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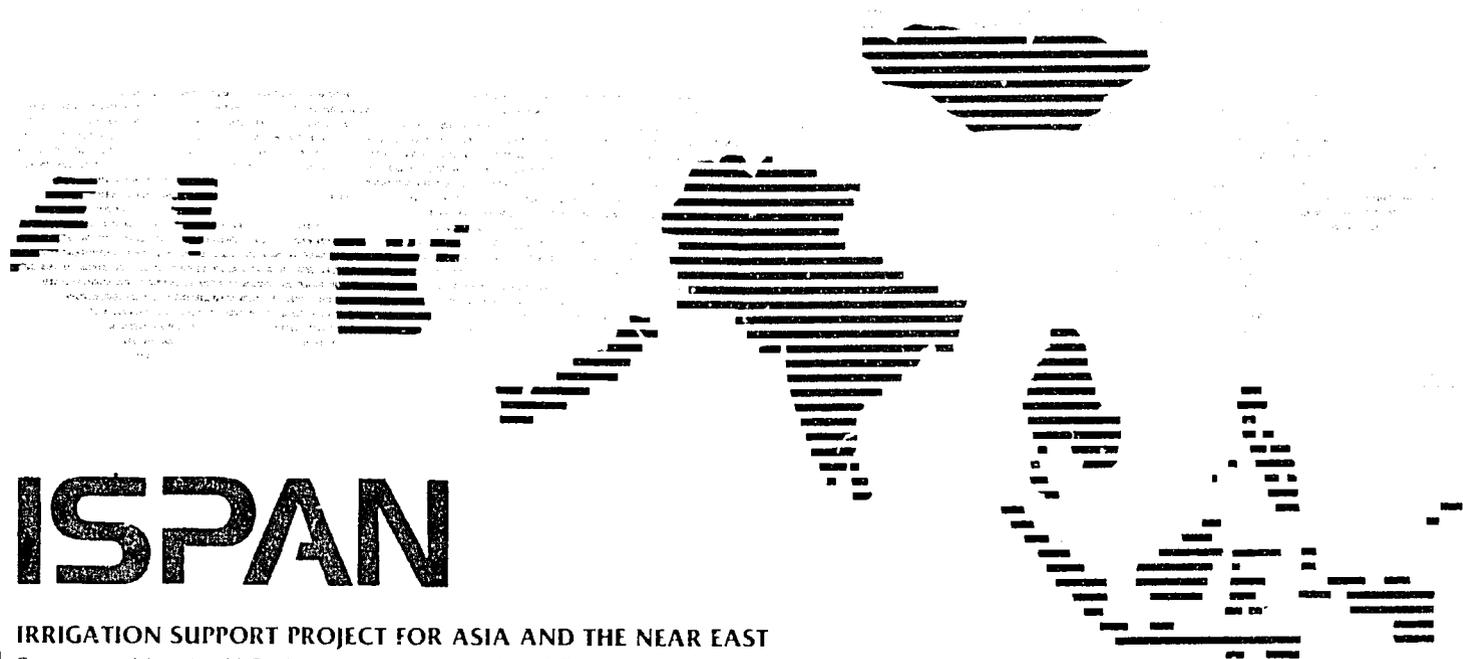
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**NEAR EAST BUREAU  
REGIONAL ENVIRONMENT AND  
NATURAL RESOURCES WORKSHOP**

**February 28-March 3, 1993  
Marriott Hotel  
Cairo, Egypt**

**WORKSHOP REPORT/PROCEEDINGS**

**ISPAN Report No. 59**



**ISPAN**

**IRRIGATION SUPPORT PROJECT FOR ASIA AND THE NEAR EAST**  
Sponsored by the U.S. Agency for International Development

# ISPAN

## IRRIGATION SUPPORT PROJECT FOR ASIA AND THE NEAR EAST

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**Prepared for the U.S. Agency for International Development**

**by**

**Kathy Alison**

**December 1993**

**Irrigation Support Project for Asia and the Near East  
Contract No. ANE-0289-C-00-7044-00, Project No. 398-0289  
serving the Asia Bureau and the Near East Bureau  
U.S. Agency for International Development  
Washington, D.C. 20523**

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## **Acronyms**

<b>BEC</b>	<b>Bureau Environmental Coordinator</b>
<b>GEF</b>	<b>Global Environmental Facility</b>
<b>IEE</b>	<b>Initial Environmental Examination</b>
<b>ISPAN</b>	<b>Irrigation and Support Project for Asia and the Near East</b>
<b>MEO</b>	<b>mission environmental officers</b>
<b>MERC</b>	<b>Middle East Regional Cooperation Project</b>
<b>O&amp;M</b>	<b>operations and maintenance</b>
<b>PRIDE</b>	<b>Project and Development in the Environment</b>
<b>R&amp;D</b>	<b>research and development</b>
<b>USAID</b>	<b>U.S. Agency for International Development</b>

## **Executive Summary**

An Environment and Natural Resources workshop for the Near East Region was held at the Marriott Hotel in Cairo, Egypt, February 28 through March 3, 1993.

Mission staff, including environmental officers, from Morocco, Tunisia, Egypt, Jordan and Oman participated, as well as representatives from the U.S. Agency for International Development's (USAID) Near East Bureau Office for Development Resources. Representatives from the Agency's Directorate for Policy and the Housing Office also attended the workshop. Team members from two Near East regionally funded projects related to the environment, the Irrigation and Support Project for Asia and the Near East (ISPAN) and Project and Development in the Environment (PRIDE), also participated.

The workshop provided an opportunity for Near East Mission staff to describe their current and projected environmental portfolio. Time was allocated for review and discussion of the Near East Water Action Plan and Environmental Strategy, as well as current USAID environmental regulations. The group also discussed the proposed pollution prevention demonstration activity as well as future approaches to integrating environmental issues into ongoing and new Mission and Bureau activities. The workshop resulted in an agreement on the scope and focus of the Near East Water Resources Action Plan, a general consensus on the concept of pollution prevention, and a better understanding of USAID's environmental regulations.

# **Chapter One**

## **INTRODUCTION**

An Environment and Natural Resources workshop for the Near East Region was held at the Marriott Hotel in Cairo, Egypt, February 28 through March 3, 1993.

Environmental officers and other staff from the Morocco, Tunisia, Egypt, Jordan and Oman Missions participated, as did representatives from USAID's Near East Bureau Office for Development Resources. Other USAID staff from the Policy Office and Housing Office also participated. Team members from two Near East regionally funded projects related to the environment, ISPAN and PRIDE, also participated. (See annex 1 for list of participants.)

### **Workshop Goals and Objectives**

The overall goals of the workshop were to:

- Identify specific steps to strengthen the Near East Bureau and Missions' respective capabilities to develop, manage, and monitor environmental projects and programs in the region
- Enhance communications, cooperation and understanding among and between environmental officers from Missions and the Bureau
- Provide Mission staff with the opportunity to interact with USAID personnel and Near East regionally-funded project staff who support regional and Mission environmental programs

The specific objectives of the workshop were to:

- Discuss and agree on a Near East Regional Water Action Plan
- Identify specific steps needed to address crosscutting environmental concerns within the Near East Bureau's objectives
- Develop specific recommendations on how Missions and the Bureau can strengthen regulatory monitoring and evaluation at the project level (22 CFR 216)
- Identify specific Mission needs that could be supported by USAID's Near East regionally- and centrally-funded projects

The workshop provided an opportunity for Near East Mission staff to describe their current and projected portfolio in relation to an environmental program. The group also reviewed and discussed the Water Resources Action Plan for the Near East and the Bureau's overall environmental strategy, as well as current USAID regulations on environmental assessments. The group also discussed the proposed Clean

Technologies Project and considered future approaches to integrating environmental issues into ongoing and new Mission and Bureau activities.

The workshop was divided into four major technical sections:

1. Country Environmental Reports,
2. Presentation and discussion of the Near East Regional Environmental Strategy and Water Resources Action Plan,
3. Identification and discussion of Crosscutting Environmental Themes, and
4. Presentation and discussion of USAID Regulations on Environmental Monitoring and Evaluation.

(See annex 2 for workshop agenda.)

### **Major Outcomes of the Workshop**

Based on the workshop evaluations, participants said the primary benefits of the workshop included a better understanding of the Near East Bureau Environment and Natural Resources Strategy and Water Resources Action Plan, as well as the concept for the Clean Technologies Project. Participants noted additional benefits including improved Bureau/Missions communications and team building.

The workshop succeeded in allowing open discussion of various strategies that will help integrate and focus on environmental issues in USAID-funded activities. One participant stated that "the primary benefit of this workshop is the knowledge of how to promote environmentally sound development." Another said, "The workshop contained discussion of issues relevant to most Missions. Workshop objectives were clearly attained. Facilitation was excellent."

Specific workshop outcomes can be summarized as follows:

- After detailed discussion of the overall strategy and five program outcomes of the Water Resources Action Plan for the Near East, those participating in the workshop agreed with the scope and focus of the document with only minimal changes.
- The group reached general agreement on the concept of clean technologies, but requested more Mission input and discussion on a clean technologies/pollution prevention project design.
- The group acquired a better understanding of the USAID regulations regarding Initial Environmental Evaluations (IEEs) and Environmental Assessments (EAs), discussed how best to comply with these regulations and how the Bureau can support the Missions in these tasks.
- The group agreed that more time should be spent on how best to integrate crosscutting environmental issues into new and ongoing Mission programs.
- Evaluations showed almost unanimous support for another workshop on environmental issues within the next 12-18 months.

(See annex 3 for evaluation results.)

## Chapter Two

### WORKSHOP SUMMARY

*Sunday, February 28, 1993*

#### **Opening Session**

The workshop began with an official welcome from Marcus Winter, Deputy Director, Near East/Development Resources (Workshop Chair); Henry Bassford, USAID/Egypt Mission Director and Gilbert Jackson, Near East Bureau Environmental Coordinator.

Following the official opening, each individual attending the workshop introduced him/herself, briefly described his or her position, and stated an expectation for the workshop.

Examples of group expectations included:

- Verifying that Washington and the Missions have the same agenda and priorities in the Environmental sector
- Learning what resources are available to support Mission projects,
- Getting more information and having more input into the clean technologies/pollution prevention activities
- Reaching consensus on a water resources action plan
- Getting help in implementing regulation 216 (USAID regulations on environmental monitoring and evaluation)
- Gaining more information about policy issues and technical environmental subject matter.

(See annex 4 for a complete list of the group's expectations.)

Following introductions, Kathy Alison, ISPAN Human Resources Development Program Manager and workshop facilitator, presented the goals and objectives of the workshop and reviewed the workshop agenda, clarifying how and if the group's expectations would be addressed in the workshop. Norms for how the group would work together and the role of the facilitator were also discussed.

#### **Country Environmental Reports**

Following the opening, Mission representatives each presented a 20-minute overview of their Mission's environmental program. The presentations focused on four points:

1. Definition of the Mission's overall strategic objectives related to environment, natural resources, and energy,
2. Highlights of host country programs that have an impact on USAID's program,
3. An overview of other donor activities working in the country, and
4. A description of the projected future role of USAID and the Mission in addressing the environmental needs of the country

Most Near East countries are in the process of revising or putting together new environmental legislation. Missions stressed the importance of providing some form of technical assistance on U.S. environmental legislation, which would help them learn from the U.S. experience and avoid costly and excessive regulations. It was concluded that interdonor coordination of environmental activities is sometimes limited by gaps in information about what other international donor agencies are doing. (Complete country reports can be found in annex 5.)

*Monday, March 1, 1993*

### **Regional Environmental Strategy and Water Resources Action Plan**

To set the stage for the discussion of the Near East Bureau Water Resources Action Plan, the first session of the day provided an overview of the Bureau's overall environmental strategy and how the Water Resource Action Plan fits in it.

Gil Jackson presented an overview of the Near East Regional Environmental Strategy. (See annex 6 for a summary.), Peter Reiss used slides to review the background and issues pertaining to the draft Water Resources Action Plan for the Near East (See annex 7 for a summary.), and Herb Blank presented the strategic objectives and proposed program outcomes for a water resource action plan (see annex 8 for a summary). These presentations were followed by discussion before more detailed presentations on the Water Resources Action Plan.

