



1. Project Data

Project ID

P118090

Project Name

EG - Enhanced Water Resources Management

Country

Egypt, Arab Republic of

Practice Area(Lead)

Water

L/C/TF Number(s)

TF-12952

Closing Date (Original)

30-Jun-2015

Total Project Cost (USD)

8,367,000.00

Bank Approval Date

05-Jul-2012

Closing Date (Actual)

31-Dec-2016

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	6,682,000.00	6,682,000.00
Revised Commitment	6,682,000.00	6,682,000.00
Actual	6,668,448.52	6,668,448.52

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2. Project Objectives and Components

a. Objectives

This project was financed by a Global Environment Facility (GEF) Trust Fund. The Project Development Objective (PDO) as stated in the GEF Grant Agreement (Schedule 1, page 5) and in the Project Appraisal Document (PAD) was:

"To pilot Integrated Water Resources Management (IWRM) in the Nile delta and to enhance the knowledge and capacity of water sector institutions for IWRM in the Recipient's territory."

The PAD (page 15) reports that the GEF objective of this project was "to establish the basis for scaling up investments through the Government of Egypt's IWRM plan and contribute more significantly to pollution



control and improved ecosystem health of the Mediterranean Sea and its biodiversity resources".

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Will a split evaluation be undertaken?

No

d. Components

Component 1. Pilot Schemes. (*Appraisal estimate US\$2.82 million. actual cost at closure US\$3.55 million*). This component aimed at developing synergy between on-going water projects through demonstration activities in three pilot areas.

(1) Nekla/Menesi Pilot Scheme. Activities included. (i) enhancement of surface water management by introducing "continuous flow" approach in the branch canals (this approach entailed delivering water continuously to each branch canal instead of the traditional rotation approach canals with farmers having access to water every couple of weeks), adoption of controlled drainage techniques and pilot-testing of the System of Rice Intensification (SRI) approach for reducing water consumption in the rice fields. (ii) a feasibility study on Solid Waste Management (SWM) in the irrigation and drainage canal system of the pilot area and providing technical assistance and training related to implementing SWM practices (including preparation of Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) of this scheme). and, (iii) providing a Geographical Information System (GIS) and GIS computer equipment for monitoring IWRM and related training.

(2) Okda/Tellin Pilot Scheme. Activities included. (i) An EIA and an EMP to mitigate against identified pollution sources. (ii) capacity building activities to key government agencies on maintaining drainage systems and establishing a district water board. (ii) a feasibility study on Solid Waste Management (SWM) in the irrigation and drainage canal system of the pilot area and providing technical assistance and training relating to SWM practices. (iii) identifying small-scale, cost effective interventions for reducing pollution and related training. and, (iii) a public awareness campaign on waste avoidance, recycling and environmental health.

(3) Khadrawia Pilot Scheme. Activities included. (i) a stakeholder analysis for facilitating discussions between potential polluters and those affected by pollution. (ii) an EIA of the pilot scheme and developing an EMP to mitigate against identified sources of drainage pollution. (iii) a study for identifying options for resolving drainage pollution: (iv) capacity building of key government agencies associated with maintaining drainage systems and establishing a district water board. and, (v) a public awareness campaign on waste avoidance, recycling and environmental health.

Component 2. Capacity Building for Surface Water and Groundwater Management and Monitoring. (*appraisal estimate US\$3.26 million. actual cost at closure US\$4.01 million*). This component aimed at providing technical assistance and capacity building activities aimed at managing surface water and groundwater across sectors. Activities included. (i) an evaporation loss analysis in Lake Nasser. (ii) a climate change impact assessment in water and agriculture in the Nile Delta. (iii) a surface water modeling analysis in the Nile Delta. (iv) a groundwater modeling analysis in the Nile Delta. (v) providing surface water monitoring equipment in strategic locations and capacity building of relevant



government staff for monitoring surface water. and, (vi) providing groundwater monitoring equipment in strategic locations and capacity building of relevant government staff for monitoring groundwater quality.

