development

Mr. Alfred Hotvedt, Acting Chief Engineer, NE/PD/AID/W
Mr. Francis Montanari, Project Engineer, NE/PD/AID/W
Mr. Riad Mounir Imam, Project Officer, USAID/Cairo
Dr. Eng. Ahmed M. Eid, OTR/USAID/Cairo

Other

Mr. Allan C. Cremer, Project Manager, TAMS (Cairo)
Mr. Murry I. Brill, Chief Engineer, TAMS (Cairo)
Dr. Aladin Fateen, Ports Consultant, World Bank
Dr. Ismail Mobarek, Staff Engineer, World Bank
Mr. Medhat M. Sheta, Chief Civil Engineer, NOPWASD

ATTACHMENT NO. 2

FUNDING OBLIGATIONS AND GRANT FINANCING (CHRONOLOGICAL RECORD

1. FUNDING OBLIGATIONS (PIO/T)

6/15/81	-	PIO/T 263-042-3-00134 issued allocating $375,000 and LE 134,400.
10/14/82	-	Amendment No. 1 to PIO/T corrected improper AAES transfer of LE to ESE by conversion of dollars. Funding became $380,574 and LE 108,568.
8/16/83	-	Amendment No. 2 decreased dollar amount to AAES by $10,000 to fund evaluation. Funding became $370,574 and LE 108,568.

2. GRANT

8/31/81	-	Authorized $318,325 and LE 133,900.
10/20/81	-	Amendment No. 1 altered some Standard Provisions.
10/20/81	-	Amendment No. 2 adjusted AAES' overhead rate. Funding became $349,365.00 and LE 133,900.
11/29/82	-	Amendment No. 3 corrected improper conversion of dollars to LE. Funding became $380,574 and LE 108,568.
6/30/83	-	Amendment No. 4 extended grant completion date from June 30, 1983 to September 30, 1983.
8/21/83	-	Amendment No. 5 decreased grant by $10,000 for evaluation. Dollar funding became $370,574.
9/22/83	-	Amendment No. 6 changed grant completion date to June 30, 1984.