The rest of Monday's sessions and Tuesday morning's sessions focused on the Water Resources Action Plan. The topic was covered in five sessions, each dealing with one of the Plan's proposed program outcomes, which are:

1. Improved public management, including appropriate policies,
2. Increased public awareness of and support for conservation needs,
3. Increased wastewater treatment and water reuse by public and private sectors,
4. Increased use of pollution prevention and waste minimization techniques by public and private industry, and
5. Greater intercountry discussion of joint approaches to water resources management.

#### **Program Outcome # 1: Improved Public Management (including appropriate policies)**

The group discussed the need to integrate development approaches that strengthen management and sustainability of current activities by emphasizing infrastructure and operations and maintenance (O&M).

Major conclusions from this session are as follows:

- Improved management of water resources must be achieved through appropriate utilization of both the public and private sector.
- There is a need to delegate responsibilities to users, but in order for this to succeed, *effective user organization* must be established.

- In Near East countries, water is linked to national security and requires integrated planning.
- Some form of cost recovery is needed as well as more rational allocation of water across sectors.

The role of risk assessment as an appropriate policy for environmental management in developing countries was discussed by Larry Morgan. (See annex 9 for summary of handout.) Risk assessment was defined as a management tool that allows decision makers to identify environmental problems, establish priorities, and provide the scientific basis for appropriate actions by the host country. Risk assessment was described as an environmental accounting system.

Workshop participants agreed that the main use of risk assessments in the Near East lies in performing "environmental triage," separating very serious environmental problems from less serious ones. The group noted one significant caveat that risk assessments are only as good as the data supporting them. In addition, while risk assessment can play an important role in identifying and working out environmental problems, this method is not the only way to solve all environmental issues, nor is risk assessment always a prerequisite for sound environmental management.

### **Program Outcome # 2: Increased Public Awareness of and Support for Conservation Needs**

John Woods provided a framework for increased public awareness. (See Annex 10 for presentation summary.)

The consensus of the group was that there is a crucial need for environmental education in the Near East region and that this program outcome should be kept in the action plan. The group requested that the title of this program outcome be reworded "increased involvement of beneficiaries," to reflect the true focus of the Bureau's strategy on end users.

The group decided that the environmental campaign approach is an effective tool, and there is a real need to go beyond "awareness" to social acceptance and finally to empowerment of the end user of the water resources. The next task will be to develop appropriate performance indicators that will allow Missions and the Bureau to measure awareness, acceptance, and effectiveness of a strong environmental education program.

### **Program Outcome # 3: Wastewater Treatment and Reuse by Public and Private Sectors** (panel session)

The final session on Monday was a panel presentation from three Mission representatives attending the workshop. The topic was wastewater treatment and reuse, and examples of programs were presented by Mike Gould who discussed Oman, Abdallah Ahmad who discussed Jordan and Fred Guymont who discussed Egypt.

The panel presenters and workshop participants identified the durability of sewage treatment plants, the need for decentralized operations and maintenance, and the ability to set rates and retain revenue as the major issues surrounding wastewater treatment and reuse by the public and private sectors. The group agreed that USAID Missions should continue to focus on O&M, to insure increased sustainability of

treatment plants. There was considerable discussion about the lack of appropriateness of secondary treatment plants for small communities. The group agreed to encourage Near East countries to develop smaller systems, using technology that is more appropriate for small communities.

Another issue discussed during the session was sludge reuse and whether it can be economically marketed. The workshop participants agreed that there is a need to review the sludge reuse question in depth, to conduct a complete study of this technique's economic and environmental costs and benefits, and to discuss examples of its applicability in developing nations.

The feasibility of wastewater reuse was also discussed in the session. Participants agreed that the Water Resources Action Plan should make a distinction between direct and indirect wastewater reuse.

*Tuesday, March 2, 1993*

#### **Program Outcome # 4: Pollution Prevention and Waste Minimization Techniques**

Dr. Joel Hirschhorn defined pollution prevention as a method to reduce pollution through modifying the production and/or processing systems of individual industries to minimize the generation of waste products and explained that it is the "new" environmental paradigm. Pollution prevention contrasts directly with the "end-of-pipe" paradigm that predominated in the United States (and in U.S. Environmental Protection Agency regulations) for decades prior to 1990. With the passage of the Pollution Prevention Act of 1990, the U.S. Government has finally made a commitment to pollution prevention and has started to implement incentives for its adoption.

Dr. Hirschhorn explained that pollution prevention must be viewed as a profit-driven concept, because it is the best investment that a private firm can make to increase its productivity and profitability while insuring maximum protection for the environment. He contrasted the pollution prevention approach with end-of-pipe approaches, which represent only costs to production and do not contribute to productivity or efficiency.

The workshop participants strongly agreed that clean technology was needed in the region, and requested specific examples of how to transfer the pollution prevention/clean technology concept to the Near East region. The discussion focused on the role USAID should play in encouraging this approach in the Near East.

The Bureau's view was that Near East private entrepreneurs want and need clean technology, and are ready to purchase clean technology commodities from U.S. suppliers. A prevalent view among participants was that the pollution prevention concept will need to move through a lengthy "awareness/understanding/acceptance/action/sustained behavior change process" before it can be implemented completely in the Near East region. The group agreed that pollution prevention is the only way to go; it is the future; and its rationale is attractive. All Missions should strive for promoting clean technology instead of end-of-pipe technologies.

However, diverging views existed on the best approach for implementing pollution prevention in Near East countries. Finding the best approaches should be of interest during the implementation of the Water Resources Action Plan and other Mission/Bureau projects.

## **Program Outcome # 5: Greater Intercountry Discussions of Joint Approaches to Water Resources Management**

The session on joint approaches to water resources management focused on several major areas of work being coordinated by USAID and the Missions that promote improved water resources management.

An overview of the Near East Bureau's support for the Environmental Working Group involved in the Middle East peace process was presented. (See annex 11.) The Bureau presented and discussed current efforts, specifically the Gulf of Aqaba Environmental Data Survey and the California Coastal Workshop. Bureau representatives also discussed work being done to support the Water Working Group involved in the Middle East peace process.

An overview of the Middle East Regional Cooperation Project (MERC) activities was also presented with emphasis on the role of these projects in promoting scientific exchange and regional collaboration. The presentation stressed the importance of MERC programs, which presently enjoy high visibility and support. (See annex 12.)

Dr. Tom Hourigan from the USAID Policy Directorate discussed USAID's commitment to the Global Environmental Facility (GEF) and how interdonor coordination is approached by the Agency. (See annex 13 for GEF principles.) Discussion revolved around the issue of incompatibility of GEF's un-tied procurement regulations with the Agency's current mandate to buy United States products and services. The group agreed that USAID should reconsider its strategy for involvement with the GEF until the program better reflects USAID's procurement obligations.

A summary of the five major themes concluded the workshop sessions on the Water Resource Action Plan.

### **Crosscutting Environmental Themes: A Look Toward the Future**

On Tuesday afternoon, Gil Jackson presented an overview of the key environmental program areas for the Near East and discussed how the Bureau is approaching them. The four key environmental constraints identified were degradation and depletion of water resources, urban and industrial pollution, environmentally unsound energy production and use, and unsustainable agricultural practices.

The group strongly agreed with the importance of these constraints to economic growth in their countries.

Rick Rhoda then presented a case study of how Egypt succeeded in getting its environmental program on the Mission's agenda—through hard work and the Mission's thorough understanding of environmental issues' strategic importance in Egypt.

A synopsis of capabilities and activities currently sponsored by the PRIDE and ISPAN projects were presented by staff from both projects. Alex Segarra also made a brief presentation on the R&D Bureau's environmental office projects and described the resources available to help Missions deal with environmental issues. (See annex 14 for list of centrally-funded environmental projects.) The Mission participants requested that the Bureau continue providing support for these projects, specifically in the areas of pollution prevention, wastewater treatment, and water resources management.

Raj Shaw then presented an overview of current efforts underway to develop an industrial pollution audit system. This software-driven pollution audit system, prepared by PRIDE, will allow decision makers, plant auditors, and other environmental experts to utilize high quality, state-of-the-art information in the preparation and analysis of standardized industrial plant audits. Presently, efforts are underway to test this software with world environmental center experts.

*Wednesday, March 3, 1993*

### **USAID Regulations on Environmental Monitoring and Evaluation**

Alex Segarra reviewed USAID environmental regulations, with particular emphasis on Initial Environmental Examinations. He reviewed the history of USAID environmental procedures (22 CFR 216) and highlighted the impacts of past litigation on the regulations. A statistical analysis of threshold decisions in the Near East Bureau revealed that categorical exclusions are the most common environmental decision given to projects, and that less than one in ten projects will receive positive threshold decisions (which require formal environmental assessments). Participants were provided with a handout on guidelines for preparing IEEs.

The group scrutinized the existing procedures for submission of an IEE, and discussed how to develop a streamlined and efficient process for preparation, technical review, and approval of these documents by the Bureau Environmental Coordinator (BEC). The Missions and the BEC, Gil Jackson, agreed that the Missions will not submit an IEE for categorical exclusions, since regulations do not require that this document be prepared in such cases. In its place, the Missions will submit a "request for categorical exclusion," which will include a synthesis of project inputs and a brief discussion of why adverse environmental impacts are not expected.

Mission representatives discussed the role of monitoring and mitigation plans in USAID environmental regulations. Rick Scott discussed development of a mitigation plan in Morocco; Abdallah Ahmad discussed the development of a monitoring plan in Jordan; and Glenn Whaley talked about lessons learned in Egypt from implementation of Reg. 216. Monitoring and mitigation plans were portrayed as USAID tools for insuring environmentally sound development activities from project kick-off to project activities completion date.

All participants recognized the need for thorough environmental review of USAID projects and activities. However, key relationships have to be developed between Mission environmental officers and the Bureau to make Reg. 216 work. Mission environmental officers (MEOs) provide a crucial link between the Missions and USAID, fulfilling a complex mandate within constraints of limited time and resources. Participants agreed that the MEO position should be full-time, if possible. Workshop participants identified an urgent need to revise Reg. 216, to better reflect the realities of development work and changes in global environmental needs and priorities.

The current emphasis on training of USAID project officers on environmental procedures should be encouraged and promoted by Missions and the Bureau. At the same time, USAID should assist host countries in the development of strong local capabilities to plan and conduct environmental evaluations such as environmental assessments and impact statements.

## **Discussion of the Clean Technologies Project**

Gil Jackson reviewed the components of the proposed Clean Technologies Project. The group then made a number of suggestions on follow-up needed before the project could be designed.

Suggestions included the following points:

- In the design, take a sample of more private sector firms, use IRG technologies and identify needs within firms.
- Do a financial analysis (a simple before and after budget of labor, capital, materials).
- Instead of regional centers, create a U.S.-based communications center or a place where country representatives of United States firms can meet with host country businesses.
- The WEC adviser should feed information into the center.
- Consider taking advantage of existing framework rather than creating a new entity.
- Identify specific criteria for "go/no go" before Phase II.
- The institutional set-up of centers should be more defined.
- The project paper should take into account the redesign of the Energy Conservation and Efficiency Project.
- Consider performance contracting to establish specific targets against which contractors would be evaluated.

## **Priority Research Topics for Water Resources Action Plan (and more generally in the environmental area)**

The last major session of the workshop focused on identification of priority research topics. The group brainstormed the following list of possible research topics of interest to the Missions:

- Solid waste and hazardous waste disposal
- Nematode study and wastewater-borne diseases
- Transboundary water issues (crosses bureaus—includes hazardous waste and air pollution)
- Water modelling
- Consequences of pricing water according to its full value
- Wastewater reuse for agriculture
- Desertification
- Cost of water quality to economy
- Desalinization—1 month desk study
- Quality of wastewater and potential reuses and mixes.

## **Workshop Conclusions**

The workshop succeeded in allowing open discussion of the various strategies and approaches focusing on environmental issues within USAID-funded activities. Participants gained a better understanding of how to promote environmentally sound development. The workshop allowed for comprehensive discussions of issues relevant to most Missions. The expectations stated by the participants on the first day were also reached.

Based on the workshop evaluations, participants said the primary benefits of the workshop included a better understanding of the Near East Bureau's Environment and Natural Resources Strategy and Water

Resources Action Plan, plus the clean technologies/pollution prevention concept. Increased Bureau/Missions communications and team building were also cited as major benefits of the workshop.