Component 3. Project Management. (Appraisal estimate US\$0.59 million: actual cost at closure US\$0.71 million). This component aimed at providing support to the Project Coordination Unit (PCU). Activities included. (i) establishing a results-based monitoring and evaluation system. and, (ii) providing a tracking tool (IW Learn) for reporting and dissemination of lessons learned from IWRM.

e. **Comments on Project Cost, Financing, Borrower Contribution, and Dates**

Project Cost. Appraisal estimate US\$8.36 million. Actual cost at closure US\$8.27 million.

Project Financing. Appraisal estimate of Trust Fund US\$6.80 million. Amount disbursed at closure of the trust fund US\$5.34 million. There was parallel financing for complementary activities from the German Development Bank (KfW), African Development Bank (AfD), the Islamic Development Bank and the Organization of Petroleum Exporting Countries (OPEC) Fund.

Borrower Contribution. Appraisal estimate US\$1.56 million. Actual contribution was as planned. There was contribution from local sources of borrowing country. Appraisal estimate US\$0.12 million. Their actual contribution was more than planned at US\$0.18 million.

Dates. There was one Level 2 restructuring on May 17, 2015. The project closing date was extended from June 30, 2015 to December 31, 2016 for completing the activities which had been subject to delays due to the political turnover and unrest in the country since early 2011. The project closed one and half years behind schedule on December 31, 2016.

3. Relevance of Objectives & Design

a. **Relevance of Objectives**

The Nile water accounted for about 98% of Egypt's renewable fresh water resources and at appraisal, Egypt was a water-stressed country, with a per capita fresh water share at less than 700 cubic meters/year. The population growth, estimated at 2% a year, was expected to reduce the share of renewable freshwater sources to less than 300 cubic meters by 2050. Climate change factors were moreover expected to reduce the availability of Nile water, increase evapo-transpiration and exacerbate the vulnerability of the country to availability of water resources. Given that water-resources management had traditionally followed a supply-side approach to water management (reallocation of water to when and where required), more focus was required towards managing demand-side factors for sustainable management of water resources. The overall Project Development Objective (PDO), including its two sub-objectives, is relevant to the government strategy. The government's National Water Resources Plan issued in 2005 officially adopted the Integrated Water Resources Management (IWRM) concept that combined several aspects of the water sector. The government's IWRM plan issued in 2005 included a road map for implementing IWRM and highlighted the need for raising awareness for IWRM, managing water quality and institutional reform and strengthening, as priority areas. The government's Sustainable Agriculture strategy issued by the Ministry of Agriculture and Land Reclamation identified the importance of improved Water Resources Management for



boosting agricultural productivity. The government's National Water Resources Plan for the 2015-2017 period (which is currently being updated to 2020) underscored the need for reducing water pollution and its strategy for climate change adaptation.

The PDO continues to be integral to the Bank strategy for Egypt. The Country Assistance Strategy (CAS) for the 2006-2009 period (extended to cover the period up to 2011), highlighted the need for improving public service delivery, including delivery of water services and included a goal for reducing water losses. The Bank's Interim Strategy Note for the period from June 2012 to December 2013 identified the availability of water services in the Delta area as critical issues and underscored the greater role that governorates and local stakeholders could play in future interventions. The Focal Area Two of the Bank's Country Partnership Framework (CPF) for the 2015-2019 period was "improved opportunities for private sector Job Creation" through among other things, focusing on irrigation, drainage and sewerage. The CPF also identified the need for shifting from sector-specific approaches to a holistic approach for agricultural and water management.

The PDO was relevant to the Global Environmental Objective (GEO) of establishing the basis for scaling up investments through the government's IWRM plan and to contribute more significantly to pollution control and the improved ecosystem health of the Mediterranean Sea and to its biodiversity resources.

