

A.I.D. EVALUATION SUMMARY: PART I

A. REPORTING A.I.D. UNIT: USAID/EGYPT ES.#	B. WAS EVALUATION SCHEDULED CURRENT FY EVALUATION Yes <u>X</u> Delayed ___ Ad Hoc ___	C. EVALUATION TIMING Interim ___ Final <u>X</u> Ex Post ___ Other ___
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D. ACTIVITY EVALUATED: **Mineral, Petroleum and Groundwater Assessment Program**
(Project Number 263-0105)

E. ACTION DECISIONS APPROVED BY THE MISSION DIRECTOR	RESPONSIBLE PARTY	COMPLETION DATE
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The evaluation indicates that the Minerals, Petroleum and Groundwater Assessment Program (MPGAP) "was executed effectively and the results were very positive. The three primary objectives of MPGAP (data collection, data handling and management and private sector investment) were substantially achieved." USAID's newer projects have incorporated the basic concepts of the evaluation team's programmatic recommendations. The team's specific recommendations are directed at the GOE implementing agencies. Representatives from these agencies acknowledge the recommendations and indicated their intention to move toward implementation within the limits of budgetary resources.

The PACD of the MPGAP Project has passed and project funds are no longer available. Given the focus of the specific recommendations, no further action by USAID in response to the evaluation recommendations is anticipated.

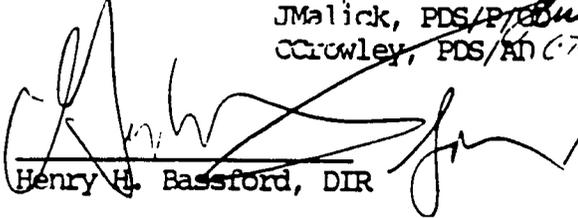
F. CLEARANCE/APPROVAL OF EVALUATION SUMMARY AND ACTION DECISIONS:

Technical Directorate	Program Development and Support Directorate	Deputy Director
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RRhoda HRDC/ST
WGelabert HRDC/AD

RParks, PDS/P
KHilliard, PDS/P
JMalick, PDS/P
CCrowley, PDS/AD

G. Wachtenheim

Approved:  /1991
Henry H. Bassford, DIR

G. EVALUATION ABSTRACT

The Mineral, Petroleum and Groundwater Assessment Program (MPGAP) project's purpose was to increase foreign and domestic investments in developing Egypt's natural resources. While doing so, MPGAP's goals were to improve the organization of current data, to compile reports on newly-surveyed areas of mineral and petroleum resources, and to augment institutional (GOE) capacity to manage and disseminate this information. This final evaluation analyzed the benefits and the impacts of MPGAP. **The MPGAP project was executed effectively, and the results were very positive.** The three primary objectives of data collection, data handling and management, and private sector investment were significantly achieved.

Evaluation Findings

- o The MPGAP project successfully provided participating GOE agencies with training, equipment and technical assistance which has assisted those agencies to effectively achieve their mandated responsibilities.
- o The private sector involvement has improved and is expected to increase in the years to come.
- o The key element for overall effectiveness, establishing a GOE management and coordination structure, failed because the GOE Coordinating Committee was ineffective and because of the longstanding competitiveness of the four main GOE agencies responsible for MPGAP implementation.
- o The training program designed and implemented by Bendix for the Mineral, Groundwater, and Remote Sensing agencies was a ringing success.
- o Remote Sensing Center was provided equipment and training sufficient to create a remote sensing data processing center of world class standards.
- o The Desert Research Center has located and evaluated significant groundwater aquifers in the Eastern Desert and evaluated one in the Western Desert.
- o Egyptian Geological Survey and Mining Authority has successfully negotiated three mineral concession agreements.
- o Egyptian General Petroleum Corporation has sold all or part of its MPGAP-funded aeromagnetic survey to six oil companies.

Key Recommendations

- o The contracting and procurement process needs more attention to ensure that participating host country agencies and contractors are thoroughly familiar with the process and with host country needs.
- o The failure of the GOE Coordinating Committee suggests the need for AID re-examine its process of evaluating host country management and coordination process.

- o The management of the GOE agencies must recognize the need for ongoing servicing and maintenance of that equipment as well as backing the recognition with regular and adequate budgetary allocations.
- o GOE agencies have received significant assistance to upgrade library holdings. In order to derive maximum benefits from these library additions, journal subscriptions and access to the international technical press should be maintained.

