PD-ABF-572
PN 81571

ENERGY MANPOWER DEVELOPMENT PROJECT (EMD)

MID-TERM EVALUATION

Contract No. OTR-0000-1-11-0035-00

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March 1992

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PREFACE

The attached evaluation report, concerning the Energy Manpower Development (EMD) Project being funded by USAID/Cairo, was prepared by Development Associates Inc., in conjunction with its mid-term evaluation of USAID/Cairo's $136.75 million Science and Technology for Development (STD) program. It is the fifth in a series of five individual evaluation reports prepared concurrently by Development Associates for the five component projects of the STD program, which include the following:

Project Number	Project Name	LOP Amount ($ mill.)
263-140	S&T for Development	136.75
	Includes Phase I - Start Up Component	3.00
263-140.1	S&T Cooperation	36.00
263-140.2	Schistosomiasis Research	39.65
263-140.3	Energy Conservation and Efficiency	49.50
263-140.4	Energy Manpower Development	8.60

Participants in the evaluation exercises included expatriate as well as Egyptian S&T specialists, as indicated on the cover sheets of the individual reports. Specialists in the design and implementation of USAID projects and programs were also involved. The Chief of Party for the overall evaluation effort was Mr. Donald Dembowski.

LIST OF ACRONYMS

AID	Agency for International Development
CORC	Cairo Oil Refining Company
DCAA	Defense Contract Audit Agency
EDA	Electricity Distribution Authority
EEA	Egyptian Electrical Authority
EGPC	Egyptian General Petroleum Corporation
EMD	Energy Manpower Development
GOE	Government of Egypt
GPC	General Petroleum Company
HAC	Health and Accident Coverage
IHRDC	International Human Resource Development Corporation
IIE	Institute of International Education
ISD	Instructional Systems Development
MDS	Manpower Development System
MPC	Manpower Planning Consultant
RFP	Request for Proposal
RPM	Resident Project Manager
RTC	Resident Training Coordinator
S & T	Science and Technology
SA	System Analyst
TOT	Training of Trainers
USAID	U.S. Agency for International Development

EXECUTIVE SUMMARY

This report covers the mid-term evaluation of the Energy Manpower Development (EMD) Project which is one of the four components of the umbrella Science and Technology for Development (STD) Project. This six-year Project, which started in September 1988, is being implemented by the International Human Resource Development Corporation (IHRDC) of Boston, Massachusetts, under contract to USAID.

The purpose of the evaluation was to assess the progress of the Project in accomplishing its objectives and to determine whether modifications are needed to insure that the Project achieves its objectives.

The EMD Project was designed to improve the technical and management capabilities of the petroleum and electricity sectors. The Project consists of four major components which address specific tasks as follows:

Task 1. Management Support
Task 2. Technical and Management Training in Egypt and in the U.S.
Task 3. Manpower Planning and Development Systems
Task 4. Upgrading Training Facilities

The total estimated cost of the Project to USAID is $8.6 million. One half of this is for Task 2, the training component. The technical assistance portion supports all the other tasks including training, and is approximately $3.3 million. Task 3, the manpower planning and development systems, is only $1.7 million or approximately 20 percent of the total estimated project cost.

The Evaluation Team has concluded that this Project is meeting a serious need in the development of manpower in the petroleum and electricity sectors which is vital to improving the welfare and productivity of the Egyptian people.

The Project is attempting to effect change in current management practices and policy in participating GOE corporations and companies. This is being accomplished, in part, but AID needs to strengthen its efforts in the field of training.

The evaluation of the four task-oriented components of the Project revealed that only one of them can be determined as successful at this time. This is the Task 2 activity which focuses on technical and management training. Interviews were conducted with officials and trainees of the two key implementing agencies, the Egyptian General Petroleum Corporation (EGPC) and the Egyptian Electrical Authority (EEA) along with two pilot companies that are participating in project activities, i.e., the General Petroleum Company (GPC) and the Cairo Oil Refining Company (CORC). All of the officials interviewed had high praise for the training component and are anxious to continue this component as several of them have plans for future training. The trainees who attended courses in Egypt also expressed high praise for the training received.

Over 90 percent of the trainees rated the instructors and the training course as either "excellent" or "good." Approximately 75 percent of those interviewed responded that the training was either "very relevant" or "relevant" to their jobs and that they had applied the knowledge and skills learned to their work. Over 70 percent indicated that training had improved their performance on the job. Many of the trainees expressed interest in taking other advanced courses to build on the previous training.

All indications and evidence confirm that Task 2 was very successful and should be strengthened. The Team feels, however, that there is a need to improve the selection process and to conduct an updated training needs assessment.

The other three task-oriented components were started very late and are experiencing difficulty. First, the Project has not been effectively managed from the Contractor's home office in Boston. According to persons interviewed, little if any effective support has been provided to the Cairo office from Boston. Further, the contractor has not been responsive to USAID direction, has been over 18 months late in the implementation of Tasks 3 and 4, and has only recently begun to take positive steps to address delays. The Manpower Planning and Development System software, which IHRDC spent considerable time promoting and wished to sell to AID, has not worked and is still not ready for testing in the pilot companies. Interviews with GOE officials indicated that they could develop their own systems provided they received some technical assistance.

Task 4, Upgrading Training Facilities, is an important task which is closely allied to the training being provided in Task 2. The Home Office Coordinator from IHRDC recently completed a report entitled "Management Assistance to Training Centers," which contained some very good recommendations. In addition, he has developed two Action Plans. These should provide a basis for future activity to upgrade the training facilities.

The Team's overall conclusions on this Project are that the training component has been the most important, the most successful and should be continued.

Secondly, the Project should be refocused to (1) emphasize strengthening the training component in management and technical training (which assumes even more importance in view of USAID and GOE plans to upgrade their attention to and support for environmental issues and privatization), and (2) improve the capabilities of training facilities as cited in Task 4. The training should also include top-level managers of the EGPC and the EEA, including the appropriate Ministries, in order to promote advocacy for the concepts and goals of the EMD Project. These concepts should be promoted in the Ministries as manpower policy and integrated into management portfolios of the Ministries.

Four major recommendations are:

(1) The Evaluation Team concurs with USAID's decision not to exercise its option to extend IHRDC's contract.

(2) USAID should seek the services of another contractor that is experienced in management and technical training in a host country, and with AID-sponsored training programs in the U.S.

(3) The Task 3 component as it stands should be dropped from the Project, and remaining resources used to provide limited technical assistance to the pilot companies in developing a manpower database coordinated with training needs and related personnel functions.

(4) Future EMD activities should concentrate on implementing Tasks 2 and 4 to improve the management and technical capability of the petroleum and electricity sectors.

THE EVALUATION REPORT OF THE ENERGY MANPOWER DEVELOPMENT PROJECT

I. INTRODUCTION

The initial EMD Project Agreement was signed between USAID and the GOE in September 1988, authorizing $5.0 million for a six-year project. It was amended in July 1990, increasing the authorized amount to $8.6 million.

In May 1989, the EMD Project began with a $960,000 interim STD buy-in to AID/W's contract with the Institute of International Education (IIE). The buy-in called for IIE to assist AID and the Government of Egypt (GOE) with EMD Project design and to initiate Project implementation activities. During this interim period, IIE conducted a number of activities including the design of manpower development master plans for the Egyptian General Petroleum Corporation (EGPC), the Egyptian Electrical Authority (EEA), and the Electricity Distribution Authority (EDA). IIE also conducted a training needs analysis of the three implementing agencies; identified U.S. training course outlines; identified project equipment needs; and designed and initiated a manpower database using data processing equipment and specialized manpower training software which was purchased by AID.

At the conclusion of the interim contract with USAID, a competitive procurement was issued for the EMD Project in which IIE and IHRDC were final bidders. In June 1990, USAID negotiated and signed a contract with IHRDC for a period of two years ending May 15, 1992, with an option for an extension until September 30, 1994, the Project Activity Completion Date (PACD).

II. BACKGROUND AND DESCRIPTION OF THE PROJECT

A. Background

As pointed out in the EMD Project Paper, the energy sector is one of the most important factors in the Egyptian economy; however, progress in the sector is seriously constrained by manpower problems and related issues associated with human resource development. Training programs in the petroleum and electricity industries are generally outdated, and not appropriate to meeting energy companies' management, technical and production needs. This problem is accentuated among mid-level technical and management professionals. The problem is generally recognized by senior and top level executives and ministerial personnel, who have expressed concerns about the lack of adequately trained personnel in both the management and technical areas.

While USAID's overall strategy for assisting the GOE supports the development and improvement of educational and training systems, especially long-term efforts that must be sustained over time, there is an immediate need to address the current problem of improving technical and management capabilities throughout the public and private sectors.

With the current emphasis on the development of new energy infrastructure, such as refineries, natural gas production facilities and power plants, it becomes increasingly important to improve the country's technical and management capability to manage the use of its energy resources efficiently.

Compounding the basic problem of inadequately trained professional personnel is the lack of manpower planning and development systems to address the sector's current and future needs for adequately trained staff. The manpower planning and development process is a critical tool in matching sector or company objectives with labor force requirements and the current or projected pool of trained personnel. If there is any mismatch in this equation, then the effectiveness and efficiency of the energy sector is seriously hampered, resulting in decreased productivity and correspondingly increased costs, both in material and human resources. Egypt can little afford the consequences of any such mismatch given its current economic and social situation.

The Energy Manpower Development Project (EMD) is designed to address these problems through a focused program of technical and management training, along with a concomitant effort to introduce manpower planning and development systems into the energy sector.

