

Task Order No. 832

USAID Contract No. PCE-I-00-96-00002-00

**Egyptian Environmental Policy Program  
Program Support Unit**

**WORK ASSIGNMENT REPORT  
Tranche 1, Objective 1**

***Next Steps in Building an Operational  
Environmental Disasters Management Unit***

June 2000

PSU-11

for  
**U.S. Agency For International Development  
Cairo**

by  
**Environmental Policy & Institutional Strengthening  
Indefinite Quantity Contract (EPIQ)**

A USAID-funded project consortium led by International Resources Group, Ltd.

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## FACT SHEET

**USAID Contract No.:** PCE-I-00-96-00002-00  
Task Order No. 832

**Contract Purpose:** Provide core management and analytical technical services to the Egyptian Environmental Policy Program (EEPP) through a Program Support Unit (PSU)

**USAID/Egypt's Cognizant Technical Officer:** Holly Ferrette

**Contractor Name:** International Resources Group, Ltd.

**Primary Beneficiary:** Egyptian Environmental Affairs Agency (EEAA)

**EEAA Counterpart:** Eng. Dahlia Lotayef

**Work Assignment Supervisor:** Harold van Kempen

**Work Assignment Period:** June 2000

## Preface

Through competitive bidding, the U.S. Agency for International Development (USAID) awarded a multi-year contract to a team managed by International Resources Group, Ltd. (IRG) to support the development and implementation of environmentally sound strategic planning, and strengthening of environmental policies and institutions, in countries where USAID is active. Under this contract, termed the Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ), IRG is assisting USAID/Egypt with implementing a large part of the Egyptian Environmental Policy Program (EEPP).

This program was agreed-to following negotiations between the Government of the United States, acting through USAID, and the Arab Republic of Egypt, acting through the Egyptian Environmental Affairs Agency (EEAA) of the Ministry of State for Environmental Affairs, the Ministry of Petroleum's Organization for Energy Planning, and the Ministry of Tourism's Tourism Development Authority. These negotiations culminated with the signing of a Memorandum of Understanding in 1999, whereby the Government of Egypt would seek to implement a set of environmental policy measures, using technical support and other assistance provided by USAID. The Egyptian Environmental Policy Program is a multi-year activity to support policy, institutional, and regulatory reforms in the environmental sector, focusing on economic and institutional constraints, cleaner and more efficient energy use, reduced air pollution, improved solid waste management, and natural resources managed for environmental sustainability.

USAID has engaged the EPIQ contractor to provide Program Support Unit (PSU) services to EEPP. The PSU has key responsibilities of providing overall coordination of EEPP technical assistance, limited crosscutting expertise and technical assistance to the three Egyptian agencies, and most of the technical assistance that EEAA may seek when achieving its policy measures.

The EPIQ team includes the following organizations:

- Prime Contractor: International Resources Group
- Partner Organization:
  - Winrock International
- Core Group:
  - Management Systems International, Inc.
  - PADCO
  - Development Alternatives, Inc.
- Collaborating Organizations:
  - The Tellus Institute
  - KBN Engineering & Applied Sciences, Inc.
  - Keller-Bliesner Engineering
  - Conservation International
  - Resource Management International, Inc.
  - World Resources Institute's Center For International Development Management
  - The Urban Institute
  - The CNA Corporation.

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## INTRODUCTION

The EDMU has made solid progress in setting in place the foundation for response to environmental disasters in Egypt. This includes: (1) a nearly complete draft Environmental Disaster Contingency Plan Framework for distribution to involved agencies and eventual approval by the Egyptian Government Cabinet of Ministers, and (2) a first draft of a general standard operating procedure (SOP) for response to an environmental disaster, (3) an yet uncompleted data base for equipment which could be applied in confronting a disaster.

Analysis of the next steps toward crating an operational EDMU should take into consideration: (1) current capacity of the EDMU, (2) identification of the most important technical requirements for effective response, (3) identification of processes which will add capacity to the EDMU, (4) anticipated parameters of assistance both from donors and from government.