H. EVALUATION COSTS

<u>Evaluation Team</u>	<u>Contract No.</u>	<u>Contract Cost</u>	<u>Project</u>	<u>Source of Funds</u>
Dames & Moore	PTC-5517-I- 00-7136-00	\$99,735	263-0105	263-0105

A.I.D. EVALUATION SUMMARY: PART II

I. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

PROJECT DESCRIPTION: The Mineral , Petroleum and Groundwater Assessment Program (MPGAP) project's primary objective was to increase foreign and domestic investments in developing Egypt's natural resources. Its purpose was to gather basic geo-technical information and to devise means for its distribution among its potential users. While doing so, MPGAP improved the organization of current data, compiled reports on newly-surveyed areas of mineral and petroleum resources, and developed GOE capacity to acquire, organize, analyze, store, retrieve and disseminate data on potentially commercial mineral and petroleum resources.

The four Government of Egypt (GOE) agencies that participated in the MPGAP project were Egyptian General Petroleum Corporation (EGPC), Egyptian Geological Survey and Mining Authority (EGSMA), Desert Research Center (DRC), and Remote Sensing Center (RSC). The management and coordination of these agencies was to have played a key element in successful achievement of the project objectives and maximizing the overall effectiveness of the program. The four GOE agencies were correctly perceived as being at different stages of development and hence having different needs related to project inputs. EGSMA, DRC, and RSC were assisted and managed by AID's contractor, Bendix. The EGPC was relatively mature and required little project management assistance which was also provided by Bendix. Bendix was engaged to manage the Minerals, Groundwater and Remote Sensing program which incorporated the majority of MPGAP-assisted activities for EGSMA, DRC and RSC.

EVALUATION PURPOSES: Concluded on September 13, 1990, this final evaluation analyzed the benefits and the impacts of MPGAP. The MPGAP project was executed effectively, and the results were very positive. The three primary objectives of data collection, data handling, and management, and private sector investment were significantly achieved.

METHODOLOGY: Due to the pressing PACD deadline of September 27, 1990, the six person evaluation team completed the evaluation from start to final report in four hectic weeks. They collected information by reviewing project documents and interviewing key project personal. Early the fourth week, the team completed a draft report and orally presented their conclusions at a meeting at USAID attended by EGPC, GPC, EGSMA, DRC, and RSC. The feedback obtained was incorporated into the final report. Considering the time constraint, the team produced an outstanding evaluation.

The team evaluated the roles and functions of each participating GOE agency putting appropriate emphasis on: (1) the evaluation of cooperation with other GOE agencies; (2) the development of an effective information management system; and (3) the emphasis on private sector involvement. For example, since the RSC and DRC are primarily service organizations, their evaluation involved little emphasis on private sector involvement, but emphasized the evaluation of

cooperation with other GOE agencies and development of an effective management information system.

FINDINGS AND CONCLUSIONS: The overall evaluation conclusion is that the project successfully achieved its primary goals of data collection, data handling, and management in order to increase foreign and domestic investments in developing Egypt's natural resources. In achieving the project goals, MPGAP provided the participating GOE agencies with a wide-ranging package of training, equipment and technical assistance. Through the MPGAP assistance the GOE agencies have benefitted significantly and will continue to upgrade their capacity to discharge their mandated responsibilities.

As a result of MPGAP, the participating GOE agency's major achievements include:

- o RSC obtained equipment and training sufficient to create a remote sensing data processing center of world class standards.
- o The DRC located and evaluated significant groundwater aquifers in the Eastern Desert and evaluated one in the Western Desert.
- o EGSMA successfully negotiated three mineral concession agreements.
- o EGPC sold all or part of its MPGAP-funded aeromagnetic survey to six oil companies

MPGAP was not successful in improving the coordination and cooperation between the participating GOE agencies, in part because of the failure of the GOE Coordinating Committee and in part because of longstanding interagency competitiveness.

Agency-Specific Conclusions: The following conclusions are specifically related to the major activities of the four GOE agencies:

Egyptian General Petroleum Corporation and General Petroleum Corporation: The EGPC and GPC have gained valuable management and negotiating skills through their involvement in MPGAP. Through a contract with Integrated Technology, EGPC and GPC were provided with new computer software and technical training that will improve their ability to access and disseminate information and to perform complex exploration. This will equip EGPC and GPC with valuable exploration information which they can use and/or make available to interested private sector oil companies, thus fulfilling one of the key objectives of MPGAP assistance to the GOE petroleum agencies.

The project modernized the GPC and GPC libraries by procuring and installing of library shelving, the purchasing of books and periodicals, and the installing of a computerized data retrieval system.

Egyptian Geological Survey and Mining Authority: EGSMA benefitted significantly from participation in MPGAP. It received substantial training, local and off shore, in field techniques, laboratory methods, library science, and cartography. As a result, it is now a very professional geoscience organization. The evaluators recommended that EGSMA management should allocate funds for long term

servicing and maintenance of the costly and vital equipment that the agency received.