B. Description of the Project

The EMD Project consists of an integrated program which includes Technical and Management Training, Training of Trainers, and Improvement of Training Facilities, in addition to Manpower Planning and Development. The EMD is divided into two basic components: (1) Capacity Building and (2) Manpower Planning and Development.

Capacity Building

This component has three project elements which are: (a) focused management and technical training programs, (b) training of trainers, and (c) improvement of training facilities.

(a) Focused training programs.

The EMD Project Paper called for energy-sector professionals to be trained in specialized technical and management disciplines in Egypt and in the U.S. Training was to be practical and related to the specific job responsibilities of the trainees for improved performance. A total of 60 courses were to be offered in sequence or modules that build on prior skills and experience. The training would be oriented toward career development using an approach that progressively upgraded professional skills. Classroom training was to be combined with in-plant workshops to solve on-the-job problems. In the petroleum sector, the emphasis was to be primarily on technical courses. In the electricity sector, the focus would be on utility management. Approximately 1,700 persons were to be trained for a total of 2,000 person months.

(b) Training of trainers.

Approximately 50 instructors were to be trained in instructional methods and technical disciplines. These instructors would work with U.S. instructors in designing curricula and conducting courses. After participating with the U.S. instructors in several course presentations, the Egyptian instructors would take full responsibility for conducting of the courses.

(c) Improving training facilities.

This activity was to focus on improving the capability of selected training centers to conduct training in the petroleum and electricity industries. The Project would provide technical assistance for improving the management and organization of these

facilities. The Project would also provide commodities to the training centers, including training and laboratory equipment, personal computers, software, textbooks and other training aids to upgrade the facilities.

2. Manpower Planning and Development Systems

This component was designed to assist the implementing agencies, through the selected pilot companies, in developing an organizational capability in the training and personnel departments of EGPC and EEA. The enhanced capability of the two companies would enable them to design and develop training and manpower plans, including setting priorities for professional upgrading, and career development.

This component was also designed to introduce manpower planning and development systems at three implementing agencies: the Egyptian General Petroleum Corporation (EGPC); the Egyptian Electrical Authority (EEA); and the Electrical Distribution Authority (EDA). Services were to include assistance in: (1) preparing methods for and conducting annual training needs assessments; (2) refining and updating training plans; (3) designing and installing a manpower development and training database.

Two pilot companies, the General Petroleum Company (GPC) and the Cairo Oil Refining Company (CORC) were selected from EGPC; and the Alexandria Zone company was selected from the EEA to apply and test the manpower development systems on a pilot basis. The EMD Project contractor(IHRDC) was to be responsible for designing the manpower planning and development systems, developing training guidelines, and training company personnel to use the system.

The duration of the Project from the signing of the Project Agreement (9/88) to the PACD (9/94) was to be six years. A two year contract was signed with IHRDC with an option to extend until the 9/94 PACD.

III. PURPOSE OF THE EVALUATION AND METHODOLOGY

A. Purpose

The purpose of the evaluation is to assess the efficacy of the original EMD Project design and its relevance to current Agency and Mission strategic objectives; to evaluate progress in its implementation; and to assess the prospects and potential for achieving project purposes. The overall goal of the STD Project is to "improve the welfare and productivity of the Egyptian people." The specific goal of the EMD Project is to "improve the technical and managerial capability of the petroleum and electricity sectors." These two sectors provide vital energy resources for Egypt and are basic to the country's economic growth and development.

The petroleum sector is represented by the Egyptian General Petroleum Corporation (EGPC); the electricity sector is represented by the Egyptian Electricity Authority (EEA) and the Electricity Distribution Authority (EDA). The EGPC is in the Ministry of Petroleum and Mineral Wealth; the EEA and EDA are in the Ministry of Electricity and Energy (MOEE). The EGPC, EEA and the EDA are the implementing agencies for the EMD Project.

Three pilot companies were selected to test the effectiveness of overall project design and goals. Two pilot companies, the General Petroleum Company (GPC) and the Cairo Oil Refining Company (CORC), are within the EGPC organizational structure. The third pilot, Alexandria Zone, is part of the EEA.

B. Methodology

In order to conduct this evaluation a team of three consultants, including an Egyptian training specialist, participated in a series of activities including document review, interviews, and field visits. The first step was to meet with the USAID Project Officer to discuss the evaluation approach and to review certain documents in the project file to gain an historical perspective of the project, and to ascertain the status of project progress and any issues or problems pertaining to contractor performance. After reviewing appropriate project files, the team discussed with the USAID Project Officer certain issues and findings for verification or clarification.

The second step was to meet with the Contractor's Resident Project Manager (RPM) in Cairo, who is responsible for implementing the contract scope of work in Egypt. During this meeting the team obtained the names of the Egyptian officials responsible for managing the Project in the participating entities (i.e., the EGPC, EEA and the pilot companies). Interviews with these officials were then scheduled and further interviews were arranged in each of the implementing agencies and pilot companies with officials who had received technical and management training in the Project. Also, technicians were interviewed who were working on the introduction of the manpower planning and development systems in the pilot companies. A total of 40 persons were interviewed

including USAID and GOE project managers in addition to 27 former trainees who attended both technical and management training courses in Egypt and the United States. Upon returning to the U.S. a member of the Evaluation Team met with four officers of IHRDC in Boston. A list of persons interviewed is contained in Annex A.

The Scope of Work of the evaluators contained questions regarding the EMD Project that USAID requested the evaluators address. These responses are covered generally throughout the findings and are answered specifically in Annex C.

A first draft report was submitted to USAID for review and comment toward the end of the evaluation. A final draft was submitted just prior to the Team's departure from Egypt. The final report was submitted to USAID within a month after the team left Egypt.

IV. FINDINGS REGARDING THE PROGRESS OF PROJECT IMPLEMENTATION

OVERVIEW

This section discusses the findings obtained through the team's evaluation efforts. The findings are organized by the IHRDC Contract's Scope of Work, which had identified four major tasks to be performed. The Contractor's overall responsibilities were to:

1. Provide management support to EGPC, EEA and EDA for implementing the project.

2. Administer and conduct technical and management training in Egypt and the U.S.

3. Demonstrate the application of manpower development systems in three pilot companies.

4. Upgrade training facilities.

Each of the tasks is discussed below with regard to progress made on implementing the various activities associated with it and in terms of the overall purposes of the EMD Project.

TASK 1: Management Support

The Contractor, IHRDC, appointed a fulltime Resident Project Manager (RPM) to direct all of the technical and administrative activities related to the project in Egypt. In addition, a fulltime resident training coordinator (RTC) was appointed as a deputy to the RPM. The RTC had specific operational and implementation duties, primarily related to the implementation of systems for manpower planning and development, in-country training and promotional activities. This position was abolished by USAID, after approximately one and a half years into the contract (6/90 to 12/91), because of non-compliance to the contract Scope of Work. The duties and responsibilities were assumed by the Project Manager and, from all accounts, the abolishment of the RTC position had no adverse effect on project performance, since all activities associated with the RTC's duties were absorbed into those of the Project Manager.

It is important to point out, however, that the transfer of the RTC duties does not mean that all management tasks are successfully being carried out, since many key activities were delayed and, at the time of this evaluation, seriously behind schedule. For example, two of the four major tasks have only recently been focused on by the Contractor. These are Task 3, Manpower Planning, and Task 4, "Upgrading Training Facilities." Parenthetically, the delay of these tasks has no relationship to the elimination of the RTC position. As a matter of fact, the RPM said that operations in Cairo are going fine without an RTC. The RPM and his Administrative Assistant are implementing the RTC's duties, particularly with regard to training in Task 2.

Several key issues relate to the management support task. It will be useful to discuss these issues separately, both within the overall context of the task itself and of project implementation as a whole. First, the project organization originally was configured as a triangular approach to project management. While the Cairo office originally was established to report to IHRDC/Boston, as of October 15, 1991, it had assumed all direct responsibilities for project implementation in Egypt, where all the project's major activities are taking place. An office was established in Houston (USA) apparently to act as operational liaison to the Cairo office, and to handle all requests for training in either the U.S. or Egypt. The majority of training being conducted is in Egypt with only limited training, primarily the training of trainers, occuring in the U.S. A third office, IHRDC headquarters in Boston (U.S.) was involving this project as a locus of control and as the accounting center for contract expenses. The President of IHRDC acted principally as the corporate officer in charge of the project and as the project contact person for IHRDC. All project management and financial actions are channeled through the Boston office.

The following comments on the functions of these offices are intended to provide a perspective on the issue of project implementation.

1. The Cairo Office

   This office currently consists of the RPM, an administrative assistant and, at the time of the evaluation, two consultants, one working short-term and the other on long-term assignments. This office interacts with USAID on project implementation and is the point of contact for all project activities in Egypt.

2. The Houston Office

   This office, which was recently closed down at the request of USAID for lack of performance, was described by those interviewed as totally unnecessary to the project. Interviewees commented that the Houston office did not contribute effectively to project management and administration. To the contrary, it complicated communications and transmission of documents from Cairo to Boston by acting as a screening or processing point between the two offices. Evidence of Houston's noncontribution to the project came to the attention of the AID program assistant who was conducting a visit to the office to review progress and activities. Her observations and interviews revealed several problems. For example, key staff persons who were responsible for the training portion of the project did not have an adequate understanding of A.I.D.'s Handbook 10, and had difficulty locating a copy when requested by the USAID program assistant.

