

**PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE**

Report No.: AB987

Project Name	Egypt: West Delta Irrigation Infrastructure Development
Region	MIDDLE EAST AND NORTH AFRICA
Sector	Irrigation and drainage (90%);Water supply (10%)
Project ID	P087970
Borrower(s)	ARAB REPUBLIC OF EGYPT
Implementing Agency	Ministry of Water Resources and Irrigation
Environment Category	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Safeguard Classification	<input type="checkbox"/> S ₁ <input checked="" type="checkbox"/> S ₂ <input type="checkbox"/> S ₃ <input type="checkbox"/> S _F <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	June 21, 2004
Estimated Date of Appraisal Authorization	November 17, 2005
Estimated Date of Board Approval	January 25, 2006

1. Key development issues and rationale for Bank involvement

The proposed project will assist the Ministry of Water Resources and Irrigation (MWRI) to implement reforms for financial sustainability of irrigation infrastructure and for greater efficiency in the use of water resources and their conservation. The proposed project aims to achieve this by introducing full-cost recovery policies premised on a volumetric water usage charge with the expansion of surface water irrigation infrastructure to West Delta Area (project area); and to substantially involve key farmer stakeholders and the private sector in important aspects of system design and finance, construction and management through an appropriate sharing of the related risks with Government. Project preparation will borrow from the successes achieved in Water Supply sectors with the adoption of participatory and demand-driven approaches along with stakeholder consultations on their willingness and capacity to pay for the cost of service.

Because of its innovative features, the proposed project will also provide a new transaction framework in order to resolve similar constraints confronted in the expansion of irrigation infrastructure in Egypt and other parts of the MNA region. GOE has informed the partner countries in the Nile Basin initiative (NBI) of the project's useful demonstration effects for financial sustainability and for improving water conservation and efficiency through public-private partnerships (PPP).

Since the 1980s, approximately 1,000 land holders in the project area have developed successful commercial farming based on groundwater irrigation along the Cairo-Alexandria Desert Road. However, such developments have come at the cost of rapid aquifer depletion and increased salinity, making water quality and availability the main constraints to sustained agricultural activity in the area. Groundwater levels have dropped significantly since the early 1990s and unless the situation is reversed, the water table is expected to drop further at an average annual

rate of 1-2 meters/year in many parts of the project area, placing at severe risk an annual agricultural economy currently estimated between US\$300 million and US\$500 million.

The proposed project is consistent with the 2002 CAS, which focuses on three types of interventions: (a) those that support higher and sustained growth; (b) those targeted to direct poverty reduction; and (c) those with major indirect poverty reduction impact. The proposed project will support the first and third categories of interventions. As regards the first, the project will provide critical surface irrigation infrastructure necessary to sustain the economic growth of export oriented crops in the West Delta. As regards the third, the project will contribute to indirect poverty reduction by maintaining an economic livelihood and employment for thousands of families and workers in the area.

The proposed project will also incorporate lessons from several years of sector policy work undertaken in Egypt in particular, and the region in general. These include: (a) the ongoing work in the area of Integrated Water Resources Management (IWRM) with MWRI; (b) preliminary technical and economic assessments conducted in the past year for the West Delta area; and (c) a review of PPP options for irrigation in Egypt, concluded in FY03.

Major partners in the sector include USAID, KfW, and the Netherlands. The Japanese Government has expressed interest in co-financing the proposed project through discussions with GOE officials from the Horizontal Expansion Sector. KfW and the European Investment Bank are two other potential partners in the proposed project. The Islamic Development Bank has provided a grant of US\$411,000 to GOE for continuing preparation work and feasibility studies.

The general framework for the proposed project will seek to assign investment and commercial risks to parties, public and private, who are best suited to manage them. MWRI established a West Delta Holding Company (WDHC) as the main counterpart implementing agency, and proposes to channel the loan proceeds for the planned capital investments. In turn, a private operator will be extensively involved and responsible for the detailed design, construction, operations and maintenance as well as taking up the related commercial risks to ensure financial sustainability of the system and repayment of loan proceeds.

2. Proposed objective(s)

The proposed Project Development Objective (PDO) is to introduce a framework for financial sustainability of irrigation infrastructure in the West Delta¹ and for greater efficiency in the use of water resources and their conservation through the involvement of farmer stakeholders and private sector participation in major aspects the design, construction, operations and maintenance.

The proposed project will assist GOE develop and implement an appropriate institutional, regulatory and financing model to supply surface irrigation water available on the basis of full

¹ The West Delta area covers approximately 250,000 feddans (100,000 hectares) that are currently being served by groundwater irrigation. The project area encompasses 100,000 ha and involves 1,000 export-oriented farmers, and a substantial work force.

cost recovery and private sector participation. In doing so, the project will have the following intermediate performance benchmarks during implementation: (a) a contract between the WDHC and a private operator selected through a competitive bidding process, which delineates the roles and responsibilities of the borrower (i.e., WDHC) and the operator (who will design, construct, operate, maintain the irrigation infrastructure, and assume the debt service of the loan); (b) participation by the farming community in the area (dominated by commercial farming), in the determination of system design options based on their willingness and capacity to pay for the cost of service, and (c) development of institutional arrangement such as, farmer cooperatives and user associations to ensure that small investors/farmers are able to exercise voice in project preparation and service standards.

3. Preliminary description

The proposed project will finance the design and construction of a surface water conveyance and distribution system to the West Delta area, based on irrigation services beneficiaries want and are willing to pay for. Accordingly, the actual design configuration and coverage of the total 250,000 feddans within the West Delta will be specified following the completion of “willingness to connect consultations” involving 1,000 stakeholder farmers. Farmer associations will be established in order to make the consultations manageable within the scope of project preparation. The proposed project will be implemented on the principle of full cost recovery based on volumetric tariffs. Responsibility for operations, maintenance and loan amortization will be assigned to private operator, who will be selected through a competitive bidding process.

