ICR Review

Operations Evaluation Department

Report Number : ICRR10970

1. Project Data:		Date Posted : 08/20/2001		
PROJ ID : P005146			Appraisal	Actual
Project Name :	National Drainage Project	Project Costs (US$M)	290.0	331.1
Country :	Egypt	Loan/Credit (US$M)	123.0	125.6
Sector(s):	Board: RDV - Irrigation and drainage (100%)	Cofinancing (US$M)	37.0	38.9
L/C Number :	C2313; L3417			
		Board Approval (FY)		91
Partners involved :	Germany KfW, Netherlands NDGIC	Closing Date	12/31/1999	12/31/2000

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2. Project Objectives and Components

a. Objectives

To improve the capacity of the Egyptian Public Authority for Drainage Projects (EPADP) and increase land productivity through drainage improvements in areas where waterlogging and salinity have become major constraints to crop production. As the first phase of the two-phase 12-year National Drainage Program (and the 6th Bank drainage project since 1970), the project targeted 720,000 feddans (309,600 ha) for drainage improvement and emphasized state-of-the-art technical design, more effective construction planning, management and quality control, and Monitoring and Evaluation (M&E). A secondary objective was to redress the negative environmental effects of the discharge of untreated industrial and domestic waste into some open drains .

b. Components

There were five components:

- **Subsurface drainage ($185.1 million)** covering 247,800 ha of new area, renewal of pipe drains in 54,600 ha and installation of 20 deep wells to vertically drain 2,100 ha.
- **Surface drainage remodeling ($32.5 million)** of open drains serving 201,600 ha.
- **Institutional support for EDADP ($6.4 million)** including vehicles, survey and office equipment, TA for special studies and MIS, and training locally and overseas .
- **Institutional support for the Drainage Research Institute and the Research Institute for Groundwater ($3.9 million)** to cover vehicles, survey and office equipment, TA for special studies and research, and provision of seminars, workshops and local training.
- **Environmental activities ($2.1 million)** to cover vehicles, survey and water quality equipment, TA for preparation of a phased environmental program and advisory service, and overseas and local training .

c. Comments on Project Cost, Financing and Dates

Total project costs exceeded appraisal estimates by 14% (or $$41 million) primarily because new electro-mechanical equipment ($37.8 million) was required for pumping stations. This was due to the transfer of these components from the restructured Pumping Station Rehabilitation II Project in 1993. There was also considerable redistribution of costs: open drain remodeling was increased by $36.5 million offset by a decrease of $39.0 million in the cost of subsurface drains in new areas, $8.7 million in the cost of field drains in renewal areas, postponement of $ 3.5 million in drainage wells and non-implementation of $2.1 million for environmental support. On the institutional development side, $2.7 million was saved on support to the Drainage Research Institute and this, with the savings in infrastructure plus additional funding by government, allowed a $ 17.8 million increase in support to EDADP.

3. Achievement of Relevant Objectives:

Major objectives were successfully achieved with a few shortcomings . Declining land productivity caused by poor drainage was arrested and crop yields increased . The capability of the Egyptian Public Authority for Drainage Projects to implement, manage and monitor improved high quality drainage was significantly increased . The technical capability of the Drainage Research Institute and the Research Institute for Groundwater to further drainage research and innovation was significantly enhanced . The environmental support activities were abandoned due to duplication of on-going government programs.

4. Significant Outcomes/Impacts:

- Crop yields over 312,000 ha (3% above appraisal targets at 79% of the envisaged cost) were increased by up to 20% for major crops (seed cotton, wheat, maize, rice and berseem) and an ERR of 19% was achieved. This was smaller than the SAR estimate of 24% because of lower commodity prices.
- More than 2,000 EPADP staff and private contractors' trainees benefitted from 184 training courses and 700 trainees benefitted from 33 on-the-job training programs. 143 staff attended overseas training, including 18 senior and 20 middle managers. While there are no indicators of the effectiveness of this training, overall the project was completed with only a one-year extension compared with three-year overruns of previous projects.
- An effective MIS and M&E system was put in place.
- Over 8,500 km of collector and 67,000 km of lateral subsurface drainage was installed to drain 312,000 ha, supplemented by rehabilitation of over 1,200 km of open drains covering an area of 214,200 ha. Capacity-building TA directed at EPADP staff and contractors allied with new and improved drainage technology enabled these achievements.
- Very successful partnerships with bilateral development agencies working in their areas of comparative advantage training and TA for drainage.
- Cost-recovery of the investment cost through government's mandatory land tax was augmented by increased incentives to tax collectors (their share increased three-fold to 7.5%) and exceeded more than 100% of targets at project closure.
- Improved drainage has improved environmental conditions over much of the delta by eliminating breeding habitats for bilharzia and malaria - these efforts have been augmented by parallel projects supported by the Netherlands and Canada.

5. Significant Shortcomings (including non-compliance with safeguard policies):

- Slow compensation to farmers for crop damage caused during drainage improvement was a problem and provided negative incentives to cooperate. The follow-on project is addressing this concern.
- The improved M&E system is only measuring physical performance of infrastructure and needs to be extended to link productivity increases to socioeconomic impacts and poverty alleviation objectives . KfW id following up on this.
- While it may be that many of the environmental issues raised at appraisal - and subsequently abandoned - are covered by government's on-going programs, the evidence presented in the ICR appear to indicate that progress in this area suffers from a lack of coordination, particularly on the issue of municipal authorities' use of drains as waste disposal systems.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev .:	Substantial	Substantial	
Sustainability :	Likely	Likely	
Bank Performance :	Satisfactory	Satisfactory	
Borrower Perf .:	Satisfactory	Satisfactory	
Quality of ICR :		Satisfactory	

NOTE: ICR rating values flagged with ' * ' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

- Partnerships are an effective and efficient way to achieve capacity -building and environmental management objectives when they operate in the areas of partners' comparative advantage .

8. Assessment Recommended? ● Yes ○ No

Why? There have been six drainage and two pumping station projects all directed at public sector agricultural improvement, and the current project is still very much in the same mold . The evaluator expects that there are some useful lessons to learn from this conservative trend . In addition, the project may provide some useful insight into the relative merits and risks of the phasing of institutional reform before or after infrastructure modernization. This project experience of drainage remediation will also make a good case study, with a similar assessment planned for Pakistan, for OED's global public goods evaluation .

9. Comments on Quality of ICR:

While it covers the original objectives satisfactorily, it omitted description of the effectiveness of the new investments in pumping stations which accounted for almost a quarter of the Bank's financing and which are a prerequisite for evacuating the drainage water. There is almost nothing on recovery of O&M costs which was a significant concern at appraisal.