Project Overview

UNEP-DTIE-IETC
Support for Environmental Management of the Iraqi Marshlands

<http://marshlands.unep.or.jp/>

Vicente Santiago

International Environmental Technology Centre
How UNEP Became Involved

• Marshlands issues identified as priority by Iraqi Authorities
  – Included in the list of priority projects submitted to UN Trust Fund for Iraq Reconstruction
• Direct appeal to Japanese Government by Iraq
  – Requested as priority to Japanese Prime Minister by Iraqi delegation, as well as appeal to Foreign & Environment ministers
• Previous experience by UNEP
  – UNEP responsible for alerting the world on marshland destruction
  – Experience in environmentally sound technology (EST) promotion through IETC
  – Post conflict assessment experience

Funds for project provided to UN Trust Fund by Japanese Government, to be implemented by UNEP
Goal and objectives

To support sustainable management of the Iraqi Marshlands, by:

1. Monitoring and assessing current marshland conditions and disseminating information and assessment tools

2. Building capacity for technical and policy management

3. Implementing environmentally sound technology (EST) options on a pilot basis for:
   a) Drinking water
   b) Sanitation
   c) Wetland and water quality management

4. Facilitating policy and strategy formulation and coordination, based on project results and dialogue
Activities components

- Support strategy development and coordination
- Data collection & baseline analysis
- Build capacity of Iraqi professional & policy makers
- Implement ESTs on a pilot scale
- Raise awareness on Iraqi marshlands & management efforts
Strategy Development & Coordination Support

- Set-up Project Implementation Unit (PIU) in Baghdad within Environment Ministry
- Surveying the current status of policy-institutional frameworks
- Support provided for environmental integration into marshland management strategy development
- Donor Coordination meeting held in November 2005
Data Collection & Baseline Analysis

- Developed Marshland Information Network (MIN) sharing data, analysis, and analytical tools

Members:
Iraqi ministries (MoE, MoWR, MoMPW), governorates, Marsh Arab Forum, Iraq Foundation, etc.

- Five servers installed in Iraq:
  Two in Baghdad
  One in Basrah Governorate
  One in Thi-Qar Governorate
  One in Missan Governorate

MIN Community Site
<http://jo1.estis.net-communities/MIN_Arabic/>
Data Collection & Baseline Analysis

**IMOS** Monitoring re-flooding with satellite image & remote sensing analysis &lt;http://marshlands.unep.or.jp&gt;

Total extension of wetland vegetation and water surface Marshland area:

41.0%

As for December 2005, compared to pre-drained marshland extent 1973-76

**Iraqi Marshland Observation System (IMOS)**
Capacity Building

What?
10 subjects on Marshland Management:
- Technical aspects
- Policy and institutional aspects
- Data management

Who?
Iraqi professionals, educators, civil servants, community leaders → decision makers and stakeholders

How?
Training courses outside Iraq, with secondary training organized in Iraq → Provide support tools and training materials in both English and Arabic
Completed Courses:

1. Water Quality Management (Shiga, December 04)
2. Sustainable Sanitation (Osaka, December 04)
3. Phytotechnology for Wetland Management (Cairo, December 04)
4. Wetland Remote Sensing (Amman, February 05)
5. Marshland Information Network (Amman, March 05)
6. IWRM Policy and Integration (Amman, April 05)
7. ESTs for Drinking Water Provision (Osaka, May 2005)
8. Community Level Initiatives (Alexandria, June 05)
9. Wetland Management (Cairo, June 05)
10. ESTs Assessment (Damascus, December 2005)

241 participants in total
Awareness Raising

- Organized Public Symposium in Tokyo (Aug 05)
- Distributed awareness raising materials
- Prepared audio visual materials on the marshland
- Supporting community level initiatives for marshland management
- Preparation of the second phase on-going
EST Pilot Implementation

What? 3 pilot applications
- Drinking water provision
- Sanitation and wastewater treatment provision
- Wetland and water quality management

Where? Targeting smaller communities

How? Involvement of Iraqi partners with international input
- Sampling, local training, & monitoring organized locally
- Feasibility study, network organized with international input
Location Map of EST Pilot Projects

Al-Kirmashiya
Badir Al-Rumaidh
Masahab
Al-Jeweber
Al-Hadam
Al-Sewelmat
Pilot Project Implementation Partners

DTIE – Division of Technology Industry and Economics
IETC – International Environmental Technology Centre
PIU – Project Implementation Unit in Iraq
AIF – Amman Implementation Facility

MOE
Ministry of Environment

MOWR
Ministry of Water Resources

MOMPW
Ministry of Municipalities & Public Works

Governorates
Thi-Qar, Missan and Basra

Consultants, NGOs & Contractors

Communities in Pilot Project Sites

المركز الدولي لتكنولوجيا البيئة
International Environmental Technology Centre
Drinking Water Provision

• **To all six sites**
  – To rehabilitate existing treatment units at Badir Al-Rumaidh with provision of distribution system
  – New treatment and supply system for other five sites
• **Target service population** - 15,000 to 22,000
• **Target supply level** – 50 L/(capita.day)
  – Capacity to serve 2.5 times the population with supply of 20 L/(capita.day), if population increases
Drinking Water Provision

- Packaged system using low-pressure reverse osmosis process
- Pipes with common taps for service delivery
- Pipes to be extended by the community as needed
- Participation of community in the operation
- Operation/management for a year after installation with training of operators
Construction of water treatment facilities

Water treatment facilities
Sanitation Provision

Proposed sewer system → SETTLED SEWERAGE
Decentralized System

Solids removal (through septic tanks) before entering main sewer pipes allows:
• Lower water flow requirements (self-cleansing concept)
• Reduction of pipes sizes
• Lower gradients for pipes → excavation costs reduction
• Reduction of manholes number and dimensions
Sanitation Provision

Wastewater system

Subsurface Flow Constructed Wetland
Wetlands Restoration Sites

- Al Jeweber
- Badir Al Rumaidh
- Al Sewelmat
- Al Hadam
Thank you

<IraqProject@unep.or.jp>