The proposed project design, which will be finalized upon completion of an on-going PPIAF study, is based on the following considerations:

- *Sharing of project risks between the public and private sector.* PPP represents a unique, and relatively unexplored opportunity for the MNA Region to assist client governments in increasing Bank effectiveness. Through a PPIAF grant, the Bank is currently assisting GOE to explore PPP opportunities for West Delta and specifically to: (i) develop a number of technical options with farmer stakeholder participation; (ii) determine tariff levels for each option at various levels of coverage to ensure the attainment of financial sustainability objectives; (iii) undertake farmer group surveys and consultations on their willingness to pay; (iv) develop a policy note for GOP review on alternative tariff structure to ensure fairness and equity among the various farmer groups; and (v) evaluate and identify the most appropriate financing and transaction design option for public-private participation incorporating an appropriate risk allocation matrix.
- *Implementing MWRI's vision.* MWRI is of the view – consistent with the Bank's WRM Policy Framework - that the project should: (a) achieve full cost recovery of project investments from users in these new agricultural lands; and (b) facilitate efficient service delivery by the private sector that could serve as a model to other areas of the country.

- *Learning from the global experience.* The Bank support is building on global experiences in promoting public-private participation in the water business, and models currently being considered are Design, Build and Lease (DBL), Joint Venture (JV), Output-Based Aid (OBA), and Build Operate and Transfer (BOTs).
- *Building on institutional reforms in MWRI.* MWRI has established a West Delta Holding Company (WDHC), and proposes to channel the loan proceeds through the project for the capital investments. The DBL, JV or OBA contract will be coursed through the WDHC.

Once the design features of the transaction are finalized, the project team will complete the preliminary design and technical specifications that will accompany the bid documents. The current thinking is that the proposed project will finance the design and construction of a surface water conveyance and distribution system to the West Delta area so that these commercial farmers can purchase surface water to compensate for the fast dwindling groundwater resources. Payments will be based on volumetric pricing, so that there is an incentive to conserve water and maximize returns per cubic meter of water purchased. If a Design-Build-Operate Lease (DBOL) option is chosen, the responsibility for operations, maintenance and loan amortization will be assigned to private operator. The very preliminary estimate of project size is \$210 million, of which about \$180 million could be financed by IBRD. Collaboration arrangements with IFC, KfW and JBIC are being explored.

Two broad approaches to implement this project are: (i) The government contracts out construction and start-up of the proposed conveyance and distribution system, and thereafter it transfers O&M responsibility to MWRI; and (ii) the government signs PPP a contract with the private sector to design, build, and operate the system. The preferred option is the PPP contract to achieve full administrative, financial, and accounting autonomy which are crucial to attain irrigation service reliability and full cost recovery. The specific nature of the PPP contract will be determined upon completion of assessment of the technical options (in consultation with prospective customers - the farmers) and robustness of demand of water for irrigation (willingness to connect).

The proposed project will consist of three components for an estimated total project cost of US\$210 million:

- Component No. 1: Investment loan to finance works for the final design and construction of a surface water conveyance and distribution system to the West Delta area and to connect participating farms (US\$200 million, estimate based on the pre-feasibility study).
- Component No. 2: Agricultural Marketing/Logistics Technical Assistance to small and medium scale farmers use surface water (US\$5 million). This component will provide technical assistance to small and medium farmers, so that they can also access the profitable export markets for the cash crops.

- Component No. 3: Capacity building for the WDHC and MWRI for oversight of operation and to disseminate on possible replication of adopted PPP approach to other areas in Egypt (US\$5 million).

A preliminary assessment finds that with a system connection, very little on-farm investments for the areas already under cultivation may be required to make full use the new surface water conveyance system. Further investigation may however reveal a need for a separate credit facility for on-farm investment in order to reduce the demand risks related to the proposed project. Such a component could be arranged separately with Bank facilitation through private financial institutions, such as IFC or the EIB for large estates or through credit facilities currently available in local financial markets. In any event, on-farm credit would significantly improve with the implementation of the proposed project.

4. Safeguard policies that might apply

Applicable?	Safeguard Policy If Applicable, How Might It Apply?
[X]	<u>Environmental Assessment (OP/BP 4.01)</u> Likely coupled with a social assessment (SEA)
[]	<u>Natural Habitats (OP/BP 4.04)</u>
[X]	<u>Pest Management (OP 4.09)</u> Typically triggered in irrigation and drainage operations. However, modern on-farm irrigation would facilitate fertigation and control of pesticide residues.
[X]	<u>Involuntary Resettlement (OP/BP 4.12)</u> Likely minimal; will be scrutinized by the social/environmental assessment.
[]	<u>Indigenous Peoples (OD 4.20)</u>
[]	<u>Forests (OP/BP 4.36)</u>
[]	<u>Safety of Dams (OP/BP 4.37)</u>
[TBD]	<u>Cultural Property (draft OP 4.11 - OPN 11.03)</u>
[]	<u>Projects in Disputed Areas (OP/BP/GP 7.60)</u> *
[X]	<u>Projects on International Waterways (OP/BP/GP 7.50)</u>

Environmental Assessment Category:

[X] A [] B [] C [] FI [] TBD (to be determined)

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

5. Tentative financing

Source:	(\$m.)
BORROWER	20
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT	150
FOREIGN SOURCES (UNIDENTIFIED)	40
Total	210

6. Contact point

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