Rating

High

b. Relevance of Design

The statement of the PDO was clear and the causal links between the project activities, their outputs and outcomes was logical. Component one pilot activities aimed at enhancing surface water management, adopting controlled drainage techniques, activities such as a system of rice intensification for reducing water consumption in the rice fields, maintaining drainage systems, establishing district water boards and a public awareness campaign can be expected to contribute to developing synergy between the on-going Bank-financed water projects (Integrated Irrigation and Management Project, The Second National Drainage Project and The Integrated Sanitation and Sewerage Project). The outcomes of these multi-sector activities in the water sector can be expected to aid the PDO of Integrated Water Resources Management (IWRM) in the Nile Delta. Component two activities aimed at technical assistance and capacity building for managing surface water and groundwater can be expected to contribute to the PDO of enhancing the capacity of water sector institutions for IWRM. The project activities can be expected to contribute to the GEO objective of contributing to pollution control and the improved ecosystem health of the Mediterranean Sea and its biodiversity resources.

While the involvement of many agencies was intended to ensure that key water sector institutions were represented in Integrated Water Resources Management, it necessitated a high level of coordination between the Project Coordination Unit (PCU) and the relevant agencies. Expecting the PCU to coordinate the many government entities without higher-level support or an official coordination mechanism was a design shortcoming and the design could have been helped by incorporating more incentives aimed at facilitating cooperation.



Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To pilot Integrated Water Resources Management (IWRM) in the Nile delta.

Rationale

Outputs.

The following activities were completed with respect to the Nekla/Menesi Pilot Scheme.

- "Continuous flow" approach was piloted in Nekla as targeted. This resulted in uniform distribution of pumping hours along the entire branch canal (ICR, page 3).
- Controlled Drainage (a type of sub-surface drainage that involved adding some closed end sub collector pipes to the main network to keep water for a longer time and in different soil levels to get optimum use of water) was completed as targeted (ICR, page 4).
- The system of Rice Intensification (an integrated and ecologically sound approach to rice cultivation) was piloted as targeted (ICR, page 5).
- A feasibility study for Solid Waste Management (SWM) was completed as targeted (ICR, page 6).
- A Geographic Information System (GIS) platform was put in place as targeted and six staff members of the Ministry of Water Resources and Irrigation (MWRI) were trained. There were no targets for this indicator (ICR, page 6). The activity associated with providing GIS to the Branch Canal Water Users Associations (BCWUA) for monitoring water usage was not completed as targeted due to the lack of Information Technology (IT) infrastructure and inadequate internet service (ICR, page 6).

The following activities were completed with respect to the Okda/ Tellin Pilot Scheme.

- An Environmental Assessment (EA) was prepared for the Okda-Tellin drains and approved by the Bank in 2015. An Environmental Management Plan (EMP) for addressing issues associated with solid waste pollution and wastewater collection and treatment in December 2015 was prepared as targeted (ICR, page 7).
- The activity associated with Solid Waste Management in Irrigation and Drainage Canal System was completed as targeted (ICR, page 7).
- Instream wetland facility was constructed by the Egyptian Public Authority for Drainage for reducing Biochemical Oxygen Demand (BOD) and total dissolved solids (TDS) in treated water, as targeted (ICR, page 7).

The following activities were completed with respect to the Khadrawia Pilot Scheme.



- A waste water treatment was completed as targeted (ICR, page 8).
- A decree to establish the District Water Board was signed by the Governor to provide a platform to the stakeholders to resolve the challenges of waste water discharge in Khadrawia in August 2016 as targeted. The DWB comprised 35 members (including 19 from the Branch Canal Water Users Association) (ICR, page 8).

Demonstration activities were developed and implemented in 112,660 feddans at project closure. This exceeded the target of 93, 200 feddans (ICR. Datasheet, Intermediate Indicator Number 5).

250 water quality monitoring stations for surface water were established at project closure. This was short of the target of 404 (ICR, Datasheet, Intermediate Indicator Number 6).