   Houston is a branch office of IHRDC, and the project was located there and not in Boston. The apparent reason the project was located in Houston is that IHRDC expected most of the training in petroleum technology and management to occur in Houston. However, since all project documents and activities were routed through Boston, and further since U.S. training was only a small part of the project with the

majority occuring in Egypt, this office just added another management layer to the project.

After the USAID program assistant's visit, AID requested IHRDC to close down the Houston office and to have Headquarters in Boston take full responsibility for direct liaison with the Cairo office.

3. The Boston Office

The Boston office is now the contact point for the Cairo office. However, according to Project staff interviews, communications between the two offices are not good and management support being provided to the project from Boston is inadequate. Further evidence of this problem is the complaint by Cairo staff that requests for information are often unanswered, and decisions on project or implementation matters are often not forthcoming. The Cairo staff further iterated that there are generally serious management problems in Boston regarding the implementation of the project.

According to the President of IHRDC, the person listed in the proposal as the RPM was rejected by USAID. Upon USAID's request, IHRDC submitted three more candidates from which the former Director of S&T, USAID/Cairo, selected the present RPM. The nominee selected was interviewed by Boston and, during the interview process, indicated that he did not feel that his background met the specifications outlined in the Request for Proposal (RFP). Nevertheless, Boston hired him and he was sent to Cairo.

The RPM has a PhD in Geology and has worked previously for an oil company in the Middle East. He has no background or experience in training or manpower planning and development systems, two key requirements of the project. Although he has tried to adjust to the position and his job responsibilities, his lack of relevant experience in training, manpower development and management have been questioned by both USAID and some GOE officials. His personal and job relationships with USAID are not an issue as those interviewed expressed personal warmth for him. The RPM stated that he spends much of his time communicating, coordinating and resolving problems between Boston, the GOE, and USAID/Cairo.

USAID's Relationship with the Boston Office

USAID's relationship with the Boston office is characterized by problems similar to those experienced by the Project's field office in Cairo. However, the consequences can more seriously affect the prospective success of the Project.

USAID staff have indicated that IHRDC does not appear to understand the objectives of the Project and are nonresponsive to USAID requirements, requests and overall project implementation. Many of the problems associated with project performance relate directly to the Manpower Planning and Development Systems, which are discussed below in more

detail. The following are highlights of events which have affected the progress of implementation and overall communication between USAID and IHRDC.

Project Delay

The Project experienced unusual and damaging delays from the very beginning of Contractor activity. For example, consultants for Task 3 were supposed to be in Cairo two months after contract award, to begin working on developing a manpower planning system. IHRDC's Boston office did not send anyone until 18 months into the Project and did not respond adequately to the RPM's inquiries or those from AID.

In an interview with IHRDC's President, the Team was told that at the beginning of the Project IHRDC had made a decision that they would concentrate their efforts on the most urgent of the tasks -- training. The President went on to say that at the time of the awarding of the contract to IHRDC the earlier contractor, IIE, was disturbed because they had not won the contract and gave IHRDC only one one-hour meeting which was very tense. He stated that certain work that was to be done by IIE was never done, and that IIE's software was too complicated and unusable in Egypt.

However, no work was begun by IHRDC on Task 3. Thus, over one year had elapsed and no progress had been made on either of the two tasks, Task 3, Manpower Planning and Development, and Task 4, Upgrading Training Facilities. Subsequently, IHRDC did send out to Cairo a system analyst. This person proved to be unqualified in that field having only marginal knowledge of computer software. Further delays ensued. Finally, at the Project's expense, Boston took the step of sending the consultant back to IHRDC to familiarize him with IHRDC software.

Financial Management and Reporting

IHRDC had a very spotty beginning in the submission of vouchers for work claimed and in general reporting on project implementation. This project was the first AID contract for IHRDC and they experienced difficulty in submitting proper financial statements and documentation on costs claimed under the contract. AID requests for clarification were frequently not answered promptly. The contractor had to be reminded repeatedly of the need to answer USAID's inquiries. This problem has since been resolved.

Contractor's History of Non-response to USAID's Direction and Guidance

While official communication between the Contractor and USAID took place throughout the project, communications became pointed and direct with a letter dated September 24, 1991. In this letter, USAID delineated several problems regarding IHRDC's performance and notified the Contractor that a decision was in the process as to whether the present contract was going to be extended. The sum and substance of this letter was that only one task out of the four was proceeding in a satisfactory manner. (This "satisfactory" task was Task 2 - Technical and Management Training in Egypt and the U.S.)

While personnel had been provided to carry out the management activities, there were several problems in providing adequate management support. The letter said in part: ....."IHRDC has not given its staff in Cairo sufficient authority to ensure that other contract tasks are completed successfully. The Cairo IHRDC staff does not have authority to make critical decisions which must be referred to the U.S. causing unnecessary delays. Having three offices in the project and having to route communications through all three complicates even the simplest task. For example,routine inquiries are not answered promptly as a result of the complicated communication system linking Cairo, Boston and Houston."

USAID expressed similar concern about the usefulness of the Houston Office which they perceived "had contributed very little toward the accomplishment of contract objectives...these personnel do not seem to have specific responsibilities that would justify our payment of 100 percent of their effort."

USAID indicated that IHRDC had performed well concerning training in Egypt, but emphasized that additional attention should be devoted to Task 2.6, Linkages with the Private Sector.

The letter went on, "IHRDC's performance on Task 3 has been unsatisfactory. While performance on some aspects of Task 3 are linked to IHRDC's inability to provide operational manpower planning software, many aspects of Task 3 could have been completed without the software, thus making the System Analyst's stay in Egypt more useful to the project."

USAID further stated: "Performance on Task 4.1 is unsatisfactory. IHRDC has not yet started to assist the training centers in improving their planning capability. IHRDC should have started this task early in the first year of the contract." USAID also indicated that delays in procurement were unnecessary and could have been avoided.

The letter went on to comment on overall planning: "Implementation plans are not routinely updated and quickly become out of date. IHRDC actions do not appear to be guided by the plan, rather IHRDC appears to prepare the plan to meet an AID requirement and then quickly forgets about it."

The remainder of the letter addressed several other issues with regard to improving the voucher system used by IHRDC, instructions on future implementation planning, and directions on completing the various required activities for Task 3 and 4. The letter concluded with an admonition to IHRDC that USAID would only consider IHRDC's contract extension provided an agreement was reached on the changes proposed by USAID, and cited in the letter. A final statement made quite clear that USAID was looking for a detailed plan from IHRDC to overcome the problems addressed in the letter, and to get the project back on track.

This statement said: "USAID will not consider the possibility of an extension until an acceptable proposal and implementation plan is submitted."

The September 25 letter was followed by back and forth correspondence between Boston and USAID. The key point here is that IHRDC Boston responded to the subject letter by promising to comply and to provide the materials and resources needed to get the project back on track.

Following is a summary of the subsequent events:

IHRDC responded to USAID's concerns in two letters dated October 15 and October 22 in which a general plan was proposed to overcome the problems stated earlier in the September letter.

The commitments and promises made by IHRDC did not materialize and the pattern of non-response and delays continued, forcing USAID to take the ultimate step of issuing a Cure Notice.

The Cure Notice said that unless IHRDC committed its resources to this project, and the conditions outlined were corrected before November 30, 1991, the government would terminate for default under the terms and conditions of the Termination for Default clause of the contract.

IHRDC responded to the Cure Notice with "distinct shock" in a letter dated November 22, 1991. The President of the firm indicated he thought that the actions taken by IHRDC were sufficient to provide USAID with action plans and a schedule. Actually, neither was the case as all the correspondence and communication revealed that IHRDC did not adequately respond and apparently did not understand what was required even though it was spelled out clearly in USAID's letters over the preceding months.

USAID, in an attempt to get the contract back on track, responded with a letter dated December 3, 1991, in which it advised IHRDC of the difficulties in justifying the contract to their audit staff as well as the Defense Contract Audit Agency (DCAA).

The IHRDC plans and schedules were accepted by USAID with certain caveats relative to the performance of each of the remaining activities. USAID also advised the Contractor that in view of previous communications all activities would be carefully monitored and that any extension of the contract beyond May 15, 1992, would be considered on the basis of IHRDC's performance during the succeeding months.

It is clearly evident that USAID was and is doing its best to get this contract back on track. But, at the time of the evaluation the Contractor's promises were still not kept and the pattern of delays and lack of information on the status of Tasks 3 and 4 continued.

Contractor Project Relationship

All of the ensuing discussion on the events concerning the project delay had an effect on the relationship of the Contractor to the GOE and to the various officials and executives who were associated with the project, as either implementing agencies or pilot companies. For example, many of the key officials interviewed had a very negative opinion of IHRDC and the continual delays of project activities related primarily to Task 3 and, to a lesser extent, to Task 4. GOE counterparts were particularly critical of the lack of qualifications of the consultant who was sent to Egypt to work on the computer software and systems development effort. The general consensus was that the persons who were receiving technical assistance in this project knew more than the consultant. This situation tended to discourage and frustrate Egyptian counterparts and soured their view of Contractor assistance.

Nevertheless, regardless of the delays and ineffective contractor support, the Egyptian counterparts were anxious that the work already started be completed in order to make some use of the hardware provided them under the contract.

The activities of this task affected the management and outcomes of the three other tasks. These efforts are discussed below in more technical detail.

TASK 2: Technical and Management Training - Egypt and U.S.

IHRDC is responsible under this task for administering and conducting technical and management training in Egypt and the U.S. The estimated quantitative training targets consist of approximately 1,540 participants to be trained in Egypt in courses on energy management, oil exploration, oil production and refining and other courses as determined by the needs of the petroleum industry.