Specific workshop outcomes include:

- After detailed discussion of the overall environmental strategy and five program outcomes of the Near East Bureau Water Resources Action Plan, participants strongly agreed with the scope and focus of the document with only minimal changes.
- General agreement was reached on the concept of clean technologies. Participants requested increased Mission input in discussion and design of a clean technologies/pollution prevention project.
- The group acquired a better understanding of the USAID regulations regarding Initial Environmental Examinations and Environmental Assessments and discussed how best to comply with these regulations and how the Bureau can support Missions in these tasks.
- The group agreed that more time should be spent on how best to integrate crosscutting environmental issues into new and ongoing Mission programs.
- Evaluations showed almost unanimous support for another workshop on environmental issues within the next 12-18 months.

Following the workshop summary, the group completed an evaluation form, and the workshop was then adjourned.

*Thursday, March 4, 1993*  
(optional fieldtrip)

The day after the workshop, a small group of the participants visited several irrigation sites in the Nile delta and an industrial site, a paper plant that is making use of a small computer to monitor stack emissions from a boiler. The computer gives a quick read-out of boiler efficiency and assists the operator in optimizing boiler operation. The USAID/Cairo program managed by Rick Rhoda is demonstrating this technology to industries throughout the Cairo area.

Further downstream, the group received a briefing on a potential USAID-funded water quality monitoring program and inspected a site where untreated industrial wastewater is being mixed with irrigation water.

## Annex 1

### WORKSHOP PARTICIPANTS

#### USAID/Morocco

Frederick Scott, PD/PE

#### USAID/Tunisia

Fathhi Kraiem, RHUDO

#### USAID/Egypt

Henry Bassford, USAID/Egypt Mission Director

Chris Crowley, Deputy Mission Director

Robert Jordan, Project Support Office

Douglas Clark, Associate Director, Agriculture

Richard Rhoda, Director, Environment

Glenn Whaley, Environment

Marc Madland, Environment

Salwa Wahba

Fred Guymont, DR/UAD

Paul Thorn

Paul Mulligan, PDS/E

Mark Gellerson, PDS/E

Flynn Fuller, ILD/AGR

Clemence Weber, ILD/AGR

Kim Kertson, PDS/P

Sami Yacoub

#### USAID/Jordan

Abdallah Ahmad, Mission Environmental Officer

Carl Dutto, Director, Water, Environment and Agribusiness

#### USAID/Oman

Michael Gould

James Baird, PSC

#### USAID/Washington

##### NE/DR

Herbert Blank, PI

Gilbert Jackson, Near East Bureau Environmental Coordinator

Alex Segarra, Ecology and Pest Management Specialist

Marcus Winter, Deputy Director, NE/DR (Workshop Chair)

##### Policy/IDP (Global Environmental Facility)

Thomas Hourigan, Environmental Policy Analyst

##### PRE/Housing

Robert McLeod

#### ISPAN

**Kathy Alison, Human Resources Development Program Manager (Facilitator)**  
**Peter Reiss, Technical Director**

**PRIDE**

**Larry Morgan, Strategic Planning Advisor**  
**James Westfield, Private Sector Specialist**  
**John Woods, Information, Education & Communications Specialist**  
**Joel Hirschhorn, Pollution Prevention Specialist**  
**Raj Shaw, Information Technology**

**Annex 2**

**WORKSHOP AGENDA**

*DAY 1: Sunday, February 28, 1993*

2:00 Official Opening

- Marcus Winter, Deputy Director, NE/DR (Workshop Chair)
- Henry Bassford, USAID/Egypt Mission Director
- Gil Jackson, NE Bureau Environmental Coordinator

2:15 Get Acquainted Session—Kathy Alison, facilitator

- Introductions/Expectations for the Workshop
- Goals, Objectives and Agenda of Workshop
- Norms for working together
- Logistics

3:00 Country Environmental Reports

20 minute presentation + 10 minute group discussion highlighting each Mission's environmental program. Presentations to focus on the following 4 points:

1. Define the Mission's overall strategic objective(s) related to environment, natural resources and energy
2. Provide highlights of host country programs that have an impact on USAID's program, especially
  - Current national environmental plans
  - Legal and regulatory frameworks within the country
  - The environmental agencies in the country and their institutional capabilities
3. Present an overview of activities of other donors working in the country and assessment of donor coordination issues
4. Describe the projected future role of USAID & the Mission in addressing the environmental needs of the country

3:00-3:30	Morocco	3:30-4:00	Tunisia
	4:00-4:15	Break	
4:15-4:45	Egypt	4:45-5:15	Jordan
	5:15-5:45	Oman	

5:45 Summary—Gil Jackson (rapporteur)

6:00 Adjourn

**DAY 2: Monday, March 1, 1993**

- 9:00 Overview of Day 2
- 9:15 Near East Regional Environmental Strategy and Water Resources Action Plan  
9:15 Near East Regional Environmental Strategy—Gil Jackson  
Discussion  
9:45 Near East Regional Water Resources Action Plan: Background and Issues—Peter Reiss  
10:00 Strategic Objective & Proposed Program Outcomes for a Water Resources Action Plan—  
Herb Blank & Discussion
- 10:30 Break
- 10:45 Water Resources Action Plan  
Program Outcome #1 Improved Public Management, including Appropriate Policies—Herb  
Blank & Peter Reiss  
10:45 Definition, overview, and expected outcomes of Improved Public Management, including  
Appropriate Policies  
11:00 Discussion  
11:50 Summary of session—Carl Dutto (rappateur)
- 12:00 Risk Assessment—Larry Morgan  
12:00 Definition and explanation of risk assessment  
12:15 Discussion  
12:45 Summary of session—Glenn Whaley (rappateur)
- 1:00-2:30 Lunch
- 2:30 Program Outcome #2—Increased Public Awareness of and Support for Conservation Needs—John  
Woods  
2:30 Define and provide a framework for public awareness programs  
2:45 Discussion  
3:30 Summary of session—Alex Segarra (rappateur)
- 3:45 Break
- 4:00 Program Outcome #3 - Wastewater Treatment and Reuse by Public and Private Sectors—panel  
session  
4:00 Mike Gould—Oman experience  
4:10 Abdallah Ahmad—Jordan experience  
4:20 Fred Guymont—Egypt experience  
4:30 Discussion  
5:00 Summary of session—Rick Scott (rappateur)
- 5:15 Adjourn

*DAY 3: Tuesday, 2 March 1993*

- 9:00 Overview of Day 3
- 9:15 Program Outcome #4 Pollution Prevention and Waste Minimization Techniques—Joel Hirschhorn/Gil Jackson
- 9:15 Pollution prevention, waste minimization and clean production technologies—Joel Hirschhorn
- 9:45 Clean Technology Centers—Gil Jackson
- 10:00 Discussion
- 10:30 Summary of Session—Rick Rhoda (rappateur)
- 10:45 Break
- 11:00 Program Outcome #5 Greater Inter-Country Discussions of Joint Approaches to Water Resources Management—panel session
- 11:00 Middle East Peace Talks
- 10:00 Environmental Working Group—Gil Jackson
- 11:15 Water Working Group—Marc Winter  
Discussion
- 11:35 Middle East Regional Cooperation (MERC)—Herb Blank  
Discussion
- 11:50 Global Environmental Facility (GEF)—Tom Hourigan  
Discussion
- 12:15 Summary of Results of Discussion on Water Resources Action Plan—Herb Blank
- 12:45-2:00 Lunch
- 2:00 Crosscutting Environmental Themes: A Look Toward the Future
- 2:00 Key Environmental Program Areas for the Near East and how we are approaching them—Gil Jackson
- 2:30 Private Sector Initiatives—Jim Westfield
- 2:45 Egypt case study—Rick Rhoda
- 3:00 Resources available to help Missions deal with environmental initiatives  
5 minutes: Larry Morgan (PRIDE); 5 minutes: Peter Reiss & Kathy Alison (ISPAN)  
10 minutes: Alex Segarra (overview of other centrally funded projects)
- 3:30 Break
- 3:45 Discussion: Identification of critical steps needed to get environmental initiatives through the Mission planning process.
- 4:15 Summary of Session on Crosscutting Environmental Themes: A Look Toward the Future—Douglas Clark
- 4:30-5:30 Special Session: Industrial Audit Expert System—Raj Shah
- 5:30 Adjourn

***DAY 4: Wednesday, 3 March 1993***

- 9:00 Overview of Day 4
- 9:15 USAID Regulations on Environmental Monitoring and Evaluation
- 9:15 IEE (Initial Environmental Evaluation)—The First Step—Alex Segarra
- 9:45 Panel Discussion on Environmental Monitoring and Mitigation Experiences: Gil Jackson (moderator), Abdallah Ahmad, Rick Scott, Glenn Whaley  
Overview—Gil Jackson
- 9:50 Developing a mitigation plan—Rick Scott
- 10:05 Developing a monitoring plan—Abdallah Ahmad
- 10:20 Lessons learned on implementation of Reg 216—Glenn Whaley
- 10:35 Summary of Session—Gil Jackson
- 10:45 Break
- 11:00 Discussion/Working session: Identify specific steps needed to meet 216 regulations most efficiently
- 12:15 Summary of Session on USAID Regulations on Environmental Monitoring and Evaluation—Alex Segarra
- 12:30-2:00 Lunch
- 2:00 Introduction and discussion of the Clean Technologies Project: Mission Feedback and Bureau Perspectives—Gil Jackson
- 2:45 Identification of Possible NE Bureau Research Topics—Herb Blank
- 3:00 Break
- 3:15 Conclusions/Summary of Workshop—Marcus Winter
- 3:30 Evaluation of Workshop
- 4:00 Closing Remarks/Adjourn

***DAY 5: Thursday, 4 March 1993 (Optional Field Trip)***

### Annex 3

#### FINAL EVALUATION RESULTS

*A total of 21 evaluation forms were completed and returned.*

##### A. Workshop Objectives

The participants were asked to evaluate the workshop objectives by marking the number that most closely indicates how well they thought each objective was achieved. The scale is from 1 (low, objective not achieved) to 5 (high, objective achieved very well).

*Not Achieved*

*Achieved Very Well*

1. Discuss and agree on a Near East Regional Water Action Plan  
4.2
2. Identify specific steps needed to address crosscutting environmental concerns within the Near East Bureau's objectives  
3.4
3. Develop specific recommendations on how Missions and the Bureau can strengthen regulatory monitoring and evaluation at the project level (i.e. 22 CFR 216)  
4.42
4. Identify specific Mission needs that could be supported by USAID's Near East regionally and centrally funded projects  
3.45

##### B. Opinions and Feedback

Participants were asked to answer the following questions about the workshop. These answers will be used to address follow-up issues and plan future workshops.

1. What do you think has been the primary benefit of this workshop?

Primary benefit was general interaction which took place between USAID/W and Mission staff involved in environmental activities.

Exchange of ideas. Better appreciation of the regional problems

Agreement on clean technologies concept

Understanding the NE Bureau Environment and Natural Resources Strategy and Water Resources Action Plan. Having the opportunity to discuss these documents with NE Bureau staff. Meeting other Mission staff.

Getting to know each other and exchange of ideas

Increase Bureau/Missions communication—recognition of respective work constraints/challenges

Agreement on Water Action Plan. Discussions on Clean Technology

Exchange of information. Networking

Making contacts. Learning about other Mission programs/projects

Exchange of views between Missions and Bureaus and approval of strategy and action plan

We have developed relationships between Missions and between Missions and USAID. I'm sure we will all feel free to communicate using e-mail concerning common interests

Discuss NE Water Action Plan. Introduce Clean Technology.

To understand the needs of the Missions better and to get a better handle on the 216 regulations. Also learning about Clean Technology

Communications with USAID

Learn more about what is happening in the region in terms of environment.

Address & discuss water and environmental issues

To get everybody to know about different environmental terms especially the new employees working in that field.

Face to face communications. Free exchange of ideas and views. Chance to meet and get to know the "face behind the e-mail".

Bureau team building. USAID/Cairo team building. Info transfer on Reg 216 and Bureau & USAID activities. Learned more about water issues.

Find out what is going on in USAID and the other Missions

The primary benefit of this workshop is the knowledge of how to promote environmentally sound development.

2. What workshop activity could have been done better?

Activities relating to workshop were all well planned and relevant. Perhaps more time should have been devoted to discussion of Reg 216 and related matters.