4,436 people were trained on pilot scheme topics. This exceeded the target of 3,167 (ICR, Datasheet, Key Outcome Indicator Number One).

Outcomes.

- Water saving volume saved per feddan (due to the reduction of water used by applying the system of rice intensification) reduced to 8,500 cubic meters/ feddan/ year. This exceeded the target of 9,500 cubic meters/feddan/year (ICR, Datasheet, Key Outcome Indicator Number 2).
- The reliability of water supply in pilot schemes increased from 55% at the baseline to 85% as targeted.

Rating

Substantial

Objective 2

Objective

To enhance the knowledge and capacity of water sector institutions for IWRM

Rationale

Outputs.

- A study on evaporation loss analysis in Lake Nasser for providing better estimates on temporal and spatial distribution over the lake's surface and improving the High Aswan Dam's operation was completed as targeted. This study provided decision-makers with concrete options for action (ICR, page 9).
- A climate change impact assessment in water and agriculture was conducted and hardware including 10 weather stations were provided as targeted (ICR, page 10).
- An update of the surface water modelling analysis in the Nile Delta was completed as targeted (ICR, page 11).
- A groundwater modeling analysis in the Nile Delta was completed as targeted (ICR, page 11).



- An assessment of the monitoring network for monitoring water quality variables of the Nile River and Delta was completed as targeted (ICR, page 12).
- An inventory and mapping of actual and potential groundwater and analysis of data-gaps was completed and three new monitoring points were drilled as targeted (ICR, page 13).
- A monitoring and evaluation plan was developed as targeted (ICR, page 14).
- The Project Coordination Unit (PCU) developed a website that was to be linked to the GEF IW Learn Platform and training was provided to the PCU staff for maintaining the web site. No targets were set for this indicator.
- Nine government documents were issued for Integrated Water Resource Management policies/procedures. This exceeded the target of eight.

Outcomes.

- The results of the groundwater modelling analysis activity formed the basis for the revision of the Groundwater Chapter in the irrigation and drainage law. The government's decision to limit the area under rice cultivation was partly due to the results of the System of Rice intensification pilot.
- Based on the study on evaporation losses on Lake Nasser, the remote sensing tools were introduced for the first time and this contributed to identifying a concrete investment option for tackling the problem of evaporation losses on Lake Nasser.
- The installation of an Internal Geographic Information System (GIS) by the Ministry of Water Resources and Irrigation at the central level was used by the Water Users Associations (WUAs) for tracking cropping patterns and irrigation water requirements and this aided in subsequently adjusting irrigation water as needed.
- The data generated by the Climate Change Laboratory and the Nile Forecasting Center enabled the government authorities to respond faster when storms hit coastal cities in 2015 and 2016 and this aided in reducing fatalities and property damage.
- The awareness campaign in Sharkiya aided in enabling the local communities to pay fees to service providers for solid waste management services and resulted in residents paying about 4 LE (equivalent of US\$0.25) per household per month.

While it is difficult to determine the extent to which project activities contributed, it is reasonable to conclude that the activities made a significant contribution to realizing the PDO of enhancing the knowledge and capacity of water sector institutions for Integrated Water Resource Management (IWRM).

Rating
Substantial

5. Efficiency



Economic Analysis. An economic analysis was conducted for the project interventions in the Nekla / Menesi pilot scheme which accounted for about 22% of the cost at appraisal and 43% of the actual cost at closure. The benefits were assumed to come from: (1) enhanced surface water management due to the introduction of the continuous flow regime on branch canals, controlled drainage and users participation in water allocation through a GIS based system: (2) diverting organic wastes from households for recycling into organic fertilizers: (3) introduction of the system of rice intensification technologies to improve yields using less water and less inputs. The ex post Economic Internal Rate of Return (EIRR) was 12.1% was slightly lower than the ex ante EIRR of 12.4%.