For the electricity sector, the training courses are to be focused on utility management, electrical generation, transmission and distribution. The majority of the training is to be in the petroleum sector.

The Cairo office is responsible for the overall management of training in Egypt and for processing the trainees who depart for training in the U.S. According to the USAID monthly progress report dated 12/22/91, the following performance indicators have been achieved.

Performance Indicators	LOP	To Date
Courses taught in Egypt	60	23
Participants trained in Egypt	1,540	500
Participants trained in the U.S.	110	14
Trainers trained in the U.S.	50	26

The training in Egypt has been well received and all parties associated with this task have expressed satisfaction with the results. There are, however, certain issues which deserve mention as they are important in terms of future planning, and the delivery of course materials to improve the technical and management capability of the petroleum and electricity sectors. These issues relate to the utility of training, the design of the courses, and the process of selecting participants for training and upgrading in their respective fields. Each of these follow.

In order to obtain data on the quality and utility of training it was necessary to conduct interviews with persons who administered the training in the GOE as well as those who received the training, "trainees." The Evaluation Team developed interview guides using the Project Paper, the Evaluation Scope of Work and the Contract as references for gathering information and impressions on the training from five basic categories of respondents:

(1) Cairo field staff
(2) GOE Project managers
(3) Training directors at the pilot companies
(4) Trainees (Egypt-based training)
(5) Trainees (U.S.-based training)

Obviously, all project evaluation data relied on the information provided through these interviews since under the circumstances it was impractical to make independent judgements on the course materials which were generally unavailable. It would have been too time consuming to assess the training materials and their relevance to individual needs, except through extended interviews with those persons having direct experience with the training. Each of the respondent categories is presented separately.

1. Cairo Field Staff

The RPM thought the training was good and well received by the various GOE officials and trainees; however, he also expressed the opinion that the training was probably not useful or job related. It should be noted that this comment was not based on any analysis of the training or knowledge of trainees or GOE institutional needs but was a perception based on his own ideas of training. His main concern

was that the training courses did not follow a pattern and were not modular or sequenced. According to the RPM, there was no update on needs or how courses fit in with present or future job requirements.

Evidence from GOE officials and trainees interviewed suggest the opposite. In other words, the training was based on job needs as identified by supervisors, and consistent with the training needs assessment carried out by the Interim Contractor in the design of the project.

2. GOE Project Managers at EGPC and EEA

Interviews were conducted with the project managers of EGPC and EEA as well as the training directors of the pilot companies. In order to systematically obtain project data, an interview guide was developed as a means of organizing information consistently across respondents and their respective institutions.

The following questions were asked of both implementing agencies on project activities. After each question, the responses received from respondents for both agencies are summarized.

(a) *What is the commitment of the agency to this project?*

Both the EGPC and the EEA Project Managers are very high on the project. The EGPC provided a Project Manager and Training Director to the Project on schedule participated in the needs assessment; identified the list of training programs needed; and selected cotrainers to assist in the training. The EEA also cooperated fully in the program and reiterated a strong commitment to the project.

GOE staff associated with the project work hard and seem sincere in improving management and technical training. EEA has developed concrete training plans for the next two years of the project. While the Evaluation Team saw these training plans, they evidently have not been seen by IHRDC/Cairo. Project Managers from both the EGPC and the EEA are enthusiastic about continuing the training.

(b) *What is the impact of project training?*

EGPC spelled out two key outcomes of the project. One, the knowledge and skills of over 500 professionals have been increased in technical and professional disciplines. Two, the number of training courses offered has been increased by 42. A total of 73 courses is now available in the petroleum sector as a result of the EMD Project. EEA indicated that the training has been very effective in both the technical and management areas and that the training has resulted in improved performance.

(c) *What is the sustainability of the project?*

The Project Manager at EEA affirmed that the agency plans on using its own resources to continue project activities since it wants permanent change in the training of professionals. The Project Manager at EGPC said that the agency will act on increasing its training portfolio, from 31 to 48 additional courses in the next two years. In addition, trainers will be trained to carry on the training.

(d) *What policy or program changes could the GOE and AID make to facilitate the accomplishment of goals and objectives?*

EGPC recommended that the project be refocused to concentrate on training and institutional development, including the improvement of the training center.

In summary, the implementing agencies are high on the training component and are expecting it to continue over the next two years of the project. Also, of equal importance, both Project Managers had developed plans for the sustainability of project training after completion of the EMD Project.

3. Training Directors at the Pilot Companies

Training Directors at the pilot companies were also high on the training component, but it should be noted that the principal activity in these companies was to test the Manpower Planning and Development Systems. At the time of the evaluation, the systems were still not operational. This was their key interest and the matter is discussed later in Task 3.

4. Trainees (Training in Egypt)

Information from trainees was obtained by taking an approximate 5 percent sample of the total number trained and interviewing them by means of an interview guide which was designed to elicit responses from trainees on their training experiences, quality of instruction, lessons learned, and the usefulness and applicability of training to their particular job. Other related affects of training were also sought such as the impact on their career, job promotion and whether any transfer of knowledge and skills had occurred as a result of training others in what had been learned. Following is a list of the questions asked, along with a summary of trainee responses.

(1) *What was the quality of the training?*

Trainees were asked to rate the quality of the training course as well as the instructor as being:

Excellent
Good
Fair
Poor

Approximately 66 percent of the trainees rated the instructor "excellent," 25 percent "good" and 9 percent "fair." Many responses indicated a very high regard for the quality of teaching, and the methodology. If these figures are aggregated, then 91 percent of trainees rated the instructors as either excellent or good, while only 9 percent rated them as fair.

Training courses had a sightly lower excellent to good rating with the figures showing that 87 percent rated their course as excellent to good, with 33 percent indicating excellent and 54 percent good. Approximately 9 percent of the trainees thought their course was fair, and 4 percent rated it poor.

(2) *Rate the relevancy of the training to your particular job as being:*

Very Relevant
Relevant
Not Very Relevant
Not Relevant

Approximately three out of four trainees thought their courses were "very relevant" or "relevant" to their job. The remaining 25 percent said the courses were not relevant; however, while the material covered in the training did not specifically apply to their jobs, about half of those in this group thought the training was interesting, and broadened their understanding of the petroleum and electricity industries. In any case, the fact that 25 percent of the trainees thought that the training was not relevant to their job strongly suggests that the process for selecting trainees needs to be improved in order to more closely match course offerings to the needs and requirements of the trainees. The express purpose of project training is to be practical and related to job performance.

(3) *Application of Training to the Job*

Approximately 80 percent of trainees interviewed indicated that they had applied what they had learned to their job. Examples of this application ranged from using better management techniques, motivating others, increased technical knowledge relating to the job, how to deal with subordinates, ways to increase production and efficiency, and improved capability for technical and management problem solving.

(4) *Improved Job Performance*

A major and defining question of the training was whether it had contributed to improved job performance, the "proof of the pudding," so to speak. When trainees were asked if training had improved performance on the job, 75 percent of those interviewed said "yes."

Reasons for improved job performance included application to the job of both the technical and management skills and knowledge that had been acquired in training.

(5) *Transfer of Knowledge and Skills*

One of the ways in which the benefits of training can be maximized is through the transfer of skills learned in training by the trainee to coworkers, subordinates and immediate supervisors. Approximately 63 percent of those trained said that they had the knowledge and skills they had acquired as a result of the training to train others. Thus, a multiplier factor was an effect of the training, which increased the number of persons who had directly or indirectly benefited from the time and investment of the original persons trained. The remaining 27 percent indicated that the main reason for not training others was either a lack of opportunity, or that their job did not lend itself to transfering skills to coworkers.

(6) *Methodology and Content of Training*

All of the training in Egypt was conducted in English and no translation was necessary, as the trainees' English language skills were generally good and sufficient for understanding training courses given in English.

Trainees were also asked to rate course content and delivery according to the degree of difficulty or ease in learning new ideas, concepts, skills and application of course material. For example, trainees were asked to rate training courses as to whether they were:

Too Easy
Easy
Hard
Too Hard

About 54 percent indicated that the course had been "easy," 33 percent said "hard," 9 percent said "too hard" and 4 percent thought it was "too easy." This distribution of degree of difficulty is subject to different interpretations depending on pedagogical dogma; however, the percentages seem to indicate that the match between course content level, needs, and background of the trainees

fairly well evened out, as might be expected with a heterogeneous group of professional managers.

The methodology used by the providers of training consisted of a good mix between lecture (or presentation) and participatory exercises, including some role playing, and periodic testing. The nature of most of these courses did not permit hands on or on the job training. Finally, for some courses the trainees thought that the time allotted was too short and should have been extended by another week.

In summary, the training component of this project was well received by the implementing agencies, pilot companies and the trainees for those courses given in Egypt. Next we discuss the U.S. training.

5. Trainees (Training in the U.S.)

Training in the U.S. did not fare as well as that in Egypt. IHRDC was responsible for administering the U.S. training for the petroleum sector and Stone & Webster for the electricity sector.

Following is an assessment of the status of the U. S. training at the time of this evaluation:

Technical:

While there were technical courses in electricity in the U.S., there were none found by IHRDC in the petroleum sector. Therefore, they designed a four-week course in five technical areas of petroleum and said they would conduct these courses prior to May 1992.

Industrial Training:

IHRDC stated that they had designed this program and that were waiting for nominations of participants from Egypt. They expect to complete this obligation prior to May, 1992.