Discussion of the necessary monitoring measurements, analysis and QA/QC requirements of the NE region

More emphasis on cross cutting environmental issues (4)

How to turn plans into action

Needs for support from regional and central funded projects (2)

Specific Mission needs that could be supported by the NE Bureau and centrally funded projects

Planning. If Bureau could have agreed on an agenda earlier, more attention could have been devoted to linking ENR and Water Strategy Action Plan.

Reg 216, Bureau responsibility for helping Missions

The discussion on information systems and communications could have been stronger; and the discussion on Risk Assessment seemed outdated

Global

More variety in meeting; less sitting. More subgroup discussions

More expansion could have been given to industrial pollution and some of its technical aspects

With more time and facilitators, better documentation of recommendations could have been accomplished.

I'm not sure organization around Water Action Plan program outcomes was wise. Raj's participation could have been more valuable with correct equipment and much more time.

I think all workshop activities have been done at excellent level.

No response (3)

3. Do you think there are current or future issues that should be dealt with in follow-up activities? What are they, and what should be done about them?

Needs to be follow-up on relevance of centrally funded projects to Mission needs. Solicit specific comments from Missions on list of current centrally funded activities.

See # 2 (Discussion of the necessary monitoring measurements, analysis and QA/QC requirements of the NE region)

Follow-up on water issues; clean technologies; other environmental activities.

See # 2 (How to turn plans into action). We need to agree on specifically what will be done given Mission portfolios, strategies and funding availability.

How to strengthen programming of environmental issues and to strengthen central environmental agencies in the countries.

Yes. Remarkably little time was spent on the institutional challenge of ENR/Water Programs

Preparation of software for Reg 216—finish and distribute: Clean Tech.—ensure cooperation between counties

Coordination with other bureaus on IEE & EA procedures

Environmental programs—if the Agency required to focus on environment, do we have capability to design environmental projects: whole issue of buy American, sell America needs clarification.

More on actual implementation of clean technologies and privatization (private sector participation)

USAID should make an effort to ensure things don't fall through the cracks. Someone should schedule reviews of the proceedings.

Reuse of water; quality of water

The process of developing research needs and also coordinating regional problems on a bilateral basis

Water Action Plan

The role of local governments in defining urban environmental issues. The role of NGOs in addressing environmental issues and in information dissemination

Issues of how to cooperate with central—R&D projects & a strategy to work more closely with IBRD and other donors.

Follow-up on activities discussed such as water plan, clean technologies project through different communications systems such as e-mail, cable traffic, etc.

Reg 216 Process. Clean Tech Project. Water coordination—i.e. rural water & irrigation & urban water, wastewater.

No or no response (3)

4. What comments do you have about the design and facilitation of the workshop?

The design and facilitation of the workshop have been conducted in accordance with the state-of-the-art.

Design: try to get agenda and materials set and sent earlier

Facilitation: excellent, every workshop should have an excellent facilitator

Workshop design: good. Workshop facilitation: excellent.

More concrete results would have occurred if we had more facilitators and could have broken out into single topic work groups in order to develop recommendations for consideration and approval of the full group.

Workshop well presented, cannot be better. Too much was discussed—maybe needed more time for enabling everybody to discuss and express different opinions.

Decision on the agenda was done too late. Night sessions would be O.K.

The design and facilitation of the workshop worked out extremely well; there were some times when things were going slowly, but the idea of a reporter was a good one.

Well planned; facilitator could play a more substantive role on issues, not only on process.

Seemed too short. More time for sessions.

Excellent facilitator—Kudos.

Good. (3): Job well done! (2): Very good! (2)

Great—moved smoothly throughout.

It is satisfactory.

Workshop contained discussion of issues relevant to most Missions. Workshop objectives were clearly attained. Facilitation was excellent.

No Response (1)

5. What comments do you have about the workshop arrangements and accommodations?

I know we are short on money, but it would have been useful to have a larger room and more space to work.

Bigger space was needed due to participation from different countries and additional members of the USAID Mission in Cairo.

Good. Could have used better coffee service. Table format was good.

Excellent (4):                      Good (3): O.K. (2): Very good

The arrangements and physical plant was excellent. The hotel was great.

The meeting room could have been a little larger.

Fine—no complaints, although a better field trip arrangement would have improved the ending.

Fine. Speakers and board should be on opposite side, away from the right.

Very convenient. Good hotel.

Room too small.

Arrangements and accommodations were generally excellent.

No response (1)

6. Do you think we should have another workshop in the future?

Yes (6)

There should be a workshop or a conference held annually in the region and attended by the Mission environmental officer. (8)

Maybe every two years or so.

Yes, as team in Bureau changes, we will have to continue team building process, especially if and when Environment becomes really important.

If there is a specific need. I do not see a need now.

Yes, but formed in one of the NE Bureau areas of interest: i.e. Urban Pollution (solid waste management or wastewater management).

Yes, but not in Cairo. Preferably Morocco or Jordan.

Yes—I urge Bureau to consider one soon after new USAID mandate is decided.

## Annex 4

### GROUP EXPECTATIONS

#### COMMUNICATIONS:

- Verification that Washington and Mission have same agenda, priorities.
- Start dialogue on where USAID & NE GEF projects should be going—World Bank, ADB, project info.
- Handle on methods/ways to communicate with USAID to define more clearly what we want to do.
- Continue to talk about Private Sector. How to address issues in Missions.
- How can USAID & Missions improve communications.
- Get agreement on need to share info on Communications/Public Awareness/Education—and find out Mission need in these areas.
- Intercountry cooperation. How does Egypt get more involved.
- Try to share lessons learned that may have applications between countries.
- Field Missions articulate realities they face and what constraints Mission and Bureaus are working under.
- Better communication.

#### REGIONAL PROJECTS:

- Get help from Regional Projects and learn more about what is happening in Region.
- Learn more about resources avail to support Mission Projects.
- Centrally funded project we can tap.
- Strengthen cooperation with USAID and Regional Projects.
- Be responsive to Mission & Bureau needs (PRIDE).

#### CLEAN TECHNOLOGY:

- Help inform on Pollution Prevention. Get support for clean technology/pollution prevention strategy of U.S.
- Pollution Prevention Program—Resources avail.
- Clean technology activity discussed.

#### WATER ACTION PLAN:

- Conclusions on Water Resources Action Plan and how to incorporate into follow-on Mission action.
- Water Resources Action Plan. Planning/Policy Implications.
- Water Action Plan strategy adopted.
- Ground truth in Water Resources Action Plan.

#### REG 216:

- How Missions implement Reg 216.
- Recommendation to update Reg 216.

- Reg 16—Learn more about it.

#### GAIN INFORMATION:

- Know more about environment.
- Focus on what Cairo should be looking at—Mission, Region, Bureau.
- Overview of Regional Environment Problems.
- Gain new ideas on how to implement new projects (water) and wastewater. Managing special sites (archeological).
- Benefit from other Mission's experience on urban environmental issues.
- Get Tunisia/RHUDO Environment/Urban Action Plan linked with Bureau Plan.
- How Missions dealing with cost recovery, system turnover, water user etc. issues.  
How USAID is moving from talk to action.
- Contribute to development of implementation plans.
- How to promote changes within Government.
- Renewable energy program possibilities.

#### OTHERS:

- Policy reform issues.
- Discuss policy failures that have caused environmental problems.
- Acknowledgement of need for local public participation to foster advocacy groups NGO's.
- One step closer to plan for sustainable development.

## **Annex 5**

### **COUNTRY REPORTS**

#### **Morocco Report**

USAID Morocco's environmental activities are taking place today within the context of increasing interest and awareness on the part of the Government of Morocco, private sector, institutions of higher learning and others. Two environmental associations have been formed and the Government of Morocco has recently created the Under Secretary of Environment within the Ministry of Interior. Other Ministries have Directorates concerned with environment.

In 1990, USAID Morocco's programming focus turned towards working with the private sector. The Mission's Strategic Objectives include increasing competitiveness, facilitating the opening of new businesses, improving health care service and delivery and providing suitable housing for the poor. Environment, DPI, and WID are cross-cutting themes in the Mission's overall strategy. In tangible terms, the Mission has specific environmental activities in five projects which are activated through a buy-in to the PRIDE Project. The five projects are New Enterprise Development (activities include the development of environmental training module for entrepreneurs), the Morocco Agribusiness Project (activities include assessment of agribusiness activities), the Accessing International Markets Project (activities include assisting the private sector in environmental areas), Private Sector Assistance (activities include working the GOM on environmental issues in the privatization process), and the Energy Demand Management Project (activities include training engineers in environmental services). Environmental activities will also take place under the Tadla Resource Management Project and under the Mission's housing projects.

The World Bank is the major donor in environment in Morocco at the moment. It is funding a major appraisal study which should result in the development of a flexible environmental legal and regulatory framework. A major assumption is that the private sector will be a driving force in promoting environmental activities in the country. USAID/Morocco supported the World Bank appraisal study by funding a report on potential private sector involvement.

## **Tunisia Report**

### **I. DEFINITION OF THE MISSION'S OVERALL STRATEGIC OBJECTIVES RELATED TO ENVIRONMENT, NATURAL RESOURCES AND ENERGY:**

USAID/Tunisia's overall program strategy is centered on energizing Tunisia's private sector so as to expand employment, enterprise, and exports, and improve urban environmental services. Regarding the environment, the Mission has focused on:

- large polluting government-owned enterprises that can be privatized;
- small and medium size enterprises which can be made much more efficient through pollution prevention techniques and technologies; and
- privatizing and improving urban environmental services.

### **II. HOST COUNTRY PROGRAMS THAT HAVE AN IMPACT ON USAID'S PROGRAM:**

#### **A. The GOT's National Environment Strategy:**

The Tunisian Government's national environmental protection strategy contained in the VIIIth Plan (1992-96) has the following three objectives: (1) to contain environmental pollution and damage within acceptable limits in the long term; (2) to organize the use of natural resources to assure renewal and the maintenance of acceptable quality; and (3) to establish measures to protect and develop natural and human sites which are in danger of disappearing. These objectives are based upon the following principles:

- prevention is the best policy
- the polluter must pay
- the environmental costs of all actions must be identified and internalized

#### **B. Legislative and Regulatory Framework:**

There is no single Environment Code but rather scattered texts (laws, decrees, decisions) dealing with a wide range of fields. Three observations should be made with regard to environment legislation:

1. The lack of an overall, integrated legal approach to environmental protection.
2. The wide range of agencies responsible for environment.
3. The partial application of environment legislation.

#### **C. Environmental Agencies in the Country:**

There are many GOT agencies involved in managing the environment. Those most directly involved in the areas of correspondence to USAID/Tunisia Environmental Strategy are:

- The Ministry of the Environment and Land Use Planning (MEAT);
- The National Sewage Agency (ONAS), which handles the sewerage infrastructure of the country; and
- The National Agency for the Protection of the Environment (ANPE), which is responsible for control of pollution from other sources including industry.

### III. OTHER DONOR ACTIVITIES:

Other bilateral and multinational aid programs have provided support to environmental protection. The most significant of these include the following;

- Mediterranean Environmental Technical Assistance Program (METAP). Funded by UNDP, EIB, WB, and EEC, this program addresses the environmental policy, institutional requirements and investment-related needs of Mediterranean countries;
- Germany (KfW and GTZ). German bilateral aid has mainly focused on assistance to ONAS's sanitation programs;
- Sweden and Holland. These countries have agreed to pay of portions of the GOT's outstanding debt used for environmental projects;
- Japan. Japan has provided the GOT with environmental aid through METAP and has outfitted an environmental lab at Sfax.

The USAID/Tunisia Environmental Strategy complements existing bilateral and multinational aid programs by addressing specific needs expressed by the GOT that are not being supported by other donors such as training and technical assistance in private sector pollution prevention and control, and delivery of urban environmental services.

### IV. PROJECTED FUTURE ROLE OF USAID AND THE MISSION IN ADDRESSING THE ENVIRONMENTAL NEEDS OF TUNISIA:

1. USAID/Tunisia has prepared a draft Environmental Strategy/Action Plan. This Plan proposes 29 key actionable elements for future implementation under a "cross-cutting" type of approach. The action items are divided into:
  - 16 elements directed toward the creation of demand for environmental services/goods;
  - 9 elements directed toward fostering of supply of environmental services/goods;
  - 4 elements directed toward the improvement of performance and efficiency of private enterprises.

