



1. Project Data:		Date Posted :	08/12/2005	
PROJ ID:	P008510		Appraisal	Actual
Project Name:	Kazakhstan Irrigation And Drainage Project	Project Costs (US\$M)	117.84	97.70
Country:	Kazakhstan	Loan/Credit (US\$M)	80.00	72.46
Sector(s):	Irrigation and drainage; Central government administration	Cofinancing (US\$M)		
L/C Number:	L4041			
		Board Approval (FY)		95
Partners involved :		Closing Date	12/31/2003	12/31/2004
Evaluator :	Panel Reviewer :	Group Manager :	Group:	
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2. Project Objectives and Components

a. Objectives

There were three:

1. promote sustainable irrigated agricultural production through irrigation and drainage rehabilitation, improved water management, and better operation and maintenance;
2. introduce improved agricultural practices and farmers' information services; and
3. strengthen irrigation and environmental agencies.

b. Components (or Key Conditions in the case of Adjustment Loans):

There were three:

- **Rehabilitation of Irrigation and Drainage Systems** . Planned US\$108.14 million. Actual US\$90.19 million of 83% of appraisal. Project works covering an area of 30,000 ha spread over three subareas included on-farm system rehabilitation and improvements in inter-farm irrigation and drainage, and aimed at improving the reliability and efficiency of irrigation water use and reducing waterlogging and salinity .
- **Institution Building** . Planned US\$5.93 million. Actual US\$4.46 million or 75% of appraisal. This was to provide technical assistance to support to the Ministry of Agriculture (MOA) and its Project Implementation Unit (PIU) to improve its capacity for project implementation, preparation of Environmental Impact Assessments (EIAs) of the various subprojects, environmental planning, monitoring and mitigation, and facilitation of farmers' participation . The Component also included a study to determine the feasibility of transferring irrigation management for a typical canal command area in Kazakhstan from government control to management by the farmers /water users.
- **Promoting Agricultural Development in Privatized Farms** Planned US\$2.27 million. Actual US\$2.12 million or 93% of appraisal. This component included pilots for farmers' participatory training and information services, support for farm restructuring and demonstrations for crop production technologies . The farm restructuring sub-component was aimed at developing a strong participatory process and empowerment of farm members by providing access to information and management skills and development of Water Users' Associations (WUAs). The aim was to show farmers how to increase efficiency of applied inputs, intensify crop production, and help establish institutions to operate and maintain the irrigation and drainage system to ensure equitable access to water by all farmers.

c. Comments on Project Cost, Financing, Borrower Contribution, and Dates

An unutilized sum of US\$7.54 million was cancelled at closing despite increasing the disbursement rate for civil works contracts from 70 to 80%. Primary reasons were that ICB bids came in lower than projected at appraisal and three subprojects were cancelled because their high cost . Changes in administrative procedures brought about by the restructuring of the PIU and its move from Almaty to Astana precluded the transfer of savings to new subprojects . Project closing was extended one year to cover the defects liability period for projects completed in 2003 and to enable final payment to contractors from project funds .

3. Relevance of Objectives & Design :

The objectives were and are highly relevant to the recommendation of the 1994 Agricultural Sector Review and the subsequent CASs. At the time of appraisal agriculture accounted for about a quarter of Kazakhstan's GDP and 23% of

total employment. Even though irrigated agriculture covered only 6% of the country's cropped land it provided 30% of the entire agricultural output. Irrigation not only supported cash crops but also provided the basis for forage crops needed for winter feeding of the nation's extensive livestock industry. Since 1990 totally inadequate funding of operation and maintenance of irrigation and drainage infrastructure jeopardized system effectiveness and efficiency, and the project sought to redress this through selective rehabilitation. Support to build farmers' institutions was essential given the rapid privatization of state collective farms and farmers' initial preference to adhere to the old state farm management models and not take the risk of managing smaller private farms (the state retained ownership of land but conferred inheritable and transferable use rights to workers). Thus the project's objective to build institutions to provide agricultural advisory services, enable farmers to become self-supporting and manage water at the local level was and remains highly relevant. Finally, support for government irrigation and drainage agencies was directed at improving water resources management, and mainstreaming western environmental procedures in the water and agricultural sectors thus either avoiding environmental damage in new projects or mitigating past damage associated with irrigation.