Academic Training:

While this program was in the original project design, the GOE has since determined that this is not what the petroleum and electricity sectors need.

Study Tour:

Two study tours have been completed. The first one was for senior persons. The second was for more junior persons from EGPC. Their tours included visits to Texaco, Smith International Training Center, Telephone Training

Center, and Fiber Optics. The third tour will be for only one person, the project manager at EGPC.

IHRDC stressed to the Evaluation Team the difficulty of arranging such a program and noted that junior staff trainees did not get much out of it.

Training of Trainers:

One such course has been given. A second one has been canceled by Egypt. IHRDC agreed that this TOT course could have been conducted in Egypt at far less cost and probably would have been better. However, it had been stated in the design of the project that it should be done in the U.S.

Internships:

These have been arranged by IHRDC for 12 persons. They had received all of the nominations and had placed all but two at the time of this evaluation. Of interest, IHRDC stated that with the recession going on in the U.S., internships can be dificult to do because U.S. workers sometimes view them as taking a job away from an American.

Although only a limited number of trainees had been sent to the U.S. for training, there were a number of serious problems experienced according to interviews conducted with returned participants. Trainees complained about the following situations:

(1) While participating in a U.S. Training of Trainers courses, trainees thought that it had been well done, but they felt it could have been more effectively conducted in Egypt. As stated above, IHRDC agrees with this assessment.

(2) Most trainees participating in the technical courses conducted in Schenectady, N.Y., thought that the courses were very good, but some felt they were too theoretical and not designed to meet their needs.

(3) Trainees complained vociferously about IHRDC's handling of logistical arrangements. Apparently, no health insurance was provided (which is a Contractor responsibility) and trainees did not have their Health and Accident Coverage (HAC) cards. One person became ill and had to pay out of pocket because there were no AID HAC arrangements. When the participant asked IHRDC about the insurance, he was told that that it was an AID responsibility. He said he was denied the use of a telephone when he tried to call AID to clarify the insurance issue. IHRDC did nothing to assist the participant in providing appropriate health insurance enrollment in the plan, according to the participant.

(4) Trainees apparently did not receive an adequate orientation upon arriving in the U.S. They expressed regret that the only Americans they met were their trainers.

While only a relatively small number of participants have been trained in the U.S., the experiences of the trainees has been negative and for the most part unsatisfactory. However, this is not to say that they had all negative opinions. Many expressed high regard for the instructors who were rated as very good. In spite of course topics being requested and approved by EGPC, some of the participants felt the training courses were not appropriate to their needs. Indeed, in one case, when participants complained that the course was not relevant, they were told that the training could not be modified or changed as it had already been approved and developed. There was no flexibility to respond to needs for change.

TASK 3: Manpower Planning and Development Systems

On the basis of master plans developed by the interim contractor (IIE), the Technical Services Contractor (IHRDC) was to develop, design and apply a Manpower Development System at the EGPC Cairo Refinery, GPC and EEA's Alexandria Zone.

This system was to include: conducting a training survey to revise existing training plans; monitoring and updating manpower databases; updating criteria for the selection of participants and courses; preparing manpower and training needs analyses; inventorying existing employees' job competencies; developing recruitment plans; design individual career ladders; preparing job descriptions; and designing and maintaining a manpower data base.

To date, the IHRDC Manpower Planning Consultant (MPC) has drafted career development plans for 17 job ladders for GPC and 14 job ladders for the Cairo Refinery. Job ladders entail identifying a career path that each person might wish to follow to achieve proficiency in selected professional areas as a basis for career advancement and promotion in the organizational structure. These job ladders represent the complete analysis of institutional job structures in the pilot companies. Once these ladders are reviewed by specialists at IHRDC/Boston they are to be returned to Cairo to be verified by the managers of the individual pilot companies. Once verification is complete, IHRDC claims that it will prepare, in written form, career plan modules for the pilot companies. The career ladders for the Alexandria Zone have been drafted by Stone & Webster and are yet to be reviewed by IHRDC. The above are the only apparent positive results of this task.

Basically, the objectives of Task 3 have not been achieved resulting in a negative effect on the project and, according to some sources interviewed, probably on the whole concept of manpower planning as viewed by the implementing agencies and pilot companies. This has been caused primarily by the Technical Services Contractor, IHRDC, who (1) started Task 3 almost two years too late; (2) then assigned unqualified personnel to the project; (3) spent an inordinate amount of time in trying to sell their software; and (4) provided a seemingly unworkable software product.

Late Start

In the first months of their contract, IHRDC was to concentrate their efforts on the design and application of a Manpower Development System at the EGPC Cairo Oil Refining Company (CORC) and the General Petroleum Company (GPC). According to CORC managers, the first meeting on record that related to the Manpower Development System was a meeting at CORC in July 1990 where the RPM of IHRDC made a presentation that included the forthcoming Manpower Development System (MDS). The second recorded MDS meeting was not until over a year later, August 1991. This meeting was attended by the RPM of IHRDC, the Systems Analyst (SA), and officials of CORC. Since that meeting there has been no action and no progress. The above statement of meetings conflicts with the RPM's recollections in that he stated he had had another meeting with CORC in December 1990.

According to the RPM, this late start was not necessary as the manpower planning consultant was available at the start of the project. The RPM said he did not know why IHRDC chose to wait until near the end of the first two years to start this task and to call on the available consultants. In fact, he said IHRDC/Boston did not respond to his repeated requests for clarification. It should be noted that USAID and/or the GOE could have insisted that IHRDC start the task earlier.

Upon arrival of the equipment purchased under the project for the two pilot companies in Cairo and Alexandria, IHRDC was unable to successfully install their specialized software because it was unworkable.

Later, in September 1991, the Cairo Oil Refining Company (CORC) finally received a computer, printer and the above-mentioned IHRDC specialized software. However, while the computer screen printed in Arabic, the manual was in English only. There were many differences between the manual and the version of the software that had been adapted for the Arabic DOS, and the package was of no value to CORC.

At this point, USAID in a letter of September 25, 1991, showed their concern over the lateness of project progress and requested that IHRDC prepare a schedule to solve this and other problems (i.e., make the software operational and provide detailed documentation and an appropriate manual). In response to this letter, IHRDC stated that it is not marketing Arabic software, but is marketing software that is fully translatable into any language. Further, IHRDC stated that the delay in receiving the software was due to a "bug" in the system. (USAID says that the delay was in the delivery -- the bug had appeared only last August).

Unqualified IHRDC Personnel

In October 1991 a third meeting between IHRDC and CORC occurred. IHRDC provided software that CORC was to use to update its data. As a follow-up, the IHRDC System Analyst (SA) was to train CORC staff in this input. However, CORC officials stated that the Systems Analyst was not knowledgeable about computers, software or manpower planning.

The Project Manager for the Electricity Sector agreed with this assessment of the consultant by stating that "the consultant was advertised as having greater skills than are apparent." But, according to the RPM, who often inquired of these officials about the SA's work, he was told there is was problem with the SA, and officials were quite positive on the SA's work.

Although USAID had approved the selection of the SA, it questioned his expertise, stating that he arrived in Cairo 10 months ago (April 1992) and the results to date were below expectations. Furthermore, USAID had authorized and paid, at IHRDC's request, a three week trip to Boston and Washington for the SA to familiarize himself with the software. USAID further stated, "given his performance, we question IHRDC's ability to hire the right personnel for the appropriate tasks."

In explaining the reasons for delay and non-action, IHRDC stated, "this problem was further exacerbated by the pilot companies inappropriate choice of counterpart personnel." USAID said that this was not true.

USAID felt that "because of this lack of expertise in manpower planning, IHRDC should have provided several qualified manpower planning consultants and training courses in both the Electricity and Petroleum Sectors to perform this important part of the project." USAID also had relied on IHRDC's experience to provide qualified individuals to perform the tasks required in the contract.

While the Systems Analyst was not qualified for the task, he could not lean on the RPM for assistance because in IHRDC's own statement of October 15, "the RPM does not have professional experience or knowhow in the field--of manpower planning." Furthermore, in a discussion with the RPM, the evaluation team learned that he believed that the whole approach of IHRDC was to "sell software"; that Task 3 was "ill-conceived"; and that the whole concept of Manpower Planning is questionable ("what other company in the USA has it?"; "does the US Government use it," he asked, "Amoco and Belco do not use it."

When asked what policy or program changes could be made to facilitate accomplishment of the project goals and purpose, the Project Manager of the Electricity Sector stated that he was not satisfied with IHRDC, but that Stone & Webster was doing a good job.

As a result of the late start and the provision of unqualified staff, IHRDC has made very limited progress in:

(1) preparing manpower and training needs analysis;
(2) assessing employees' job competencies;
(3) developing recruitment and succession plans;
(4) preparing comprehensive sector training plans; and
(5) developing tools to monitor the effects of training on job performance.

These tasks were all called for in the contract between USAID and IHRDC.

Selling Software

According to Team interviews, IHRDC did indeed seem to be preoccupied with selling their own software rather than creating a Manpower System for the pilot companies. It was felt by the pilot companies that it would have been far easier, more practical and certainly less expensive to use a database that is widely used in Egypt and one which could easily have been translated (if not already) into the Arabic language.

In interviews with IHRDC in Boston, it was learned that the reason the team had actively "pushed" their software was that they already had a "Career Plan" software, and felt that it could easily have been adapted to the Manpower Planning task for the EMD Project. Nevertheless, it did not work.