The 29 actionable elements are similar to a "menu" of critical activities in the environment that require attention, that are presented as representing those environmental activities in which the U.S. has a comparative advantage.

2. In addition, USAID/Tunisia is in the process of developing the Private Participation in Environmental Services program, a combined housing guarantee/grant program (\$50 million HG/\$3 million grant) to address Tunisia's urban environmental development. The purpose of this program (No. 664-0356/HG005) is to enable greater development of urban areas on an environmentally sustainable basis by increasing the coverage and efficiency of urban environmental service delivery through increased participation of the private sector.

## **Egypt Report**

### **Environment Sector Profile**

Serious environmental degradation constrains not only Egypt's economic development, but the health and livelihood of its citizens. Agricultural chemicals, industrial waste, raw sewage and silt from runoff have seriously contaminated water intended for human consumption, irrigation and other uses. An estimated 60,000 die annually from water-borne diseases. Automobile and industrial emissions have severely degraded urban air quality and given rise to extremely high incidence of chronic and acute respiratory illness. Environmental problems are largely a consequence of inappropriate economic policies. Heavy subsidies on all forms of energy, water, fertilizer, and pesticides have encouraged overuse of these inputs leading to serious deterioration of air and water quality. For many years the Government of Egypt (GOE) ignored these problems.

Recently, however, the GOE has begun to take a greater interest in environmental problems. The GOE has been reducing inappropriate subsidies and some important GOE agencies are showing greater interest in environment. During 1992 the Ministry of Cabinet Affairs (MCA) issued an ambitious Environmental Action Plan. The Plan candidly discusses the seriousness of environmental problems and calls for numerous needed reforms including enforcing realistic water and air emission standards; reducing subsidies to energy, fertilizer, pesticide and water; offering unleaded gasoline and low sulphur fuels; and establishing a system of Environmental Impact Assessments (EIAs).

A basic element of the Plan is a new Environmental Law which would create a strong Central Environmental Agency, provide legal frameworks for the EIA system and air emissions standards, and establish marine pollution controls. However, several powerful ministries and companies are opposed to environmental reforms, which they feel will constrain their production. The new legislation was defeated in the 1992 session of the People's Assembly. The current People's Assembly is now considering a revised Environmental Bill, which has a possibility of passing.

The ultimate success of environmental protection efforts in Egypt is largely dependent on the passage of the Environmental Law, the issuance of effective Executive Regulations, and the ability of the new Central Environmental Agency to effectively exercise the authorities granted to it in the Bill. In short, the most critical ingredient to environmental reform is political commitment at the highest levels of the GOE.

Consistent with growing GOE environmental interest, in 1992 USAID developed an environmental strategy. USAID established a new Environment Office, refocused two industrial projects to add environmental components, and budgeted \$15 million for a new project to help the GOE implement the new Environmental Bill. The new project will only be implemented if, and when, the GOE demonstrates unambiguous political commitment to environmental protection. USAID also is shifting its wastewater focus from sewage collection to environmentally sound sewage treatment. USAID currently is helping the GOE develop a comprehensive irrigation water planning and management capability. Electricity sector support is shifting attention from construction of power plants to increased efficiency of electricity generation, transmission and distribution.

While USAID did not have a formal environmental strategy prior to 1992, many of its activities have had major impact on environmental protection. USAID has been most active in the wastewater sector. Since 1977 it has invested almost \$2 billion in sewage activities. USAID's \$421 million investment in irrigation

has improved management of irrigation water, one of Egypt's most critical natural resources. USAID's \$1.6 billion investment in environmentally sound energy has had a significant impact on reduced air pollution. Clean renewable energy activities include major modernization of the Aswan High Dam Hydroelectric Power Plant as well as demonstrations of solar and wind technologies.

USAID assistance has contributed to an improved environment in Egypt. Severe urban sewage flooding in Cairo, Alexandria, and the Canal Cities has been virtually eliminated. With the completion of sewage projects now underway, 17 million people in eight recipient cities will be receiving improved sewerage services. Industrial energy conservation activities are protecting air quality. Combustion tune-ups of 68 industrial boilers reduced emissions of Sox by 40% (8,500 tons/year), NOx by 30% (1,000 tons/month), CO by 33% (1,200 tons/year), and CO<sub>2</sub> by 9% (220,000 tons/year), while cutting fuel consumption by 7% (\$8 million/year). The Talkha Combined Cycle Power Plant is producing an additional 110 megawatts of electricity with no additional fuel consumption and thus no additional air pollution emissions.

USAID is committed to protecting the environment. Completed and on-going projects have already had positive environmental impact. Implementation of USAID's new environmental strategy, coupled with GOE commitment to environmental reform, promises to have even greater impact in the years ahead.

### **USAID/Egypt Current Projects Protecting the Environment**

#### **1. Projects Protecting Fresh-Water Resources**

##### **a. Alexandria Wastewater System Expansion (263-0100)**

Duration: 1977-1993 LOP Funding: \$390.0M

Project addresses water pollution problems in Alexandria by financing design, construction and start-up of a sewage development program which will alleviate sewage flooding in residential areas and disposal of raw sewage in recreational beaches. Components include four pump stations, sewerage tunnels, expansion and upgrading of two sewage treatment plants, and a sludge management facility.

##### **b. Provincial Cities Development (263-0127 and 161.03)**

Duration: 1984-1994 LOP Funding: \$110.0M

Project alleviates serious water-borne disease problems in three provincial cities (Fayoum, El Minia and Beni Suef) by helping city governments effectively plan, budget, build and maintain water and wastewater systems. Construction includes design-build contracts for three water treatment plants and sewerage systems.

##### **c. Cairo Sewerage II (263-0173)**

Duration: 1984-1994 LOP Funding: \$816.0M

Project attacks a major Cairo pollution problem by expanding sewerage into the largely unsewered areas on the Nile west bank and increasing the capacity of the associated treatment plants. Components include rehabilitation of Zenein treatment plant, construction of new Abu Rawash plant, eight pumping stations, 20 kilometers of culverts, and expansion of sewerage to Embaba and the Pyramids community.

**d. Canal Cities Water and Wastewater II (263-0174)**

Duration: 1987-1997 LOP Funding: \$380.0M

Project alleviates water-borne disease problems in the Canal Cities of Port Said, Ismailia and Suez, by further improving the delivery of water and wastewater services.

**e. Water and Wastewater Institutional Support (263-0176)**

Duration: 1985-1994 LOP Funding: \$15.0M

Project enhances the capability of Egyptian agencies to plan, finance, design, construct, operate, and maintain municipal water and wastewater needs throughout Egypt.

**f. Local Development (LDII) (263-0182)**

Duration: 1985-1993 LOP Funding: \$481.0M

Project improves the environmental quality in rural and urban Egypt by financing construction of water and wastewater systems, roads, and other community facilities as well as strengthening local governmental capability to plan, finance, implement, operate, and maintain these facilities.

**g. Irrigation Management Systems (263-0132)**

Duration: 1981-1995 LOP Funding: \$340.0M

Project helps Egypt effectively manage one of its most crucial natural resources by improving water resource planning, and the design, construction, operation, and maintenance of irrigation infrastructure. While directed primarily at improving water use efficiency, and thereby agricultural productivity, improved management of the irrigation system includes the alleviation of adverse environmental impacts associated with irrigation and the extensive use and reuse of water. Problems specifically addressed by the project include waterlogging, salinity and water quality. For example, the project replaced over 19,000 obsolete structures, saving water and benefitting some two million farmers through reduced water logging, increased crop intensity, expanded irrigated area, and more equitable water distribution. In 1993, increased attention is being given to water quality issues.

**h. Science and Technology Cooperation (263-0140.01)**

Duration: 1987-1995 LOP Funding: \$36.0M

Project hires Egyptian applied scientists and research engineers to solve environmental problems of client companies. Environmental subprojects involve treatment of industrial waste, industrial waste recycling, pollution prevention, lake ecosystems, improved sewage disposal, and solid waste composting.

**i. National Agricultural Research (263-0152)**

Duration: 1985-1994 LOP Funding: \$300.0M

Project develops and transfers improved technologies for water quality management, water reuse, new lands development, integrated pest management, environmentally sustainable agriculture, as well as other productivity-increasing technologies.

**k. Agricultural Production and Credit (263-0202)**

Duration: 1986-1995 LOP Funding: \$283.0M

Policy reform component has reduced subsidies on fertilizers and pesticides, thus decreasing their overuse by farmers, and reducing their contribution to water pollution.

**2. Projects Protecting Air Resources**

**a. Rehabilitation and Modernization of the Aswan High Dam Hydroelectric Power Station (263-0160)**

Duration: 1982-1995 LOP Funding: \$140.0M

Project significantly reduces the need to build additional thermal power plants, that emit greenhouse gases and other pollutants, by improving the efficiency of Egypt's dominate renewable energy facility. Components include rehabilitation and modernization of the 12 hydro-turbine generators and hydraulic gates as well as replacement of transmission line protective relays, circuit breakers, and related control systems.

**b. Alexandria Electrical Network Modernization (263-0194)**

Duration: 1989-1997 LOP Funding: \$50.0M

Project improves efficiency of Alexandria's electrical distribution network and thus enabling the utility to deliver more power to consumers without having to build additional thermal power plants with their concomitant environmental problems.

**c. Power Sector Support (263-0215)**

Duration: 1989-1999 LOP Funding: \$391.0M

Policy component is reducing electricity subsidies, thus reducing energy waste, and protecting the environment by alleviating the need to build new power plants. Capital component is contributing to environmental protection by focusing on improving efficiency of electricity generation, transmission and distribution.

**d. Energy Conservation and Efficiency (263-0140.3)**

Duration: 1988-1996 LOP Funding: \$49.5M

Project promotes and accelerates the adoption of improved commercial technologies for saving energy, increasing energy efficiency, and reducing air pollution. The new portable gas analyzer component initiated in 1992 already is reducing air pollution by thousands of tons per year. USAID is redesigning project to include other types of industrial waste in addition to energy waste.

## **Information on Environmental Impact of the Aswan High Dam**

### **1. High Dam Environmental Impacts**

The environmental impacts of the High Dam, built with Soviet assistance during the 1960's, have been the focus of considerable attention since its conception. Most attention has been focused on impacts related to (1) the dam's blockage of sediments and (2) perennial irrigation. The alleged adverse effects receiving most attention are increased waterlogging and salinization, an increase in diseases (primarily schistosomiasis), and a loss of soil fertility. Others of concern are loss of capacity due to sedimentation in the reservoir, downstream scour, riverbed degradation and coastal erosion.

Unfortunately, there is a great deal of misunderstanding of this matter. Many of the misconceptions have resulted in highly critical reports published in the 1970's. These reports were published before reliable scientific information about the dam and its environmental impacts was available. They were based as much on opinion, speculation and myths as on facts. During the 1980's, a number of scientific studies objectively reviewed these alleged adverse impacts and placed them in perspective against derived benefits. Based on the data then available, these studies generally concluded that most of the alleged negative impacts were greatly exaggerated, often erroneously attributed to the Dam, and were far outweighed by the overall benefits.

In summary: (1) There is no real evidence that the Dam has contributed to an increase in schistosomiasis. (2) Waterlogging and salinization are problems inherent to irrigation systems; they existed in the Delta where perennial irrigation was widely practiced before the High Dam; and, there is little evidence that these problems have been exacerbated by the Dam. (3) Fertility of Egypt's agriculture lands had little to do with the floods despite thousands of years of myth--the sediments are not rich in nutrients and most entering Egypt (probably 80%) were deposited in the Mediterranean.

While the problems of overuse of agricultural chemicals, waterlogging, and salinization should not be attributed to the High Dam, they do exist. Numerous GOE and USAID activities are directed towards alleviating these environmental problems. The Irrigation Management Systems Project is improving many aspects of water resource management including improved water distribution and irrigation management to alleviate water quality, waterlogging and salinization problems. It also supports the GOE Water Research Center in addressing the problems that can be attributed to the High Dam, such as downstream scouring, riverbed degradation and coastal erosion. Policy dialogue under the USAID Agriculture Production and Credit Project has resulted in removal of the heavy subsidies the GOE provided to farmers to makeup for the assumed loss of nutrients in the sediments caught behind the dam. These subsidies led to significant overuse and environmental degradation. The Local Development I & II Projects assisted governorates with numerous problems associated with alleviation of waterlogging. The USAID Schistosomiasis Research Project, the biggest activity of its kind in the world, is developing vaccines and other tools for combatting a very serious waterborne disease which has been influenced by dam (See below).