4. Achievement of Objectives (Efficacy) :

- **The objective to build sustainable irrigated agricultural production was fully achieved**. More than 32,000 ha of irrigation was rehabilitated or improved in 15 subprojects. As a result, the land under production increased from its pre-project level of 17,900 ha to 28,020 ha in 2004. Agricultural production in many of these areas - moribund because of unserviced or defunct irrigation systems - has been either reinstated (70% of agricultural benefits come from increased cropped area) or yields significantly improved because of better management and inputs (accounting for 30% from of project benefits.) In the best areas crop yields are typically three times pre-project levels. The improved crop production leads to the inference that farmers appear to have benefitted from extensive training and field demonstrations of improved agricultural practices and that WUAs are effective even though there was no formal results chain or mechanism put in place for systematic monitoring and evaluation relating inputs to outputs and impacts. In addition, the project created direct employment for 6,600 people, led to water savings of 1,300 cubic meters per ha per year (allowing an increase in areas irrigated and more water for environmental mitigation), and reduced average energy usage in pumped irrigation schemes by about 1,000 Kwh/ha/year.
- **The objective to improve agricultural practices and farmers' information services was partially achieved with some shortcomings**. The scale of the component supporting this objective was substantially cut back because of the government's desire to reduce expenditures on foreign consultants and unwillingness to go for fully-fledged farm restructuring. As a result only 6,000 farmer-days of training were given (13% of the SAR target). Even so, this appears to have been very successful at introducing new methods and technology such that consultant's two-year contract was extended by a year and subsequently a reduced cost version of the component was prepared using national consultants who benefited from the training-of-trainers subcomponent. A Farmers' Information Service Desk generated 52 technical brochures and newspaper articles, 70 technical videos and about 50 TV and radio broadcasts. A lack of farmers' credit precluded acquisition of farm machinery that in turn constrained farm productivity below their full potential. This was due to lack of acceptable collateral and an impasse between the government and the Bank over the conditions of loans to farmers from the Credit.
- **The objective to strengthen irrigation and environmental agencies was substantially achieved with some shortcomings**. The responsibility and staff for planning and management of irrigation and drainage, formerly spread across several ministries and agencies, was consolidated under the State Committee for Water Resources thus facilitating integrated planning and management of water resources. Extensive technical assistance enhanced the capacity of irrigation and environmental agency staff, introduced procurement procedures, oversight and contract management to Bank standards, and mainstreamed sound economic, financial and environmental principles in subproject appraisal and selection. The main shortcomings were that political influence sometimes suppressed objective selection of subprojects, and that bureaucratic checks and balances introduced by the Ministry of Finance have reduced the flexibility of executing agencies to introduce beneficial changes to civil works contracts. And while it was thought that much of the O&M of inter-farm canals would be taken over by private farms and WUAs, this did not occur until late in the project and in the interim "inter-farm canals did not have any specific owner and orderly maintenance." Actual cost recovery is unknown even though each farm had to sign mandatory loan repayment agreements and a land tax was levied to capture those indirectly benefitting from project works.

5. Efficiency :

Efficiency was substantial and better than anticipated. The economic cost of rehabilitation of irrigation and drainage systems averaged US\$2,100 per ha and the range of costs were slightly below the SAR's estimates (SAR US\$ 850-US\$5,800 vs actual of US\$740-US\$4,222.) The ex-post ERR was 32% compared with the SAR's 27%.

6. M&E Design, Implementation, & Utilization:

The SAR provided a very comprehensive list (Annex U) of input and process indicators and output and impact indicators for all project components, but there was no attention to either social indicators or potential poverty

Impacts. Responsibility for the collection of monitoring indicators was spread over at least six agencies but a mechanism to collate the results and evaluate them was not established. Inputs are well reported. A pilot Performance Monitoring and Evaluation Information System (PIS) linked to a GIS database was to be piloted on one subproject by the project's main (foreign) consultants - it may be that with the reduction of the foreign TA the PIS was not implemented: the ICR is silent on this. Clearly there was some M&E by the irrigation agency of water allocation and use, and an extensive ex-post agricultural production impact survey to determine incremental benefits.

7. Other (Safeguards, Fiduciary, Unintended Impacts--Positive & Negative):

- Pilot implementation of the transfer of inter-farm canals to WUAs or rural water cooperatives is ongoing and is likely to be completed under the follow-on project. In the interim, government is providing adequate operation and maintenance managed by a reformed and efficient state agency. Central funding for O&M "is not likely to be a problem" given the healthy budgetary situation in Kazakhstan and strong government commitment to sound financial management of the sector.
- The risks of on-farm irrigation systems and increased agricultural production failing appears to be small. The systems are owned and managed by trained WUAs. Farming is increasingly private-sector dominated, farmers are adopting modern farming methods and market distortions have been mostly removed under a parallel SAL. Most farms within the project were selected on the basis of sound business plans and appear to be commercially viable and modestly profitable. The major outstanding risk is that repayment of investment costs by farmers may prove too onerous in the medium term.

8. Ratings:	ICR	IEG Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev.:	High	Substantial	Over-ambitious cost recovery and actual repayment mechanisms have not yet matured because most project improvements are within the 5-year grace period; essential rural credit issue re purchase of farm machinery remains unresolved; M&E not mainstreamed.
Sustainability:	Likely	Likely	
Bank Performance:	Satisfactory	Satisfactory	
Borrower Perf.:	Satisfactory	Satisfactory	
Quality of ICR:		Satisfactory	

NOTES:

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

9. Lessons:

- Be careful to consider all the elements in the agricultural production chain when designing irrigation and drainage projects, identify critical links and ensure that either the project or other agencies give them adequate support. In this project lack of attention to rural credit and beneficiary assessment led to subsequent problems over acquisition of agricultural machinery essential for increasing agricultural productivity.
- Realistic appraisal of government's budget procedures and cycles and an understanding of the climatic regime on civil works construction is essential to avoid overly -optimistic construction scheduling.

10. Assessment Recommended? Yes No

11. Comments on Quality of ICR:

Satisfactory. Thorough discussion of all the main issues backed up by good appendices. More attention could have been given to discussion of M&E issues, and the status of cost recovery - particularly given its prominence in the SAR.