According to CORC, software needs for the pilot companies are:

1. Data personnel

    a. Input of 100 fields
    b. Output of 20 fields

2. Organization Scheme

    a. Number of Departments
    b. Every department = 15 jobs
    c. Every job = 2 to 3 items

3. Training Courses

    a. Basic Course and Specific Course
    b. General Courses

In a discussion with Ahmed Abdel Moneim, copresident of Management Development Systems, a Cairo computer services company, it was learned that existing dBASE IV software could very well have satisfied the above needs, it is already in the Arabic language and provides a manual that is also in Arabic.

Unworkable Software Product

In spite of warnings by USAID, IHRDC seemed to continue to be preoccupied with selling its software, but is still unable to install the software successfully.

The software continues to be plagued with seemingly unsolvable problems. These problems, as seen by the CORC, are as follows:

1. Inability to print in Arabic.
2. Until now, no output report.
3. Inability to output statistical information.
4. Inability to search for data by entering an employee ID number.
5. Insufficient memory to accommodate the software.
6. Software cannot check illogical data.
7. Difficulty in duplicating data.

In their letter of November 8th to USAID, IHRDC stated that they "understand USAID's wishes of full assurance of the pilot companies that the software is operational and in compliance with their requirements before approving its purchase." But, IHRDC points out that they "understand" that this is a company-by-company decision and not an all-or-nothing decision. They further state that the pilot companies' approvals will be based upon the installation and running of the software and not the addition of all career development work to be accomplished in the next 7 months. They go on to say that they will correct any bugs in the software at their cost, but the project will bear any costs for substantive additions requested by the pilot companies; and that IHRDC reserves the right to retrieve any software delivered to a pilot company where approval is being unreasonably delayed.

This means that IHRDC will only correct the bugs in the existing software, but will require additional money for adding anything beyond what IHRDC already has in the system, which the recipients claim is unusable.

TASK 4: Upgrading Training Facilities

Task 4.1: Management Assistance to the Training Centers

The Contractor has been charged with assisting the Energy Training Centers in improving their planning capability and organizational structure so that these centers can continue to offer courses on a regular basis beyond the life of the project. The Contractor is also expected to design and implement an action plan that will permit these centers to become self sustaining.

Late in the project (January 26 - February 4, 1992) the IHRDC's Home Office Coordinator conducted research at the Misr Petroleum Company's El Manor Training Center, and at the Egyptian Electricity Authority's (EEA) Cairo North Training Center. He also visited EEA's Cairo South Training Institution so that he could compare the capabilities of that institution with those of the other two training centers.

His conclusions are that both centers are using ineffective training methodology. Neither center conducts a needs assessment nor a followup evaluation. He found that Cairo North has very poor physical facilities and that both centers have class sizes that are too large and that outside instructors are underpaid and are using poor training methodology.

His recommendations include: reorganizing the centers so that training is more effective and so that course contents are based on the assessed needs of these sectors; embarking upon an Instructional Systems Development (ISD) program; renovating existing physical facilities; and initiating an extensive Training of Trainers (TOT) program.

The contract between USAID and IHRDC calls for an action plan to enable these centers to become self-sustaining, by generating funds to meet recurrent costs by offering training programs on a fee-for-service basis. The consultant found that there is no interest by the training centers in marketing training outside of their sectors even though the centers might realize financial benefits from avoiding such a service. In fact, the IHRDC President said that at the onset of the project, the former USAID S&T project manager told him "this is impractical -- don't bother trying to do this." In view of this he does not recommend that either of the two centers get into the business of selling training to other organizations, especially outside of Egypt.

The final conclusion states "with proper reorganizing and the addition of professional staff, it is possible for the centers to develop into effective training centers."

Task 4.2: Procurement of Training Aids

The accounting system for IHRDC is basically operated through the Boston Office. Cairo office operating expenses are paid locally with an advance from Boston and are vouchered back through Boston. Procurement is done locally.

Accounting

Most of Cairo's operating expenses are for office expenses, vehicle operation and maintenance, housing, insurance, etc. These are recurring types of costs paid with monthly advances from the Boston Office and supported by monthly vouchers being channelled back through the Boston Office. The original documentation supporting these expenditures is located in Boston. In accordance with OMB Circular A-133 these expenditures will be audited by a cognizant audit agency. If the local office has an unusual cash requirement -- for example, to provide advances for participants who will not be passing through Boston -- it is handled on an ad hoc basis with the local office merely acting as the advance mechanism; vouchers for these costs are also handled by the Boston Office. These accounting procedures are meeting the requirements of the USAID.

Procurement

The contract between USAID and IHRDC stipulates that the Contractor will procure from the U.S. and locally training aids and commodities valued at

$450,000 for the petroleum sector and $250,000 for the electricity sector. In addition, the contractor is to purchase a field vehicle for official transportation in Egypt. This amount is excluded from the amount cited above for the petroleum and electricity sectors and is to be separately budgeted.

U.S. Based Procurement

The RPM has visited EEA, EGPC and all of the pilot companies to survey the commodity needs of the electricity and petroleum sectors. These needs consisted of training aids, language labs, computers, and software. The following organizations will (or already have) received this equipment:

Petroleum Sector

El Manor
Suez Oil
Alexandria Oil

Electrical Sector

Cairo North
Cairo South
Alexandria Zone
Egyptian Distribution Authority

Stone and Webster will attempt to complete the procurement of training aids by May 15, 1992. However, they are experiencing difficulties in obtaining language laboratories, and video equipment manufactured in the USA, due to the 220V, 50 Hz requirement, and are asking USAID for authorization to procure this equipment from non-US manufacturers.

Local Procurement

Local commodity procurement for this project has totaled about $197,000 to date and has consisted mostly of copiers (4 each), computers (4 each) and laser printers (5 each). These items totaled about $184,000 and were all purchased locally, brand specific, based upon the availability of service and the urgency to get the project started.

All of the above equipment is U.S. company brand name equipment (Xerox or IBM) but were not necessarily produced in the U.S.

There is a good probability that the equipment could have been purchased in the U.S. at less cost. However, each of the purchases was specifically approved by either the USAID Cairo Contracting Officer or by the Project Officer.

V. STRATEGIC CONSIDERATIONS: FINDINGS REGARDING THE PROJECT'S GOALS AND OBJECTIVES

While this project addresses the Mission's overall strategy of the Science and Technology for Development (STD) Project, which is to improve the welfare and productivity of the Egyptian people, the specific purpose and goals of the Energy Manpower Development (EMD) Project must be viewed in a larger context. This context embraces related issues which form a connection between antecedent conditions and current activities that affect productivity and the need for the project.

The project is primarily addressing the results of inadequate training and education from secondary schooling through institutions of higher education. Moreover, the project is attempting to effect change in the current management policy and practices of the petroleum and electricity industries. If graduates of universities, in particular, are not prepared to be assimilated into the job structure without the need for basic technical and professional training, which should have been provided through the educational system, then this project assumes a critical role in Egypt's development process.

The current management and policy of the petroleum and electricity sectors are not entirely focused on and prepared to develop and implement a structural change in the process of upgrading employees to be more effective and productive through technical and management training. Thus, this project is meeting a serious need in terms of assisting the implementing agencies and pilot companies to provide needed training, and to introduce a systematic approach to the training process and related issues of personnel management. Also, because of the situation which continues to cause the problem of inadequately trained manpower, the project should be strengthened to meet needs for technical and management training in the future.

Finally, the expected transition of vital industries from the public to the private sector is even more critical in terms of management and technical training, when the many support features of the public sector will vanish and private companies or corporations must adapt quickly to a competitive and demanding marketplace. Good management and technical skills will be essential for their survival. This same strategic consideration holds equally true for the environmental problems facing Egypt. This project can provide a mechanism for environmental advocacy in the energy sectors (and others depending on mission projects) as well as the application of technology and management practices to support environmental protection through training and manpower development. Heightened awareness, education and training are the cornerstones on which much of the success in these areas lay when accompanied by GOE commitment and supportive policy decisions.

VI. CONCLUSIONS AND RECOMMENDATIONS

The EMDP had four basic components of which only one can be termed successful at the time of the evaluation. That component is Task 2, Technical and Management Training in Egypt and in the U.S. On the basis of interviews with GOE officials and persons who were trained in the project, the results of Task 2 were positive and a need for continued training was expressed by all parties concerned. Anecdotally, the Project Manager of EEA said that there was a big need for the project in all of Egypt. Clearly, GOE officials and trainees were enthusiastic concerning the training portion of the project. Of the remaining three components, Task 1 is not really a component but a management function of the contractor, IHRDC. The two other key project components, in addition to Task 2, are Task 3. Manpower Planning and Development Systems and Task 4. Upgrading Training Facilities.

Each of the tasks will be discussed separately as to conclusions drawn and recommendations devised. Where appropriate, overall recommendations on the project as a whole will be provided in the context of strategic considerations as discussed in Section V. However, before proceeding it will be useful to point out that the one major factor which in one sense overshadows the entire project is the inadequate management of the contract by IHRDC.

Two of the tasks were difficult to evaluate simply because the contractor was late taking any action. Ineffective management practices seeped into every aspect of the project and created considerable difficulties for AID, the implementing agencies and the pilot companies.

TASK 1: Management Support

There were frequent failures by IHRDC to provide management support to the project which resulted in long delays in starting and implementing activities, created bad impressions of the Contractor and certain aspects of the project by host country officials, and placed additional burdens on USAID management in responding to issues and problems in order to keep the project on track or to get it back on track.

In short, the manner in which the project is managed by IHRDC in Boston was a factor affecting the Contractor's delays in fulfilling project responsibilities. This carried over to IHRDC's relationship with USAID staff, in which it was reported the Contractor was non-responsive to USAID direction.