### **2. Inquiry Concerning Eye Disease Resulting From Aswan High Dam**

USAID talked to the Chief-of-Party (COP) of the USAID Schistosomiasis Research Project (SRP) regarding subject inquiry. The COP has over 20 years of experience in Africa working on

schistosomiasis. To his knowledge, the "eye disease" report is false. The only two eye diseases affecting people associated with rivers/dams are the common trichoma, which is transmitted by dirty hands coming in contact with the eyes and onchocerciasis (commonly known as river blindness disease) which is transmitted by a parasitic worm. There are no known cases of river blindness in Egypt. Trichoma is not linked to construction of the dam.

Onchocerciasis is often confused with schistosomiasis as they are both waterborne, parasitic diseases. The SRP COP contacted NAMRU and reported the following: NAMRU confirmed that the two diseases are often confused, thus resulting in mistaken reports. The disease encountered in Egypt is schistosomiasis and not onchocerciasis. The only identified effect the dam has had on schistosomiasis has been the change of incidence in the population of the two schistosome (species) or vectors of the disease in the body. Apparently one species has replaced the other in dominance in the population of these organisms. The reason(s) for this change of incidence is unknown although it is currently being investigated.

## **Jordan Report**

The responsibilities of protecting Jordan's environment and promoting nature conservation are divided among several ministries and agencies. These responsibilities are shared by: the Water Authority and the Jordan Valley Authority under the auspices of the Ministry of Water and Irrigation, the Ministry of energy and Mineral Resources, the Department of Antiquities and the Ministry of Municipal and Rural Affairs and the Environment.

In addition to the above mentioned establishments, the Jordanian Society for the Control of Environmental Pollution (JSCEP), which is a non-governmental organization, is dedicated to the protection of the environment and the control of pollution. It also aims at creating public awareness in the field of environmental protection.

Furthermore, the Royal Society for the Conservation of Nature, which is a non-governmental organization, is dedicated to the conservation of nature and natural resources. Included among its activities are the supervision of Jordan's seven nature and wildlife reserves and various educational efforts designed to increase environmental awareness and protection efforts.

The environmental responsibilities are not as well defined as they could be and thus lead to duplication of efforts, negligence, dilution of responsibilities and promotion of tension among the various agencies, etc. charged with protecting the environment and nature.

Numerous problems arise with institutional roles and responsibilities for environmental protection in Jordan. There is tremendous overlap in responsibilities, with numerous agencies performing components of the same job. At the same time, there is confusion as to who should take actions on other issues and, as a result, gaps in environmental protection exist. Finally, some agencies with responsibilities are simply not performing key requirements under law, due to lack of resources or commitment.

In the final analysis, no single agency has comprehensive authority for environmental protection in Jordan. While many agencies have a stake in environmental issues, these may be tangential to resource management, public health, or development responsibilities. The Department of Environment within the Ministry of Municipal and Rural Affairs and the Environment (MMRAE) is specifically dedicated to environmental protection, but its small size and lack of statutory mandate have inhibited its authority to develop and enforce protection initiatives. The National Environmental Strategy (NES) specifically called for strengthening the Department of Environment (DOE) and creating an independent institutional framework for managing environmental affairs.

The foremost question which recently posed itself to the government of Jordan is how to expeditiously solve controversial environmental issues that are of multi ministries/agencies nature. In answering this question, and based on the present fragmented approach to the environment, the government of Jordan has drafted a comprehensive environmental law which requires the establishment of the General Environment Corporation (GEC). The GEC is of a corporate nature and is financially, technically and administratively independent. The draft environmental law is being reviewed by the Prime Minister Office and will be presented to the Parliament, soon.

Existing environmental legislation is fragmented and inadequate. It does not have the minimum requirement for promoting and maintaining environmentally sound development. However, it covers to some extent, water, mining activities, land use, wildlife conservation, pesticides management, agricultural activities, cultural resources (antiquities), environmental health and marine and coastal management.

### **Wastewater Treatment in Jordan**

Jordan has (15) wastewater treatment plants, which serve about (60) % of the population and provide secondary treatment with a design capacity of 115,000 mc/day. Most of the effluent is used in irrigation by the private sector. Most of the plants are hydraulically and biologically overloaded. Industrial effluent pose additional problems to As-Samara Wastewater Treatment Plant (the largest in Jordan). Operation and maintenance of these plants require more efforts, highly trained personnel and adequate budget.

## **Omani—American Joint Commission Report**

### **I. The Mission's Environment and Natural Resources (ENR) Strategic Objective and Program Strategy**

- ENR Strategic Objective is to "improve the management and conservation of renewable natural resources, particularly the Sultanate's water and marine resources"
- Introduce overall situation in Oman relative to oil, fisheries, labor and high population growth. Mention other strategic objectives (population planning and institution building through training).
- Water is the resource limiting agricultural and economic development; arable land is limited. Rainfall is meager and erratic with water supply relying on falajs (springs), wells and desalination.
- Government is making great efforts to understand and better manage water. CDM through WASH has provided substantial support to help the new Ministry of Water Resources become effective. Well inventory, wadi gauging, falaj study, recharge dams, laboratory upgrading, marine intrusion monitoring and data management systems.
- There are major needs for water supply projects in the Sultanate, particularly in rural areas and provincial cities. UNICEF with some WHO involvement seeks to address these needs through the development of a 10 year action plan. The Omani Gov. would like the OAJC to also assist on a selected water supply project.
- The coastal zone is very important because fishing is the next largest revenue earner after oil. Many Omanis live along the coast. Recharge dams along coast have reduced sediment transport to the beaches and structures have been built on them. The OAJC has helped to develop regulations for coastal zone management in support of an IUCN program which characterized the extensive Omani coastline.

### **II. Description of completed and ongoing ENR projects**

#### **A. Wadi Al Khoud Dam**

#### **B. WASH Assistance to Ministry of Water Resources**

#### **C. Water Resources Development Project**

- Muscat Water Supply—Master Plan and Ghubrah Expansion
- Coastal Zone Management
- Salalah Master Plan and the Wastewater Project

#### **D. Fisheries Development and Management Project**

### **III. Sultanate of Oman plans and regulations**

A. At present there is strong emphasis on water management, less so on coastal zone and other environmental sectors. Industry is not an important factor. Fisheries is important and the OAJC has Fisheries Development and Management Project to help them develop stock assessment and management capability.

B. Oman has recently developed a National Conservation Strategy which addresses environmental management, population and subsidy policies. This includes water, agriculture and fisheries. If implemented, it will strengthen the ministry charged with environmental management, reducing the conflict of interest of having user groups manage resources. Emphasis is also placed on agriculture water use, coastal zone and water resources management.

C. Oman uses an environmental assessment/certification approach to reviewing projects which might have an effect on the environment. Talk about roles of various ministries. Comment on planning and regulatory capabilities.

D. Donor coordination—UNDP.

### **IV. Future Program**

A. Salalah Wastewater will be a major activity until 1996. It will include an EA prepared by D&M/CDM. With advanced treatment and aquifer recharge it should be a model project for water/wastewater management in arid zones. Ag water use, marine intrusion, better water management.

B. The Fisheries Development and Management Project will proceed to 1995 and 1997 (training) helping the Omani government to better manage their marine fisheries.

C. Natural Resources Management Project (planned new start for FY94) is our means to follow through on attaining the strategic objective. Emphasis will be on water resources management with flexibility to add a water supply infrastructure activity by amendment at a latter date. Initial LOP will be about \$5-10 million depending on the availability of future funding. Sectors other than water can also be considered latter in response to Omani requests.

D. Omani-American Joint Commission staffing is small but very appropriate for supporting a natural resources program.

## **Annex 6**

### **NEAR EAST REGIONAL ENVIRONMENTAL STRATEGY**

Gil Jackson

The Near East Bureau's Environment and Natural Resources Strategy has been formulated in accordance with guidelines set forth by the Agency's Environmental Strategy Framework, and reflects existing programs and the current environmental and natural resource issue facing the Near East region.

#### **CRITICAL ISSUES IDENTIFIED**

The most critical environmental challenges facing this arid region are primarily associated with water resources. The region is plagued by water shortages and deficits, while the degradation of water quality increases at an alarming rate—further exacerbating the problem of water availability. Water, as well as other natural resources, are being used in an increasingly unsustainable manner due to unrestrained urban and industrial growth; a poor appreciation of conservation and environmental protection; and inadequacies in technical and regulatory infrastructure to protect and manage these resources.

The rate of population growth throughout this region is among the highest in the world, resulting in rapid degradation of limited and fragile water and arable land resources. Climate, access to limited water and arable land, proximity to trading routes and access to existing infrastructure along the Mediterranean shores and major rivers has resulted in urban populations being clustered in these areas throughout the region.

Due to the transnational nature of water resources in the region, many of the water issues are the cause, and continuation of, geopolitical instability. Prospects for lasting, regional peace will depend heavily on resolving transnational water issues—issues that for some countries threaten their future existence.

The region has reached a critical crossroads in its history and individual countries are beginning to recognize the strong relationship between sound environmental and natural resources management and economic development. This recognition of the importance of sound environmental management is beginning to surface in the form of a proliferation of individual country environmental strategies such as those evolving in Egypt, Jordan, and Morocco.

This current situation provides an excellent opportunity for the Near East Bureau to respond to the challenge of developing and carrying out a comprehensive strategy for ensuring the economic growth of the Near East countries. The "opportunity" is in promoting sustainable economic growth by sound economic management of natural resources and the environment through more efficient production and use of natural resources that reflect market forces.

The treatment of transnational issues in the Near East may involve countries of different regional bureaus and/or countries that do not receive USAID assistance. This situation complicates the development of effective regional activities. For this reason, the Near East Bureau will explore opportunities to cooperate with other international donors and NGO's in order to broaden the opportunities for regional approaches and strengthen the effectiveness credibility of such approaches.

## **ENVIRONMENTAL CONSTRAINTS**

The priority issues of environment and natural resources that have been identified for the Near East Bureau are embodied by four of the five critical constraints to development outlined in the Strategy Framework. These constraints and their priority for the Near East region are:

- 1) Degradation and Depletion of Water Resources
- 2) Urban and Industrial Pollution
- 3) Environmentally Unsound Energy Production and Use
- 4) Unsustainable Agricultural Practices

## **STRATEGIC OBJECTIVES**

The environment and natural resources issues outlined in the constraints to development give rise to the following four strategic objectives:

- 1) Foster efficient resource use and conservation, especially water and energy.
- 2) Promote the concept of waste minimization and pollution prevention in resolving problems facing the industrial and agricultural sectors in ensuring air, soil and water quality.
- 3) Increase accountability and local empowerment in addressing environmental and natural resource issues.
- 4) Foster private sector solutions and policy at the local, national and regional levels.

## **APPROACHES IDENTIFIED**

The Near East Bureau has identified four strategic approaches to achieve the objectives based on criteria that are most applicable to the environmental and natural resource issues of the region and hold the most promise for successful and effective intervention.

These include:

- 1) Providing technical support to Missions on the environmental and natural resources dimensions of their projects and programs, including environmental assessments.

**2) Identifying and implementing regional and common approaches to resolving environmental problems and resource management, including cooperation with other donor organizations.**

**3) Providing support for critical policy reforms and development of institutional capability in environment and natural resources, with priority towards water resources.**

**4) Providing support for promoting environmental services expertise and technologies in the Near East region that is available from the U.S. private sector and academic institutions.**

## **Annex 7**

### **NEAR EAST REGIONAL WATER RESOURCES ACTION PLAN: BACKGROUND AND ISSUES**

Peter Reiss

#### **Background**

The Near East is one of the world's most extensive arid regions. Almost three quarters of the land from Morocco through Iraq is desert, lacking in sufficient water resources and adequate soils to support a settled population. Settlement is concentrated along the few major rivers where there are arable soils and in the coastal zone which is generally better watered than the desert interior.