## FINDINGS AND ASSUMPTIONS

Based on the information provided through interviews and documents reviewed during this mission, the consultants provide the following preliminary findings and assumptions which inform decisions for further action:

1. Staff capacity for the EDMU now consists of only Mr. Rashed, with minimal administrative assistance. Other staff at the EEAA are consumed by tasks that would not allow them to participate at a significant level of effort in building the EDMU. The consultants have identified three areas where additional resources have been provided to the EEAA which would logically support the EDMU:
  - a. The Danish International Assistance Agency (Danida) has reportedly completed setting up a Central Operations Room (COR) for disaster response. They have also done significant work in contingency planning, provision of equipment, and training for response to oil spills. In the final report for the project, Danida notes that staff for the COR had not yet been assigned. EEAA reports that the COR is now staffed on a 24 hour basis.
  - b. The Canadian International Development Agency (CIDA) is in the process of building an information management system and database in the Environmental Information and Awareness Division.
  - c. Also within the Environmental Information Division and Awareness Division is the Hazardous Substance Information and Management System (HSIMS) developed with a grant from the Swiss Agency for Development and Cooperation. The HSIMS can provide information about hazardous substances. Included in the HSIMS Group plans are institution of a labeling and placarding system for Egypt as well as a system for shipping papers.
  - d. is a data base on hazardous substances, built with a grant from the Swiss government.
  - e. USAID has provided the authors (two short-term international consultants), and a local operations management consultant who will support the EDMU initially for 50 days. These consultants will provide initial planning support.
2. Cabinet approval of the contingency plan now nearing completion is essential. This approval process will take 6 to 12 months.
3. The current contingency plan provides the basis for further allocation of resources to the EDMU to provide staff and equipment to establish and build databases and provide coordination and communication support during the response to an emergency. Some funds for provision of technical expertise may also be allocated. However, the vast majority of personnel and equipment resources required to respond to a large environmental disaster will come from the Department of Interior (Civil Defense), Governorates, Department of Housing, Department of Transportation, Department of Health as well as other ministries. The Red Crescent and other relief agencies will play important roles in addressing the needs of affected populations. The Department of Defense is likely to play a

major role – perhaps as the dominant actor in the response, and perhaps to the exclusion of all other actors. Under the current draft contingency plan, leadership and management of these resources is provided by a ministerial level task force leader, who will direct the application of resources. With no resources to participate in the actual confrontation, EEAA’s ability to manage the confrontation of a disaster is limited.

4. None of these actors likely to be involved in the management of a disastrous event are set up to provide a significant level of technical expertise on crucial chemical, biological, or environmental issues. The EDMU should seek to consolidate resources that allow it to play the vital role of providing this essential technical expertise. Technical expertise and analysis of environmental impact issues is one of the most important tools required to reduce the impact of a disaster, and it is this support function that EEAA is best suited to perform.
5. It is not yet clearly defined how EEAA will play this role, and how it becomes involved in supporting responses to events that are disastrous or potentially disastrous. Ongoing development of standard operating procedures will help clarify this.
6. However it plays this role, the EDMU will need three capacities:
  - a. A capacity to immediately mobilize an initial analysis of environmental impact and important early responses (provide planning scenarios).
  - b. A capacity to quickly access and use the appropriate technical information that will inform responses.
  - c. Capacities to quickly access, apply, and manage the appropriate technical expertise to perform ongoing monitoring and provide advice to the disaster response manager. This advice is the basis for design of a response that minimizes the adverse impact of the disastrous event. This will include skilled use of analytical tools that efficiently utilize the available data.
7. To build these capacities EDMU and EEAA should:
  - a. Build within the EEAA or help build within the Civil Defense a cadre of trained first responders who are capable of both quick arrival at a disaster site, as well as capable of accurate and useful initial analysis of technical requirements to minimize impact.
  - b. Either build or arrange for quick access to data bases which provide (1) technical information, including decontamination processes, medical effects, and antidotes for hazardous substances (the US EPA CAMEO data base does this and is available on the web), (2) sources of hazardous substances in Egypt (e.g. chemical factories, large waste water treatment), (3) topographic and environmental data necessary to analyze path of travel of uncontrolled hazardous substances.
  - c. Build a database of available technical expertise that will allow rapid selection of appropriate personnel to address certain issues. This will involve (1) pre-