Interviews with USAID staff also revealed that they had arrived at a decision not to extend the contract with IHRDC and to procure the services of another contractor who could administer and implement the project tasks more effectively.

The Team's overall conclusion is that IHRDC is not effectively managing this EMD project and after nearly two years is only beginning to take real steps in Task 3 and Task 4 to improve performance.

RECOMMENDATION:

1. The Evaluation Team concurs with AID's decision not to exercise the option to extend IHRDC's contract and to seek another contractor to carry out the remaining activities of the second phase of the project. This second phase ought to focus on strengthening the training component and upgrading the training facilities.

TASK 2: Technical and Management Training

The training provided under the EMD Project is important and contributes to improving the management and technical skills in the energy sector as a requisite for improving productivity. This component is clearly the most crucial and successful aspect of the project. However, the training selection process seems based more on subjective impressions of supervisors rather than objective criteria for improving individual skills and competencies. Top managers and executives need to be included in the training so policy and programs can be set at the top levels of the organizations. Top managers need to be committed to and understand the importance of integrating the training function as a major management function.

RECOMMENDATIONS:

1. Training should be continued in phase two of the Project and steps taken to strengthen the training component according to defined needs.

2. Senior level training should be provided to top managers on the importance of developing systems for identifying professional and company needs in both the technical and management fields, and then meeting those needs through specific training programs.

3. Steps should be taken to improve the selection of trainees to attend training courses. Presently, there appears to be no systematic approach to the selection process.

4. Periodic testing and evaluation of the training activity conducted at target companies and organizations should be built into the training component. Means should be explored on developing in-house capability to evaluate programs, such as strengthening personnel departments to coordinate with the training directors.

5. A training needs assessment should be carried out for the next two years of the project, based on the first two years of training experience and outcomes or results. There appears to be a need for more coordination between training and mid-to-top levels of management.

6. The executive management training desired by the Minister of Electricity sector is a good idea and should be pursued as soon as possible. It is also an excellent opportunity to involve top ministerial management in terms of creating advocacy for the EMD in management and technical training.

The Minister of Electricity and Energy has been interested in senior level, executive training for some time and in a telephone conversation with the Mission Director expressed an interest in a management training program like the AID-assisted program developed for the Management Development Center for Industry (MDCI) at Agouza.

The Minister informally requested (by phone) AID's assistance for an MDCI-type Management Training Program. The Mission Director followed up on the telephone call in a letter dated January 31, 1991, in which he informed the Minister that the proposed management training program could be incorporated into the EMD Project and offered to work with the MOEE to develop a more complete proposal for AID's consideration. The Minister responded in a letter dated February 4, 1991, that he accepted the suggestion to channel AID assistance to meet management training needs through the existing Project. He further stated that a ministerial decree, forming a committee headed by the First Undersecretary of State, had been issued and all arrangements to implement the training should be through that committee.

Subsequently, in November of 1991 a report was prepared by IHRDC staff and consultants on an Executive Management Development Program which laid out a strategy and plan for the Executive Management Training (EMT) Program.

The MOEE has been anxious to implement the training and AID is currently working on arrangements to obtain the appropriate training provider to meet the urgent priority requests of the Minister.

7. AID should ensure that the next replacement of the RPM has solid credentials in training.

TASK 3: Manpower Planning and Development Systems

This Task has experienced extensive delays and serious problems. Moreover, as a key component in the overall objectives of the EMD Project, there is doubt that the concept of manpower planning systems, as conceived in Task 3, can be practically adopted by Egyptian counterparts. This is owing to the lack of a system to meet the current management needs of the implementing agencies and pilot companies. However, there is a need to establish a manpower planning database and system for relating personnel needs to job training. This requires some technical assistance in setting up a system to track and maintain employee profiles and performance and to establish a training component in the target agencies and companies.

RECOMMENDATIONS:

1. This component should be dropped from the Project and emphasis should be given to Task 2 and Task 4.

2. Technical assistance should be provided to the pilot companies to complete the work they have begun on establishing a manpower database and the inclusion of career ladders (some of which have already been developed but not reviewed and approved by the pilot companies).

3. AID should adapt the existing dBASE IV or equivalent systems in the pilot companies to satisfy their manpower information needs, such as (a) personnel data, (b) organizational breakdown, and (c) compilation of training courses.

TASK 4: Upgrading Training Facilities

This Task should be continued in order to institutionalize training capability in the petroleum and electricity sectors. The procurement of training aids is an important feature of this Task, as effective training can be enhanced by creating a climate conducive to learning and supportive of the methodological approaches.

RECOMMENDATIONS:

1. A critical review of the IHRDC consultant report, titled "Management Assistance to Training Centers," should be conducted in the next phase of the project by the institution implementing the project. Many of the recommendations in this report are very good and need to be addressed in a plan to upgrade the training facilities.

   The Action Plans that followed shortly after the Report should be adopted or adapted to fit the needs of the training centers.

2. AID should review the status of procurement related to upgrading the training facilities to ensure that appropriate training aids and materials are available and meet the training needs of the facilities.

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ANNEXES

ANNEX A: LIST OF PERSONS INTERVIEWED

ANNEX B: BIBLIOGRAPHY OF DOCUMENTS REVIEWED

ANNEX C: PROJECT EVALUATION - QUESTIONS & ANSWERS

ANNEX A

LIST OF PERSONS INTERVIEWED

ENERGY MANPOWER DEVELOPMENT

PERSONS INTERVIEWED	TITLE/POSITION	OFFICE
Abdalla, Amin Mohamed	Participant to Houston	EGPC
Abdallah, Ahmed	Chemist	EGPC
Badawi, Ibrahim Ahmed	Deputy Chairman	EEA
Barakat, Robert	Project Manager	IHRDC/Boston
Clay, W. Gordon	Manpower Planning Consultant	IHRDC
Conners, John	Training Consultant	IHRDC
Donohoe, David	President	IHRDC/Boston
El Arabi, El Sayed	Sector Manager	EGPC
El Baradie, Bassiouni	Project Manager	EEA, EMD
El Baramawy	Participant to Houston	EGPC
El Dali, Mohamed Ahmed	Sector Head	EGPC
El Hady, Ahmed Wafik	Sector Head	EGPC
El Hameed, Mohamed Galal	Sector Head	EGPC
El Kawy, Mohamed	Engineer	EGPC
El Latif, Alya Abd	Economist	EGPC
El Sayed, Hani Ahmed	Participant to Houston	ECPC
El Sayed, Salah	Project Manager	EDA, EMD
Eldali, Mohamed	Sector Manager	EGPC
Elwy, Maysa Mohamed	Participant to Houston	EGPC
Ghoneim, Mohamed	Sector Head	GUPCO
Hamada, Mohamed Moh	Trainer	GUPCO
Hanafy, Said	Project Officer	CORC
Hanafy, Samia	Sector Head	EGPC
Ibraheim, Gamal	Training Officer	CORC
Ibrahim, Hassan Mahmoud	Sector Head	EGPC
Ibrahim, Hedia	Department Head	EGPC
Ismail, Mohamed	Engineer	ECPC
Knapp, William	Resident Project Manager	IHRDC
Marchiori, James	Mgt. Consulting Services	IHRDC/Boston
Madland, Marc	S &T Officer	USAID
Omar, Magdi Moustafa	Sector Head	EGPC
Pizarro, Leonel T.	Contracting Officer	USAID
Rhoda, Richard	Office Director	USAID
Said, Abdel	Sector Head	EGPC
Shafei, Amira Hanafi	Participant to Houston	EGPC
Shaheen, S. El Sayed	Sector Head	EGPC

PERSONS INTERVIEWED	TITLE/POSITION	OFFICE
Shaker, Ahmed	Sector Head	EGPC
Wahby, Salwa	Program Assistant	USAID
Zaghloul, Wafik	Project Manager	EGPC
Zaharan, Ms.	Systems Analyst	CORC

ANNEX B

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3. Annex E. Energy Training Centers in Egypt.(from Project Paper)

4. Annex D. List of Training Opportunities in the U.S. (from Project Paper)

5. HRDC/S&T Annual Report for FY90 and FY91. Nov. 1991

6. The World Bank Report No. P-5560-EGT

7. Report on USAID Energy Manpower Development Project, Robert A. Barakat, PhD. February, 1992.

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9. Executive Management Development Program; Final Report. Nov. 1991

10. USAID Memorandum; Draft Mission Strategy Statement. Nov. 18, 1991

11. Comparison of Human Resource Development Software for Use on the EMD Project in Egypt; A Report for RMI/USAID. May, 1991

12. Manpower Planning & Career Development: A Comprehensive Approach for the EMD Project Pilot Companies; A Planning Document, Submitted to USAID/EMD Project Managers. May, 1991

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ANNEX C

PROJECT EVALUATION - QUESTIONS AND ANSWERS

1. EMD Project Process

a. Are project administrative, commodity, and financial control procedures effective and efficient? Do they meet all GOE and AID requirements? What improvements can be recommended?

Generally, they are meeting USAID requirements at the present time. However, previously there were problems with the contractor's financial reporting procedures and systems, but these have been corrected to USAID satisfaction. No recommendations can be made at this time.

b. Is senior management of the three GOE agencies committed to the project? Are the agencies allocating sufficient staff resources to ensure the success of the project?

Interviews revealed that the three GOE agencies are very committed to this project and look forward to its continuance. They have assigned project managers to oversee the contract activities and are serious about improving their management and technical capability.

c. To what extent is the achievement of project objectives being facilitated by the existing project organizational and administrative procedures, including participation of other organizations?