Current water shortages could soon reach crisis proportions since the Near East has one of the highest population growth rates in the world. With an average annual growth rate of 3.6 percent, the population of the Near East will more than double between 1980 and 2000. Increasing industrialization and urbanization place additional pressure on the limited water resources. Between 1985 and 2000, demand for water will more than double in Jordan and Oman; in Morocco, Tunisia, Egypt, Jordan, and Yemen, demand will increase by 50 percent.

There is no question as to the severity of the water resource problem in the Near East. Many countries in the region have water deficit. They currently consume more fresh water than is produced naturally within their boundaries; and widespread shortages are anticipated within the next ten years. Furthermore, mismanagement has led to the degradation of water quality and the depletion of water supplies. The inadequate supply of clean water contributes to public health problems and places severe limits on economic growth.

#### **Issues**

Three priority issues dominate water resources use in the Near East:

- water shortages resulting from inefficient use;
- degradation of water quality; and
- ineffective public and private sector water resources management.

Water shortages. Water deficits already exist in some areas of the Near East. Water transfers and reuse positively affect supply by directing water to areas that are drastically short of water, but this merely redistributes existing resources. Transfer and reuse will never satisfactorily augment supply. Such measures are predominantly marginal, short-term corrections which fail to alter the basic problem of finite water resources.

**Degradation of water quality.** Degradation and depletion of water resources has exacerbated the general situation of shortage and is one of the primary constraints to economic development in Near Eastern countries. This situation has resulted from many factors, including the lack of an environmental ethic throughout the region, a general lack of public concern with water resources issues, inadequate regulatory and enforcement capability, and restrictions on economic forces which do value water in relationship to demand.

**Public and private sector resource management performance.** Near Eastern governments traditionally targeted specific sectors for investment, usually agriculture. Subsidies, which discourage the efficient use of water, are common in the agricultural sector. Since only a fraction of the real cost of water is charged, few farmers are willing to invest in water conservation technologies or make efficiency improvements. Energy subsidies are also common, reflected in low power rates and fuel costs. These subsidies are a heavy burden on the natural resources of Near Eastern countries.

The Near East Bureau has long been a major contributor to water resources development and management in the region. The importance of water resources to the region, and the burgeoning problems associated with water shortages, water quality, and ineffective public and private sector resource management performance present new and continued opportunities for the Bureau to assist cooperating countries.

## **Annex 8**

### **STRATEGIC OBJECTIVES AND PROPOSED PROGRAM OUTCOMES FOR A WATER RESOURCES ACTION PLAN**

**Herb Blank**

The five overall Strategic Objectives of the NE Bureau are as follows:

- 1) Expanded and More Efficient Private Sector Economic Activity
- 2) More Effective and Accountable Governance
- 3) Increased Use of Effective Contraceptive Methods
- 4) Increased Use of Effective Maternal and Child Health Services
- 5) More Efficient Use and Improved Quality of Water Resources

The Bureau has identified degradation and depletion of water resources as the highest priority among the environmental constraints in the region. This priority area is covered by Strategic Objective 5—More Efficient Use and Improved Quality of Water Resources

Five Program Outcomes have been identified under this Strategic Objective:

- 1) Improved public management, including appropriate policies
- 2) Increased public awareness of and support for conservation needs
- 3) Increased wastewater treatment and water reuse by public and private sectors
- 4) Increased use of pollution prevention and waste minimization techniques by public and private industry
- 5) Greater inter-country discussion of joint approaches to water resources management

These outcomes can be further defined to include the following components:

- 1) Improved public management, including appropriate policies
  - improved operations and maintenance of public operated facilities
  - improved water use efficiency through policy change
  - demand management
- 2) Increased public awareness of and support for conservation needs
  - mass media programs
  - strengthened water user associations
- 3) Increased wastewater treatment and water reuse by public and private sectors
  - improved access to wastewater treatment
  - efficient O&M of wastewater facilities
  - programs to promote wastewater reuse
- 4) Increased use of pollution prevention and waste minimization techniques by public and private industry
  - good housekeeping
  - recycling and reuse

- materials substitution
- process modification
- 5) Greater inter-country discussion of joint approaches to water resources management
  - Middle East Peace Process water working group and
  - environment working group

### **The Strategic Agenda**

Over the next three years, the Bureau, with support of the field Missions, plans to promote sustainable development of the Region's water resources with concentration on more efficient use of water and improved water quality.

In terms of the five program outcomes which support the strategic objective, the action plan is as follows:

- 1) Improved Public Management and Policies
  - Bureau support for new projects involving
    - improved water use efficiency
    - reduction/elimination of subsidies
    - improved pricing policies
  - Follow-on to ISPAN
- 2) Conservation
  - PRIDE efforts to promote conservation
  - efforts, particularly in Egypt, to strengthen water user associations
- 3) Wastewater treatment and reuse
  - support for wastewater projects with policy components
  - encourage use of U.S. equipment and technology
- 4) Pollution prevention
  - PRIDE activities
  - Clean Technologies Project
- 5) Inter-country discussions
  - continued support to Middle East Peace Process
  - possible support for actions to resolve long standing water disputes

### **Analytic Agenda**

To support these activities, the Bureau will develop and carry out an Analytic Agenda, which is intended to further the knowledge in specific policy areas related to the strategic agenda and assist policy makers toward improved management of water resources in the region.

The agenda will consist of a series of studies covering a range of topics, including but not limited to:

- sustainability of water resource development
- performance of water user organizations
- analysis of water rights in the region
- analysis of policy options
- modeling study of projected water demands and reuse options

## **Annex 9**

### **THE ROLE OF RISK ASSESSMENT IN ENVIRONMENTAL MANAGEMENT**

Larry Morgan (summary of workshop handout)

As Near East countries strengthen their environmental management capabilities, they face the double challenges of correctly identifying environmental problems and implementing effective solutions to those problems. This session focused on the identification of environmental problems and the application of risk analysis to establish priorities for the employment of scarce public funds to solve those problems.

#### **The Risk Assessment Framework**

The environmental risk assessment framework that has evolved from US experience over the last two decades has become a critical tool in any effective environmental management program. This framework involves applications of risk ranking and risk assessment methodologies to demonstrate physical and economic costs of environmental damage and prioritize alternative pollution abatement options.

#### **What is Risk Assessment**

1. Risk assessment is a tool to measure environmental damage
2. The risk assessment framework contains two methodologies
  - a. risk ranking
  - b. risk sequencing
3. Risk assessment is an environmental project accounting system

#### **Risk Ranking**

To effectively allocate scarce resources (money, personnel, time) toward alleviation of significant environmental problems, it is necessary to rank those problems according to the nature and magnitude of their detrimental effects. This ranking process is risk analysis.

Three types of risk assessment are considered: human health; ecological; and social and economic effects.

Risk analysis involves for steps: identification of all significant environmental problems; characterization of each problem in terms of detrimental effects; estimation of the magnitude of damages associated with each environmental effect; and ranking of the environmental problems on the basis of the damage estimates.

#### **Risk Sequencing**

When selecting among interventions to address existing or potential environmental problems, it is important to consider the risk sequence associated with each problem. Each environmental

problem can be viewed as the outcome of a sequence. Viewing the problem within the context of the risk sequence is important because the appropriate remedy changes at each point in the sequence. The sequence includes:

**Step 1. Activity:** Identification of the activity to be undertaken

**Step 2. Technology/Pollutants:** Identification of the technologies that can be employed to carry out the activity. Each of these technologies will generate pollutants, which vary by technology, the fuel used, and the efficiency of the technology.

**Step 3. Control/Release:** Once the pollutants have been generated, the goal becomes to capture, treat, and dispose of them before they are released.

**Step 4. Transfer:** If the pollutants are released, they are transferred through the environment until they reach their final repository (deposited in land or water, added to the atmosphere, or migrate to the stratosphere).

**Step 5. Exposure:** During the transfer stage, people and the environment may be exposed to the released pollutants or their products.

**Step 6. Effects (Risk):** The amount of damage attributable to this exposure depends upon the pollutant characteristics, intensity and extent of exposure, and characteristics of the receptor (children, elderly, pregnant women, fragile ecosystem)

In nearly all cases it is less costly to address environmental problems at the earlier steps of the risk sequence. Based on this sequence, USAID can be most cost-effective by focusing on the first two steps of the process. Control methods (step 3) or end-of-pipe treatment is less cost effective. The latter three risk steps are difficult to affect and generally fall within the province of each country's internal planning process. USAID can provide expertise to strengthen the planning process to adopt and implement a practical application of the risk assessment methodology.

### **Environmental Project Accounting System**

As USAID establishes a more explicit environmental emphasis to its project selection process, an Environmental Project Accounting System (EPAS) becomes desirable. EPAS provides organized management information for project oversight and reporting purposes, and provides the data needed to assess new projects in terms of their consistency with ongoing USAID activities. An EPAS should contain the following information for each project: geographic region affected; economic sector; environmental media involved; pollutant generation being affected; types of environmental impact occurring; estimated magnitude and cost of these impacts; mediation approach being employed; and overview comments on the project.

Once EPAS is assembled, a Mission will be able to provide a well founded summary of the environmental implications of all its project activities.

## Annex 10

### BEYOND PUBLIC AWARENESS

John L. Woods

At the current time very few public awareness activities are carried in the NE in the water conservation/environment/natural resources management fields. The term "public awareness" is misleading. **Awareness is not enough.** Action is needed...sustained action which only comes about through behavioral change by individuals, families, groups, communities and organizations (governmental and non-governmental). Long-term **behavioral change** almost never results from a single communication effort, either media or interpersonal communications.

Thousands of "diffusion of innovations" studies world-wide have indicated there is an adoption process which individuals, groups and organizations go through: awareness; understanding; acceptance; action; and sustained behavioral change. Each stage requires different communication methods and message modifications. Awareness can largely be done with mass media whereas the acceptance and action stages almost always require interpersonal inputs from family or highly respected people. Action and behavioral change is required if most water conservation/ environmental/natural resources management programs are to succeed.

The water conservation/environment/natural resources management fields can gain much from the work done in **social marketing**. USAID has successfully promoted social marketing approaches in health, family planning and agricultural fields. In addition to PRIDE, the R&D GreenCom project will help introduce this approach in the environmental field. Instead of ad hoc communications efforts, the campaign approach needs to be used to focus on how to create sustained behavioral change by target audiences on priority subjects. It is important that several groups be involved in campaigns: policy makers (the owners); development program managers; campaign planners; campaign producers; intermediary groups (such as school teachers); target groups; and monitoring specialists. The campaign planning expertise does not exist currently in the NE region. The U.S. is unique in that it has expertise in social marketing, particularly in campaign planning and market research fields.

The following steps are involved in designing and implementing a successful social marketing **campaign**: determining priority programs and targets (should be linked to strategic or other planning programs; market research on target audiences and intermediary groups; securing commitment of policy makers and program managers; campaign planning; production of campaign; dissemination of campaign over time; monitoring impact; and revising campaign based upon monitoring information.

At the current time PRIDE is involved in activities which will help conservation/environment/natural resources management programs move beyond public awareness programs. These activities are: (1) conducting national environmental information/education/communication needs assessments; (2) developing an environmental awareness campaign training/reference

package and testing it in the region; (3) working with the Earth Generation to adapt their process of designing school environmental awareness kits for the NE region; and (4) working with Legacy International to develop NGO training in social marketing.

Social marketing focuses on behavioral change which is key to the success of water conservation/environment/natural resources management programs.

## **Annex 11**

### **ENVIRONMENTAL WORKING GROUP— MIDDLE EAST PEACE PROCESS**

Gil Jackson

#### **Overview of the Peace Talks**

Under the sponsorship of the U.S. Department of State, there are five working groups for multilateral talks:

- WATER
- ENVIRONMENT
- ECONOMIC DEVELOPMENT
- REFUGEES
- DISARMAMENT

USAID is active in three:

- WATER
- ENVIRONMENT
- ECONOMIC DEVELOPMENT

The peace process is a series of "small steps" designed to:

- Keep up a dialogue
- Create non-threatening situations, and
- Attempt to develop some benefit

There are also bilateral talks going on. The U.S. Department of State is Chair of the Water Working Group. Japan is Chair of the Environment Working Group. One aim is to get countries working on a regional basis.

#### **Environment Working Group**

The Working Group completed three specific activities in FY'92

1. Environmental Scoping Study of the Gulf of Aqaba, presented at the Hague.
2. An Environmental Seminar in Tokyo.
3. A joint NOAA/EPA/AID/Coast Guard Hazardous Materials Workshop in California, United States.