- qualifying and classifying a large number of local experts, (2) filling in gaps in local expertise with information on contacting international expertise, (3) establishing pre-arranged contracts or agreements with individuals, companies, and/or governments to provide expertise in the case of an emergency, including arrangements for travel and support. This database could also include agreements with companies and governments not normally accessible through standard Egyptian government channels that could provide specialized equipment that might be necessary for an effective response.
- d. Develop the capacity to efficiently use existing and anticipated databases in the EEAA, as well as those available outside the EEAA.
  - e. Either acquire the necessary equipment for on-site analysis of hazardous substances, or arrange for secondment from within EEAA of this equipment and personnel.
  - f. Develop the SOP for rapid initial analysis and on-going monitoring of conditions at an event.
  - g. Identify, train, and assure reasonable longevity of staff (either within the EEAA or in other agencies) to manage the activities, databases, and tools in 6a through 6d above.
8. A data management system is now being built and near completion in the EEAA Environmental Information and Public Awareness Division, but is yet to be populated with much useful data regarding locations of industries. The system is said to contain information regarding chemical characteristics, but may need additional programming to produce standard reports or may require an understanding of ArcView database query capabilities to be utilized. . It is difficult to predict how quickly these databases could be completed (populated with data) given contingencies in acquiring information in the Egyptian context. The data base system now nearing completion will not include data on personnel, equipment, or other expertise. To date the EEAA has not identified permanent staff to maintain and manage the system now under construction.
9. The Hazardous Substances Information and Management System (HSIMS) contains information on the physical properties (e.g., flash point), health effects, and management requirements (e.g., fire fighting, personal protective gear, treatment and disposal options). These data are retrievable in English or Arabic through a drop-down Windows™ menu format that should require little or no training for most computer capable persons. The HSIMS unit has developed contacts within a number of Ministries and established lists of chemicals of specific interest to those Ministries. Plans call for deploying a wide-area network by which the Ministries and other interested parties will be able to access and use the HSIMS. The HSIMS unit has initiated or conducted a number of activities for the purpose of elevating awareness of hazardous materials issues and the HSIMS in particular. The HSIMS was contacted for information by the Oil Spill Central Operations Room (OSCOR) after the Navy notified the (OSCOR) in response to the recent sinking of the cargo ship carrying Nitric Acid. The HSIMS unit provided a briefing document on Nitric Acid to the Environmental Ministry CEO. The HSIMS unit has drafted plans for a pilot project at one of the industrial cities.

10. For the most part, EEAA has not identified additional resources to support the activities described above. Anticipated USAID assistance is likely to be limited to technical assistance (little or no material assistance).
11. Additional assistance could come from:
  - a. Other donors who wish to support the EEAA and EDMU through on-going projects (e.g. CIDA information management project) or additional assistance.
  - b. Resources within the Egyptian government from ministries, governorates, or other organizations which both have resources and are seeking to reduce liability from hazardous substances (e.g. – governorates and cities with high concentration of industries employing hazardous substances)
  - c. Private entities concerned about the effects of a hazardous substance disaster. Examples are: (1) commercial companies concerned about image, commercial cost of a disastrous event, or potential liability, (2) foundations with environmental agendas.
12. Assistance from all sources is more likely to come with EDMU indication of systematic success. Particularly in light of the current lack of resources, this will be easier to demonstrate on a small scale. Building confidence and learning lessons about building response systems in the Egyptian context is important to the design of a successful response system as well as to gaining additional resources.
13. EEAA EDMU success will be defined by its ability to effectively support an environmental disaster response. Effective support will come from producing products and services useful to responders (technical information and support; training, and other services). Effective support will require good working relationships with the other governmental and non-governmental organizations likely to be involved with a response.

## ACTION PLAN AND RECOMMENDATIONS

The following activities should be pursued over the next 12 months in order to develop a basic competency in environmental disaster support.

There are four categories of activities: The first category (item 1) addresses steps to finalize the National Disaster Management Plan. The second category (items 2 through 5) address important EEAA institutional issues which must be addressed before the EDMU can effectively move forward. The third category identifies activities which the EDMU could manage or coordinate and which would provide meaningful support services for emergency management. Some activities in this category may be better suited for personnel from other departments or offices in the EEAA, but where this is the case, these personnel should be designated as available to work full-time with the EDMU during disaster responses. The fourth category is discussed under the heading *Building Momentum* and addresses the need to build experience and success on a small scale both as a strategy for attracting resources, support, and as a way to learn the lessons required for program planning success on the national level.