Administrative and Operational Issues. There were no cost overruns. The GEF grant leveraged additional funding from the government, beneficiaries and the three ongoing projects. In particular, there was US\$30.00 million from the ongoing projects for activities in project areas that overlapped with this project. All activities were completed by the one and half year extension to the project closing date, which was partly due to exogenous factors such as political changes, deterioration of security conditions and the government's declaration of emergency in 2013 which limited working hours and restricted mobility in some project areas.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	12.40	22.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	12.10	43.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Relevance of the project development objectives to the Government strategy, to the Bank strategy for Egypt and to the Global Environmental Objective was rated as High. Relevance of design was rated as Substantial, given the logical causal links between project activities, their outputs and intended outcomes. Efficacy of the first objective - to pilot Integrated Water Resources Management (IWRM) in the Nile Delta - was rated as Substantial as all outcomes were either realized or exceeded. Efficacy of the second objective - to enhance the knowledge and capacity of water sector institutions in IWRM was rated as Substantial. While it is difficult to determine the extent to which the project activities contributed, it is reasonable to conclude that the activities made a significant contribution to enhancing the knowledge and capacity of water sector institutions for Integrated Water Resource Management (IWRM). Efficiency was rated as Substantial.



a. Outcome Rating
Satisfactory

7. Rationale for Risk to Development Outcome Rating

Government Commitment. Although the Government was strongly committed to the Integrated Water Resources Management approach and the government's National Water Resources Plan was in the process of being updated, it is not clear if there would be enough resources to maintain some of the capacity building work, particularly the equipment.

Technical Risk. Given that the activity associated with providing GIS to the Branch Canal Water Users Associations (BCWUA) for monitoring water usage was not completed as targeted due to the lack of Information Technology (IT) infrastructure and inadequate internet service, there is Substantial Technical Risk.

a. Risk to Development Outcome Rating
Substantial

8. Assessment of Bank Performance

a. Quality-at-Entry

The project was based on lessons from ongoing Bank-financed projects in Egypt (Integrated Irrigation and Management Project (IIMP), the Second National Drainage Project (NDP2) and the Integrated Sanitation and Sewerage Project (ISSIP). The key lessons incorporated in this project included: (i) Given that the experience with the IIMP had identified inadequate coordination among the implementing agencies as an impediment for applying Integrated Water Resources Management (IWRM), this project aimed at addressing this issue through implementing three new pilot schemes and then demonstrating the importance of coordination to ongoing water projects: (ii) Given that the ongoing projects had identified the lack of equipment and staff capacity for implementing the Decision Support System (DSS), this project incorporated capacity building mechanisms aimed at strengthening the government's capacity to use the DSS simulation models: and (iii) Unlike the other projects which did not specifically consider Solid Waste Management (SWM) issues and given that stakeholders in the pilot schemes had identified the importance of waste water treatment and SWM, this project specifically addressed issues pertaining to SWM through community participation activities. Appropriate arrangements were made at preparation for fiduciary and safeguards compliance (discussed in Section 11). Several risks were identified including high risk associated with the unstable political situation in Egypt and mitigation measures incorporated at design were for the most part, appropriate.

The design could have incorporated stronger coordination mechanism rather than relying only on the Project Steering Committee or the Project Coordination Unit (PCU), given the number of public agencies and stakeholders involved in the project activities. There were shortcomings in M&E design (discussed in Section



10a).

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

The project team -including the Task Team Leader (TTL), the financial management specialist, the procurement specialist and the social development specialist - were based in Cairo and this on-the ground presence helped in implementation. The supervision teams was pro-active and along with the specialists on the ground worked with the Project Coordination Unit for addressing issues and solving problems during implementation. The decision to restructure and extend the project closing date was appropriate, given that the delays in the initial years were mainly due to exogenous factors over which the project had no control (discussed in section 5).

The results framework and the monitoring indicators were not revised following the Mid-Term Review (discussed in section 10b).