Aside from the lack of adequate organizational and administrative procedures at the Contractor's home office in Boston, there are no problems affecting achievement of project objectives.

d. What steps should be taken to improve the overall functioning of the project?

Aside from strengthening Tasks 2 and 4 and refocusing Task 3, there are no necessary steps recommended.

2. Training Courses in Egypt

a. Do the courses being presented meet the most critical training needs of the GOE agencies? What steps should be taken to ensure that the courses optimally address training needs? What new courses should be offered?

Trainees rated these courses as very relevant in use on their job. However, whether these courses were the most critical training needs of the GOE agencies cannot be known without a review of the training needs survey which was supposed to have been done by the contracter -- but was never done.

b. What is the impact of the training? Are course participants learning skills that will improve the effectiveness and efficiency of their agencies?

The overall impact of the training has been effective according to interviews conducted with trainees. Over 90 percent of those interviewed indicated that skills acquired during training improved the effectiveness and efficiency of their job performance.

c. Has the project selected the appropriate Egyptians to train as trainers? Are the trainers learning the appropriate skills in the training of trainers program? Will the Egyptian trainers being trained by the project be able to teach the courses on their own?

For the most part, appropriate Egyptians are bring selected for training; however, the selection process can be improved as approxinately 25% of those persons trained found the training interesting and useful but not very relevant to their job. Trainers are generally learning appropriate skills. Trainers have taught courses on their own and will be able to teach courses on their own in the present on-the-job training program.

d. Are the training programs sustainable? Will the agencies continue to provide needed training after completion of the EMD Project?

Interviews with senior GOE officials in the EGPC and the EEA indicated that the training programs are sustainable and that the GOE agencies are taking steps to inculcate training within the GOE agencies after completion of the EMDP.

e. ***What are the major advantages and disadvantages of the training programs? What can be done to improve the program.***

The major advantages of the training programs are that they are imparting needed technical and management skills. The disadvantages of the training programs are that all programs are given in English with no Arabic translation offered. This could pose a burden on those trainees who are not proficient in English to take full advantage of the course materials and presentations. Training materials should be translated into Arabic.

3. Training in the U.S.

a. ***Are the most appropriate candidates being selected for U.S. training? What can be done to improve the selection process?***

Generally, the most appropriate candidates are being selected for training. However, there are a number of cases where the candidate was selected because of English language proficiency rather than being selected as a potential trainer or technician. Candidates should be selected on the basis of potential positions as trainers and should possess the necessary English and academic skills to successfully perform in the Training of Trainers Program. For technical training, either candidates should possess the necessary English language proficiency, or the course material should be given in Arabic; and if this is not feasible, then the training should have Arabic translators. On the other hand, many of the Training of Trainers courses could conceivably be given in Egypt at a fraction of the costs to conduct the training in the U.S.

b. ***Do the U.S. training programs meet the real needs of the EMD project? What can be done to enhance the contribution of the U.S. training to meeting EMD objectives?***

Generally speaking the training is meeting the needs of the GOE. However, there is a need to further identify with more precision the exact training requirements of the job positions in the pilot companies and the implementing agencies in order to match these with the real needs of the candidates.

c. ***What is the impact of the training? How will the GOE agencies benefit from the training? Will the participants be able to spread what they learned in the U.S. to their agency colleagues?***

Impact of the training has been positive. GOE will benefit from the training by increasing the tecnical and management skills of the GOE employees. A number of trainees have disseminated the knowledge and skills learned in training to their colleagues.

d. What are the major difficulties or obstacles to the success of the U.S. training? How can these be reduced or eliminated?

From all accounts by the trainees the biggest obstacle to the success of the training is the poor management of the programs by the IHRDC contractor in Boston. When training programs were handled or administered by the Boston office, there were numerous problems and complaints by the trainees. Improved management or obtaining other providers and administrators of the U.S. based training would reduce or eliminate many of the problems identified by the trainees. These problems included exclusion of medical coverage through the HAC program, providing no counseling or support service and not providing for Experience America activities.

4. Electricity Executive Management Training (EMT) Program

a. Does the EMT contribute to the objectives of EMD project?

The EMT program is an excellent idea but the course has not been developed yet. The Minister of MOEE is enthusiastically behind the EMT and with his support the program should be a success. Hopefully, the program will become a model for the other implementing agencies and the Minister in the petroleum sector.

b. Is the EMT Action Plan appropriate for the needs of MOEE? Can the Action Plan be successfully implemented? What problems or issues may arise in implementing the Action Plan?

Yes, the EMT Action Plan is appropriate for the needs of the MOEE. The Action Plan can be successfully implemented with the support of the Minister, especially if all managers in the organization are trained in the program in a participatory and experiential fashion.

c. Is the EMT consistent with management practice in MOEE? What impact will the EMT have on management within the MOEE?

Yes, the training is consistent with the MOEE management practices, as evidenced by the support of the Minister. The program shows great promise of having an impact on management in the MOEE.

d. ***Will the MOEE be able to provide the appropriate personnel needed to establish and operate a successful EMT Program?***

According to the correspondence between USAID and the Ministry, the needed personnel will be provided.

e. ***Will the EMT Program be sustainable after completion of the EMD Project in 1994?***

The prospects of sustainability for the EMT program in 1994 appear to be very good, given the strong backing of the Minister. If sufficient training of trainers is included in the EMT training package, sustainability will be enhanced.

5. IHRDC

a. ***What are the strong points and weak points of IHRDC's performance under their contract? Is the contract adequately focused on EMD objectives and goals? What can be done to improve the contract?***

In this project, IHRDC's main strength seems to be in identifying American trainers that will go to Egypt to conduct model training sessions.

Their weaknesses include selection of qualified consultants, the backstopping of participants in the USA, lack of concern to participants' problems and lateness of project implementation.

b. ***Is IHRDC effectively and efficiently procuring commodities (including software), training, and consultants? What improvements can be suggested?***

Except for some problems early in the project, IHRDC's procurement of commodities has been adequate. Their selection of potential American trainers coming to Egypt has been noteworthy. Their selection of consultants to assist in the project implementation has been poor. See page 24 for a more detailed explanation on the "software problem."

c. ***Are there appropriate relationships and communications among the IHRDC/EMD, IHRDC/Cairo, IHRDC/Houston, and IHRDC/Boston offices? Is the balance of responsibilities and resources among the four offices appropriate? What can be done to improve the situation?***

The relationships and communications among the various IHRDC offices have been very problematical. According to the RPM, the communication between his office and the Boston Office is inadequate.

d. Is IHRDC providing effective assistance to EMD? What overall improvements should be made?

Overall, IHRDC is not providing effective assistance to the EMD. Therefore, this evaluation concurs with USAID's present thoughts of not extending the contract with IHRDC.

6. USAID

a. Is USAID effectively fulfilling its EMD monitoring and accountability responsibilities? Has USAID effectively communicated its requirements to the GOE implementing agencies, the pilot companies, and IHRDC? What improvements should be made?

Task 3 of the project started about 18 months too late. It seems that USAID's monitoring took too long in discovering this. However, once alerted, they have since been diligent in trying to get this task back on the track. Since then, their communications with the GOE and IHRDC have been good.

b. Has USAID provided effective guidance to the EMD project? Does HRDC/S&T have sufficient staff levels and skills to meet its project responsibilities?

In discussions with USAID, it became apparent that the workload of the involved personnel in HRDC/S&T is heavy. This may have been the cause of the late discovery that this project was not achieving the objectives of the Manpower Planning and Development task.

c. What changes can USAID make to improve implementation of EMD?

Whatever action USAID may wish to take on the EMD Project, a close guidance and monitoring of the initial or next stages will be most critical.

7. Overall

a. Is the project on a track leading to achievement of its goal and purpose? What changes are needed?

The Egypt-based training component of this project is definitely on the right track and should be continued in the same vein.

The US-based training component should be reviewed and action taken to (1) conduct TOT in Egypt; and (2) look into providing Arabic translation for short term trainees rather than sending persons that are fluent in English, but the wrong persons job-wise.

USAID should support Task 3 Manpower Planning, by providing some consultation in adapting the existing dBASE IV to the software needs of the two pilot companies.

USAID should consider providing technical assistance to the two training centers, El Manar and Cairo North, by following the sound advice in the paper "Task 4.1, Management Assistance to Training Centers" by Robert A. Barakat (February, 1992). If this is followed, commodities as called for in the above paper should also be provided.

b. How will the positive aspects of the project be sustained when AID's assistance ends in 1994? What changes are needed now to enhance sustainability?

At the present rate, the petroleum sector will have increased the total number of technical and managerial courses from 31 to 73 with similar progress in the electricity sector. Those interviewed feel that this will have brought each sector up to par in training offerings. Each sector should then be responsible for any new training programs by including in their training budget funds to either bring in outside expertise or send instructors wherever needed to learn, develop and design future training requirements. USAID may wish to obtain commitment on the part of the two sectors before further assistance.

c. How is the project contributing to the Administrator's initiatives, USAID's strategic objectives and GOE S&T priorities? What can be done to enhance the contribution?

In overall terms the project is consistent with USAID and GOE priorities and as such is contributing to the Administrator's initiatives.

d. What policy or program changes could the GOE and AID make to facilitate accomplishment of project goal and purpose?

USAID should consider following up on its need to improve the administration and implementation of the EMD project by insuring that future contractor performance meet the administrative and technical requirements of the project.

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