### National Environmental Disaster Management Plan

1. EDMP. Complete and submit the National Environmental Disasters Management Plan, with attention to the following steps:
  - a. The three EEPP consultants will discuss the plan with the EDMU Managing Director and together agree on important areas for revision of the plan.
  - b. Over the next eight weeks, the Cairo based consultant will work with the Managing Director to address organization, nomenclature and clarity of the lines of reporting and management of disasters outlined in the plan.
  - c. After approval by the EEAA CEO, and the Minister of the Environment, involved ministries should be contacted for comment. Ministries should be given a deadline of 30 days to return comments. After consideration of comments, the plan should be revised, approved again by the CEO, and the minister of Environment, then forwarded to the Cabinet of Ministers for approval.

### Institutional Requirements

2. Staff. Identify and assure reasonable longevity of at least two additional EEAA staff for management of the program. Given the wide range and the complexity of technical tasks that EDMU may be called on to manage, and given the resources in information management already in the EEAA, the primary responsibility for these two staff would be management of various support activities and to provide management redundancy to the General Manager of the EDMU. They should be chosen with these capabilities in mind, although technical expertise in hazardous substances and/or information management will also be useful. These staff would also become managers of the programs and activities identified below.

3. COR. Identify a location (room) and material resources (at the minimum four phone lines, three computers – 128 RAM, 6 gigabyte hard-drives, six desks and chairs) that can act as an operations coordination room in the event of a disaster. Danida financed a COR in the EEAA for response to oil spill emergencies which appears to meet this criteria.
4. Develop working relationships with all relevant departments in the EEAA and update information on resources provided through the various ongoing and completed EEAA support projects in order to develop a complete picture of capacities and resources both in the EEAA as well as in the many partner organizations which are supported through EEAA projects (e.g. Civil Defense, University of Alexandria).
5. Clarify roles within EEAA for response to an event and facilitate use of information and expertise across department lines. Complete the conceptual framework for EEAA's role in response to or prevention of a disastrous or potentially disastrous event. This should include (a) defining the role of the EDMU in helping manage potentially disastrous events (consequence management), (b) defining the role of other departments and offices in EEAA in event management, (c) developing SOP or protocols for the EDMU to work efficiently with other units in the EEAA in order to apply the available information and expertise to the management of an event, and (d) developing a process for continued information exchange in order to assure that the EDMU is kept up to date with the development of resources available within the EEAA.
6. Protocols for emergency staffing. Establish protocols within the EEAA that will assure that sufficient staff can be reassigned to the EDMU in the event of a disaster. This staff would assist in coordinating communication on the disaster as well as help build monitoring and analysis teams, utilize databases, access and organize important information, and perform other essential EEAA support tasks.

## **Emergency Management Activities**

7. Environmental disaster SOPs. Complete an initial set of SOPs for environmental disaster response. An initial SOP which addresses general implementation of the National Environmental Disaster Contingency Plan (NEDCP) is now under review by the EDMU consultants. A draft revision of this document prepared by the Cairo based Operations and Information Systems consultant with the guidance of the U.S. based technical consultant and based on decisions made for revisions of the NEDMP. The U.S. based technical consultant should develop the following SOPs in English describing response to these specific types of environmental incidents:
  - a. Chlorine release from a waste water treatment plant - The potential for a chlorine incident involving a waste water treatment plant seems high, due to the large number of facilities and their close proximity to population centers. Chlorine gas when inhaled can cause severe irritation to the eyes, nasal passages and lungs, and in sufficient quantities can be deadly. There are data under development in the EEIS identifying locations of these plants for at least one Governate.
  - b. Highway or rail transportation incident – Many of those interviewed commented on the likelihood for highway or rail accidents involving hazardous materials. SOPs for responding to a transport incident should relate to the EEAA's ongoing

development of a system for marking or placarding vehicles and requirements for identification of hazards in the shipping papers or manifest.