Quality of Supervision Rating

Moderately Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

Given that water management in Egypt had historically focused on supply-side options and there was growing recognition that a shift was needed towards controlling demand for water resources, the government at appraisal had acknowledged the importance of adopting an integrated approach to tackling water related issues and government was committed to the PDO at preparation. The government complied with all legal covenants associated with establishing a Project Steering Committee and allocated budget for counterpart funding. The government commitment remained unchanged in the face of significant political upheaval starting in February 2011. Given that availability of water for rice cultivation was limited, the Government issued a decree stating that it will reduce the area of land under rice cultivation from one million feddans (refers to a unit of area with one feddan equivalent to 0.42 hectare) to 704,000 feddans as a means of boosting rice productivity while reducing water use. Given that the experience of the pilot activity - System of Rice Intensification (SRI) under the aegis of this project had demonstrated that higher rice yields could be realized without increasing water usage, it is possible that replication of approach could have the intended effect of boosting rice productivity without increasing water usage.



Government Performance Rating

Satisfactory

b. Implementing Agency Performance

The Ministry of Water Resources and Irrigation (MWRI) was overall in charge of implementing the project. Six agencies within MWRI were involved in implementing the Project. These included, the Planning Sector (PS) of the MWRI, the National Resources (PS), the National Water Resources Center (MWRC), the Groundwater Sector (GWS), the High Aswan Dam Authority (HADA), the Irrigation Improvement Sector (IIS) and the Egyptian Public Authority for Drainage Projects (EPADP). Further, the involvement of the MWRI agencies included both their central units as well as governorate level offices. The six agencies in charge of implementing the project had strong institutional and technical capacity and for the most part, familiar with Bank's procedures and requirements. The Project Coordination Unit (PCU) was located in the Planning Sector of the MWRI, which was responsible for overall water resources management and strategic planning.

Implementation started in March 2014, a year after effectiveness, due to the delays associated with recruiting a Technical Assistance Consultant, whose task was to support the PCU on various aspects of the project. The high turn-over of key implementing agency staff during the three years of project implementation - with four heads of the Planning Sector and five PCU directors - contributed to delays. However the last serving Project Director was in place for a year and this helped in accelerating project implementation in the final year of the project. The external auditor - a requirement under the Grant Agreement - was appointed just 11 months before closure in January 2016.

Implementing Agency Performance Rating

Moderately Unsatisfactory

Overall Borrower Performance Rating

Moderately Satisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The key outcome indicators were appropriate for monitoring performance. These indicators were, the number of people (including farmers, Water Utility Association members and stakeholders involved in the pilot schemes); reliability of water supply, the number of monitoring stations and water samplings and the number of government documents issued by the implementation and coordination offices for Integrated Water Resource Management policies and measures.

There were shortcomings in certain indicators associated with water quality. For instance, both Dissolved Oxygen and Biochemical Oxygen Demand indicators measured the same outcome associated with water quality.

M&E design envisaged collaboration between multiple stakeholders. The Project Coordination Unit (PCU) was responsible for compiling the data from the Project Management Unit of the three ongoing projects (discussed



in section 9a) as well as from the research centers involved in the technical studies.

b. M&E Implementation

The implementation of M&E was subject to significant delays and started only in January 2014, due to the delays associated with appointing a technical assistance consultant. An international consultant was also recruited to develop an M&E plan as part of the overall technical assistance. There was no revision of the results framework and clarification of the ambiguous indicators following the Mid-Term Review. Also, no indicators were incorporated for monitoring progress towards the GEO.

c. M&E Utilization

The indicators were used for monitoring project performance.

M&E Quality Rating

Modest

11. Other Issues

a. Safeguards

The project was classified as a category B project for environmental assessment purposes. Other than environmental assessment (OP/BP 4.01), one safeguard policy was triggered: Projects on International Waterways (OP 7.50).