The EGSMA was unable to develop proper focused mineral packages and thus could not attract significant interest and involvement of private sector investors. Despite this major disappointment, EGSMA has made significant progress in commercializing Egypt's mineral resources.

The project refurbished the EGSMA library providing it with a computer-based data cataloging and retrieval system, new library volumes, and a well trained library staff.

Desert Research Center: The DRC was responsible for the groundwater phase of MPGAP. The DRC explored and mapped surface and subsurface areas in the Eastern and Western Desert. DRC discovered two new groundwater reservoirs, Wadi Dara and Wadi El Nakheil, both in the Eastern Desert, and studied the previously discovered groundwater reservoir in El Bahariya Oasis in the Western Desert. As a result of DRC's program, Marathon Oil Company bought needed water from wells which DRC drilled.

Bendix assisted DRC by providing special training programs on groundwater planning and investigations, borehole and well drilling, geophysical exploration, and Geographic Information Systems (data interpretation and report preparation).

Remote Sensing Center: The role of RSC in the project was to provide image interpretation of Landsat imagery and a satellite Atlas to the MPGAP agencies. The Atlas demonstrated RSC's capability and the potential usefulness of satellite imagery for resource assessment and mapping. Data from the Landsat thematic mapper can be used to generate larger scale maps with more detail than those in the Atlas. Unfortunately, Landsat image maps and the Atlas were produced too late to be of use during the ten year life of the MPGAP project; however, they should be invaluable to these agencies and other institutions for future projects.

RSC staff has obtained good and relevant training in system operation and application development, both in Egypt and in the US. As part of their computer system, the agency acquired computer peripherals, software and training needed to develop an excellent remote sensing service which it has effectively marketed to other government agencies and the private sector.

RSC has a reasonably complete and useful library with good remote sensing textbook and references, although there are serious gaps in technical journals.

PRINCIPAL RECOMMENDATIONS: The key recommendations can be summarized as follows:

1. The host country contracting and procurement process needs to be analyzed closely to ensure that participating host country agencies, as well as the contractors themselves, are thoroughly familiar with the process and with host country needs.

2. The failure of the GOE Coordinating Committee suggests the need for AID to re-examine its process of evaluating host country management and coordination practices.
3. In order to ensure the sustainability of equipment-related MPGAP assistance, management of participating GOE agencies must recognize the need for ongoing servicing and maintenance of that equipment and be prepared to back up that recognition with regular and adequate budgetary allocations for required servicing and maintenance.
4. GOE agencies have received significant assistance to upgrade library holdings. In order to derive maximum benefit from these library additions, journal subscriptions and access to the international technical press should be maintained. While this requires access to foreign currency, the investment is small, considering the large return.
5. Many GOE professionals received technical training as part of the MPGAP project in field, laboratory and data processing techniques. In order to maintain the value of that training, it must be periodically supplemented.

MISSION COMMENTS: The Mission is very impressed with the quality of the evaluation considering the severe time constraints faced by the evaluation team and the complexity of the MPGAP project. The team did their homework, hit the ground running, very effectively managed their scarcest resource - time, quickly established rapport with USAID and GOE agencies, and integrated vast amounts of information into concise oral and written reports. The excellent oral presentation the team made at USAID featured perhaps the largest and most wide ranging group of senior GOE officials ever assembled at USAID/Cairo. The individual who deserves the lion's share of the credit for the success of the evaluation is Dr. Douglas Lootens, the team leader.

The Mission generally agrees with all the evaluation team's conclusions and recommendations. The team's recommendations focus almost exclusively on actions that should be taken by the MPGAP agencies of the GOE. Unfortunately, these agencies lack the budgetary resources to implement most of the recommendations offered by the team. Very few of the recommendations call for direct actions by USAID. This is not unusual for a final evaluation during the final weeks of a project. Furthermore, the team knew that USAID/Cairo had no plans for MPGAP follow-on activities.

Over the last few years, USAID/Cairo has taken steps consistent with the three programmatic recommendations, e.g. shifted away from host country contracts, used a single contractor for specification development and procurement, and moved away from efforts dependent upon cooperation among competing GOE agencies. Similarly, USAID has focused considerable attention on the sustainability issues and recommendations, such as providing GOE professional staff with post-project access to international experts, journals, refresher training etc. or providing post-project budget and other support for new (and potentially weak) GOE agencies. In general, these recurrent cost inputs should be funded by the GOE; continued AID funding after project completion will foster dependency and jeopardize institutionalization of the development process.