- c. Fire or explosion at a waste dump - The potential for fire or explosion from a waste dump seems high due to the lack of controls at such facilities, and could be particularly dangerous in areas where waste dumps are in close proximity to industrial plants. There is the possibility of conducting joint activities with the HSIMS unit with their proposed pilot project at one of the industrial cities.
8. First responder training. Provide training in environmental first response for 30 or more individuals capable of immediate deployment to the scene of a disaster to assess environmental risk. This group could be regional representatives of the EEAA, or could be governate level Civil Defense personnel, or both. This training could be informed by and build on training provided under the Danida program described in *Findings and Assumptions*, section 1.b. above.
9. Data base building – accessible technical expertise. Begin building the database for sources of expertise in a range of potentially disastrous events including chemical spills and emissions, chemical fires, and excessive wastewater emissions. This will include lists - arranged by category - of experts, institutions, universities, and private industry sources. An initial data base of sixty individuals should be completed within the first twelve months, and updated every six months thereafter.
10. Data base utilization – hazardous substance information. Train in use of a system for initial chemical hazard analysis. This could involve arranging for technical cooperation with an expert in the CAMEO system from EPA, utilizing training resources in CAMEO available through the CIDA sponsored project, or an arrangement for use of the database developed under the Swiss sponsored project within the EEAA Environmental Information Division and Awareness Division. Use of the database should allow EEAA managers to create scenarios for specific accidents.
11. Building an expert response team. Based on a minimum core of two EEAA staff recommended in item 2, build a cadre for emergency response. This cadre need not be built with permanent expert staff. An on-call cadre can be built with a redundant (three in each category – total of 24) list of expert persons in Egypt and abroad who will agree to immediate deployment when requested. This will require a contract with these individuals on a retainer basis, or arranging for institutional agreements under which they are seconded to EEAA for the duration of the disaster response.
12. Identify equipment, including specialized equipment required for response to environmental emergencies. Build a database of the location of this equipment, who controls it, and how it could be accessed.
13. Building momentum. In addition to the activities above, which describe specific activities required to build the EDMU and provide a reasonable level of support during the response to an environmental disaster or potentially disastrous event, we recommend that EEAA/EDMU initiate one or two pilot response preparation projects on a small scale. This will serve several important functions:

- a. It will allow the EEAA/EDMU to begin to gain some experience with the institutions with which it will work in planning for and responding to events. Lessons learned would apply to building the system nationwide.
- b. It will allow EEAA to begin work at a level where government and industry leadership may have more personal and political stake in responding well to a disaster. It could also allow EEAA to “leverage” resources for the project from local entities in order to augment and support development of training, data base construction and other activities.
- c. With local leadership support, EEAA may be able to approach private sector entities for material support.
- d. A successful pilot project could create demand for similar projects in other governates.
- e. It will allow EEAA to demonstrate some short-term success in preparing for disasters, with possible improved donor interest in EDMU activities.

Working with a governorate or a city, activities in the pilot project could include creating a database of potential hazards, mapping hazards, planning for response to an accident, identification of roles and resources for a response, and training for potential responders and emergency managers.

We believe that the pilot project activity should be initiated as quickly as possible in conjunction with the other eight activities recommended.

## Constraints

1. Perhaps the largest constraint is the absence of permanent staff to support system. While the system could be built with short-term technical assistance, it will be useless without the management attention of at least two long-term permanent staff in the EDMU.
2. In nearly every interview conducted, staff, consultants, and officials raised the issue of limits on information access both across agencies and within the EEAA. Unless this can resolved, EDMU effectiveness will be limited.
3. General financing constraints. We became acutely aware of the lack of resources on all levels. While some donor funding is available, it will finance limited progress, and may remain small without demonstrated progress in putting effective response planning and systems in place. The final recommendation on *Building Momentum* is designed to both accelerate tangible progress and begin a process to leverage outside funding and other resources.

## **PREVENTION AND MITIGATION**

These comments have focused on response capacity and on reducing the consequences of an event. Equally important parts of an effective disaster management program are programs for prevention of disastrous events. While it is equally important for the EDMU to develop and support programs for pre-event prevention and mitigation, development of these programs have not been addressed here because the limited resources of the EEAA will only support relatively small steps in building the organization. Nevertheless, many of the “next-step” activities suggested (e.g. the hazardous substance location data base) will provide the basis for effective prevention and mitigation programs.