The PAD (page 12) notes an Environmental and Social Management Framework was prepared at appraisal for the project as a whole at appraisal. Site-specific Environment Impact Assessment (EMP) / Environmental Management Plans (EMPs) were to be undertaken under Component One activity for each of the three pilots during implementation. OP 7.50 was triggered as Lake Nasser is an international waterway. The PAD (page 12) notes that as the project activity included studies on lake evaporation losses and social and environmental impacts, these activities fell under the exception to the notification requirement on "Projects on International Waterways". In accordance with the requirements of the policy, the Bank approved the exception to the notification.

Two other safeguards were triggered during implementation (ICR, page 11). These were: (1) Natural Habitats ((OP/BP 4.04) was triggered to account for the Khadrawia pilot scheme, which entailed dredging solid and liquid pollutants and disposing of them at least 300 meters from waterways, farmer lands and wildlife habitats: and (2) Safety of Dams (OP/BP 4.37), due to the technical study on Lake Nasser on evaporation losses. However, the activity did not involve any physical works or a program on any dams. The ICR (page 11) notes that Environmental Assessments (EAs) and EMPs were developed for each pilot site before the commencement of physical activities in the pilot schemes. There were no safeguard issues during implementation.



b. Fiduciary Compliance

Financial Management. The PAD (page 36) reports that an assessment was made of the financial management arrangements of the implementing agency at appraisal. Given that the Planning Sector of the Ministry of Water Resources and Irrigation (MWRI) had no prior experience with Bank-financed projects, the Project Coordination Unit (PCU) was expected to hire a financial management consultant with prior experience in managing a prior-Bank financed project (PAD, page 10). The ICR (page 11) notes that the PCU had efficient automated accounts and a sound financial management system for generating annual financial statements. There were delays associated with appointing an external auditor - a requirement under the grant agreement. The Auditor was appointed in January 2016 and since then, audits and interim financial reports were submitted in a timely fashion (ICR, page 11). The ICR does not provide information on the quality of audits.

Procurement. The Central Procurement Department (CPD) of the MWRI was in charge of procurement management. An assessment was made at appraisal of CPD's capacity to address procurement issues (PAD, page 42). The assessment concluded that although CPD had experienced staff in procurement processing under the Public Procurement Law 89/98, they had no experience with processing Bank-financed projects. The Bank procurement staff in the country office were expected to train the PCU on Bank's procurement guidelines and a procurement plan was prepared at appraisal (PAD, pages 10-11). The ICR notes that there was compliance with Bank's procurement guidelines during implementation.

c. Unintended impacts (Positive or Negative)

d. Other

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	---
Risk to Development Outcome	Substantial	Substantial	---
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	---
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Substantial	---



Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

The ICR draws the following main lessons from implementing this project, with some modification of language.

(1) An Integrated, multi-sector approach that goes beyond the prism of the water sector alone can be useful for addressing water resources challenges. This project showed that implementation of Integrated Water Resources Management (IWRM) is possible and can yield good results in terms of water savings, improved water quality and better environmental outcomes.

(2) While a dedicated Project Management Unit (PMU) may be essential for managing cross-sectoral interventions, it would be useful to develop incentives for stakeholder participation. In this project, PCU faced difficulties associated with coordinating all the key water sector players.

(3) Participation of local stakeholders is required for IWRM. This project showed that involving local communities can generate positive benefits. This project showed that public awareness activities built demand for solid waste collection, enticed rural residents to pay for this service and helped reduce the discharge of solid waste into open drains.

IEG adds the following lesson.

(4) It would be useful to have a beneficiary survey when project activities aim at enhancing the knowledge and capacity of water sector institutions.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR provides a detailed overview of the project and is, for the most part, well-written. It is candid, particularly when discussing the issues that arose during implementation, such as the delays associated with recruiting a technical assistance consultant, who was expected to aid the Project Coordination Unit in various activities. The quality of evidence and analysis was aligned to the messages and lessons offered.

There were some shortcomings. The ICR's description of the efficiency and bank supervision was brief.

a. Quality of ICR Rating

Substantial