## **An Outline of Priority Environmental Areas in the Middle East**

(statement prepared by delegates to Environmental Working Group Meeting in Japan in 1992.)

As a result of the deteriorating environmental conditions in the Middle East, and in order to evaluate the current position of environmental conditions, and in order to advance the solution of environmental problems, the representatives of the parties attending this seminar recommend the following environmental areas as the most important priority areas for attention and immediate action.

1. Development and initiation of appropriate low cost waste water technologies, preferably those technologies that will improve on the existing ones and can be implemented, operated and maintained by local manpower.
2. Development of environmentally safe waste water recycling practices, with special emphasis on water reuse for irrigation.
3. Development of industrial waste water treatment, with special emphasis on clean technologies.
4. Improvement of existing municipal and industrial solid waste and sewage sludge treatment, disposal, reuse and recycling practices. Emphasis should be placed on the specific features of semi-arid and arid conditions.
5. Encouragement of regional training and education activities, in order to achieve a better environmental awareness, administration and technology.
6. Development of integrated pest control management programs.
7. Development of the means to combat desertification. The acquired knowledge in this area, after the successful implementation of the above means, can be used as a nucleus for an international center for desertification research.
8. Prevention of marine pollution and development of monitoring programs.

### **Common Issues**

- Water pollution measures, including waste reuse
- Study of treatment, prevention—low cost technology, including industrial clean technology
- Marine pollution (Aqaba, Mediterranean Sea)
- Solid waste management (in sludge)
- Pest control management
- Monitoring (water, air, etc.)
- Desertification
- Regional approach
- Sea (saline) water intrusion

## Annex 12

### MIDDLE EAST REGIONAL COOPERATION PROGRAM (MERC)

Herb Blank

MERC funds scientific, technical and research projects that:

- are cooperative efforts between Israel and Arab neighbors
- solve priority regional problems

MERC has been operating since FY79

Funding:

- grants are limited to \$3 million with a five year implementation period
- grants are to US institutions with subgrants to local cooperating institutions
- current OYB is \$7 million
- is based on unsolicited proposals

Current Program

9 active projects to 6 grantees in sectors of

- ag research 5
- marine sciences 1
- health 2
- wastewater reuse 1

New proposals received from 4 organizations

- health (NIH)
- marine sciences (U. of Michigan)
- ag research 2 (CARD and USDA)

WINROCK is involved in:

- proposal reviews
- monitoring
- evaluations

Directions

- management is under NE/DR office
- desire to strengthen technical component of projects
- treat as "normal" USAID projects
- expand list of grantees
- tie in to Mission programs/strategic objectives

## **Annex 13**

### **GLOBAL ENVIRONMENT FACILITY PRINCIPLES**

The operational experience of the GEF's first year (since December, 1991) helped crystalize certain principles which would serve as building blocks for the future. These principles are:

1. The GEF would provide additional grant and concessional funding of the agreed incremental costs for achieving agreed global environmental benefits.
2. The GEF would finance activities which benefit the global environment. It would continue to support its current four focal areas: global warming, biodiversity, international waters and ozone depletion. Land degradation issues, primarily desertification and deforestation, as they relate to the focal areas of the GEF, would be eligible for financing.
3. The GEF is available as a funding mechanism for global environmental conventions, if the parties request such funding.
4. The GEF would assure the cost effectiveness of its activities in addressing the targeted global environmental issues.
5. The GEF would fund programs and projects which are country driven and consistent with national priorities designed to support sustainable development. This financing will need to be coordinated with the implementation of appropriate national policies, as well as with development financing.
6. The GEF would build on proven institutional structures, such as the partnership among UNDP, UNEP, and the World Bank, thus avoiding the creation of new institutions.
7. The GEF must be transparent and accountable to contributors and beneficiaries alike.
8. The GEF would have sufficient flexibility to introduce modifications into the scope of work as the need arises, including the possibility of strengthening the involvement of the private sector in the GEF.

## Annex 14

## CENTRALLY FUNDED ENVIRONMENTAL PROJECTS SUMMARY

PROJECT	NUMBER	PACD	CORE	BUY-IN	EXPERIENCE
Coastal Resources Management (CRM)	936-5518	1995	13.8M	7.0M	Asia, LAC
Conservation of Biological Diversity (CBD)	936-5554	1997	11.6M	18.4M	Asia, LAC, Africa, NE, Europe
Environmental and Natural Resources Policy and Training (EPAT)	936-5555	2001	35.5M	35.5M	Asia, LAC, Africa, NE, NIS
Environmental Planning and Management (EPM)	936-5517	1994	20.6M	9.0M	Asia, LAC, Africa, NE
Environmental Planning and Management II (EPM II)	936-5562	2003	20.0M	10.0M	Asia, LAC, Africa, NE, Europe, NIS
Environmental Pollution Prevention Program (EP3)	936-5559	1997	<20M	?	LAC, Asia
Forest Resources Management II	936-5556	2000	30.0M	15.0M	Asia, LAC, Africa, NE, Europe, NIS
Forestry/Fuelwood Research and Development	936-5547	1995	35.0M	5.0M	Asia, Africa
Environmental Education and Communication (GREENCOM)	936-5839	2001	10.2M	14.3M	N/A
Water and Sanitation for Health (WASH III)	936-5973	1993	12.3M	12.3M	Services in over 60 countries
Irrigation Support Project for Asia and the Near East (ISPAN)	398-0298	1994	13.0M	13.0M	Asia
Project in Development and the Environment (PRIDE)	398-0365	1995	6.0M	8.0M	NE

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PROJECT	PROJECT DESCRIPTION	AGREEMENTS	PROJECT OFFICER
(936-5518) Coastal Resources Management	<p>The CRM project aims to strengthen the capacity of public/private institutions to manage coastal resources more efficiently, with emphasis on regional planning.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance</li> <li>■ Education and training</li> </ul>	University of Rhode Island	<p>R&amp;D/ENR: John Wilson Mike Philley (703) 875-4539</p> <p>Director: Stephen Olsen (URI) (401) 792-6224</p>
(936-5554) Conservation of Biological Diversity	<p>The CBD project goal is to improve the capacities of developing countries to identify the need and economic potential of conserving/managing biological resources.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance</li> <li>■ Biodiversity research</li> <li>■ Training</li> <li>■ Information and evaluation network of conservation activities</li> </ul> <p>CBD is implemented through the Biodiversity Support Program (BSP).</p>	<p>BSP Consortium</p> <ul style="list-style-type: none"> <li>■ World Wildlife Fund;</li> <li>■ The Nature Conservancy;</li> <li>■ World Resources Institute (WRI)</li> </ul>	<p>R&amp;D/ENR: Sy Sohmer (703) 875-4669</p> <p>BSP Director: Kathy Saterson (202) 861-8330</p>
(936-5555) Environmental and Natural Resources Policy and Training (EPAT)	<p>EPAT aims to assist policy makers in LDCs to recognize the strong relationship between economic policies and environmentally sustainable development. Special areas of implementation are policy analysis, institution strengthening, workshops/seminars.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance (Winrock International)</li> <li>■ Economic policy research (MUCIA)</li> </ul>	<p>WINROCK International</p> <p>MUCIA</p>	<p>R&amp;D/ENR: Russ Mischeloff (703) 875-4046</p> <p>Directors: Stan Peabody (Winrock) (703) 525-9340</p> <p>Will Chandler (MUCIA) (703) 841-0026</p>

<p>(936-5517) Environmental Planning and Management (EPM)</p>	<p>The EPM goal is to strengthen environmental planning through better management and conservation of natural resources in LDCs. EPM has identified its components as: Developing NRM strategies and assessments, NGO support, NRM data management, and sustainable agriculture.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance</li> <li>■ Resource policy research</li> </ul>	<p>WRI</p>	<p>R&amp;D/ENR: John Wilson (703) 875-4539</p> <p>Cooperator: Walter Arensberg (WRI) (202) 638-6300</p>
<p>(936-5562) Environmental Planning and Management (EPM II)</p>	<p>EPM II will continue implementation of EPM's goals. The main components continue to be those of EPM.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance</li> <li>■ Resource policy research</li> </ul>	<p>WRI</p>	<p>See EPM</p>
<p>(936-5559) Environmental Pollution Prevention Program (EP3)</p>	<p>EP3 provides technical field support in industrial pollution, prevention and control. Main components are:</p> <ul style="list-style-type: none"> <li>■ Pollution prevention audits</li> <li>■ National cleaner technologies programs</li> <li>■ Investment promotion</li> <li>■ Pollution prevention training</li> </ul> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance</li> <li>■ Training</li> </ul>	<p>Main Contractor (TBD)</p> <p>PASA/RSAA: USEPA</p>	<p>R&amp;D/ENR: Dan Deely (703) 575-4323</p> <p>Cooperator: Jim Gallup (USEPA) (703) 875-4323</p>
<p>(936-5556) Forest Resource Management II</p>	<p>FRM II was designed to strengthen the capacity of forestry and natural resources institutions in LDCs through private/public sector initiatives. Main components are:</p> <ul style="list-style-type: none"> <li>■ Forestry Support Program (FSP)</li> <li>■ Private sector development through Southwestern Center for Forest Economics Research (SCFER) and AID/PRE</li> </ul> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Technical assistance</li> <li>■ Training (ST)</li> </ul>	<p>USDA/FS SCFER USDA/OICD Peace Corps</p>	<p>R&amp;D/ENR: Carl Gallegos (703) 875-4062</p> <p>Cooperators: Gary Wetterberg (USDA/FS) Bruce Crosan (USDA/OICD) George Mahaffy (Peace Corps)</p>

<p>(936-5547) Forestry/Fuelwood Research and Development (F/FRED)</p>	<p>The project goal is to enhance forestry/fuelwood and agroforestry in LDCs.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Regional research support</li> <li>■ Database development</li> <li>■ Training</li> <li>■ Technical assistance</li> </ul>	<p>WINROCK International</p>	<p>R&amp;D/ENR: Ian Morrison (703) 875-4076</p> <p>Cooperator: Thomas Niblock (703) 525-9430</p>
<p>(936-5839) Environmental Education and Communication Project (GREENCOM)</p>	<p>GREENCOM is designed to provide communications and education support for AID environmental objectives by promoting public awareness and support for new environmental policies and practices.</p> <p>Inputs:</p> <ul style="list-style-type: none"> <li>■ Research and development</li> <li>■ Technical assistance</li> <li>■ Training</li> </ul>	<p>Core and Q contracts have not been awarded.</p>	<p>R&amp;D/ED: Tony Meyer (703) 875-4782</p>
<p>(936-5973) Water and Sanitation for Health (WASH III)</p>	<p>The project aims to provide technical assistance, services and information in urban and rural water supply and sanitation to directly support the prevention of water-borne disease. (TA, TR, R, IN)</p>	<p>Camp Dresser &amp; McKee Internat'l, Inc. (CDM); Associates in Rural Development, Inc.; Internat'l Science and Technology Institute, Inc. (ISTI); Research Triangle Institute; Training Resources Group (TRG); Univ. of North Carolina at Chapel Hill; University Research Corporation</p>	<p>R&amp;D/H/CD: Julie Klement (703) 875-4477</p>

<p>(398-0298) Irrigation Support Project for Asia and the Near East (ISPAN)</p>	<p>The purpose of this project is to provide assistance in water resources management and to examine broad regional policy and strategic issues and trends in water resources management. (TA, TR, R, IN)</p>	<p>CDM Internat'l; Care; Cornell Univ.; Development Alternatives, Inc.; Harza Engineering Co.; ISTI; TRG; Univ. of Arizona</p>	<p>ASIA/DR/TR: Tim Miller (202) 647-0915  (NE/DR/TR): Herb Blank (202) 663-2460</p>
<p>(398-0365) Project in Development and the Environment (PRIDE)</p>	<p>This project offers technical, analytical, and informational support for the AID objectives of fostering ENR management consistent with sustainable economic growth.</p>	<p>Chemonics Internat'l; Science Applications Internat'l Corp.; Resource Management Internat'l; Lincoln Univ.; Capital Systems Group, Inc.; RGG/Hagler, Bailly, inc.; Environomics, Inc.; Industrial Economics</p>	<p>NE/DR/ENR: Dwight Walker (202) 663-2493</p>